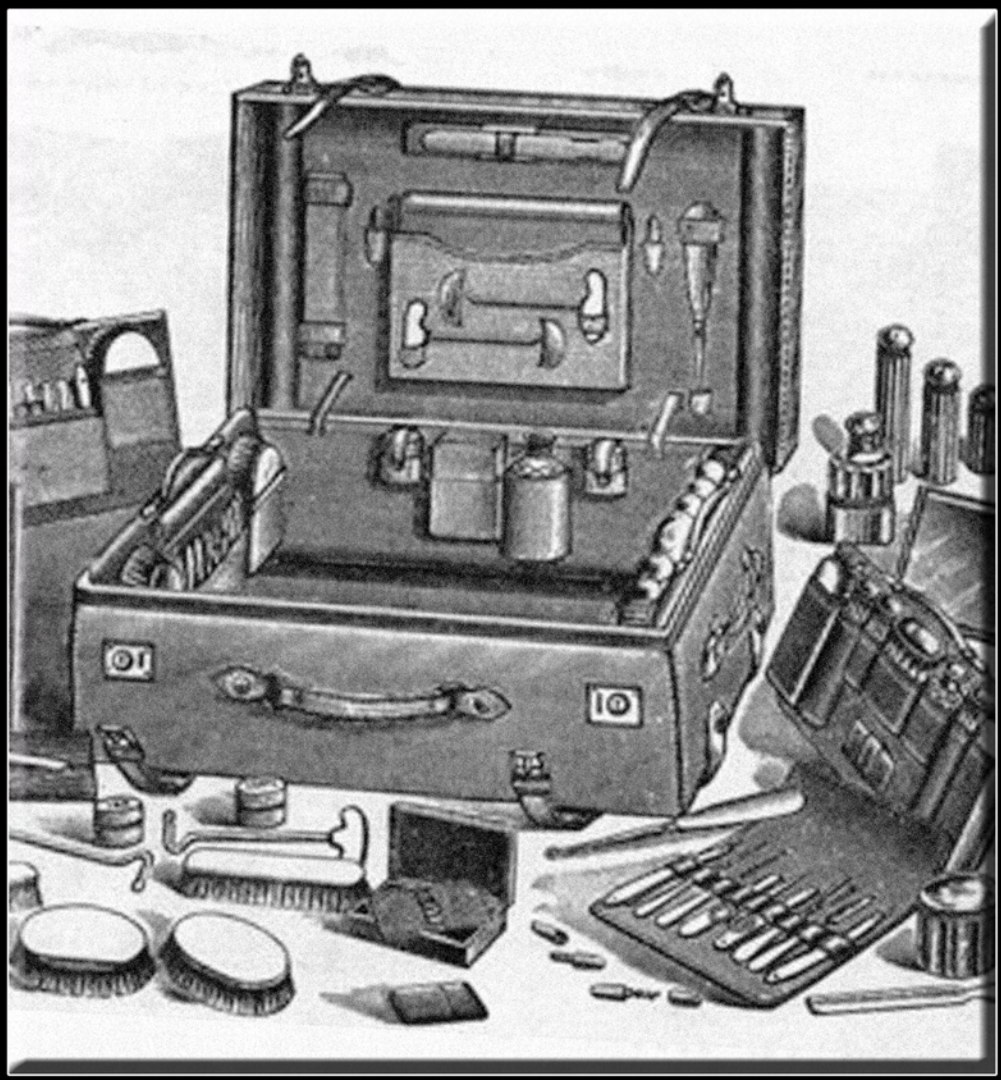
The Gaslight Equipment Catalogue



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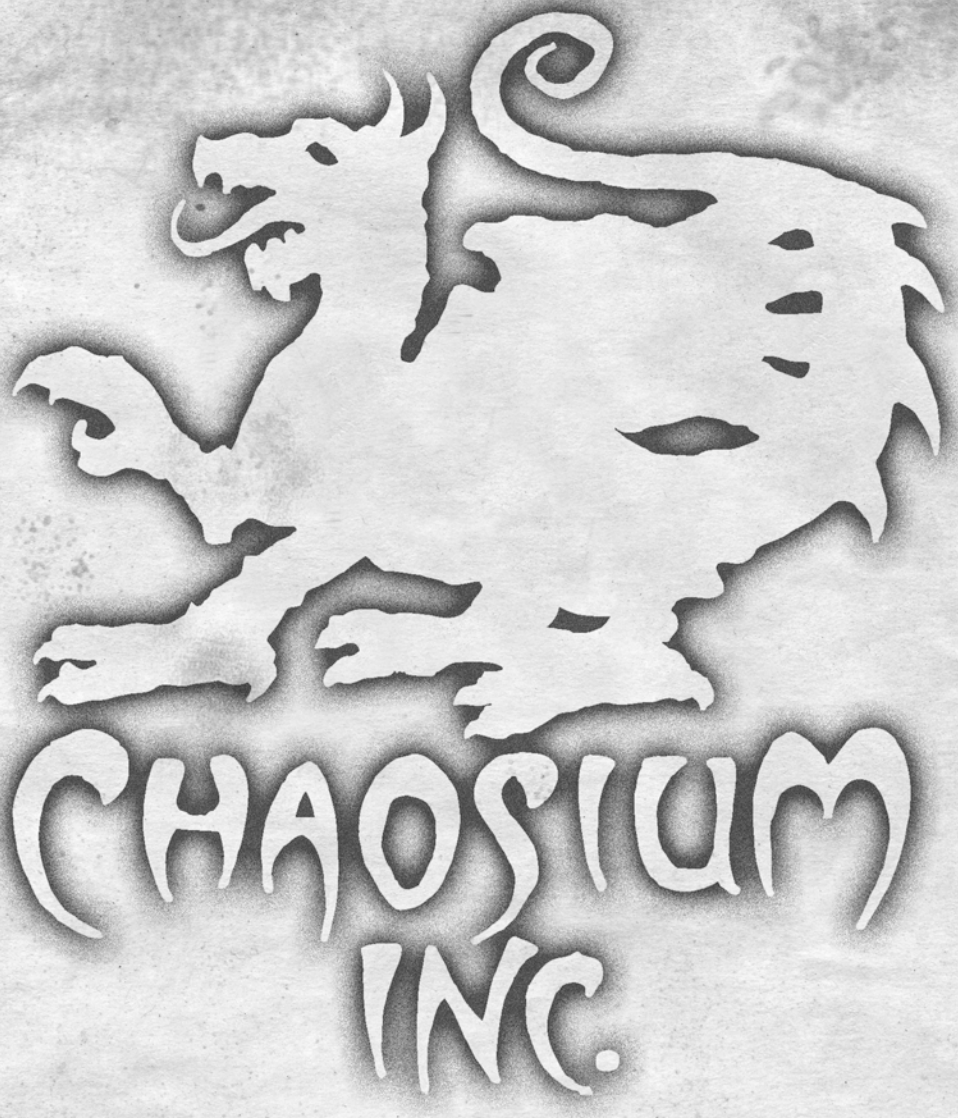

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The Gaslight Equipment Catalogue

Being a Compendium of various useful articles and sundries for the Victorian era, together with information pertaining to their use

By Rod Basler

Disclaimer: The following is a game supplement. The prices listed herein are based on historical research and are from period catalogs – while some of the items are still manufactured, they are not for sale at the prices listed here, and are not available either from the author or from Chaosium, Inc. All information about 19th century medications and medical treatments is for historical interest only – for the sake of everything that is holy, do NOT use them (and please tell me that I don't need to say that.)
Any comments or information about race or religion are neither the opinions of the author, nor of Chaosium, Inc., but rather are meant to be a reflection of the attitudes common among certain social classes of the period in question. They are in no way meant as either an offense or an endorsement.

Acknowledgements

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Last, but not least, I would like to thank the 'Old Man of Providence' himself: H.P. Lovecraft, whose imagination, writing, and deep love for the past started this all. Thanks, Howard, wherever you are.

Table of Contents

Introduction

This volume, the first in a series of equipment guides for different gaming eras, is more than just a price list: its aim is to provide both Keeper and Player with as much information as is possible within these few pages about the way people over a century past lived and worked - the sorts of items that were available (and when they were invented), how they were used, even at times what people knew.

This is particularly important because the 19th century is perhaps the single most remarkable period in the history of the west: no other century, not even our own 20th century, saw such amazing change and development. If an educated person, say for example a physician from the reign of Queen Elizabeth I, could be transported nearly two hundred and fifty years into his future to meet with a counterpart in 1800, there is not much that he would see and experience that would not be immediately understandable. While he might marvel at the Montgolfiers' balloon or be awestruck at the enormous steam engines of Watt and Newcomen that was now beginning to pump water and lift ore from mines, these things would be easily understood. He might lift an eyebrow at the democratic experiments in the American colonies and in France, but he would easily recognize their origins in Athenian Greece and the senate of Rome. Wind, the horse, and the strong human back still provided most of the motive power; and man rarely traveled faster than on the back of a fleet horse. The field of medicine had changed distressingly little since his time – in fact, very little since the time of Aristotle; they would have studied some of the same texts. If he were to hold a rifle, he might comment upon the clever flintlock mechanism, but it would be immediately understood as a simple development of the matchlock carried by his country's soldiers. Even in the styles of clothing he would see the faint echoes of his own era.

If you were to take this good doctor's 1800 informant and move him forward to 1900, there is very little that he would see that is familiar, let alone understandable. Those huge steam engines had become small enough and powerful enough to speed enormous trains along steel rails, twice as fast as a horse could run. Steam and internal combustion engines now powered small 'motorcars' and trucks that were fast replacing the horse. A man on a bicycle, powered only by his legs, had traveled at the unheard-of speed of 60 miles an hour. Candles and oil lamps were fast being replaced by electric lights, and the Niagara Falls was being harnessed to light them. Invisible waves of energy sped through the air as radio, and x-rays could penetrate solid matter. The "atom", thought to be the smallest, indivisible unit of matter since the ancient Greeks, had just recently been discovered to be made up of smaller, hitherto unknown particles. In medicine, the revolutionary idea that disease was caused by tiny organisms too small to be seen had replaced long-held theories about humours and 'inflammation,' and a controversial book by the naturalist Charles Darwin posed the disturbing possibility that man might be just another animal, first cousin to the ape. Finally, only 14 years later - a sort of idyllic coda to this most remarkable century - two shots from a small self-loading pistol patented in 1900 would trigger the First World War, bringing three empires crashing down in ruin and ushering in our modern age.

During the 19th century, most of the population of both Britain and the United States still lived in rural communities, and for many of them, money was almost an abstract concept. Farmers had an account at the general store in town, which allowed them to purchase supplies on credit during the growing season. Once the harvest was in, the farmer could (hopefully) settle the account with a little left over, and the process would start again. Storeowners had to judge how much credit could be safely extended to each customer, based on the farmer's holdings and the prospects for the year, and most everyday transactions between farmers and townsfolk were made on the basis of barter – the doctor accepted a chicken in exchange for a house call, the miller took a percentage of the grain in exchange for grinding it into flour.

If you were to walk into a general store in any rural town, you would notice that while you had a very wide variety of products available, there was very little choice – the owner of the store could not afford to have products sitting around on the shelves, so while there would certainly be a sewing machine, there would only be one (most likely a Singer). The mail-order catalogs, which got their start around the 1880s (against the considerable resistance of the general store owners), allowed customers, no matter how remote, to peruse and select from products from all over the world, and in exchange for money, have them delivered via rail or coach. This began pushing the rural population toward a cash-based economy and gave them access to any manner of products, for good or ill.

The prices in this book were primarily obtained from those mail-order catalogs, so there is an unavoidable bias in these pages toward the end of the "Gaslight Era", which starts with Victoria's reign and ends at the start of WWI. Whenever available, price information from earlier decades is included, especially if an item's price varied widely after its introduction. In the introductory timelines, events and discoveries back to the beginning of the century are included, to give more context to this remarkable age.

Currency and Exchange Rates

This chapter describes the monetary systems used by a several countries likely to be of interest to investigators and keepers alike. It is recommended that readers familiarize themselves with the British system in particular before continuing to other chapters, so that the meaning of abbreviations like "3/6" or "5 gns" are clearly understood.

Great Britain

4 farthings = 1 Penny ("d")
4 pence = 1 Groat
12 pence = 1 Shilling ("s")
2 shillings = 1 Florin
5 shillings = 1 Crown
20 shillings = 1 Pound ("£")
21 shillings = 1 Guinea ("gn")

Coins:
½ Farthing, Farthing, ½ Penny, Penny – copper (bronze after 1860)
Threepence, Groat, Sixpence, Shilling, Florin, ½ Crown, Crown – silver.
½ Sovereign (worth 10 shillings), Sovereign (worth 1 pound), 1, 2, and 3 Guinea – gold. The guinea coins were only minted until 1813, but the measure of 21 shillings remained in use throughout the period, and was used for "high class" items like horses, carriages, club memberships, etc.

Bills:
½ crown, ½ pound, 1, 5, 10, 20, 50, 100, 200, 500, and 1000 pounds.

Exchange: £1 = $4.80 –4.90
(A quick rule-of thumb was that 1 pound equaled 5 dollars, or 1 shilling equaled 25 cents.)

Abbreviations: Prices in Britain are written as:
Pounds (£) / shillings (s) / pence (d)
For example, the written amount 2 / 5 / 4 means, 2 pounds, 5 shillings, 4 pence (equal to about $10.99 in U.S. currency). The entry for 'pounds' is dropped if the amount is less than one pound, and not uncommonly, prices may be listed in shillings, even if more than one pound: thus the amount of "1 pound, 8 shillings, 6 pence" could be written "£1/8/6", or more frequently "28/6."

A note on Pennies and Pence:
The coin is called a 'penny;' the plural of penny is 'pennies.' The unit of value of the penny is also called 'a penny,' but the plural is 'pence.' In other words, if one had 5 pennies, their value would be 5 pence.

The penny, by the way, is a large, substantial bronze coin, almost twice the size of a U.S Quarter and weighing one ounce. A few of those in a child's pocket felt like serious money.

United States

100 cents = 1 dollar

Coins:
½ penny, penny - copper
Nickel (5 cents) - nickel
½ dime (5 cents), dime, quarter, ½ dollar (50 cents), dollar - silver
"Quarter Eagle" (worth $2.50), "Half Eagle" ($5), "Eagle" ($10), and "Double Eagle ($20) - gold

Bills:
(Before 1861): $50, 100, 500, 1000
(After 1861): $1, 2, 5, 10, 20, 100, 500, 1000
Fractional Currency (1862-1875): 5, 10, 15, 25, 50 cents
During and shortly after the Civil War, there was a severe shortage of coins; the government tried to alleviate the problem by issuing notes for amounts under a dollar. These were commonly referred to as "shinplasters", and were despised.

The above system, simple in theory, is anything but in the 19th century. Until 1857, many foreign coins were freely accepted (for example, the Mexican/Spanish 8 Reales piece was commonly used in the West). Many people still used the old pounds/shillings/pence measure, particularly in the northeast. The Civil War of 1861-1865 brought in "Confederate" money, which was subject to tremendous inflation throughout the war, and becoming worthless after the loss by the South.
Many places were suspicious of paper money, and so gold and silver, wherever struck, were the only currency accepted. Especially in the gold fields of the West, gold dust, measured either by weight or literally by the "pinch", was used as legal tender.

The 8 Reales piece (the famous "Piece of 8" of pirate lore) bears particular explanation: valued at 1 dollar, the 'real' or 'bit' (so called because the coins were sometimes cut into 8 equal pieces) was worth 12½ cents. The 'bit' was an extremely common unit of value ("two bits" is still the slang expression for 25 cents), and everything from newspapers to produce will be sold by the bit or by 12½ cents.

Austria-Hungary

(from 1857 – 1892)
100 kreuzer = 1 Gulden (Florin)

(from 1892-1918)
100 heller (fillér) = 1 Corona (Korona)

Coins:
1, 2 heller – bronze
10, 20 heller – nickel
Corona, 5 corona – silver
10, 100 corona – gold

Bills:
10, 20, 50, 100, 1000 Corona

Exchange: 1 Corona = $0.233 (US)

One "trade coin" of particular importance was the "Maria Theresa Thaler" – a silver coin about the size of the British crown, the American dollar, or the Mexican 8 reales. The Maria Theresa Thaler always bore the date of 1780 (the date of the Empress's death), no matter when it was minted. In many regions in North Africa and the Middle East, these coins were (and still are to this day) the main medium of exchange, so great was the trust in the value of the coin and so great the reputation of the Empress herself.

Belgium

100 centimes = 1 Franc

Coins:
1, 2, 5, 10, 20 centimes – copper, copper/nickel, or bronze
50 centimes, 1, 2 Franc – silver
20 Franc – gold

Bills (first issued in 1810):
20, 50, 100, 500, 1000 Francs

Exchange: 1 Franc = $ 0.193 (US)

Bulgaria

100 stotinki = 1 Lev
(A Lev in silver is called *Lev Strebro*, a Lev in gold is called *Lev Zlato*)

Coins:
1 stotinka, 2 stotinki – bronze
5, 10, 20 stotinki – copper/nickel
50 stotinki, 1 lev, 2 leva – silver
20, 100 leva – gold

Bills (first issued in 1885):
5, 10, 20, 50, 100 *Lev Zlato*
1899 issue: 1, 10, 50 *Lev Strebro*

Exchange: 1 Lev Zlato = $ 0.193 (US)

Canada

100 cents = 1 Dollar (Canadian)

Coins:
1 cent – bronze
5, 10, 25, 50 cent, 1 dollar – silver
5, 10 dollar – gold

Bills:
1, 2, 4 dollar
Bank Legal Issue: 500, 1000, 5000 dollars (used only in bank transactions)
"Shinplasters": 25 cents (issued in 1870)

Exchange: 1 $ (Canadian) = $1 (US)
In 1857, the Canadian government formally adopted the 'decimal' system, and fixed the value of the Canadian dollar to the US dollar.

China

800-1600 cash = 1 Tael
400 Sinkiang "red" cash = 1 Tael

Coins:
1, 5, 10 cash – cast bronze
(The sinkiang "red" cash were cast from copper in the western provinces)
1 dollar in cash coins weighed about 4 pounds!
"Sycee" trade ingots: In order to store or transport any significant amount of money, silver ingots were used. These were cast in a number of shapes and weights, and were stamped with the weights and various inscriptions. The most common was the boat or "slipper" shape, and came in the following denominations:
½ Tael, 72/100, 1, 3, 5, 7, 10, 25, and 50 tael. One tael weighs between 35 and 38 grams silver

Bills:
1853 issue: 500, 1000, 1500, 2000, 5000 Cash; 1, 3, 5, 10, 50 Taels
1903-1909: Various banks in China began issuing notes in Dollars, equal in value to the US dollar: 1, 5, 10, 50, 100 dollars

Exchange: 1 Tael = $0.631 – 0.703 (US)

Egypt

(1885-1916)
10 Ushr-al-Qirsh = 1 Piastre
100 piastres = 1 Egyptian Pound

Coins:
1/40, 1/20, 1/10, 1/5, ½ qirsh – bronze or copper/nickel
1, 2, 5, 10 qirsh – silver
10 qirsh – gold

Bills (first issued in 1898):
50 Piastres; 1, 5, 10, 50, 100 Egyptian Pounds

Exchange: 1 Egyptian Pound = $4.94 (US)

France

10 centimes = 1 Decime
10 Decimes = 1 Franc

Coins:
1, 2, 5, 10 centimes – bronze
25 centimes – nickel
50 centimes, 1, 2 Franc – silver
10, 20, 100 Franc – gold

Bills:
5, 20, 50, 100, 500, 1000 Francs

Exchange: 1 Franc = $0.193 (US)

German States

(after 1871)
100 Pfennig = 1 Mark

Coins:
1, 2, 5, 10 pfennig – copper or copper/nickel
25 pfennig – nickel
50 pfennig, 1, 2, 3, 5 Mark – silver
10, 20 Mark – gold

Bills (first issued in Marks in 1874):
5, 10, 20, 50, 100, 1000 Marks

Exchange: 1 Mark = $ 0.24 (US)
The Mark, introduced in 1871, was originally a unit of weight. The 3-Mark coin was often referred to as a "Thaler", after the older monetary system.

Greece

100 lepta = 1 Drachma

Coins:
5, 10, 20 lepta – nickel
50 lepta – copper/nickel
1, 2 drachmai – silver
5, 10, 20, 50, 100 drachmai – gold

Bills:
1, 2, 5, 10, 25, 100 drachmai

Exchange: 1 drachma = $ 0.193 (US)

Hong Kong

10 mil (wen, ch'ien) = 1 Cent (Hsien)
100 cents = 1 Dollar (Yuan)

Coins:
1 cent – bronze
5, 10, 20, 50 – silver

Bills (Issued by the Chartered Bank of India, Australia, and China since 1865):
5, 10, 25, 50, 100, 500, dollars

Exchange: 1 dollar (Hong Kong) = $ 0.464 (US)

India, British Colonies

3 pies = Pice (piasa)
4 pice = 1 Anna
16 Annas = 1 Rupee
15 rupees = 1 Mohor

Coins:
1/12 anna, ½ pice, ¼ anna – copper, silver, and gold versions
½ anna – copper and gold versions
1 anna – copper-nickel
2 anna – silver and gold versions
¼ rupee – silver and gold versions
½ rupee, 1 rupee – silver

Bills (first issued in 1861):
5, 10, 20, 50, 100, 500, 1000, 10,000 Rupees

Exchange: 1 Rupee = $0.203 (US)

India, Princely States

"In each state, local rates of exchange prevailed. There was no fixed rate between copper, silver, or gold coins, but rates varied in accordance with the values of the metal and by the edict of local authority.
Within the subcontinent, different regions used distinctive coin standards. In North India and the Deccan, the silver rupee (11.6g) and the gold mohur (11.0g) predominated. In Gujarat, the silver kori (4.7g) and gold kori (6.4g) were the main currency. In South India, the silver fanam (0.7 – 1.0g) and the gold hun or pagoda (3.4g) were current. Copper coins in all parts of India were produced to a myriad of local metrologies with seemingly endless variety"
–from the *Standard Catalog of World Coins*

Italy

100 centesimi = 1 Lira

Coins:
1, 2, 5, 10 centesimi – copper
20, 25, 50 centsimi – nickel
1,2 lira – silver
5, 10, 20, 50, 100 lira – gold

Bills (first issued in 1874):
50 Centesimi, 1, 2, 5, 10, 25 Lira

Exchange: 1 Lira = $ 0.193 (US)

Japan

(after 1871)
1000 rin = 10 Sen = 1 Yen

Coins:
5 rin, 1 sen –bronze
5 sen – copper/nickel
10, 20 sen, 1 yen – silver
5, 10, 20 yen – gold

Bills (first issued in 1881):
20, 50 Sen; 1, 5, 10 Yen
Convertible Silver Issues (1885): 1, 5, 10, 100 Yen
Convertible Gold Issues (1899): 5, 10, 100 Yen

Exchange: 1 Yen = $0.498 (US)

Mexico

(since 1863)
100 centavos = 1 Peso

Coins:
1 centavo – copper
5, 10, 20 centavo, 1 peso – silver
1, 5, 10, 20 pesos – gold

Bills (first issued in 1866):
10, 20, 100, 200, Pesos

Exchange: 1 Peso = $ 0.462 (US)

Romania

10 bani = 1 Leu

Coins:
5, 10, 20 bani – copper/nickel
50 bani, 1 leu, 5 lei – silver
12½, 20, 25, 50, 100 lei – gold

Bills (first issued in 1877):
5, 10, 20, 50, 100, 500, 1000 Lei

Exchange: 1 Leu = $ 0.193 (US)

Switzerland

100 centimes (rappen) = 10 Batzen = 1 Franc

Coins:
1, 2 centimes – copper
5, 10, 20 centimes – nickel
½, 1, 2, 5 franc – silver
20 franc – gold

Bills (first issued in 1907):
50, 100. 500, 1000 Francs

Exchange: 1 Franc = $ 0.193 (US)

Russian Empire

¼ kopek = 1 Polushka
½ kopek = 1 Denga (Denezhka)
50 kopeks = 1 Poltina
100 kopeks = 1 Ruble
10 Rubles = 1 Imperial (Chervonetz)

Coins:
¼, ½, 1, 2, 3 kopeks – copper
5, 10, 15, 20, 25, 50 kopeks, 1 ruble – silver
5, 10, 25, 27, 37½ rubles – gold

Bills (the 500 and 1000 Ruble notes were first issued in 1886):
1, 3, 5, 10, 25, 100, 500, 1000 Rubles

Exchange: 1 Ruble = $ 0.515 (US)
In addition, there were a number of coin-like tokens made of silver that occasionally found their way into trades and stolen hordes – Russian law required that all silver refined out of the gold ore be returned to the mine owners. This silver was minted into circular ingots like coins, and stamped with various markings. The units – dolya and zolotnik, were coins in the 11th century, but long since had become units of weight, rather like the troy ounce.

96 dolya (doli) = 1 Zolotnik
1 Zolotnik = 4.266 grams silver

24 dolya, 1, 3, 10 Zolotnik

Turkey and the Ottoman Empire

40 para = 1 Kurush (Piastre)
2 kurush (piastres) = 1 Kilik
2½ kurush = 1 Yuzluk
3 kurush = 1 Uechlik
5 kurush = 1 Beshlik
6 kurush = 1 Altilik
100 kurush = 1 Lira (Turkish Pound)

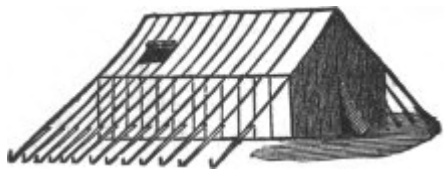
Coins:
5, 10 para, 1, 2, 5, 10 kurush – silver
12½, 25, 50, 100, 200, 500 kurush – gold

Bills (first issued in 1840):
1, 5, 10, 20, 50, 100 Kurush; 1, 5 Lira

Exchange: 1 piaster = $ 0.044 (US)

Camping Gear and Outdoor Equipment

This chapter includes a variety of equipment suitable for everything from a casual picnic in the countryside to a serious expedition. The reader is, on occasion, referred to other chapters for more specialized equipments.



Alpine Ropes

Ropes for mountain climbing were made of hemp, were 7/16" in diameter, and in the late 1800s were usually 80 feet in length (the trend has always been toward longer and longer ropes – first the 100' and 120' lengths common in the 1920s and 1930s, to the 165' lengths frequently used today.)

Hemp rope readily absorbed water and became stiff and heavy when wet. Wet rope could freeze becoming nearly impossible to handle. While it has a breaking strength of 2500 lbs, it dropped by 50% when knotted or bent over a narrow rod. It also does not elongate like modern, synthetic ropes, so even minor falls ended with a bone-jarring jerk.

Climbing ropes need to be meticulously cared-for or they may be dangerously weakened. Being exposed to the elements outside for six months can further reduce the breaking strength by a half, and stepping on the rope can grind bits of dirt into the strands where they cut away at the fibers as the rope bends and stretches. Experienced climbers will carefully inspect each inch of rope before use.

Item and Description	Weight	US Price	UK Price
Alpenstock Ash walking stick, 5-6' long, with an iron spike and ferrule at the bottom.	1lb	0.48	2/0
Alpine Axes (Ice Axes) Lengths range between 28" and 36", depending on the height of the user. The shaft is made of seasoned ash, with an iron spoke and ferrule at the bottom. The head is of iron, with a pick on one side for 'self arrest' (stopping a slide), and an adze used to cut steps or handholds in ice.	1lb	6.65	27/6
Leather Sheath for Alpine Axes Includes both a leather cover for the head, and a cover for the spike at bottom.	-	1.21	5/0
Wrist Slings for Alpine Axes An adjustable wrist strap attached to a metal ring that slides freely along the shaft of the axe, permitting the climber to grip the axe anywhere along the length. A metal pin near the ferrule keeps the ring from sliding completely off the axe.	-	0.60	2/6
Alpine Rope, hemp, 80'	1½ lb	2.90	12/0
Alpine Rope, Silk, per yard Silk ropes were sometimes used by wealthy explorers. It was both stronger for its weight, and had greater elongation, meaning less shock in a fall. It was, however, prohibitively expensive.	1lb	1.45	6/0
Axe, hunter's With leather sheath and shoulder strap.	1¾ lbs	1.40	5/9
Bathtub, Folding Rubber-lined canvas tub with folding framework; green canvas carrying bag.		4.15	17/3
Binoculars and Field Glasses – *see chapter 15: Optics.*			
Boat, folding, Eureka Folding metal frame with waterproofed canvas cover. 10' x 36"; holds 2-3 people. Comes with 2 oars and adjustable oarlocks.	35 lbs	24.00	£ 4/18/0
Blanket, cotton	2½ lbs	0.60	2/6
Blanket, wool, heavy	6 lbs	4.00	16/6
Blanket, wool, light	4 lbs	3.00	12/4
Camp bed, folding	20 lbs	1.95	8/0
Camp stool, folding	2 lbs	0.25	1/0
Canteens – *For the American 'canteens', see "Water Bottle" later in this chapter.*			
Canteens –*For the British 'canteens', see "Cook Set" later in this chapter.*			
Carry Bag, Comstock's A canvas duffel with shoulder straps – used to pack tents. Many sizes available to fit standard tents.		1.20	5/0
Chair, Folding ('Hammock Chair') Similar to the notorious 'folding deck chairs.'	5 lbs	0.60	2/6
Chair, Wooden, Folding Sturdier than the wooden/canvas 'hammock' chair, but heavier.	10 lbs	0.75	3/1
Coffee Boiler, 6qt. "Agate Iron" (enameled iron), with bail and lid. Can be suspended over a fire for quick boiling, or can be set next to the coals to keep the contents warm.	14 lbs full	1.00	4/1
Coffee flask/Water bottle, tin	-	0.07	0/4
Compass, Pocket Compass, 2" In a pocket watch-type case.	-	3.50	14/5
Compass, Sundial Pocket Compass, 2" In a pocket watch-type case; gnomon of the sundial folds up (but in not adjustable for latitude). Compass needle has a jeweled bearing.	-	4.00	16/6
Compass, Dip-Needle Prospector's Compass Morocco-leather case.	-	9.75	40/2
Compass, Folding Sight Compass, 2¾" Bar needle, folding sight, hinged cover. Compass is nickel-plated.	-	6.20	25/7
Cook Set, Aluminum, for 6 persons Each piece of cookware is seamless spun aluminum; light and rust-proof. Includes 4 covered stew pots, 2 frying pans, and a coffee pot, 6 cups, and 6 plates. Also included are 6 knives, 6 forks, 1 salt and pepper shaker set.	13½ lbs	26.56	£ 5/9/6
Cook Set, "Buzzacott's Patent Cooking Outfit" As adopted by the US Army. Includes iron fire grate/grill, 2 square aluminum pans (8 qt and 5 qt in size – they may be combined to make a large roaster) that nest inside the grate and contain the remaining pieces: coffee pot (3 qt), frying pan, 12x8 broiler, ladle, strainer, spoon, pancake turner, fork, adjustable handle for the utensils, 2 pan covers, salt/pepper shakers.	20 lbs	5.50	22/8
Cot, Folding, U.S. Army surplus Wood frame, metal hinges. Includes frame for mosquito netting.	15 lbs	1.75	7/3
Cup, collapsing, pewter, with japanned iron box	-	0.20	0/10
Cup, tin, 1 ½ pint	-	0.02	0/1
Cup, Miner's drinking, 4 ½" diameter	-	0.05	0/2½
Dinner pail, Miner's, tin, 3 quart Sometime called a "Growler," a smaller bucket nests inside the larger one. Food is kept warm in the inner bucket, and tea or coffee is poured into the outer bucket. Make certain it is not tipped over.		0.17	0/9

Item and Description	Weight	US Price	UK Price
Duffle Bag, white cotton canvas		0.50	2/0
Duluth Pack Bag (See sidebar article):			
Size #1: 18" x 20"		1.25	5/2
Size #3: 28" x 29"		2.00	8/3
Square, flat canvas pack used in Minnesota and Canada. Has shoulder straps and a 'tumpline' over the forehead.			
Dutch Oven, #1, cast iron, 12" diameter	14 lbs.	0.95	3/11
The Dutch Oven is a versatile cooking/baking pot, coming with a heavy bail for hanging, three legs to raised the pot over the coals, and a cover with a thick rim so coals can be rested on the top for baking.			
Frying pan, pressed iron, 10"		0.14	0/7
These are thinner and lighter than the more well-known cast iron frying pan.			
Gold Pan, Miner's, aluminum, 12"	1 lb.	1.32	5/6
Gold Pan, Miner's, polished iron, 15"	2 lbs.	0.30	1/3
Ground Sheet, Waterproof, 6½' x 3'		1.95	8/0
Made of rubberized fabric and completely waterproof. Larger sizes are also available.			
Hammock	2 lbs.	0.90	3/9
Full-sized, heavy-duty double-seine twine, in fancy, bright colors.			
Hammock, Mexican	4 lbs.	1.45	6/0
Made of woven sisal. Fancy colored valances on each side, brightly-colored end strings, and wooden spreader bars.			
Hammock hooks, screw, per dozen	½ lb.	0.65	2/8
"Hot Dinner" Basket, 2 Tray		7.00	29/0
Suitable for shooting parties, etc. Round lidded basket of best English wicker, lined with felt and tin, with 2 lidded tin trays, fitted with hasp, staple, and lock. Will keep food warm for several hours. 11" in diameter by 8" high.			
"Hot Dinner" Basket, 4 Tray		9.00	37/6
As above, but 11" in diameter by 13½" high.			
Insect Repellant - "Dr. Cooks Black Fly and Mosquito Paste," 1 bottle		0.20	0/10
Whatever it is, it probably smells better than bear grease, a popular frontier solution to the problem.			
Kit Bag, canvas		0.75	3/1
10 oz brown canvas, closes with straps and buckles, has handles for carrying. 27" x 20".			
Knife, skinning		1.95	8/0
Knife, hunting		0.90	3/8
6" blade, buckhorn handle, with leather sheath.			
Knife, pocketknife		0.54	2/3
3-blade, buckhorn scales (handle). 3½" blade.			
Knife, pocketknife, pearl scales		0.98	4/0
3-blade, German silver bolsters and pearl scales. 3¼" blade.			
Knife, Combination Pocketknife		2.00	8/3
3½" blade, plus 9 other blades/tools – hook, screwdriver, file, punch, scissors, corkscrew, etc.			
Knife, Horseman's Pocketknife		2.00	8/3
3½" blade, hoof knife, hoof pick, fleam, leather punch, and corkscrew. Buckhorn scales.			
Lamps and Lanterns – *see chapter 13: Lamps and Illumination.*			
Life Preserver, "Neversink"	9 lbs	1.25	5/2
Cork floats, canvas vest.			
Luncheon Basket for Four Persons		21.35	4/8/0
22" x 9" x 12" wicker basket with lid and folding front, fitted with the following requisites: 2 China provision boxes, 1 metal sandwich case, 2 1½ pint wicker-covered bottles, 4 glasses in wicker cases, 4 square enamel plates, 1 butter pot (screw lid), 1 preserve or cheese pot, salt, mustard, and pepper pots, 4 knives, 4 forks, 4 spoons, 1 large knife and fork, salt and mustard spoons, barrel corkscrew. Front of basket folds down and is covered with a metal tray. Metal hinges, lock, and bar fastener.			
Match Safe, pocket		0.20	0/10
Heavy nickel-plated brass, spring snap cover. Not waterproof.			
Mirror, folding camp mirror		0.35	1/6
5" square mirror in folding oak case. Mirror may be hung, or the case can fold open to stand the mirror upright.			
Pack Basket		0.65	2/8
Woven ash splits, leather shoulder straps. Holds between 1½ and 2 bushels.			
Pocket Warmer		0.85	3/6
"The Remedial Heater or Pocket Stove" Small, round, nickel-plated heater, 3" diameter. Burns small charcoal tablets – each tablet lasts approximately 2 hours. Burning ember is safely contained and cannot cause a fire [but might ignite flammable gas]. Comes in a wooden box with one dozen charcoal tablets.			
Extra Charcoal Tablets, 1 dozen		0.10	0/5
Provisions:			
Coffee, dried and compressed, package of 16 1 oz tablets	1 lb	0.45	1/11
Coffee, Whole Roasted Jamaican, in 1 lb tins	1 lb	4.85	20/0
Cornmeal, 1 lb tins, 1 dozen	12 lbs	1.70	7/0
Eggs, Powdered, 3 oz canister		0.21	0/10½

Item and Description	Weight	US Price	UK Price
Provisions (cont):			
Emergency Rations, canned, 1 day each, 1 dozen tins	20 lbs	2.40	14/0
Hard Tack ("Ships Biscuits"), 1 tin	7 lbs	0.55	2/3
Marmite, 1 bottle	2 oz.	0.15	0/7½
Meat Rations, canned,	1 lb	0.18	0/9
Milk, Condensed, Unsweetened, canned	8 oz	0.09	0/4½
Milk, Dried and Compressed in 1 oz. tablets	1 lb	0.14	0/7
Soups, various flavors, canned,	1 lb	0.35	1/5½
Tomatoes, Peeled, 1 lb tins, 1 dozen	12 lbs	1.33	5/6
Many cowboys on the trail would carry a can of tomatoes or fruit in their saddlebags in lieu of a canteen. Water was available from a barrel on the chuck wagon.			
Mixed Vegetables, Dried and Compressed, ½ lb tin	8 oz	0.15	0/7½
First produced during the American Civil War, these hard blocks could be broken up and boiled into a stew or soup. The first attempts were notoriously unappetizing, and were promptly dubbed "Desecrated Vegetables" by the troops.			
Sleeping Bag, arctic	20 lbs	15.50	£ 3/3/11
Heavy waterproof duck cover (tan), sheepskin insulation (wool on), and heavy drill lining, which can be removed for cleaning. Large enough to pull up over the head and ears for extra warmth. Includes loops and ties for rolling the bag into a small package.			
Snowshoes		3.00	12/6
Handmade from straight-grain ash, with specially-tanned cowhide lacing. 42" x 14".			
Snowshoe Bindings, leather, 1 pair		1.00	4/2
Ski Poles, 1 pair		0.69	2/10
Stove, folding, gasoline	4½ lbs	3.50	14/5
The "Mighty Mite"; burns 9 hours on one filling. 7" x 7" x 4" folded.			
Stove, pocket	½ lb	0.50	2/1
Burns 1 hour using alcohol.			
Tarpaulins:			
10' x 16', 8 oz. duck	15 lbs	1.95	8/0
16' x 20', 10 oz. duck	40 lbs	5.65	23/4
24' x 30', 12 oz. double-filled duck	65 lbs	17.95	£ 3/13/0
Tent Heater, "Kamp Komfort		4.30	17/9
Will burn any liquid fuel.			
Tents:			
The "A" or Wedge Tent			
7' x 7' x 7' high, 8 oz. duck	25 lbs	2.90	11/0
9' x 9' x 7' high. 10 oz. duck	35 lbs	4.55	18/9
Tall and narrow to shed rain or snow, this very basic tent has been used since Revolutionary times. Requires three poles, usually cut on site, but can sometimes be 'hung' from an overhanging tree			
Miner's Tent			
7' x 7' x 7' high, 8 oz. duck	15 lbs	2.00	8/3
12' x 12' x 9' high. 10 oz. duck	37 lbs	5.30	21/11
A very simple tent, a square-based pyramid, and one of the easiest to pitch. Four tent stakes and a central pole, though that can even be discarded if the peak can be tied to an overhanging branch.			
Mountain Tent			
7' x 5' x 5' high,	21 lbs	17.95	74/0
The "Whymper" (named after the first climber to reach the top of the Matterhorn). Made of strong, light green rot-proof canvas, with a waterproof groundsheet sewn in. Complete with poles, ropes, lightweight pegs, and carrying bag. Very sturdy and will withstand high winds.			
Wall Tent			
9½' x 14' x 8' high, 3' wall. 8 oz. duck	50 lbs	6.75	27/10
14' x 20' x 9' high. 4' wall. 12 oz. duck	125 lbs	19.70	£ 4/1/3
A very roomy and comfortable tent, usually used for extended or semi-permanent camps. In hot climates, a 'fly' is pitched over the roof, reflecting some of the sun's heat and allowing air to circulate. In winter, the tent can run a stovepipe through an asbestos ring in one wall, so a stove can heat the tent. Extremely heavy, but is usually packed in by horse or canoe. The weight can be reduced somewhat by cutting trees on site to make the tent poles.			
Photographer's Tent			
12' x 16' x 11' high, 6' wall. 10 oz. double-filled duck	125 lbs	26.00	£ 5/7/3
Designed like a very high 'wall tent'. Includes a separate 6' x 6' darkroom section (a sort of 'tent within a tent') that can be light-proofed with paint (color of choice).			
Tent pegs, per dozen	3½ lbs	0.75	3/1
Comstock's, malleable iron, 9" long.			

Item and Description	Weight	US Price	UK Price
Thermos bottles:			
1 pint	1½ lbs full	5.10	21/0
1 quart	2½ lbs full	7.64	31/6
Not Available Before 1904 – Uncommon Before 1907. Glass-lined vacuum flask that will keep drinks hot or cold for up to 24 hours. The top cover functions as a cup; includes a leather carrier and shoulder strap.			
Tinderbox		0.40	1/8
"The Lovett." A polished brass box containing steel, the best English black flint, 12" of treated wicking, and a solar or burning glass. Leather case is included.			
Extra wicking, per yard		0.04	0/2
Water Bag, Canvas, 4 pint		0.73	3/0
The canvas body leaks slowly, but the evaporation cools the water inside. Popular in hot climates.			
Water Bottle, Aluminum, 1 liter		1.82	7/6
Khaki felt cover, with shoulder strap.			
Water Bottle, Vulcanite, 1 quart		3.65	15/0
Khaki cover, shoulder strap, and aluminum cup.			
Water Carrier, 5 gallon	25 lbs full	11.25	46/6
Aluminum tank, wicker carrier; includes leather shoulder straps. 5 gallon capacity.			
Water Filter		9.95	41/0
"The Berkefeld Patent Traveller's and Army Pump Filter." A high-capacity water filter, approximately 2' long, with a foot stirrup and handle.			
Extra Filter Cylinders		1.17	4/10
Tin Case for pump and 2 spare cylinders		1.15	4/9
Whistle		0.12	0/5
Nickel plate, quite loud.			
Whistle, Metropolitan Police Whistle		0.30	1/3
Also used in the military. The next generation will come to know this sound as the signal to go "over the top."			
Chain for Police Whistle, Nickel plate		0.12	0/6

Tents, Canvas, and Waterproofing

There were three common means of waterproofing cloth in the 19th century; the first was "oilcloth", where the canvas was soaked with a mixture of linseed oil and turpentine and allowed to dry. After a couple of treatments, the cloth became quite waterproof, and was still flexible.
The second technique was to paint the cloth with a mixture of paraffin wax dissolved in a solvent like gasoline; it was fast, very effective, and extremely cheap. Unfortunately, the resulting cloth was also extremely flammable (circus tents were sometimes waterproofed this way, resulting in the Hartford Circus Fire of 1944 which killed 171 people).
The third technique was used primarily for groundsheets and waterproof clothing, and was invented in 1823 by Charles Macintosh – India rubber dissolved in solvent was sandwiched between two layers of wool cloth. The raw rubber made the cloth stiff in cold weather, and became sticky in the heat. These were not solved until 1839 when Firestone discovered the process of Vulcanization.

Many tents made from cotton canvas are not treated with anything to waterproof them – a good quality, tightly-woven canvas will shed water as long as it does not sit in pools, and as long as you don't touch the cloth – this starts the water wicking through the material and once it starts, it just gets worse and worse. What usually happens is the tent is pitched improperly so the roof sags. The water gathers in the depression, and as the first drips form, someone pushes up in the roof to drain the collected water. This breaks the water resistance of the canvas, and the drips soon become a stream. In a heavy downpour, this soon looks like someone turned a faucet on.

Pitching a tent correctly requires some skill – not only do you have to select the best spot (level, good drainage, no rocks or roots just under the grass that feel like boulders gouging into your spine at 3am), but the canvas must be tight and not sag. Since canvas will stretch or shrink as the weather changes, it will have to be adjusted periodically (one way is to dig a shallow hole under the tent pole, and when the damp of the evening makes the canvas sag, you reach out, lift the tent pole out of the hole, and set it on the level ground, tightening everything up.)

So Where are the Backpacks?

The modern image of the backcountry hiker – the long-distance backpacker carrying everything they need in a huge, rigid-frame pack – really did not exist in the Gaslight era, for a number of reasons. The most obvious was a reliance on pack animals, porters, or vehicles to carry any heavy or bulky gear. The soldier in the field was rarely far from the baggage train with its wagons and mules; while the cowboy on a cattle drive kept his bedroll and 'plunder bag' on the chuck wagon, picking it up from the cook when they stopped for the night. The explorer and the mountain climber would employ natives to carry their mountains of equipment, and the solitary fur trade-era Mountain Man had his string of packhorses. Even the classic "Great White Hunter" had a gun bearer to carry the 15+ pound elephant gun so the hunter's arms would be rested and steady when the critical moment came.
Additionally, in a lot of ways, the Victorian camper did not need to carry as much gear as the backpacker of today. Conservation of dwindling wilderness resources was not a concern, so the hiker or prospector was free to cut or gather firewood and shoot game for their food. Tent poles and tent pegs can be cut from saplings, and the fine boughs stacked to make a soft (and pleasantly-scented) bed.

Bindlestick – Normally used by tramps and runaway children, the bindlestick was simply a large bandanna tied around one's gear to make a compact bundle, and then the bundle tied to a convenient stick so it may be carried over the shoulder.

Haversacks – The basic haversack goes by many names: 'wallet,' 'scrip,' 'breadbag,' or even 'pocket.' It is a large pouch of cloth or leather, usually square or rectangular, and often about 12" to 18" on a side, with a simple shoulder strap so the pouch would hang at about hip level. In the 19th century it was used by soldiers to carry their rations (hence the name 'breadbag'). A smaller version, the 'shooting pouch,' was used to carry the numerous tools and supplies required by black-powder weapons. They are simple, cheap, and efficient, though if the haversack contains large, heavy objects, they can gouge or bang into the wearer's hip or leg, particularly if they have to run.

Rucksacks – Popular with climbers and hikers in the alpine region of Europe, the Rucksack is a small to medium sized pack with shoulder straps and (frequently) a waist belt. The rucksack rides low on the back, keeping the center of gravity low so to not throw off a climber's balance, and the waistbelt pulled it in close to the back, keeping it from catching on rocks or branches. The rucksack was usually made from a stout waterproof canvas, reinforced with leather. It had a drawstring top, with a buckled flap over the top to keep water out of the pack. They frequently have external pouches (the more, the better), and loops or straps to secure ice axes, ropes, and other climbing gear. Like with the haversack, hard, heavy objects could dig into the wearer's back uncomfortably if they were not carefully packed.

Duffle/Dunnage Bags – A large, cylindrical cloth bag, open on one end. The bag might close with a drawstring, or it might just be folded over and tied with a cord. One of the most common means of packing gear, they are flexible enough to be shoved into corners of wagons or boats, and several can be bundled together in a tarp and tied to a pack animal. Or, 'Pack Straps' can be tied to the bag, turning it into a crude backpack.

Kit Bag – Popular in the British military, this was a large, flat, square bag with a carrying handle at the top

Pack Basket – When the Roman legions marched from the sands of Persia to Hadrian's Wall, they carried much of their gear (and there was a lot of it) in a pack basket. Woven of wicker or split ash slats and carried on the back by two leather shoulder straps, the basket was strong and light, and the rigid form made it easy to pack or unpack (though liable to spill if tipped or dropped.)

Duluth Pack – First made in 1882, the Duluth Pack (from the Duluth Tent and Awning Co.) was (and still is) common on the rivers of Canada and northern Minnesota. The pack is a large, flat, square canvas bag, with two leather shoulder straps and a canvas 'tumpline'/carrying handle at the top. The pack closes with a full-length flap and is secured by leather straps. It was not meant to carry loads for long distances – it was a way of keeping gear or supplies together, so they could be easily loaded/unloaded and stuffed into odd spaces in the canoe. When the gear had to be portaged around rapids or a waterfall, the bag could be worn like a backpack, and the 'tumpline' was placed on the head so the strong muscles of the neck could take much of the weight. Experienced guides might even bundle several packs together and carry them by a tumpline – weights in excess of a hundred pounds were quite common.

Pack Board – The ancestor of the modern, external-frame backpack, the pack board is a sturdy frame of light wood with shoulder straps so that it may be carried on the back. Before 1929, the pack board was usually made by the hiker to their own needs/specifications, so patterns and the level of workmanship varied widely. The loads were lashed directly to the board, usually with a "diamond hitch", and could be stored in a dunnage bag, wrapped in a tarp, or even tied directly to the board, as was often the case when packing out game animals.

Clothing – Men's

"Vestis virum reddit" went the Latin maxim – 'clothes make the man.' While the changes that took place over the century were not as dramatic as in women's clothes, they were no less significant. The knee breeches and silk stockings gave way to hunting attire as everyday wear; then frock coats and trousers – finally to three-piece suits that would not look too terribly out of place today.

On the Importance of Hats

Throughout the century and well into the next, no man would voluntarily go out without a hat. It just wasn't done. The hat one wore, from the folded paper caps of artists to the silk top hats worn at formal occasions, the countless variations in style and the details of material and finish spoke volumes about your profession and social level and were immediately apparent to the practiced eye.

In addition, there was an elaborate etiquette regarding hats – when they were tipped, when they were removed, when it was appropriate to leave them on; the details of this would have been ingrained upon the characters almost since birth, and would be unconscious for one with any degree of manners.

One could tip one's hat to another, or remove it entirely; removing the hat was the sign of greater deference. One removed one's hat when introduced to someone, or while speaking with a friend, a woman, an elder, or a social better. One tipped one's hat to show respect to a stranger, for example when excusing oneself after jostling a woman in a crowd.

With very few exceptions, one removed one's hat indoors. It was permissible to wear a hat at a luncheon counter, or in the entrance or hallways of a public building, but one would remove it in a restaurant and certainly in a church or courtroom. Refusing to remove a hat in a courtroom was inviting a fine for contempt of court.

One can snub someone by leaving one's hat on; in certain situations (a rough frontier saloon, for example), tipping or removing one's hat inappropriately (showing more deference than is required), can also be used as an insult, implying that they are elderly, or even a "woman."

The Sack Suit

The Prince Albert

Evening Wear

Item and Description	Weight	US Price	UK Price
Belt, Leather, 2" wide		0.25	1/0
Bill Holder (wallet), Morocco grained leather		0.40	1/8
Boots, Cowboy boots		3.25	13/5
Boots, "The Sportsmen's Delight"		4.00	16/6
16" tall, full laces, waterproof welts and tongue, full caulks (spikes) and hobnails on sole and heel.			
Boots, Wool Felt Boots (shoe pacs)		1.00	4/2
16" tall, full white wool felt w/ leather reinforcements. Worn inside other boots for protection from the cold.			
Cassock, Priest's		11.92	49/2
Coat, Barber's or Dentist's, white cotton duck, double-breasted		1.50	6/2
Coat, Hunting		2.50	10/4
Waterproof, 8-ounce duck in dead-grass color; leather reinforcement and edging, 6 pockets and game pocket.			
Coat, Leather; oil-tanned horsehide, cashmere-lined	3½ lbs	9.79	40/5
Coin Purse, fine kid leather, chamois lined, nickel-plated overlapping frame.		0.10	0/5
Court Dress		130.50+	£26/18s+
Knee breeches, silk stockings, sword… Required dress for royal audiences.			
Cuffs and Collar, Detachable, Celluloid		0.30+	1/3
Not Available Before 1872. Styles included the 'Clerical' or "Roman" collar.			
Cuffs and Collar, Detachable, Linen		0.28+	1/2
Cuff and Collar Box, heavy sole leather		0.90	3/9
Dressing Gown, Gentleman's; figured silk, quilted		29.10	120/0
Duster, Linen		1.75	7/3
Evening Dress (dinner jacket, coat, waistcoat, trousers)		34.10	£7/7s
Fox Hunting Attire (scarlet hunting coat, waistcoat, riding breeches)		38.95	£8/7/6
Frock Coat and waistcoat, finest quality		24.40	£5/7/6
Gloves, Kid, walking or driving, 1 pair	-	1.25	5/2
Gloves, work, calfskin with double palm, 1 pair		0.85	3/6
Handkerchief, linen, 1 dozen		0.45	1/11
Hat, "Deerstalker," wool tweed		0.45	1/11
Hat, Derby, fur felt		2.00	8/3
Hat, Fez		0.35	1/6
Favored by retired army officers in mufti.			
Hat, Planter's, cashmere wool, black, drab, or slate		2.00	8/3
Hat, Straw Boater, superior quality, double-braided		0.70	2/11
Hat, Stetson (cowboy hat), fur felt, extremely durable		10.00	41/3
Hat, Top Hat, silk, latest style		5.00	20/8
Hat, Yacht Cap, navy blue broadcloth with leather bill and braided trim		0.50	5/1
Inverness Cape, lined		18.20	£3/15s
Leggings, Leather; russet grained leather w/ spring steel stiffeners, knee height		1.75	7/3
Livery, Servant's:			
Butler's Livery		23.60	£4/17/6
Coachman's Livery		25.50	£5/5/0
Footman's Livery		25.95	£5/7/0
Macintosh Coat, black cashmere, double textured, w/ detachable cloak		5.95	24/7
Masonic Regalia:			
Apron, Master Mason's, 1st quality		3.15	13/0
Apron, Collar, Gauntlets, Provincial Grand Lodge Officer's, 1st quality		29.10	£ 6/0/0
Apron Case, Russian leather		1.65	6/9
Mittens, extra heavy knit wool, leather covered palm and back, 1 pair		0.85	3/6
Motorist's Clothing:			
Balaclava, wool		0.85	3/6
Cap, leather		1.82	7/6
Duster, double-breasted		3.52	14/6
Gauntlets, leather, lined		2.30	9/6
Overcoat, leather lined whipcord, wind and waterproof		25.50	£5/5/0
Nightshirt, fancy, quality muslin, silk embroidery, breast pocket		0.75	3/1
Oilskins; long coat, apron pants, sou'wester hat		3.25	13/5
Overalls, Bib Front, brown 10-ounce duck, reinforced inside		0.80	3/4

Item and Description	Weight	US Price	UK Price
Overcoat, Chesterfield, w/ satin collar		19.88	£ 4/2s
Overshoes, Rubber, 1-buckle, per pair		1.35	5/7
Pants, Leather; oil-tanned horsehide, cashmere-lined	3 lbs	6.95	28/8
Pith Helmet		0.50	2/1
Pommel Slicker (Saddle Coat)		2.85	11/9
Yellow oilskin slicker – cut with extensions in front and back to cover the saddle, keeping the seat dry. Sides are long enough to cover the legs down to the boots.			
Pouch, for Tobacco or Gold Dust		0.13	0/7
Scarf, Windsor Teck Scarf, silk		0.40	1/8
The descendant of the cravat, worn with a stickpin.			
Shirt, Work shirt, w/attached cuffs and collar, cotton		0.45	1/11
Shirt, dress shirt, white (detached cuffs and collar)		1.00	4/2
Shirt, dress shirt, white, pleated front (detached cuffs and collar)		1.25	5/2
Shirt Front, Detachable, Celluloid		0.35	1/6
Shoes, Razor-toe patent leather dress shoes		4.50	18/7
Signet Ring, Masonic, Gold, w/ 6 diamonds		7.50	30/11
Sleeve Protectors, 1 pair		0.14	0/7
With patent rubber top. Used by clerks to keep ink stains from their sleeves.			
Slippers, embroidered silk plush		1.65	6/10
Smoking Jacket, satin, silk braid on edge, pockets, and sleeves		3.25	13/5
Stickpin, gold, w/ pearl or diamond		0.75 – 3.75	3/1 – 15/6
Stockings, Balbriggan half-hose, cotton, double heels and toes, per pair		0.11	0/6
Stockings, Bicycle; extra-heavy ribbed wool, 1 pair		0.95	3/11
Stockings, Hunting; wool, 1 pair		1.25	5/2
Extra-heavy wool knit, knee length, fleece-lined, double feet – advertised as the warmest socks on the market.			
Stockings, Wool, medium-weight half-hose, 1 pair		0.30	1/3
Suit, Bicycle suit		4.66	19/3
Light brown, Oxford, or black Cheviot wool. Breeches, sweater, and coat.			
Suit, Frock Coat		24.40	£ 5/7/6
Coat, waistcoat, trousers. Popular as daywear during last half of the century.			
Suit, Prince Albert, double-breasted		28.00	£ 5/15/6
Suit, Professional Man's		18.00	£ 3/14/3
Single breasted; used by doctors, lawyers, and ministers.			
Suit, Round-Cornered Sack Suit, worsted wool		3.00	12/5
Suspenders (aka "Braces")		0.50	2/1
Sweater, Turtleneck, Extra-Heavy Wool Knit, (for additional sweaters, see *Chapter 7: Sporting Goods*)		3.25	13/5
Tie, Bow Tie		0.10	0/5
Tie, String Tie		0.15	0/8
Tie, Windsor silk tie		0.25	1/0
Umbrella, black taffeta silk, 30" diameter, wooden crook handle		1.95	8/1
Underwear, Summer Weight Cotton, shirt and drawers		0.50	2/1
Underwear, Winter weight scarlet knit wool, shirt and drawers		1.50	6/2
Underwear, Extra Heavy knit wool, shirt and drawers		4.00	16/6
Vest, Fancy Silk, single-breasted		2.50	10/4
Walking Stick, Rattan, w/ fancy metal top		1.00	4/2
Walking Stick, ebony, with superior quality gold head		20.00	£ 4/2/6
Watch (pocketwatch), bargain, 7-jeweled movement		3.65	15/1
Watch (pocketwatch), Elgin 20-jewel movement, 14k gold hunting case		80.00	£ 16/10
Watch Chain, gold plated		1.00	4/2
Watch Chain, 10k gold		10.50	43/4
The "Dickens Chain," named for the famous British author, had a toggle in the middle and two chains that looped to either waistcoat pocket across the belly. One of the chains held the pocket watch, while at the other end was a small key used to wind and set the watch, before the 'stemwinder' was invented. The toggle usually had some small charm dangling from a shirt length of chain.			
Watch Charm, Masonic, gold plate		0.30	1/3
Wedding Band, plain, 16k gold		4.50	18/7

Clothing – Women's

Women's fashions during the century underwent rapid and dramatic changes. While the lines of men's clothing gradually became more natural, women's garments forced them into more and more unnatural shapes, covering them with layer after layer of cloth.

Corsets, Crinolines, and Bustles

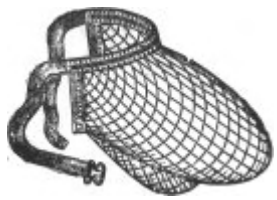
While the Regency Period at the beginning of the century featured simple, high-waisted frocks with only a chemise underneath, the Victorian era favored a pronounced bell-like profile with a narrow waist. The waist was obtained by use of the *Corset*, a rather serious garment that used stiff boning (either steel straps or whalebone) and tight lacing to mold the waist and hips to the desired form. The laces were in the back, and a woman required help getting the garment on properly (some corsets had hook-and-eyes in the front, so the wearer could remove it unassisted, if required).

At first the bell-shape of the skirt was created with multiple petticoats, or by stiff petticoats made from "crinoline," a fabric made from horsehair and cotton. These were replaced in 1856 by the *Cage Crinoline*, an elaborate arrangement of steel hoops connected by tapes.

While it had its disadvantages – it was awkward to get through doors and onto narrow streetcars, it could blow up if caught wrong by the wind, or flip up entirely if the wearer fell, exposing the legs and undergarments – it was extremely popular, and mass production made them affordable for women of every social class.

After about 1870, the crinoline began to be replaced by the *Bustle*, a cage arrangement that left the skirt flat in front, but full in the back. The bustle began to lose popularity in the 1890s, becoming obsolete in the early 1900s when long corsets provided the desired shape to the rear without additional assistance.

The Corset



The Bustle

…and the final result

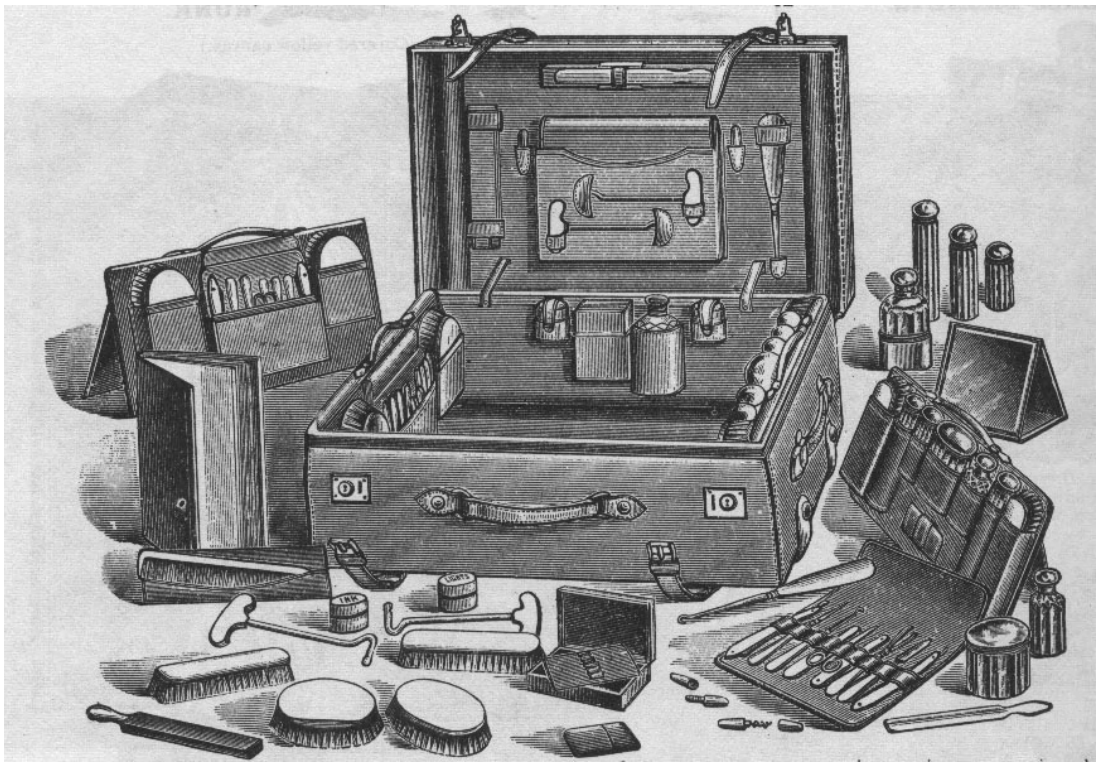
Item and Description	Weight	US Price	UK Price
Apron, Gingham		0.25	1/0
Brooch and Lace Pin, gold, w/ pearls or fire opal		4.00	16/6
Bustle, with removable steel boning for ease of cleaning		0.44	1/10
Price listed is for 1880. By 1895, bustles could be found on clearance for $0.01.			
Cape, Fur, Mink		242.50	£50/0/0
Cape, Spring, wool, w/ 8" Parisian collar		3.50	14/5
Chemise, cotton, fine Valencienner lace front		0.95	3/11
Coat, Motoring, double-breasted, wind and waterproof		15.25	£3/3/0
Corset, French style		0.85	3/6
Corset, "Madam Strong's Health Bodice"		1.15	4/9
Uses a lighter, flexible grade of boning, allowing the wearer more freedom of movement.			
Corset Cover, white muslin		0.33	1/5
Crinoline, cage crinoline, w/ steel hoop boning		0.33	1/5
Drawers, Muslin, with Hamburg lace edging		0.55	2/3
Evening Gown		27.88+	£5/15/0+
Gloves, kid, pearl buttons		1.00	4/2
Hair Pin, Tortoiseshell		1.50	6/2
Handbag, also called a "Shopping Bag"		1.00	4/2
Handkerchief, fine lace		1.88-48.50	7/9 – 200/0
Hat, Motoring Cap, waterproof, w/ veil		2.30	9/6
Hat, Pith Helmet, Lady's		3.50	14/6
Hat, trimmed with ribbons and bunches of silk flowers		1.30	5/5
Hat, untrimmed, straw		0.35	1/6
Hose, Cotton, solid-colored		0.10	0/5
Hose, Silk, lace front, 1 pair		1.29	5/4
Hose, Cashmere, 1 pair		0.50	2/1
Jacket, Spring, diagonal wool Cheviot		4.25	17/7
Locket, gold, engraved; holds 2 pictures		3.50	14/5
Mourning Jewelry – Brooch pin, onyx and gold		9.50	39/2
Mourning Jewelry – Earrings, jet and gold		1.25	5/2
Muff, Fur, Chinchilla		33.35	£6/17/6
Newport Suit; jacket, skirt		9.00	37/2
Nightgown, Cotton, herringbone trim, embroidered ruffled collar		1.40	5/10
Overboots, Rubber, button-up		0.34	1/5
Parasol, sateen finish, blue clouded figures, white enameled handle		1.00	4/2
Pocketbook, Vienna calf leather with sterling silver corners		1.30	5/5
Riding Habit		27.88	£5/15/0
Ring, Gold, w/ 2 heart-shaped rubies and pearl decorations		3.00	12/5
Ring, Wedding ring, plain gold band, 18kt		1.25	5/2
Shawl, Cashmere		2.00	8/3
Shirtwaist, black sateen		0.75	3/1
Shoes, "Common Sense" Oxfords		1.25	5/2
Shoes, Extra-high cut button-up boots		3.75	15/6
Shoes, Razor-toed boots, lace up		2.50	10/4
Skirt, fine wool serge, organ pipe pleats		4.00	16/6
Slippers, Satin		2.00	8/3
Stole, Fox		37.60	£7/15/0
Tea Gown, all wool Henrietta		9.00	37/2
Umbrella, black silk, ebony crook handle		1.25	5/2
Underwear; Cotton Union Suit		0.50	2/1
Underwear; Wool Union Suit		1.00	4/1
Veil, fine lace		3.65 – 20.15	15/0 – 83/0
Watch, lady's, 11-jewel Elgin movement w/ 14kt gold case and diamond		35.00	£ 7/4/4
Watch Chain, Victoria, gold, w/ charm		6.75	27/10
Wrapper, ready-made, indigo cotton print to cotton-warp cashmere		0.75 – 2.50	3/1 – 10/4
The wrapper was a simple housedress or daytime dress.			

Luggage, Boxes, and Containers

This chapter lists and describes the various trunks, satchels, and portmanteaus vitally necessary for transporting one's goods and equipment about. While the common traveler could get by with a scuffed carpetbag, anyone of any means or style needed a staggering array of fitted cases and steamer trunks for anything more than the most casual visit. Pity the poor, overworked porter.

Dresser Trunk

Gladstone Bag

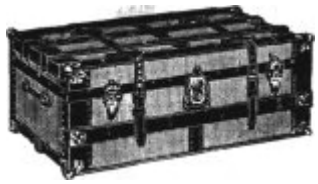


The Portmanteau, or Fitted Dressing Case

Item and Description	Weight	US Price	UK Price
Bookcase, Barracks Made of pine, mahogany-stained. Iron-bound, locking doors, 2 shelves. 30" x 7" x 19" high.		9.75	£ 2/0/3
Bushel Basket, splint		2.25	9/4
Cabin Bag, leather Grained leather; japanned frame, 18" long.		4.50	18/6
Cantanas, leather Saddle Bags that are hung over the saddle horn; 9" x 14" each side.	3 lbs	3.75	15/6
Coat Case (suitcase), Large Canvas, with riveted leather ends. 24" x 13" x 11".		2.75	11/4
Coat Case (suitcase), Small Canvas, with riveted leather ends. 18" x 12" x 4".		2.00	8/3
Comstock's Carry Bag A large duffle or dunnage bag with shoulder straps. Designed for carrying tents, it is made in a number of sizes for different makes of tent.		1.20	5/0
Filing Cabinet, 4-drawer "Stone's Drawer Cabinets", oak, 4-drawer, for foolscap size paper.		4.25	17/6
Fishing Fly Box, German Silver 6½" x 3" x 1", hinged lid, with pads to keep the flies moist.		1.75	7/6
Fishing Tackle Box, 1 tray 8" x 5" x 2", 1 tray, 10 spaces. Heavy tin, double-seamed and soldered.		0.75	3/1
Fishing Tackle Box, 2 trays 12" x 8" x 6", 2 trays, 15 spaces. Has room for 2 reels. Heavy tin, double-seamed and soldered.		1.88	7/9
Gladstone Travel Bag Canvas, with leather corners and straps. 24" long.		2.50	10/4
Gun Cases/Holsters – *See Chapter 20: Weapons and Accessories*			
Hat Case, Square, Solid Leather Holds up to 5 hats, w/ space in front for shirts. 19½" x 18" x 11½" deep.		19.15	79/0
Kit Bag 27" x 20" x ~4". A flat bag with carrying handle on top – rather like a large carpet bag, but of heavy water-resistant canvas. Popular in the British service.		0.75	3/1
Luggage Tag, leather	-	0.12	0/6
Market Basket, woven splint, w/ lid, Large		0.28	1/2
Market Basket, woven splint, w/ lid, Small		0.20	0/10
Money Belt, chamois leather, 3 compartment		0.40	1/8
Pack Saddle Includes pack tree, saddle pads, breast collar, cinch, and harness. w/o panniers.		15.00	£ 3/1/10
Panniers, Mule Made for pack mules. Bodies of wicker covered with dull black canvas; hinged lids, leather straps and carrying handles. 27" x 12½" x 15". Per pair		27.90	115/0
Portmanteau Fitted leather suit case, 27" x 18" x 9½", with removable standard at each end, containing 6 silver mounted bottles, 2 ivory hair brushes, 1 ivory hat brush, 1 ivory cloth brush, 1 ivory shoe lift, 1 pair boot hooks, and 1 tortoiseshell comb in case; also a razor strop, barrel corkscrew, railway key, silver-mounted flask, leather jewel case, mirror, ink bottle and light (match) box, pigskin writing case, and an instrument board containing 2 razors, penknife, corn knife, button hook, and 4 manicure instruments. Pigskin fittings and straps, double-action locks.		162.50	£ 33/10/0
Rucksack, Austrian Touring Bag Willesden canvas with lining; top flap with strap and buckle, leather shoulder straps.		2.60	10/9
Saddlebags, extra large Grained leather, 10" x 14" each side.	4 lbs	4.50	18/7
Safe, Steel, Fireproof:			
1 cu. ft inside volume	445 lbs	20.00	£ 4/2s
3 cu. ft inside volume	1210 lbs	50.00	£ 10/6s
6 cu. ft inside volume	1925 lbs	90.00	£ 18/11s
Satchel, alligator leather English Oxford alligator leather, 16" long.		8.70	35/10
Stateroom Trunk (footlocker), Large Canvas edges, iron corners and clasps, leather handles. 36" x 14" x 21".		5.10	21/0
Stateroom Trunk (footlocker), Small Canvas edges, iron corners and clasps, leather handles. 30" x 14" x 21".		4.00	16/6
Storage Chest, Camphor-wood lined, Large Wood frame, iron corners and binding; lined with camphor wood. 38" x 20½" x 21".		21.80	£ 4/10/0
Storage Chest, Camphor-wood lined, Small Wood frame, iron corners and binding; lined with camphor wood. 29" x 17½" x 18".		15.20	£ 3/2/7

Item and Description	Weight	US Price	UK Price
Storage Chest, Zinc-lined, Large Wood frame, nearly air-tight, recessed handles. 38" x 20½" x 21".		21.80	£ 4/10/0
Storage Chest, Zinc-Lined, Small Wood frame, nearly air-tight, recessed handles. 29" x 17½" x 18".		15.20	£ 3/2/7
Trunk, Dresser or Bureau Trunk, Large Basswood frame, canvas covered, with iron strapping. Top fold up into a convenient bureau . 40" x 23" x 28".	102 lbs.	22.50	£ 4/12/9
Trunk, Dresser or Bureau Trunk, Small As above. 32" x 20" x 24".	76 lbs.	16.40	£ 3/7/8
Trunk, Regulation Troopship Trunk Covered with dull black canvas; leather straps and handles. 30" x 24" x 12".		13.30	55/0
Trunk, Regulation Troopship Trunk, Tin Lined As above, but lined with soldered tin to render the trunk nearly waterproof and exclude vermin.		16.75	69/0
Trunk Straps, heavy russet leather, 9' x 1½ "		0.62	2/6
Wardrobe Trunk Tall, covered with yellow canvas, with iron corners and double-acting locks. A clothes bar slides out on top and has 6 hooks for hanging women's dresses. 53" tall x 22" x 21".		30.65	126/6

Metal-Lined Trunk



Stateroom Trunk

Wardrobe Trunk

Communication Equipment and Stationery

This chapter lists some of the numerous means devised for recording and transmitting information: pens, stationery, and writing supplies; art supplies; telegraph and telephone equipment; even the very latest in the growing field of wireless telegraphy.

Some Selected Dates

1837 – The Telegraph is demonstrated by Samuel Morse.

1840 – Britain introduces the gummed, prepaid postage stamp, the "Penny Black," along with a reformed postal rate that allows a ½ oz letter to be sent anywhere in the UK for one penny.

1851 – Telegraph cable is laid across the English Channel, connecting Britain with France.

1852 – The term "Telegram" is coined.

1854 – The English complete a telegraph connection 800 miles across India from Calcutta to Ashram. The equipment used was carefully designed to avoid infringing on the Morse patents. The rapid communication it afforded is credited with helping the defeat of the Sepoy Rebellion.

1858 – First Transatlantic Cable laid between Ireland and Newfoundland. The first message ever sent via telegraph across the Atlantic Ocean was from Queen Victoria to President James Buchanan; it was 98 words long, and due to persistent trouble with the line, took 17 hours to transmit. The cable burned a month later. The Civil War stalls any plans to repair the cable.

1860 – The Central Overland California and Pike's Peak Express Company begins its "Pony Express".

1861 – Western Union completes the transcontinental telegraph connection. The Pony Express goes out of business later that same month.

1865 – The International Telegraph Union is founded in Paris.

1866 – After failing the year before due to a snapped cable, the former passenger ship the Great Eastern successfully lays the second Transatlantic Telegraph Cable.

1869 – The Telegraph Act granted the British Post Office a monopoly an all domestic telegraph services, nationalizing the numerous companies operating lines in and around London.

1870 – First commercially sold 'keyboard' typewriter – the Hansen Writing Ball.

1871 – Western Union begins its wireless money transfer, which soon becomes its most popular service.

1874 – The General Postal Union is founded with the Treaty of Berne.

1875 – Alexander Graham Bell demonstrates the Telephone (though he is not the first to invent it).

1876 – Bell patents the telephone, beating another inventor to the patent office by only two hours.

1878 – The first telephone exchange in America opens, in New Haven, Connecticut.

1879 – The first telephone exchange in England opens in London with eight subscribers. By the end of the year, there are over 200.

1886 – The first long-distance telephone line connected New York and Philadelphia.

1889 – The first public telephone installed, in Hartford, Connecticut. To make a call, one had to pay the attendant standing nearby.

1892 – New York and Chicago connected by long-distance telephone. The price of a 3-minute station-to-station call: $5.45

1896 – Guglielmo Marconi experiments with 'Hertzian waves', sending a signal a mile.

1898 –Marconi transmits the results of the Kingstown Regatta to a Dublin newspaper office, making the first 'commercial' wireless broadcast.

1901 – Marconi transmits a wireless telegraph signal across the Atlantic Ocean, from Cornwall to Newfoundland.

1909 – First amateur radio club founded – the Junior Wireless Club, in New York City. Transmitting distances are usually within one or two miles.

1912 – The Radio Act of 1912 is passed, regulating amateur transmissions. First licenses are issued. The estimated 10,000 amateur stations drop to around 1200.

1913 – Now restricted to frequencies of 200 meters and above, amateurs are obtaining ranges of up to 350 miles.

Item and Description	Weight	US Price	UK Price
Artist's Supplies:			
Oil Colors, 2 oz tubes, each		0.05	0/2½
Watercolors, common colors, 1 oz cakes, each		0.25	1/0
Watercolors, special colors, 1 oz cakes, each		0.54 – 1.30	2/2 – 5/4
Canvas, Primed, on stretchers			
9" x 15"		0.40	1/8
22" x 36"		1.35	5/7
40" x 54"		3.25	13/5
Palette, Mahogany or Walnut, oval or square		0.25	1/0
Palette Knife, 3½", each		0.20	0/10
Brushes, Bristle, No.1 – No.12, each		0.05 – 0.09	0/3 – 0/5
Used for oil paints, the stiff bristles making it easy to push the thick paint around.			
Brushes, Red Sable, No.1 – No.9, each		0.09 – 0.35	0/5 – 1/6
Used for watercolor, and among the Pre-Raphaelites for oil paints, the fine points allowing tiny detail.			
Charcoal, Artist's, medium thickness, 1 box		0.12	0/6
Clay, Plasticine, 1 lb		0.25	1/0
Pencils, 5 grades from HH to BB, box of 6 assorted		0.36	1/6
Easel, Combination Sketching and Seat, portable		2.90	12/0
A popular easel for outdoor work. Folds into a portable package.			
Easel, Sketching		0.75	3/1
Easel, Studio		16.00	66/0
Polished oak, screw elevating movement can raise canvas up to 6'.			
Sketch Board, Cavalry		6.65	27/6
Small sketch board and scale that straps to the left forearm so that drawings can be made while mounted. Brass rollers and clamps keep the paper stretched tight and flat – paper is supplied by a pair of rollers. Ruler is graduated in yards with scales of 3" and 8" to the mile. Includes a waterproof canvas case with shoulder strap.			
Sketchbook, 9" x 11", hardbound, canvas cover, each		0.75	3/1
Tracing Paper, 20" x 30", one sheet		0.03	0/1½
Oil Paint Set, Complete	8 lbs	6.00	24/9
Japanned tin box, 13" x 9" x 3", 25 tubes oil colors, 6 bristle brushes, 3 sable brushes, 2 'brights' bristle brushes, 1 badger-hair blender, 1 bottle each of pale dryer, poppy oil, and spirits of turpentine. Palette knife, mahogany palette, 3 sticks of charcoal and holder.			
Watercolor Box		0.85	3/6
Enameled tin tray with cover; 21 colors, 1 tube of Chinese white, and 3 brushes.			
Blackboard, portable		2.75	11/4
3' x 6', slated on both sides.			
Blackboard Eraser		0.08	0/4
Blotter, Hand Blotter, 3½" x 5½", oak		0.14	0/7
Blotter, Hand Blotter, Embossed Silver 3" x 5"		3.75	15/6
Blotting Pads, Desk, 19¼" x 24¼", leather corners		0.30	1/3
Blotting Paper, 19" x 24", per sheet		0.05	0/2½
Blotting Paper, for hand blotters, 18 sheets 9" x 11"		0.04	0/8
Book, Blank		1.70	7/0
Quarto sized (8" x 10"), slate gray duck covers with Russian leather corners and spine. 100 pages.			
Book, Blank		16.00	66/0
Quarto sized, full-bound in sheep, Russian leather corners and spine; embossed. 500 pages.			
Book, Blank, miniature		0.50	3/1
Octavo sized (4" x 7"), bound in red leather. 200 pages.			
Book, Drawing, "Hogarth"		0.07	0/3½
9" x 12", 15 pages; each page separated by tissue; heavy covers.			
Carbon Paper, 100 sheets		2.50	10/4
8½" x 11", used primarily when typing for creating duplicates.			
Chalk Crayons, white, 1 gross	2½ lbs	0.05	0/2½
Chalk Crayons, Colored, 1 gross assorted colors	2½ lbs	0.30	1/3
Clip board		0.34	1/5
Envelopes, white, 250		0.30	1/3
Eraser, Ink, Steel		0.40	1/8
A 6" long scalpel-like knife with a steel blade and ebony handle, used to carefully scrape away the ink.			
Eraser, Pencil, Rubber, per dozen		0.09	0/5
By E. Faber – bevel point, oblong rubber eraser.			
Eraser, Typewriter, each			
A round rubber eraser with attached brush.			
Fountain Pen, steel nib		0.35	1/6
This pen is not self-filling; ink is loaded into the pen using an eyedropper. Leaks are not uncommon.			

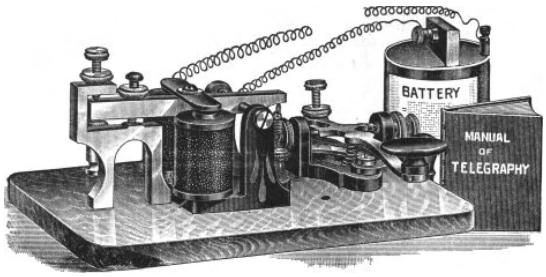
Item and Description	Weight	US Price	UK Price
Ink, Fountain Pen, blue-black, 4oz bottle with dropper		0.17	0/9
Ink, India, indelible black, 4oz		0.20	0/10
Inkstand, Glass, w/ metal screw cap		0.07	0/3½
Inkstand		0.50	2/1
Maroon finished iron base with rope-pattern crystal pen holder and two inkwells; fancy iron caps.			
Inkstand, Traveler's		0.12	0/6
Polished lignum vitae wood with screw top; leakage is impossible.			
Inkstand, Traveler's, Silver		14.97	20/6
"Mordan's Silver Safety Traveller's Ink Bottle". Silver body and cap, bayonet action.			
Marking Pencil, Indelible, 4", 1 dozen per box		0.25	1/0
Available in blue, black, red, or assorted. Marks will not rub or wash off.			
Mucilage, 12 oz bottle		0.13	0/6
Water-soluble glue used for bonding paper.			
Note Paper, with envelopes, pack of 25		0.17	0/9
Superfine heavy cream paper.			
Note Paper, Mourning, with envelopes, 5 quires (120 sheets)		1.75	7/4
Heavy gray paper, black border.			
Paper, fine note paper, linen, unruled, ¼ ream (125 pages)		0.30	1/3
Paper Knife, Wooden		0.08	0/4
Paper Knife, Ivory, 8"		0.42	1/9
A sharper version of a 'letter opener', and a necessity as most newspapers and even some books were sold with the paged 'uncut', and the edges had to be slit before reading.			
Pen, 16k gold nib, gold-filled and twisted pearl slide holder		1.75	7/4
Pen Holders, fancy spiral fluted aluminum, each		0.20	0/10
Pen Holders, polished cedar wood, each		0.03	0/1½
Pen Holders, "The Bank Pen Holder", each		0.06	0/3
Long tapered handle of polished cedar wood, with cork finger grip.			
Pen Knife		0.85+	3/6+
In the early part of the century, when quill pens were still common, this was an indispensable tool – a knife with a small, curved blade used for trimming quills. By the end of the century when feather quills had mostly been replaced by metal pen nibs, it was more useful as a small, folding pocketknife. It usually had between two and four blades: a pen blade, a small drop-point blade or two, and an eraser blade for scraping away ink marks.			
Pen Nibs, 10k Gold (#5 long nib)		0.65	2/8
Pen Nibs, steel, 1 dozen		0.07	0/3½
Pencil, Dixon "Secretary", per dozen		0.35	1/6
Hexagonal wood, #2 or 3 lead, with nickeled tip and rubber eraser.			
Pencils, Colored, Dixon, per box		0.40	1/8
7" long – box contains six colors. Suitable for map drawing, teaching, artists, etc.			
Pencil, Sliding Vest Pocket Pencil		0.04	0/2
Nickel-plated telescoping tube pencil holder fitted with a round cedar pencil. 3" closed.			
Pencil Sharpener		0.15	0/8
Polished solid brass barrel and fine steel cutting blade.			
Postage Stamp Box		0.08	0/4
Fancy nickel-plated box with ball catch. Gilt, silvered, or oxidized finishes available for same price.			
Printing Press, Large, Self-Inking		29.90	£ 6/3/3
Prints a form 6" x 9". A complete set, including 7 fonts, oil can, and all necessary requisites.			
Printer's Ink, Black, 2 oz can		0.10	0/5
Printer's Ink, Colored, 2 oz can		0.20	0/10
Available in blue, purple, green, red, and yellow.			
Printer's Gold Sizing, 2 oz can		0.20	0/10
Printer's Bronzing Powders, Gold or Silver, 1 oz can		0.20	0/10
Metallic effects are done by printing with sizing (an adhesive), then sprinkling with bronzing powder.			
Red Tape, Solicitor's, 1 packet		0.26	1/1
Red cloth tape used for binding government documents.			
Rubber Bands, assorted sized, 4oz box		0.25	1/0
Ruler, wooden, 15" long		0.04	0/2
Scratch Pads, lined, pack of 10		0.30	1/3
5" x 8", lined, 72 sheets per pad.			
Sealing Stamp, Initial, 2½" diameter		0.10	0/5
Sealing Wax Tapers, red, colored, or black, pack of 3		0.26	1/1
Red wax is used for official correspondence. Black is for mourning, and other colors for personal correspondence.			
Slates, Silicate Book Slates, each		0.35	1/6
6" x 9", 6 surfaces. Use with a Slate Pencil.			
Slate Pencil, each		0.04	0/2
Pure aluminum point in an enameled handle. Used for marking on prepared stone slates.			

Item and Description	Weight	US Price	UK Price
Slate Sponge, each Used to clean the slate pencil markings off of a slate.		0.08	0/4
Spindle, Desk Iron spindle with black lacquered iron base.		0.07	0/3½
Tablets, Pencil, lined, pack of 12 5" x 8", permanent-bound, with perforated pages, 72 sheets per pad.		0.32	1/4
Tape, Music Repair, Paper, Gummed, 1 roll ¾" transparent paper tape, gummed.		0.02	0/1
Tape, Music Repair, Linen Gummed, 1 roll 1-1/8" transparent linen tape, gummed.		0.04	0/2
Telegraph Equipment:			
Telegraph Key, high grade Steel lever, solid trunion desk key.		2.00	8/3
Telegraph Sounder 20 ohm resistance for main line use on lines pf up to 15 miles.		2.50	10/4
Telegraph Learner's Set, "The Ajax" A complete set: key, sounder, working battery, and Manual of Telegraphy (complete instruction book).	10½ lbs		
Battery Jars, open cell, glass	1¾ lbs	0.25	1/0
Zinc Electrode	1¾ lbs	0.30	1/3
Copper Electrode	5 oz.	0.20	0/10
Blue Vitriol	1 lb	0.09	0/4½
Insulators, glass, each	-	0.05	0/2½
Wire, galvanized iron #12 BB, ½ mile	85 lbs	7.65	31/6
Telephone, "The Magneto Bell Telephone", 2 each Wall mounted. Suitable for private lines of any length. Set of 2	15 lbs	35.00	£ 7/4/4
Typewriter, "The American" An index typewriter – one moves a pointer to the desired letter and pushes a lever. Like most index typewriters, the text was not visible until another line has been typed.	4½ lbs	5.70	23/6
Typewriter, "The Sun Visible Writing Machine" A keyboard typewriter – the text is visible on the platen roller as it was typed. The process of typing was also much faster than with an Index typewriter.	10½ lbs	22.50	£ 4/12/9
Typewriter Cleaning Brush		0.20	0/10
Typewriter Oil, per bottle		0.15	0/8
Typewriter Paper, letter sized, 500 sheets		1.50	6/2
Typewriter Ribbon, black		0.60	2/6
Wafers, Gummed, box of 6 dozen Round circles of gummed paper used for sealing letters in lieu of sealing wax and a stamp. Some paranormal investigators would affix them to doors and windows to see if they had been opened or disturbed.	-	0.03	0/1½
Writing Case, leather "The Traveller" Solid leather fitted case with straps and double-action strap lock. Contains 3 large pockets for papers, envelope and card pockets, a writing pad with blotting paper under corners, a pocket for a travelling ink bottle, paper knife, and loops for pens. Quarto sized (12" x 9").		4.45	18/3
Wireless Telegraph Equipment:			
Transmitting Set, ½ K.W. The Hytone Rotary Quenched Spark Transmitting Set. Includes a 10 ampere key, Transformer, Condenser, Hytone rotary quenched spark gap, Oscillation Transformer, and 5 ampere precision hot wire meter. Cabinet is of oak, 25" x 10" x 9¾", with the oscillation transformer coil, the set is 19" high.		220.00	£ 45/7/3
Transmitting Set, 1 K.W. Includes all the features of the ½ K.W. Hytone Rotary Quenched Spark Transmitting Set. Switches on the front of the cabinet allow 4 transmitting power levels. Cabinet dimensions are 38" x 12" x 12", total height 20".		550.00	£ 113/8/0
Receiving Set, Long Distance. Designed specifically for long-distance work. Includes a tuner, a fixed condenser, two rotary variable condensers, and telephone receivers, all mounted in a mahogany cabinet with binding posts and switches. Cabinet is 21"x6"x7".		180.00	£ 37/2/3
Junior Receiving Set, Close Coupled Includes a loose-coupled tuner, detector, and fixed condenser, mounted on a finished mahogany base. A very selective tuner, allowing the experimenter to tune out unwanted stations and bring the desired signal in clearly.		12.00	49/6
Antenna Switch, 1 K.W. Capacity A double-pole, double-throw knife switch, used to connect the antenna to either the transmitter or receiver. (the antenna could only be used for one or the other at any given time. If transmitting, the operator was unable to receive.)		3.75	15/6
Lightning Switch In many places, fire underwriters (insurance companies) required that the antenna be grounded when not in use in case of a lightning strike. This 600 volt, 100 amp knife switch fulfills the requirements, and is mounted on a insulating, waterproof base. A 4-gauge copper conductor is required to run outside to the ground from the switch.		4.60	18/0
Headset, Double High-quality, 75 ohm headphones – double receiver, with 6 foot green silk-braid insulated cords.	1½ lbs	5.00	20/8

Item and Description	Weight	US Price	UK Price
Holtzer-Cabot Wireless Receiver (Headphone), Double	1½ lbs	16.00	£ 3/6/0
High sensitivity headphones for long-range use; 1500 ohm, double receiver, with green silk-braid insulated cords.			

Newspapers and Periodicals:

Newspaper – *The Times* of London (began publication in 1785):		
1836 – 1855 (price included the newspaper stamp tax of 1d)	0.10	0/5
1855 (July 2) – 1861 (price lowered after repeal of the stamp tax)	0.08	0/4
1861 (Oct 1) – 1913	0.06	0/3
Newspaper – *The Boston Globe* (began publication in 1872):		
1872 – ?	0.04	0/2
Newspaper – *The New York Times* (began publication in 1851):		
1883 (Sept 23) – 1891	0.02	0/1
1891 (Dec) – ?	0.03	0/1½
Magazine – *Punch or The London Charivari* (began publication in 1841)	0.06	0/3
Weekly humor/social satire.		
Magazine –*The Strand* (began publication in 1890)	0.12	0/6
Monthly literary magazine, aimed at the middle class reader.		
Magazine – *Scientific American* (began publication in 1845)	3.00	12/5
Monthly journal of scientific and technological matters. Listed price is for annual subscription.		
Advertisement in Newspaper, Personal or Classified, per word	0.01-0.02	0/1



Skill Use: Telegraph Operation and Wireless Operation

While both telegraphs and wireless used 'Morse Code', they used very different versions of code, and an operator skilled in one might be completely unfamiliar with the other. Because of this, *Operate Telegraph* and *Operate Wireless (Radio)* are two separate skills.

At low levels of skill (under 20%), a character can clearly send and understand messages at a rate of 5 words per minute; a roll is only required if they are under stress or are trying to send/receive at a much higher rate of speed.
Between 25 and 50%, the operator is able to transmit between 10 and 15 words per minute.
Above 60%, and the operator can send over 20 words per minute.

Telegrams and the Telegraphs

In the years immediately following the invention of the telegraph, a number of small, local companies, such as the London District Telegraph Company, sprang up around London and its suburbs, placing offices at the local train stations. One could send a 20-word telegram anywhere in London for only 6d ($0.12), and for a higher fee, the local companies could connect to the regional carriers and send the message to most parts of Britain. In 1870, the Post Office obtained a monopoly on all telegraphic communication, and promptly shut down the local companies. When services resumed after 15 years, the sixpence only bought 12 words.

Western Union

In the United States, the telegraphs were quickly dominated by one company: the New York and Mississippi Valley Printing Telegraph Company, founded in 1851, and later known as Western Union. The following rates were charged:

	Local (w/in 100 miles)	Coast-to-coast
1850	1.55	-
1865	1.55	7.45
1870	1.00	5.00
1890	0.40	1.00
1901	0.40	0.40

Transatlantic Cables: $8.00 for a 20-word message, $0.70 per additional word. Initially, service was only offered between the United States and Britain, France, and Germany.

British Postage

In 1765, the British Post Office charged 1d for letters going up to 15 miles, 2d for up to 40 miles, and an additional 1d for every 40 miles after that. This is for single sheets only – if there were two sheets, or an envelope, the postage was doubled; if the weight was over an ounce, it was quadrupled. To keep from having to use an envelope, the paper was folded, one end tucked into the other, and was sealed with wax or with gummed paper wafers. It is important to note that the postage was not paid by the sender, but by the recipient to the postman upon delivery.

The postage rates were increased and reorganized numerous times until by 1839, there was a complicated formula that was between 2 and 3 times more expensive than the 1765 rates.

In 1839, the Post Office began to institute the reforms proposed by Sir Rowland Hill, and set postage at a uniform rate of 4d regardless of distance, and had the postage paid by the sender. Then in 1840, the Uniform Penny Post was established, and all letters under ½ an ounce could be sent anywhere in Britain for 1d. Four months later, in May, they introduced the world's first prepaid postage stamp, the "penny black" (stamps were printed in sheets, and cut out with scissors – the perforation was not invented until 1853.)

From 1840 until 1865, the rates were as follows:

½ ounce	–	1d
to 1 ounce	–	2d
to 4 ounces	–	6d
to 6 ounces	–	10d
to 8 ounces	–	1s/2d
Each additional oz. to 16		8d extra.

By 1879, the rates were:

1 ounce	–	1d
to 2 ounces	–	1½d
Each additional 2 oz. to 12		½d extra.

Britain joined the General Postal Union in 1875. Letters could then be sent anywhere in the United Kingdom, America, or any of the member nations for 2½d.

Post Cards, introduced in 1870, could be sent anywhere in Britain for ½d, or abroad for 1d.

There were some strange regulations for the purchasing of stamps: After 6 p.m., the office would only sell 1d stamps. In the few branch offices open on Sunday, they would not sell less than a shilling's worth.

Private letterboxes could be rented from the General Post Office, or the branch or district offices, for a fee of £3 per year. Mail could be picked up anytime between the hours of 7:30 am and 7:45 p.m.

Delivery Times

Especially near central London, there were as many as 10 mail deliveries a day, usually about 2 hours apart; deliveries were made to the London suburbs 6 times a day. A letter sent from one of the post offices or dropped into the "pillar boxes" (iron curb-side post boxes, first installed in 1855) might arrive at a London address within 3 or 4 hours (though sometimes it was delayed until the evening delivery).

Letters for the night mail had to be dropped off in one of the pillar boxes or at one of the branch offices by 5:30 p.m. They can be mailed from the General Post Office by 6 p m., or as late as 7:45 for an extra 6d fee.

Rolling out of the General Post Office each evening, the Night Mail coaches, drawn by the fastest and most experienced teams, carried few, if any, passengers. Able to maintain an amazing speed of 11 miles per hour, guards and toll gate operators were required to open the gates when they saw the coach coming or heard the distinctive horn. Anyone interfering with or delaying the mail was faced with a £5 fine (a huge sum in 1784). By the end of the century, special trains replaced the coaches, and a letter addressed to other parts of Britain could arrive on the addressee's porch by 8 in the morning.

Parcel Post

A number of shipping companies were based in London and shipped packages anywhere in London and the surrounding suburbs: London Parcels Delivery Co., Sutton & Co., and Carter Patterson, were the most well-known. Continental Parcels Express shipped to all parts of Europe, and Globe Parcels Express shipped anywhere in the world.

These rates are from 1897:

Packages to 1 pound	3d
Each additional pound to 9 lbs	+1d
10-11 lbs	1s
11 lbs, worldwide	2s – 6s

Poste Restant

As a service to people traveling to London who have no fixed address, letters could be addressed to the General Post Office or to the Charing-Cross office, with the name of the addressee and the words "to be called for". The letters could be picked up during the week between 9 a m. and 5 p m. upon displaying their passport. Letters are held for two weeks; then are returned to the sender. Letters addressed to initials or fictitious names are not accepted, and the service is no longer provided after two months – visitors are expected to have obtained a permanent address by then.

American Postage

Before 1863, postage fees were based on the weight of the letter, the distance it had to travel, and the speed of service required.

In 1863, a uniform post was adopted, with a ½ ounce letter costing 3 cents. Twenty years later, in 1883, the rate was lowered to 2 cents. Two years after that, the weight that a 2 cent stamp would cover was increased to one ounce, where it remained until 1917

Cities in America usually had two mail deliveries a day, morning and evening every weekday, with one delivery on Saturday. Mail was not delivered on Sunday.

Franking

In America, one of the privileges of being a politician is that all correspondence is sent free of postage; they just signed the letter where a stamp would normally go.
Soldiers in the field had a similar privilege during the Revolutionary War, but would not have that right again until WWI. During the Civil War, many letters home were signed in the corner by the soldier's commanding officer, but this merely authorized the post office to collect the postage from the receiver.

The Pony Express

Between April of 1860 and October of 1861, the fastest way to get a letter from St. Louis, Missouri and Sacramento, California was the "Pony Express". Employing lightweight but experienced riders and having them change horses every 10-15 miles, they were able to maintain an average speed of 10 miles per hour over the 1,966-mile run. Each rider carried the locked saddlebags about 100 miles in a relay; if no mail needed to be dropped off at the station, it might be tossed to the waiting rider.
Letters could weigh no more than ½ an ounce, and were written on special lightweight paper. It initially cost $5.00 to send a letter to Sacramento, but that later dropped to $1.00.
It operated for less than 19 months, doomed by the telegraph that connected the country from coast to coast.
Along the route, the Pony Express carried mail to Kansas, Nebraska, Colorado, Wyoming, Utah, Nevada, and California

Postage in the Confederate States

During the first months after the succession, the United States Post Office continued to handle the mail until the Confederate Postal Service was able to begin service. However, printed stamps were not available, so postmasters would hand-stamp "PAID" and the amount of the postage, usually in black ink. Soldiers in the field were able to send their letters and have the postage paid by the recipient, so those letters were stamped "DUE", with the required amount.
Preprinted, gummed stamps finally became available in October of 1861, over 8 months after the succession.

The postal fees were 5 cents per ½ ounce for distances under 500 miles, and 10 cents per ½ ounce for distances over 500 miles.
After 1863, the effects of the blockade were being felt, and the postage rates were raised to 10 cents per ½ ounce, no matter the distance, also, an additional 40 cent charge was added if the letter had to cross the Mississippi, since it had to be smuggled through.

Freight

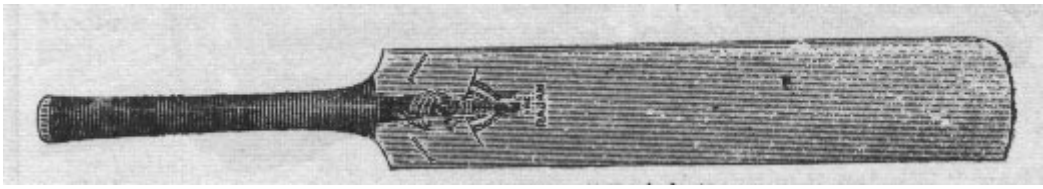
Throughout the century, freight charges varied widely subject to improvements in technology and the whims of supply and demand (during the California Gold Rush in 1849, for example, freight charges climbed as much as 500%). For additional information, see the different shipment options in *Chapter 18, Transportation*

The Universal Postal Union

In 1874, the Treaty of Berne established the General Postal Union, and regulated postal rates and communication among the signatory nations. Originally just covering Europe and America, so many nations joined that the name of the organization was changed in 1878 to the Universal Postal Union.
The Treaty required two things: that postal rates be more-or-less unified, and that postal authorities treat domestic and foreign mail equally. In return, it allowed the country of origin to keep the full amount of the postage.
Before the Treaty of Berne, a letter being sent to a different country had to have sufficient postage paid for every country through which the letter would pass. A letter to a far corner of the globe might have a rainbow of different stamps attached to the front.

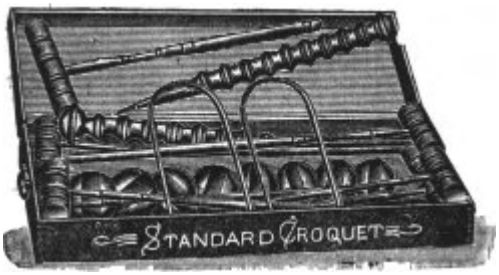
Sporting Goods

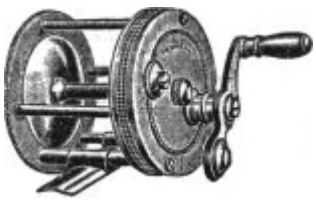
Sport was extremely important to both the British and the Americans. "Muscular Christianity", "a healthy mind in a healthy body," games and contests of all sorts were thought to promote good health and foster a spirit of community. Men, particularly those of the middle and upper classes (in other words, those whose trades did not consist of strenuous physical labor), were encouraged to engage in exercise. The equipment they used – Indian Clubs, Chest Expanders, the Medicine Ball – look quite strange to the modern eye



Cricket, anyone?

Or Baseball?





Indian Clubs

Item and Description	Weight	US Price	UK Price
Athletic Attire:			
Athletic Sweater, cotton rib knit		0.40	1/8
Athletic Sweater, best lamb's wool		3.75	15/6
Athletic Supporter		0.35	1/6
Athletic Tights, cotton, full-length, 1 pair		1.60	6/7
Athletic Tights, worsted wool, full-length, 1 pair		3.00	12/5
Elastic Bandage, 3" x 5 yards		0.60	2/6
Skull Cap, worsted wool		0.50	2/1
Trunks, Velvet Puff, 1 pair		1.00	4/2
For athletic or theatrical exhibitions, worn over tights. Available in black, navy, gray, or maroon.			
Wrist Supporter, Leather, each		0.21	0/10½
Baseball:			
Baseball, regular league ball, each		1.00	4/2
Baseball Cap, Boston or Chicago style		0.65	2/8
Bat, best straight-grained white ash, each		0.50	2/1
Bat Bag, waterproofed canvas, holds 1 dozen bats		3.40	14/0
Gloves, Baseman's, 1 pair		1.50	6/2
Best oiled leather. Left glove padded, right glove fingerless for better control of ball.			
Catcher's Mask, regulation, heavy wire		2.10	8/8
Catcher's Mitts, 1 pair		3.85	15/0
Best buckskin, padded with extra-thick felt, with fingerless throwing glove.			
Catcher's and Umpire's Breast Protector		8.00	33/0
Baseball Uniforms		3.75	15/6
Baseball Shoes		2.15	8/11
Cricket:			
Cricket Bat, Duke's "Willow King"		3.65 - 5.10	15/0 - 21/0
Cricket Ball, best match quality		1.10	4/6
Cricket Bag, Leather		9.25	38/3
Gauntlet, Wicket-Keeper's, with Indiarubber palms		1.75	7/3
Gloves, Batting "The Claw," per pair		1.58	6/6
Leg Guards, white canvas, ventilated		1.33	5/6
Wicket, best quality,		2.05	8/6
Stumps and bails, 30", Ash, brass tops.			
Exercise Equipment:			
Indian Clubs, 1-5 pound, per pair		0.25 - 0.75	1/2 - 3/1
Dumb bells, cast iron, 1-25 pounds, each (price per pound)		0.04	0/2
Sandow's Patent Spring Grip Exerciser, nickel-plated		3.00	12/6
New Model Chest Weight, 1 set		9.00	37/2
Double pull; weight is adjustable from 2 to 30 pounds. Mounts on wall.			
Fencing, Singlestick, Boxing, and other Martial Sports:			
Fencing Foil, per pair		3.75	15/6
Best Solingen blade, French-pattern hilts.			
Fencing Masks, per pair		2.75	11/4
Standard quality, with ear protection.			
Fencing Gloves, buckskin, 1 each		2.70	11/2
Fencing Jackets, canvas and leather, French Pattern		2.25	9/9
Singlesticks, Ask, 1 dozen		0.42	1/9
Basket Hilts, Wicker, 1 dozen		1.15	4/9
Steel Guard and Knucklebow, 1 pair		1.58	6/6
Singlestick Helmet, woven cane, felt padding, 1 pair		2.05	8/6
New Regulation Bayonet Fencing Equipment, for 1 man		6.18	25/6
Includes canvas jacket, pads, and gloves.			
Boxing Gloves, Champion, 2 pair		4.75	19/7
Punching Bag, round,		2.65	11/0
Includes rubber cords to connect with floor and ceiling.			
Fishing:			
Baitcasting Rod, Steel, 6'6", celluloid-wound handle		5.15	21/4
Fly Rod, Jointed Bamboo		0.75	3/1
4-piece, Calcutta bamboo, double ferrules, 14' – 17'			
Fly Rod, Chubb, Split Bamboo, 10'		15.00	61/10
8-strip, 3-piece, serrated ferrules, with felt-lined case			

Item and Description	Weight	US Price	UK Price
Reel, Baitcasting, 60 yard		2.10	8/8
Quadruple multiplier, sliding dog and backslide click (helps prevent tangled lines.)			
Reel, Flycasting, 40 yard		1.50	6/2
Fish hooks, sizes 10/0 to 12, per dozen		0.29 – 0.50	1/3 – 2/1
Floats, cork		0.05	0/2½
Hand Line, rigged with hook, sinker, and float; linen line		0.04	0/2
Line, brown linen, size 3, 84 feet		0.18	0/9
Line, braided silk, waterproof, per 25 yards		1.25	5/2
Lures, Artificial:			
Spoons		0.20	0/10
Rubber Worms, rigged with 3 hooks		0.20	0/10
Rod Case, canvas, leather ends		0.60	2/6
Rod Case, embossed russet leather, copper rivets		1.75	7/3
Reel Case, leather, felt-lined		0.70	2/11
Sinkers, Lead		0.04	0/2
Sinkers, Split-shot, Lead, 1 gross in a wood box		0.03	0/1½
Trout Flies		0.35	1/6
Chain Stringer		0.25	1/0
Tackle Box, 10 space with 1 tray		0.75	3/1
15 space with 2 trays		1.88	7/9
Heavy tin, double-seamed, and soldered.			
Pocket Fly Book		3.50	14/5
Leather cover, celluloid leaves, spring fly clip.			
Landing Net		1.00	4/2
Gaff Hook, Japanned, 3' handle		0.50	2/1
Trout Basket (Creel)		1.25	5/2
Woven wicker, patent lid fastening. Holds 20 pounds of fish.			
Spring Fish Scale		0.45	1/11
Brass body. Range 0.25 – 20 lbs in quarter-pound increments			
Thigh Boots, Black Glazed Rubber, 1 pair		6.60	27/3
Waterproof Trousers (hip waders), with braces, 1 pair		8.85	36/6
Football (American):			
Football,		2.60	10/9
The Association "College Match" ball, rubber bladder, leather cover, 21" circumference.			
Football Inflator		0.87	3/7
Football Suits, Canvas Jacket		1.35	5/7
Football Suits, Canvas Pants, Padded		2.25	9/4
Golf:			
Golf Clubs, Gentlemen's set		12.90	53/3
Set of 4 clubs; with bag and one dozen ball.			
Golf Balls, Martin's Patent Tube Core Golf Ball, 1 dozen		5.80	24/0
Golf Tees, Indiarubber, with thong and tassel		0.05	0/2½
Tennis:			
Lawn Tennis Bat (Racquet), cheap		0.75 – 6.50	3/1 - 26/10
Tennis Balls, Practice, 1 dozen		2.65	10/11
Tennis Balls, Regulation Tournament, 1 dozen		3.45	14/2
Racquet Cover, canvas, leather bound		0.75	3/1
Racquet Press, pine, nickel fittings		0.55	2/3
For storing racquet and to prevent warping.			
Other Sports and Outdoor Games:			
Croquet Set, 8 balls		1.75	7/3
"…balls and mallets of neat design, painted and striped."			
Polo Mallets, ash or sycamore heads, rattan canes		1.03	4/3
Polo Balls, willow, 1 dozen		1.40	5/9
Winter Sports:			
Ice Skates, "The Princess"		6.65	27/6
Racing Skates		2.47	10/2
Skate Sharpener		0.12	0/6
Wood Clog Ice Skates		1.75	7/3
Beechwood foot block, square heel.			
Sled, "Flexible Flier," 16" x 62"	17 lbs	5.45	22/6

Entertainment, Lodging, and Dining

This chapter attempts to list some of the many entertainments, both high-brow and base, available to anyone with some spare change in their pocket. It includes restaurants and dining, membership in the exclusive clubs on the London social scene, and some of the latest sensations originating from the Edison labs in America.

Victorian Entertainments

Clubs – While not 'Entertainment' *per se*, they were an important part of the social scene for the middle and upper classes in London. Open only to members and invited guests (membership often had strict requirements, and a prospective member had to be voted in, with the attendant risk of being "black balled"), the clubs provided a comfortable place to go; to eat dinner, have a drink, and socialize with other members of similar interests and tastes. They sometimes offered other amenities: the Athenaeum Club, for example, had one of the finest private libraries in London, with over 30,000 volumes by 1865.

The Crystal Palace – . Built in Hyde Park for the 1851 Great Exhibition, it was moved in 1854 to Sydenham Hill in South London. Nearly 200 acres and using almost a million square feet of glass, it was a wonder of the age, and displayed technological and artistic marvels from all over the world. One of the many attractions was a display of life-size sculptures of dinosaurs (as they were then understood).

Dime Novels – First published in 1860; a short, cheap paperback book with a lurid and melodramatic theme, usually about crime, adventure, and action – the 'Wild West' was a popular source of subject matter. They were the "pulps" of the 19th century.

Dioramas, Panoramas, and the Cosmorama – These were large attractions, ranging in size up to a small theatre, and used carefully painted panels and backdrops, lighting, and sometimes even musical effects. When viewed through screens or lenses, they created the startlingly realistic illusion of seeing famous buildings, landscapes, or panoramas of battlefields.

Freak Shows – Filling the crowded lanes of the East End, various side-shows and freak shows displayed everything from pickled fetuses and five-legged calves to Joseph Merrick, the famous "Elephant Man". They might be a single room or cart with a lone curiosity, displayed for a half-penny or penny, to an elaborate hall with numerous rooms and displays.

Magic Lantern Shows – Part slide show, part documentary lecture, part light show; the Magic Lantern or Stereopticon was popular fare both in private drawing rooms and large public halls. One could purchase prepared lectures, complete with script and slides.

Music Halls – Extremely popular among all social classes, with halls in the West End, Central London and the suburbs, and finally in the East End, with a clientele (and acts) appropriate to the character of the location. They featured variety acts of all descriptions – singing, music, dancing, juggling, animal acts, tableaux, popular actresses reciting poetry; very similar to the later vaudeville.

"Nickel-in-the-Slot" and the "Penny Arcade" – Several popular coin-operated amusements were invented toward the end of the century: the Edison "Nickel-in-the-slot" phonograph (1889), which allowed 4 patrons to listen to a recording through earphones, the Edison "Kinetoscope" (1892), which showed a short film, and the "Mutoscope" (1895), a hand-cranked machine that displayed a short film using the 'flip-book' principle, were the most popular.

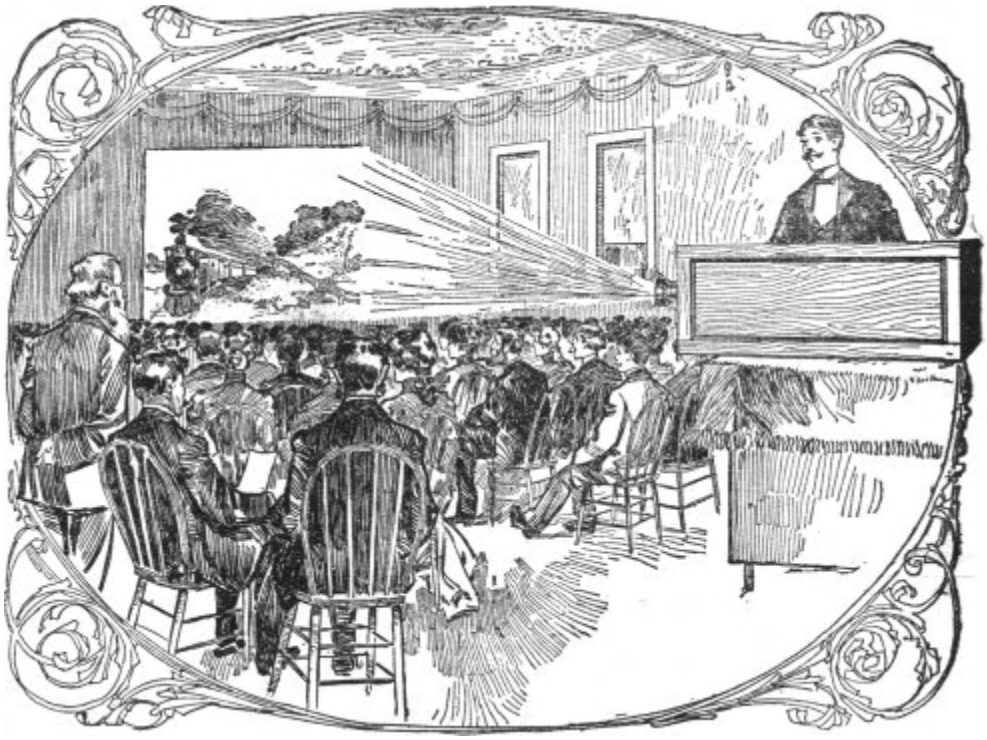
"Penny Dreadful" – A cheap, illustrated magazine in tabloid format with lurid and melodramatic stories, usually about crime and criminals. The British equivalent of the 'Dime Novel'.

"Penny Gaffe" – A very lowbrow type of theatre found in the East End of London. Admission was a penny; two if you wanted a seat in the "galleries" (tiers of raised wooden benches – bleacher fashion - on each side of the theatre; men were seated on one side, women on the other). The patrons were often tradesmen, apprentices, and the young, and the entertainment was usually a rougher, bawdier version of Music Hall fare.

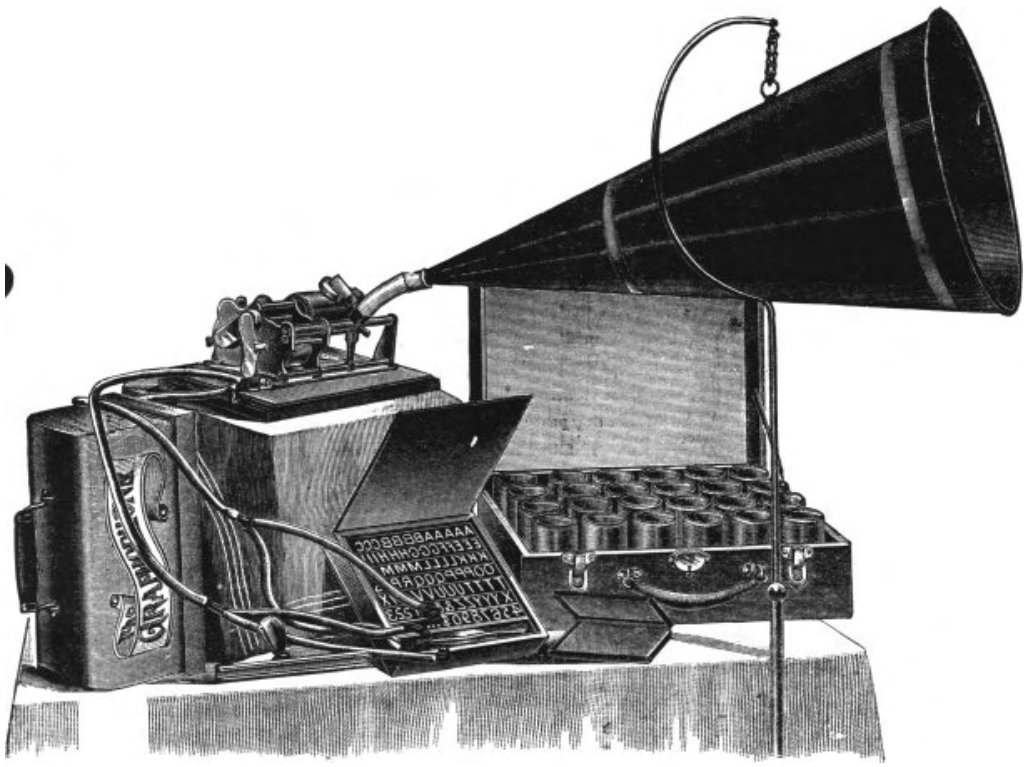
"Raree-Show" – Also known as a "Peep Show"; run by itinerant street performers, these were boxes that contained a number of pictures that could be viewed one at a time through small holes in the side. The box could be lit by a candle at night. The pictures were usually some dramatic and newsworthy event like the Crimean War, the Indian Rebellion, famous sporting events, etc.

Theatre – During the first half of the 19th century, the theatre slowly declines in popularity among the middle classes due to the (low) reputation of performers and the rowdy behavior of the audiences. After 1850, the theatre begins to improve its image, and by the end of the century was extremely popular among all social classes. Lavish productions were staged, with spectacular sets and effects.

Item and Description	Weight	US Price	UK Price
Billiard Room, per hour per person An extra fee of 0/6 for gaslight at night.		0.25	1/0
Club Membership:			
Army and Navy Club, (admission fee) 36 Pall Mall. Current and former members of the two services. Annual membership fee is £ 6/11s ($31.75).		145.50	£ 30
Athenaeum, (admission fee) 107 Pall Mall. An association of gentlemen of artistic, scientific, and literary pursuits, and for the nobles and gentlemen who are their liberal patrons. Annual membership fee is 8 guineas ($40.75).		17.00	£ 3/10/0
Conservative Club, (admission fee) St James's Street, west side. An association of gentlemen for the furtherance of conservative principles. Annual membership fee is 2 guineas ($10.00).		51.00	10 gns
Reform Club, (admission fee) Pall Mall, south side. Membership is exclusively for Liberal MPs of either house of Parliament. Annual membership fee is 10 guineas per annum for the first 5 years of election, 8 guineas per annum thereafter ($51.00 / $41.00).		127.75	25 gns
Scientific Club, (admission fee) 7 Savile-Row. An association of gentlemen of scientific pursuits, for the promotion of the abstract and applied sciences. Annual membership fee is 4 guineas ($20.50).		25.55	5 gns
Travellers Club, (admission fee) 106 Pall Mall. An association of gentlemen who have lived and traveled abroad. Prominent foreign travelers, when properly recommended, are extended invitations for the duration of their stay. To qualify for membership, the individual must have traveled away from England at least 500 miles as measured in a straight line from London. Annual membership fee is 10 guineas ($51.00).		153.00	30 gns
Crystal Palace, admission (on Saturday) Price shown is Saturday only; admission during the rest of the week is 1/0; closed on Sundays.		0.60	2/6
Dining:			
Catering:			
Luncheon, per head:	-	2.00	8/6
Full Dinner, per head:	-	2.40	10/0
Oyster Shop:			
Dozen Oysters, in season	-	0.50	2/0
Small Lobster	-	0.36	1/6
Fish & Chips	-	0.04 – 0.12	0/2 – 0/6
Pie (Meat or Fruit) (See sidebar article *Tossing the Pieman*) Purchased from a street vendor or from a pieshop. The quality varied widely and ingredients were sometimes of a questionable nature.		0.02	0/1
Restaurant (beverages and tip extra):			
Breakfast		0.36	1/6
Luncheon		0.60	2/6
Full Dinner		0.55 – 1.30	2/3 – 5/6
"Dime Novel", each		0.10	0/5
Dioramas, Panoramas, etc.		0.25 – 0.50	1/0 – 2/0
Freak Show The lower prices are for the single-attraction displays.		0.01 – 0.06	0/½ – 0/3
Hunting Horn, brass, 1 turn		0.90	3/9
Hunting Horse, trained		500 - 750	100 - 150gns
Lecture, Public		0.25	1/0
Lodgings, Hotels, and Real Estate:			
Apartment Rental, per week This was for an apartment in the fashionable West End of London during "the Season," when Parliament was in session. Rooms farther east could be had for less.		10.00 - 72.50	£2 - 15
Boarding House Rental, per week Includes meals – three a day plus afternoon tea.		7.25 - 9.70	30/0 - 40/0
Hotel, per night		2.00 - 5.00	8/0 - 20/0
Hot bath	-	0.25	1/0
Lighting (candles, gas, oil) was usually included. A fire in the bedroom or sitting room was charged extra.			
House, Rental, per year This was the advertised price for a 4-story brick house, with basement, in Manhattan, ca. 1877.		1,100.00	£226
House, Rental, per year This was the advertised price for a 9-room furnished home in upstate New York, one hour from the city, with land, a well, and "300 fruit trees, ca. 1877.		840.00	£173
House (Rural), Sale Price This was the advertised price new 6-room house with back porch, one acre of land (fenced) and a well in South Carolina, ca. 1892.		825.00	£170
House, New, median sale price in US, 1890		3,250.00	£670



A Public Stereopticon Lecture



Item and Description	Weight	US Price	UK Price
Madame Tussaud's Exhibition of Waxworks		0.25	1/0
Children half-price. 0/6 extra to view the Napoleon Room and the Chamber of Horrors.			
Magic Lantern, "Home", 1 1/8", complete set		0.75	3/1
Not Available Before 1850 (in these models – primitive versions had been around for over 100 years) This is a children's toy, projecting an image about a foot in diameter. It is of japanned metal with gilt decorations, uses a small kerosene lamp and comes in a carrying case with six colored slides.			
Magic Lantern Slides, 1 1/8", plain colored slides, one dozen		0.35	1/5
Magic Lantern, "Home," 3 1/8", complete set		4.00	16/6
This is a larger lantern meant for home use, but the larger slides were interchangeable with slides for professional machines. It would project an image 3½ feet in diameter. Like the smaller version, it is of japanned metal with gilt decorations, uses a small kerosene lamp and comes in a carrying case with one dozen fancy colored slides.			
Magic Lantern Slides, 3 1/8", plain colored slides, one dozen		1.75	7/2
Magic Lantern Slides, 3 1/8", colored moveable slides, each		0.25	1/0
Magic Lantern Slides, 3 1/8", moveable slides with colored landscapes, each		0.50	2/0
These slides have an object like a train or boat which moves across a painted landscape and disappears off the side of the image.			
Magic Lantern Slides, 3 1/8", Geometrical Chromotrope Slides, each		0.75	3/1
These slides have two glass disks with colored radial patterns. A small crank rotates the disks in opposite directions, creating a shifting moiré pattern.			
Magic Lantern, Professional – see *Stereopticon*			
Musical Instruments and Accessories:			
Accordion, Kalbe	10 lbs	4.75	19/7
Kalbe's Imperial with "Vox Humana" tremolo attachment. 10 keys, 2 stops.			
Conductor's Baton, ebony, 16" long	-	0.40	1/8
Coronet, Bb		8.50	34/0
With French piston valves and German silver mouthpiece.			
Fife		0.85	3/6
U.S. Regulation pattern. Ebony, with German silver fittings.			
Guitar, "The Columbian Standard"		9.00(+)	37/2+
Mahogany back and sides, spruce top; with instruction book.			
Harmonica, Hohner		0.29	1/3
Mandolin, bowl-backed		5.50(+)	22/8+
Metronome		2.50	10/4
Organ, pedal-pumped, Windsor		37.00 - 60.00	£7 - £12/7s
Piano, Concert Grand, Steinway		600.00(+)	115 gns+
Piano, Upright, Windsor		175 - 400	£36 - £82
Player Piano		600.00	£ 125
Not Available Before 1895. A finely finished instrument, in rosewood; it may be played in the conventional manner or by the automatic mechanism from a prepared roll.			
Annual Subscription to the library of player piano rolls		20.50	4 Gns
Allows the subscriber to borrow 24 rolls a month, subject to availability.			
Sheet Music Collections, per book		0.40	1/8
Numerous books available; each with between 20 and 50 pieces. Vocal, instrumental, or for small ensemble.			
Snare Drum, Regulation Pattern		5.50	22/8
16" diameter, 12"high, 2 heads, gut snares.			
Drumsticks, ebony, 1 pair		0.50	2/0
Violin, amateur violin outfit		2.80	11/6
Basic quality violin, with bow, rosin, spare strings, and a pasteboard case.			
Violin, Lowendall's Artist's Violin		47.00	£9/13/10
A much higher quality modern-made violin. Includes bow and a wood case.			
Violin Case, wood		1.00	4/2
Bottom half lined with flannel; the lid lined with paper. Nickel fittings			
Music Box, Small		0.45	1/10
2¼" in diameter, 18 note. Plays one short tune.			
Music Box, Table Size	25 lbs	18.25	75/3
44 note. Cylinders with the tunes can be interchanged. Comes with one tune.			
Additional Tunes for the music box, each		0.30	1/3
Music Hall Tickets (1879 season prices)		0.06 - 0.50	0/3 - 2/0
Average admission is around 0/6. Private boxes could be had at most music halls for varying prices. A program costs 0/6 ($0.12).			
"Nickel-in-the-Slot" Penny Arcade Amusement		0.05	0/1 - 0/2
(Average price).			
Edison "Nickel-in-the-Slot" Machine		125.00	£ 25/15/6
Not Available Before 1892. A type "M" battery-operated Edison phonograph fitted inside an attractive oak cabinet. Had between 1 and 4 hearing tubes, allowing the patrons to hear the recording. Only one cylinder could be played – the owner needed to change the selection frequently.			
"Penny Dreadful," each		0.02	0/1

Item and Description	Weight	US Price	UK Price
Performers for Hire:			
Conjurer High class entertainment, consisting of conjuring, hand shadows, animated photos, etc. 1 hour performance.		51.10	10 gns
Dance Band, 4 piece Violin, coronet, piano, and bass. 4 hour performance.		30.50	6 gns
Magic Lantern Show, Dissolving views using the latest limelight apparatus. An additional charge of 5/0 ($1.20) will be applied if gas is not available. 90 minute performance.		9.75	£ 2/0/3
Pianist (Lady), Violin, coronet, piano, and bass. 4 hour performance.		2.30	9/6
Phonograph, "The Graphophone" (1897 price) Not Commonly Available Before 1891 (though the earliest version was available from 1878 – see sidebar article for history and prices). A phonograph (using wax cylinders) made by the 'Graphophone' brand of Columbia Records. It includes the 'talking machine', an oak case, one recording diaphragm, one playback diaphragm, one speaking tube, a bottle of oil, a screwdriver, and a complete instruction book. The motor is wound with a detachable crank.		25.00	£5/3/0
Phonograph Set A kit supplied by Graphophone especially for public exhibition. It includes a Graphophone phonograph (as above), 12 cylinders of the customer's choice, hearing tubes for 3 persons, and a small horn for concert use.		35.00	£7/4/4
Phonograph Cylinders, blank, each These cylinders were designed for vocal recording.		0.20	0/10
Phonograph Cylinders, blank, for music, each These cylinders were specially designed for recording music, and were of higher quality.		0.25	1/0
Phonograph Cylinders, Pre-Recorded, each A broad and growing list of music, speeches, and vocal works were available. A discount of 3% was applied to orders of 12 or more.		0.50	2/0
Phonograph Cylinder Carrying Case, canvas Holds 36 cylinders.		5.00	20/8
Phonograph Cylinder Shaver, "The Bijou" An 'eraser' that shaves down worn or damaged cylinders, allowing them to be used for recording again.		5.00	20/8
"Raree-Show" ("Peep Show")		0.01	0/½
Stereopticon, with lime light apparatus Twin projectors with a 'dissolving lever' that controls the gas flow to the two burners, allowing the operator to smoothly dissolve between the projectors. 4¾" objective lenses and leather bellows focusing, allowing the unit to be stored in a smaller space. Stop cocks and gas jets are brass, and a mechanical lime movement automatically rotates the lime.		98.00	£20/4/2
Gas Generator Apparatus for making the hydrogen and oxygen for the limelight. The required chemicals are described as costing "…but a few cents for the light of an evening's entertainment."		67.50	£13/18/5
Stereo Views for Magic Lanterns and Stereopticons, colored, each Numerous subjects are available – history, astronomy, natural scenery, famous buildings, bible scenes, foreign cities, comic, etc.		0.45	0/11
Lecture Sets Complete with slides and prepared script. Subjects range from famous cities and natural wonders, to the life of Christ.		4.50 - 11.00	18/6 - 45/5
Lecturer's Lamp A hooded oil lamp that will throw a small amount of light directly down onto the script, but not illuminate the whole room.		2.25	9/4
Secret Society Sets, per set Ranging from 2 to 14 views per set, designed for the education for various degrees in the Masons and the Odd Fellows.		1.42	5/10
Colored Motion Slides, each Individual slides with novel moving or dissolving effects: The 'Dancing Skeleton and the 'Rat Catcher', where one rat after another leaps into a sleeping man's mouth to be swallowed, were perennial favorites.		2.25 - 3.50	9/3 - 14/5
Chromotropes Similar in effect to kaleidoscopes, these throw fantastical moving colored patterns.		1.50 - 3.75	6/2 - 15/6
Stereoscope – "Stereo-graphoscope" Varnished sycamore wood, polished walnut stand, nickel eyepieces; 4" upper lens for viewing photographs, lower lenses for viewing stereo photos.		2.50	10/4
Stereoscope, handheld, cheap Made of oiled mahogany with polished hood and a folding handle.		0.25	1/0
Stereoscope, handheld, folding Plush-covered, satin-lined hood, high grade lenses, collapsing frame of rosewood and nickel, folding nickel handle.		2.00	8/3
Stereoscope, Folding, with stand As above, with polished nickel stand.		3.25	13/5
Stereoscopic View Sets, medium quality		0.05	0/2½
Stereoscopic View Sets, hand-colored		0.07	0/3½
Stereoscopic View Sets, high quality		0.10	0/5

Item and Description	Weight	US Price	UK Price
Theatre Tickets (1879 season prices) (Programs available for 0/6 - $0.12):			
Adelphi:			
Box Seats		5.10 – 25.50	1 – 5 Gns
Stalls		2.55	10/6
Pit		0.50	2/0
Gallery		0.12	0/6
Victoria Theatre (The "Vic"):			
Box Seats		1.21 – 5.00	5/0 – 21/0
Stalls		0.25	1/0
Gallery		0.12	0/6
Toy Theater Sheets, plain		0.02	0/1

Hand-colored sheets were available for 0/2. These were sheets that a child could color, paste to cardboard, and cut out. It had characters from the play in various poses, plus the backdrop and scenery, and an abridged version of the script. The backdrop could fold into a miniature stage, and the figures would be attached to wires. It was a sort of puppet theatre – the characters were brought onto the set from the side and manipulated by the child from behind the set, usually jiggling the character to indicate which one was speaking. They might be from well-known fairy tales or children's stories, or could be bought as souvenirs of theatrical productions. It was extremely popular, both with children performing for each other or for their parents, and with itinerant performers on street corners.

The Edison Speaking Phonograph

1877 - Thomas Edison invents and patents the phonograph, which uses a tinfoil cylinder.

1878 – Edison founds the Edison Speaking Phonograph Company, and people begin to tour, giving demonstrations of the new machine. It was apparently quite tricky to operate, and the tinfoil cylinders wore out after a few playings.
Though a sensation at first, the public soon tired of it and Edison became sidetracked with work on the light bulb.

1886 - Alexander Graham Bell's company patents several improvements, including the wax cylinder; they approach Edison with an offer to collaborate, but he refuses, and begins producing machines again. Bell's company manufactures the Gramophone.

1888 – The North American Phonograph Company gains exclusive rights to both the phonograph and the gramophone, but ignores the home market, and instead only rents machines to businesses for taking dictation.

1890 – Edison gains control of the North American Phonograph Company; he changes the company policy and begins commercial sales.

1891 – Edison begins offering music and entertainment recordings. The price of the machines is extremely high: $150.00 (£30). As sales increase, the price drops rapidly. The cylinders only have a 2 minute capacity.

1893 – Columbia Records severs its ties to the North American Phonograph Company, and begins marketing recordings (and the "Gemophone" phonographs) on their own.

1899 – The price of phonographs has dropped to $20.00 (£4) for the "Standard" phonograph, and $7.50 (30/11) for the "Gem".

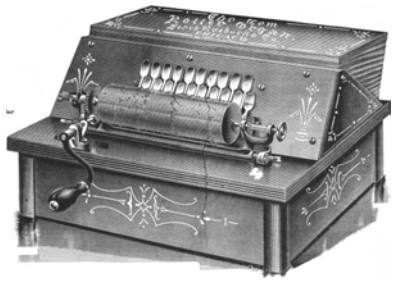
1899 – Edison introduces the "Edison Concert Phonograph", which uses large-format (5" diameter) cylinders. At $125.00 (£25) for the machine and $4.00 (16/6) apiece for the cylinders, it does not sell well.

1901 – Colombia Records begins producing gramophones for both disc and cylinders. The new discs have a 4-min. capacity.

1906 – The Victor Company introduces the fully enclosed cabinet phonograph under the name "Victrola".

"Tossing the Pieman"

The Pieman wandered the streets, peddling hot meat or fruit pies from his charcoal-heated box for a penny apiece; "tossing" was a little wager that they played with their customers to encourage sales. You tossed a penny in the air and caught it while the pieman called "heads" or "tails". If the pieman called the toss correctly, he kept your penny and you went hungry; if he missed, you got your meal for free.



Music Box

Firearms and Ammunition

The 19th century witnessed a remarkable development in firearms technology; from the muzzle-loading flintlocks of Napoleon's armies to magazine-fed semi-automatic pistols and the machine gun. With each improvement, the armies of Europe and America would upgrade their armament, dumping the old equipment on the civilian market or selling to other countries. The Confederate States of America were able to pick up a large number of muzzle-loading rifles from both the British and the Prussians who were upgrading to breechloaders. After the war, these rifles were sold in turn sold to the public, and could be found in catalogs years later – some as curios, and others converted to muzzle-loading, caplock shotguns.

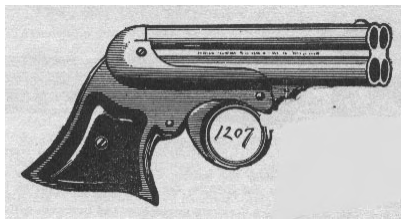
British Gun Laws

There were two laws during the Gaslight era that are of interest to investigators: the Gun Licenses Act of 1870, and the Pistols Act of 1903.

The Gun Licenses Act required that anyone desiring to carry or use a firearm of any type (including air guns), outside of their immediate home or yard, obtain an annual Gun Permit from any Post Office for a fee of 10 shillings. The permit expired every year on July 31st. Persons holding a valid license to kill game were exempt, as were the military and police, both in the course of their duties and for target practice. Farmers were also permitted to use a gun without a license in their fields, but only to scare birds or kill vermin. Failure to have a valid license would not lead to arrest, but the constable would require the person's name and current address, and would result in a £10 fine. If that person refused to provide their name and address, the constable could then take them into custody and bring them before a magistrate.

The Pistols Act, by contrast, required everyone desiring to purchase a "pistol" (defined as having a barrel length of less than 9") produce either a Gun License or license to kill game, or "suitable proof" that they are a householder and will be using the pistol only within their own property, or will be traveling overseas for a period of at least 6 months. These last two "proofs" are in the form of a letter signed by a police inspector or justice of the peace.

In addition, anyone selling or leasing a pistol is required to keep records of all such transactions, listing precise descriptions of the weapon, the name and address of the purchaser, and the information on the licenses/proofs provided. These records must be produced for inspection upon request by any police constable or officer of the Inland Revenue.



The Remington-Elliot Derringer


The Remington Double Derringer


The Harrington and Richardson Young American

PISTOLS: Derringers and "Stingy Guns"

Sharps Model 1A (and 2A) Derringer

Calibers: .22 Short, .32 Short
Action: Single Action | Loading: sliding | Ammo Capacity: 4
Weight: ~12 oz. | Available: 1859 | Price: $ 5.50

Notes: A tiny four-barreled pistol – barrel assembly unlocks by pulling the stud under the fore end, and it slides forward to load. An internal firing pin rotates to each barrel in turn as the hammer is cocked. Ivory grips are available for an additional $1.50.

Remington-Elliot Derringer

Calibers: .22 Short, .32 Short
Action: Single Action | Loading: Break-Open | Ammo Capacity: 4 or 5
Weight: ~12 oz. | Available: 1863 | Price: $ 18.00

Notes: A small, hammerless pistol of the 'pepperbox revolver' design - 'saw handled,' and with a ring trigger. The trigger is pushed forward to cock the pistol.

Chicago Palm Pistol

Calibers: .32 Extra Short
Action: DA 'Revolver' | Loading: Removable cylinder | Ammo Capacity: 5
Weight: 9 oz. . | Available: 1882 | Price: $ 5.00

Notes: Very unusual type of revolver, often nicknamed the "Lemon Squeezer." It was held in the palm with the barrel protruding between the fingers and fired by squeezing the hinged backstrap. Slow to load and awkward to fire, it still was effective enough to be used to assassinate President William McKinley.

Remington Double Derringer

Calibers: .410 Rimfire
Action: Single Action | Loading: Break Open | Ammo Capacity: 2
Weight: 12 oz. | Available: 1866 | Price: $ 5.15

Notes: Probably the most famous of the "Derringers". It is very flat and compact, and easily slips into boot tops, vest pockets, and the like. While the round is very underpowered (being known to bounce back and land at the shooter's feet when fired against a tree or wall), it can kill with a well placed (or lucky) shot.

Harrington & Richardson Young America Lady's Revolver

Calibers: .22 Short
Action: D.A Revolver | Loading: Swing-out | Ammo Capacity: 7
Weight: 7 oz . | Available: ca. 1890s | Price: $ 1.50

Notes: Tiny revolver that can easily be hidden in a vest pocket; the grips are reduced and the barrel is only 2" long. Nickel-plated; comes standard with black hard rubber grips – Pearl grips are available for an additional $ 0.90.

PISTOLS: Revolvers

Colt 1851 Navy Revolver

Calibers: .36 Cap&Ball
Action: S.A Revolver | Loading: Cap and Ball | Ammo Capacity: 6
Weight: 39 oz. | Available: 1851 | Price: $ 15.00

Notes: Popular due to its light weight and good balance, the open frame of the 1851 Navy was not as sturdy as the Remington designs, but was less likely to jam. To load the gun, each cylinder had to be individually charged with powder and a ball inserted, then pressed down with the rammer – the pivoting lever under the barrel. The cap nipples were primed with percussion caps, and the pistol was ready for use. This process took several minutes, so the fastest way to reload was to have a second pistol available. The next-best way was to have a second pre-loaded cylinder. By removing the wedge that held the cylinder in place the empty one cold be slipped out and a fresh one put into its place. Reloading in this manner takes only 3 rounds. Spare cylinders cost $3.50

Remington 1863 Army Model

Calibers: .44 Cap&Ball
Action: S.A Revolver | Loading: Cap and Ball | Ammo Capacity: 6
Weight: 44 oz. | Available: 1863 | Price: $ 18.00

Notes: The Remington was a very popular sidearm, particularly among the Union Army troops in the Civil War. The larger caliber was one selling point, but the main advantage was the solid top strap made it a sturdier gun than the Colts. Many were converted to rimfire cartridges after the war.

Smith & Wesson .32 Safety Revolver, Third Model

Calibers: .32S&W
Action: D.A Revolver | Loading: Break-Open | Ammo Capacity: 6
Weight: 13 oz. | Available: 1890 | Price: $ 12.00

Notes: A very compact revolver. The hammerless design makes it quick to draw, while the grip safety and heavy trigger pull nearly eliminates the chance of an accidental discharge. (The gun was designed to prevent children from being able to fire it.)

Smith & Wesson Hammerless Revolver
Calibers: .38 S&W
Action: DA Revolver | Loading: Break Open | Ammo Capacity: 5
Weight: 18 oz. | Available: 1887 - 1907 | Price: $ 25.00

Notes: This revolver, which went out of production in 1907, is a successful attempt to create a "pocket pistol" firing the 38 cartridge. It is similar to the 32 Safety Revolver (q.v.) in design and features, and was both safe to carry and quick to bring into action.

Smith&Wesson Schofield
Calibers: ..44-40
Action: S.A. Revolver | Loading: Break Open | Ammo Capacity: 6
Weight: 36 oz. | Available: 1871 | Price: $ 18.00

Notes: The top-break, automatic ejecting revolver was much easier and faster to reload than the sidegate system used by Colt, though many preferred the balance of the "Peacemaker." Smith and Wesson also produced a number of pistols in this pattern for the Russian government, and the ".44 Russian" cartridge proved to be extremely accurate. The gun was popular enough that a at least one European manufacturer began making copies.

Colt Single-Action Army (Peacemaker)
Calibers: .32-20, .41 Colt Long, .44-40, .45 Long Colt (and others)
Action: S.A. Revolver | Loading: Side Gate | Ammo Capacity: 6
Weight: 38 oz. | Available: 1873 | Price: $ 20.00

Notes: A veteran of the Old West, and the most recognizable handgun of that era. In the side gate loading system, the cylinder remains within the frame, and the casings are ejected one at a time through a loading port at the side, the cylinder being advanced by hand each time. The new rounds are then inserted the same way. It was an abominably slow method. The .44-40 cartridge was particularly popular because the Winchester lever-action rifles came in the same chambering, so both guns could use the same ammunition; a distinct advantage when the corner gunstore is over 100 miles away.

Colt "Lightning" and "Thunderer" Double-Action Revolvers
Calibers: .38 Colt ("Lightning"), .41 Colt Long ("Thunderer")
Action: D.A. Revolver | Loading: Side Gate | Ammo Capacity: 6
Weight: 36 oz. | Available: 1877 | Price: $ 20.00

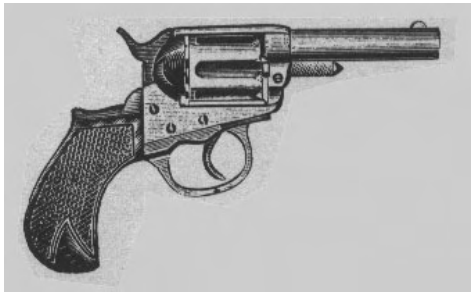
Notes: Not as popular (or as iconic) as the "Peacemaker," the Colt double-action used the same sidegate loading system, but had a self-cocking mechanism. They came with 4½" or 6" barrels, and birds-head grips were standard.

.455 Webley Mk 1
Calibers: .455 Webley
Action: DA Revolver | Loading: Break Open | Ammo Capacity: 6
Weight: 37 oz. | Available: 1887 | Price: $ 38.50

Notes: The first in a long line of British service revolvers that lasted until after the Great War, when they were replaced by a smaller, lighter 38 caliber. revolver Heavy and bulky, but fast to load and utterly reliable.


S&W Hammerless


Colt Single-Action Army


Colt Lightning Double-Action Revolver


Webley Mk 1

Bland-Pryse Type Revolver
Calibers: .577 Webley
Action: DA Revolver | Loading: Break Open | Ammo Capacity: 6
Weight: 46 oz. | Available: 1877 | Price: $ 35.00

Notes: One of Webley's early Top Break revolvers. Dating from the good old days of the Colonial wars, it fired the massive round required to drop a charging native with one shot. .

Le Mat Revolver
Calibers: 11mm Pinfire/16ga
Action: SA Revolver | Loading: Side Gate | Ammo Capacity: 9/1
Weight: 49 oz. | Available: ~1868 | Price: $ 50.00

Notes: Built in France about 1868, the Le Mat was used in their penal colonies by guards. A 16 gauge shotgun barrel formed the axis for a 9-shot cylinder which loaded through a sidegate like a Colt single-action revolver. A lever on the head of the hammer selects between firing the pistol or the shotgun barrel.

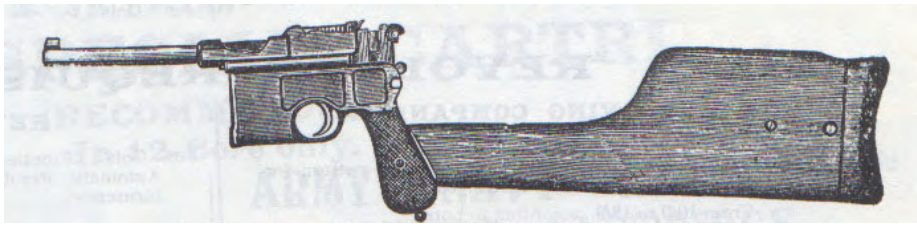
Remington Bull Dog
Calibers: .50 M71 Army
Action: Single-shot | Loading: Rolling-block | Ammo Capacity: 1
Weight: | Available: 1871 | Price: $ 2.90

Notes: This is a single-shot pistol based on the Remington Rolling-Block action. It loads either the M71 Army .50 cartridge, or .50 caliber shotshells can be made by trimming .50-70 brass, then handloading the casings with 40 grains of black powder and about ½ oz. of shot. Similar in effect to a sawed-off shotgun, but the bullets can expect greater accuracy due to the rifled barrel.


The LeMat Pinfire


The Luger P08


The Colt .45 Automatic


Mauser C96 with attached shoulder stock

PISTOLS: Self-Loading

Borchardt C93
Calibers: 7.63mm Borchardt
Action: S.A. Auto | Loading: Detachable Box | Ammo Capacity: 10
Weight: 40 oz. | Available: 1893 | Price: $ 30.00

Notes: The direct ancestor of the Luger, this was one of the The gun is not well designed form an ergonomic standpoint, being difficult to 'point' and aim quickly. It is, however, a very reliable gun, and can be purchased with a wooden holster that can be attached as a buttstock. When purchased, the gun included three magazines, a wooden display magazine, a cleaning rod, a cleaning kit, and a leather holster attached to a flat wood ‘stock’, that could convert the pistol to a small carbine. Despite initial interest, it was not adopted by any military, and the design was superceded by the Luger.

Mauser C96
Calibers: 7.63mm Mauser
Action: S.A. Auto | Loading: Integral Box/Charger | Ammo Capacity: 10
Weight: 40 oz. | Available: 1896 | Price: $ 37.50

Notes: The classic "Broomhandled Mauser". It came in this caliber, and in the larger 9mm (q.v.) The 7.63mm bottlenecked cartridge was the highest-velocity pistol bullet in the world until the introduction of the .357 Magnum in 1935. It feeds from an internal magazine in front of the grip, and is loaded from the top using stripper clips; when the empty clip is removed, the bolt closes chambering the first round. The gun is not well designed from an ergonomic standpoint, being difficult to 'point' and aim quickly. It is, however, a very reliable gun, and can be purchased with a wooden holster that can be attached as a buttstock, converting the weapon to a small ‘carbine.’

Browning Model 1900
Calibers: 7.65mm
Action: S.A. Auto | Loading: Box Magazine | Ammo Capacity: 7
Weight: 22 oz. | Available: 1900 | Price: $ 20.00

Notes: A hammerless automatic small enough to be classed as a "pocket" gun. Some versions of this pistol had a lanyard ring on the bottom of the grip. It was a weapon of this model that was used to assassinate Archduke Ferdinand, touching off WWI and bringing an end to the Gaslight era.

Luger P08
Calibers: 7.65mm Luger, 9mm Parabellum
Action: SA Auto | Loading: Box Magazine | Ammo Capacity: 8
Weight: 30 oz. | Available: 1898 (7.65) 1908 (9mm) | Price: $ 25.00

Notes: Probably one of the two most recognizable pistols in the world, the Luger was an improvement of the earlier Borchardt pistol, and corrected the strange ergonomics of that weapon. Very accurate and easy to use, but the exposed action was prone to jam badly when exposed to dust or sand.

Colt .45 Automatic
Calibers: .45 ACP
Action: SA Auto | Loading: Detachable box magazine | Ammo Capacity: 7
Weight: 39 oz. | Available: 1904 | Price: $ 24.25

Notes: The famous "Colt .45", designed by John Moses Browning, is a product of the Moro Rebellion, where the U.S. Army needed a replacement for the .38 S&W revolvers that fared so poorly against determined, fanatical opponents. The first models were much squarer and blockier than the later 1911 and 1911A1 versions. It can take amazing amounts of grit and abuse and still function. If a malfunction is rolled, roll a 10-sided die again, only on a "0" will the gun jam.

RIFLES:

Colt Lightning Magazine Rifle
Calibers: .32-20, .38-40, .44-40
Action: Slide | Loading: Integral tube / sidegate | Ammo Capacity: 15
Weight: 8.15 lbs. | Available: 1884 - 1900 | Price: $ 18.00

Notes: Resembles the lever-action rifles of Marlin and Winchester, but a wooden forend is pumped forward and back to chamber a new round.

Colt Lightning Express Rifle
Calibers: .38-56, .40-60, .45-60, .45-85 WCF, .50-95
Action: Slide | Loading: Integral tube / sidegate | Ammo Capacity: 10
Weight: 9.92 lbs. | Available: 1887 - 1894 | Price: $ 24.00

Notes: Chambered for the more powerful black powder rounds. Was offered with either round or octagonal barrels.

1840 Hall Carbine
Calibers: .54 Ball
Action: Cap-and-Ball | Loading: Single shot breechloader | Ammo Capacity: 1
Weight: 7.9 lbs. | Available: 1839 | Price: $ 22.00

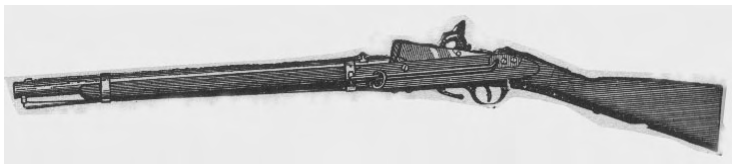
Notes: The first breech-loading weapon adopted by the US military, the Hall carbine was a smooth-bored musket (later it was rebored and converted to a rifle during the Civil War.) By releasing a lever in front of the trigger guard, the breechblock and action would tip up, allowing a round to be easily and quickly loaded. Tests showed that the weapon could be loaded and fired over twice as fast as a conventional muzzleloading musket, and it was easier to load on horseback or while prone. The fit between the breech and the barrel allowed a good deal of gas to escape, so the muzzle velocity and range were not as good as with conventional muskets.
The breechblock and action could be removed as a unit for cleaning, and the soldiers quickly discovered that it could be used as a sort of derringer. While the upper command officially forbid the practice (fearing that the soldiers would lose the breechblock, rendering the entire weapon useless), many soldiers went into town with the breech of their Hall carbine hidden in their pocket.

Henry's Patent Repeating Rifle
Calibers: .44 Henry (rinfire)
Action: Lever Action | Loading: Tubular magazine (under barrel) | Ammo Capacity: 12
Weight: 9 lbs. 4 oz. | Available: 1861 | Price: $42.00

Notes: One of the early lever-action rifles, the Henry had an awkward loading system similar to the Spencer. The magazine loaded from the front, near the muzzle - user had to pull the magazine follower all the way forward, uncovering the loading port, allowing the rounds to be dropped in individually. The price dropped rapidly after the 1866 and 1873 Winchester rifles were introduced. By 1891, the gun was no longer even listed in the Winchester catalog.

1853 Enfield Rifle
Calibers: .577
Action: Single-shot | Loading: Muzzle Loader | Ammo Capacity: 1
Weight: 9.25 lbs. | Available: 1863 | Price: $ 3.50 (surplus)

Notes: A rifled musket, long-barreled to take full advantage of the new Minie bullet, was the main British service rifle during the Crimean War. Very accurate and powerful, the slugs could penetrate 4" of wood at over 1000 yards and could hit targets at ranges that dismayed the Russians. The rifle was loaded using greased paper cartridges – it was rumors of this grease's composition that sparked the Indian Mutiny. At the start of the American Civil War, Britain was able to sell its surplus rifles to both the Union and the Confederacy.



1840 Hall Carbine (Percussion)

Trapdoor Springfield

Sharps Carbine

Colt Lightning Magazine Rifle

Marlin Model 1895 Carbine

Remington Model #1 Rifle

Winchester M1885 Single-Shot

Winchester 1894 Rifle

Winchester 1895 Rifle

Lee Enfield, Mark 1
Calibers: .303 Enfield Smokeless
Action: Bolt | Loading: Detachable box/charger | Ammo Capacity: 10
Weight: 9 lbs. 8 oz. | Available: 1895 | Price: $60.00

Notes: British service rifle – modified from the earlier Lee-Metford Magazine rifle so it could use smokeless powder cartridges.

Short Magazine Lee Enfield, Mark 1
Calibers: .303 Enfield
Action: Bolt | Loading: Detachable box/charger | Ammo Capacity: 10
Weight: 8 lbs. 2 oz. | Available: 1903 | Price: 60.00

Notes: The issue rifle of the British forces during WWI, a shorter, handier version of the full-length Lee Enfield. It can load either through the top using two 5-round stripper clips, or simply by replacing the magazine. These were sold to civilians through the Army-Navy Cooperative Society, but they would only sell to British subjects.

Marlin Model 1881 Carbine
Calibers: .32-40 Ballard, .38-55 Ballard, .40-60 Marlin, .45-70 Govt, .45-85 Marlin
Action: Lever | Loading: Integral tube / Sidegate | Ammo Capacity: 8
Weight: 9.88 lbs. | Available: 1881 - 1891 | Price: $40.00

Notes: A lever-action firearm similar to the Winchester guns.

Marlin Model 1895 Carbine (Called the "Model 95" after 1905)
Calibers: .33 Winchester, .38-56 Win, .40-60 Marlin, .40-65 Marlin, .40-60 Win, .40-70 Win, .40-82 Win, .45-70 Govt, .45-90 Win.
Action: Lever | Loading: Integral tube / Sidegate | Ammo Capacity: 8
Weight: 8 lbs. | Available: 1895 - 1915 | Price: $40.00

Notes:

Mauser Reichsgewehr 1888 (G 88)
Calibers: 7.92x57mm Mauser.
Action: Bolt | Loading: Integral Box/clip | Ammo Capacity: 5
Weight: 8.58 lbs. | Available: 1888 | Price: ~$5.00 (surplus)

Notes: A true anomaly: a rifle designed by committee that was actually an effective weapon. It was loaded with a Mannlicher-style en-bloc clip, which dropped from a slot in the bottom of the magazine when the last round was chambered. Designed as an answer to the French Lebel rifle, it also saw use during the Anglo-Boer wars, and still remained in use as a second-line and militia rifle during WWI.

Mauser Gewehr 1898 (G 98)
Calibers: 7.92x57mm Mauser, plus supplied under license in numerous calibers
Action: Bolt | Loading: Integral Box/charger | Ammo Capacity: 5
Weight: 9 lbs. | Available: 1898 | Price: $21.00

Notes: The main rifle of the German forces in WWI and beyond. Manufactured under license and supplied to militaries all over the world in numerous calibers. A cleaning rod section screws into a socket under the barrel – several soldiers could screw theirs together to make a complete cleaning rod.

Mauser Sporting Rifle
Calibers: 9x57mm Mauser
Action: Bolt | Loading: Integral Box/charger | Ammo Capacity: 5
Weight: 7.3 lbs. | Available: 1898 | Price: $50.00

Notes: A hunting rifle based on the G98 action – popular in Europe and Africa.

Martini-Henry Mk 1 Rifle
Calibers: .577/.450 Martini-Henry
Action: Falling Block | Loading: Single shot | Ammo Capacity: 1
Weight: 8.98 lbs. | Available: 1871 | Price: $40.00

Notes: British service rifle through the later colonial period. Surplus rifles were commonly found in many places in Africa and Central Asia, and many were converted to sporting rifles in a number of calibers.

Remington Model #1
Calibers: .32-20, .38-40 Remington, .38-40 Sharps, .40-70 Sharps, .44-90 Creedmoor, .44 S&W, .44-40, .45-70, .50-70
Action: Single-Shot | Loading: Rolling Block | Ammo Capacity: 1
Weight: 9.15 lbs. | Available: 1867 - 1890 | Price: $14.75

Notes: A single-shot target and hunting rifle available in a wide variety of calibers. Comes with a spring-leaf and elevator rear sight. Initially available only in .45-70; the other calibers were introduced later.

Jeffries Rook Rifle, "The Champion" No. 1
Calibers: .300 Rook Rifle
Action: Single-Shot | Loading: Falling Block | Ammo Capacity: 1
Weight: 7.5 lbs. | Available: 1874 | Price: $ 38.80

Notes: A light single-shot rifle used by farmers and gamekeepers for bird and pest control. The listed price is for the higher-end model with extractor. (Remember: if the constable stops to ask you why you are carrying the rifle, you say it is "to scare birds".)

Jeffries .600 Cordite Rifle
Calibers: .600 Nitro Express Magnum
Action: Double-Barrel | Loading: Break-Open | Ammo Capacity: 2
Weight: ~15 lbs. | Available: 1903 | Price: $ 436.50

Notes: The classic "Elephant Gun," an extremely sturdy double rifle firing one of the largest cartridges available. It was customary to go to the gunsmith to have the weapon "fitted" to the owner, carefully adjusting the angles of the stock so the weapon points naturally at the point of aim the moment it is shouldered. Such a weapon would have a +05% bonus to accuracy.

Sharps Hunter's Rifle
Calibers: .40-90 Sharps, .45-100 Sharps
Action: Single-Shot | Loading: Falling Block | Ammo Capacity: 1
Weight: 9 lbs. | Available: 1874 | Price: $ 38.80

Notes: An early lever-action rifle used by the cavalry. The hammer was drawn back to half-cock, and the trigger guard pivoted forward to cycle the action. The magazine tube was in the butt – the magazine follower was unlocked and pulled out, then rounds could be dropped into the magazine. Soldiers were issued with an ammo case that held a number of pre-loaded tubes: a sort of 'speedloader.' The rifle could be prone to jamming if not handled correctly. Values for the carbine version are listed in parentheses.

Sharps Long Range Rifle
Calibers: .40-90 Sharps, .45-100 Sharps, .50-110 Sharps
Action: Single-Shot | Loading: Falling Block | Ammo Capacity: 1
Weight: 10 lbs. | Available: 1874 | Price: $ 100.00

Notes: Favored by buffalo hunters and long-range target shooters. Came with a full pistol-grip stock, rubber heel plate, vernier sight graduated to 1,200 yards, wind gage, and spirit level.

Spencer 1860 Navy Rifle (Carbine)
Calibers: .56-56 Spencer (rimfire)
Action: Lever-action | Loading: Tubular magazine (in stock) | Ammo Capacity: 7
Weight: 10 lbs. (8.25 lbs.) | Available: 1860 (1863) | Price: $6.87

Notes: An early lever-action rifle used by the cavalry. The hammer was drawn back to half-cock, and the trigger guard pivoted forward to cycle the action. The magazine tube was in the butt – the magazine follower was unlocked and pulled out, then rounds could be dropped into the magazine. Soldiers were issued with an ammo case that held a number of pre-loaded tubes: a sort of 'speedloader.' The rifle could be prone to jamming if not handled correctly. Values for the carbine version are listed in parentheses.

Springfield M1863 Rifled Musket
Calibers: .58 (round ball, "Buck-and-Ball," or Minie Bullet), later converted to .58 Musket (rimfire)
Action: Single-shot | Loading: Muzzle Loader | Ammo Capacity: 1
Weight: 9.25 lbs. | Available: 1863 | Price: $ 3.50 (surplus)

Notes: .The main service rifle for the Union Army during the American Civil War. After the war, many rifles were converted to breechloaders using the rimfire .58 Musket cartridge, or had the barrels bored out smooth and sold as single-shot percussion shotguns. The .58 Springfield was also able to use lead bullets molded for the .577 Enfield Rifle.

Springfield M1868 Rifle, and M1873 Rifle ("Trapdoor Springfield")
Calibers: .50-70 (M1868), .45-70 (M1873)
Action: Single-shot | Loading: Breechloader | Ammo Capacity: 1
Weight: 9 lbs. 4 oz. | Available: 1868 | Price: $6.85 ($10.00)

Notes: One of the first fixed-cartridge rifles adopted by the U.S Army, the "Trapdoor Springfield" converted the older muzzle-loading rifles to a breechloading cartridge weapon. The hammer is drawn back to half-cock, and a small lever is released, allowing a 'trapdoor' breechblock to be pivoted up. This extracts any round still in the chamber, and new one can be inserted. The trap is shut and the rifle can be brought to full cock. The M1873 was nearly identical in all respects, except for the smaller, .45-70, caliber.

Winchester Model 1885
Calibers: 14 Rimfire and over 80 centerfire from .22 Short to .577 Eley
Action: Falling Block | Loading: Single Shot | Ammo Capacity: 1
Weight: 12.41 lbs. | Available: 1885 - 1919 | Price: $15.00

Notes: Available in both the Low Wall and High Wall breeches. "Fancy" models available for $45.00.

Winchester Model 1905
Calibers: .32 Winchester Self-Loading, .35 Winchester Self-Loading
Action: Automatic | Loading: Detachable box magazine | Ammo Capacity: 5
Weight: 7.57 lbs. | Available: 1905 - | Price: $29.00

Notes: Cocking plunger protrudes from the front of the fore end, under the barrel.

Winchester Model 1907
Calibers: .351 Winchester Self-Loading
Action: Automatic | Loading: Detachable box magazine | Ammo Capacity: 5
Weight: 7.81 lbs. | Available: 1906 - 57 | Price: $25.50

Notes: Like the 1905 rifle, the cocking plunger protrudes from the front of the fore end of the rifle.

Winchester Model 73 Rifle
Calibers: .32-20, .38-40, .44-40
Action: Lever | Loading: Integral tube / Sidegate | Ammo Capacity: 15 (12)
Weight: 8.87 lbs. (7.25 lbs) | Available: 1873 - 1924 | Price: $19.50 ($17.50)

Notes: An extremely popular and almost ubiquitous rifle in the American west; most commonly in .32-20 and .44-40. The .32-20 was a rather light round, not powerful enough for deer, but good for small game. It would easily kill muskrats, foxes, and rabbits without destroying most of the edible meat. This gun used a sideport to load the magazine: individual rounds could be inserted into the magazine through a port in the side of the receiver, which is covered by a spring-loaded cover to keep dirt from entering the mechanism.
It was also available as a carbine (values in parentheses), and a 15-shot Musket, which had a longer barrel that could take a bayonet. The Musket version cost $19.00.

Angle Bayonet	$ 2.50
Sword Bayonet	$ 3.50

Winchester Model 86 Rifle
Calibers: .38-70, .40-70, .45-70, .45-90, .50-100, .50-110
Action: Lever | Loading: Integral tube / Sidegate | Ammo Capacity: 4
Weight: 8.77 lbs. (8 lbs.) | Available: 1886 - 1932 | Price: $ 21.00

Notes: An improved version of the Model 73, firing more powerful calibers. The .45-70 was popular since it was possible to get ammunition at any military outpost. It was also available as a carbine for $19.00 (values in parentheses.)

Winchester Model 92 Rifle
Calibers: .25-20, .32-20, .38-40, .44-40
Action: Lever | Loading: Integral tube / Sidegate | Ammo Capacity: 5
Weight: 6.83 lbs. | Available: 1892 - 1941 | Price: $ 15.00

Notes: A light "takedown" rifle, using the popular pistol calibers. A short carbine version was also available, with a 20" barrel.

Winchester Model 94 Carbine
Calibers: .25-35, .30-30, .32 Winchester Special, .32-40, .38-55, .44-40
Action: Lever | Loading: Integral tube / sidegate | Ammo Capacity: 6
Weight: 6.9 lbs. | Available: 1894 - 1936 | Price: $ 11.86

Notes:

Winchester Model 95 Rifle

Calibers: .30-30, .30-'06, .303 Enfield, .30-40 Krag, .35 Winchester, .38-70, .40-72, .405 Winchester

Action: Lever	Loading: Integral box / Stripper	Ammo Capacity: 5
Weight: 7.55 lbs.	Available: 1895 - 1931	Price: $ 35.95

Notes: A carbine version with a 20" bbl was available in .30-40, 30-30, .30-'06, and .303. There was also a Takedown version produced between 1910 and 1914. This weapon was a bit of a departure for Winchester – instead of the standard tubular magazine, an integral box magazine is used so that sharp-pointed, jacketed cartridges can be used safely. The largest caliber, .405 Win., only loads 4 rounds in the magazine.

SHOTGUNS

Browning Auto-5

Gauge: 12, 20

Action: Auto	Loading: Integral tube	Ammo Capacity: 5+1
Weight: 8.14 lbs.	Available: 1903 - 1939	Price: $ 43.65

Notes: Produced by FN Browning in Belgium, it was not introduced in the U.S. until 1923. The Remington 11A, was manufactured under license starting in 1911.

Winchester Model 1887

Gauge: 10, 12

Action: Lever	Loading: Integral tube	Ammo Capacity: 5+1
Weight: 9 lbs. (7.75 lbs.)	Available: 1887 - 1900 (1901)	Price: $16.88

Notes: A hammerless, lever-action repeater, rather bulky and ungainly in appearance. Figures in parentheses are for the 12ga. version.

Winchester Model 1897

Gauge: 12, 16

Action: Slide	Loading: Integral tube	Ammo Capacity: 5+1
Weight: 7.75 lbs.	Available: 1897	Price: $17.92

Notes: An exposed hammer, slide-action shotgun. The mechanism did not include a 'disconnector', which permitted the gun to fire as fast as the slide could be cycled by holding down the trigger. It was also available as a Takedown gun for $19.34.

Burgess Repeating Shotgun

Gauge: 12

Action: Slide	Loading: Integral tube	Ammo Capacity: 5+1
Weight: 7.5 lbs.	Available: 1885	Price: $28.00

Notes: Exposed hammer takedown shotgun. Because Winchester had a patent on the forend slide mechanism, the Burgess use the novel technique of having the pistol grip/trigger assembly slide back and forth along the stock (the grip was actually a sort of tube that surrounded the small of the stock). While awkward sounding, it proved to be extremely fast with practice. Burgess also further modified the shotgun by making the two halves pivot and lock together with a spring latch, so the gun could be folded in half while fully loaded, and unfolded in an instant – they even manufactured a shoulder holster so the entire thing could be carried under a coat. A number of these were purchased for use by the New York Penal Department before the turn of the century.

Davenport Single Gun

Gauge: 8, 10

Action: Single Shot	Loading: Break Open	Ammo Capacity: 1
Weight: 10 lbs. (9 lbs.)	Available: 1882	Price: $17.50 ($13.75)

Notes: Exposed hammer, top lever, 36" barrel. Figures in parentheses are for the 10ga model.

Single Barrel Shotgun (Numerous makers)
Gauge: 12, 16, 20, .410
Action: Single Shot | Loading: Break Open | Ammo Capacity: 1
Weight: 6.5 lbs. -9 lbs. | Available: | Price: $13.75 - $17.50

Notes: Exposed hammer, top lever, 30" barrel. Full-length matte top rib.

Lefaucheaux Sidehammer Takedown Shotgun
Gauge: 8
Action: Double Barrel (side by side) | Loading: Break Open | Ammo Capacity: 2
Weight: 14 | Available: 1882 | Price: $23.75

Notes: Sidehammer takedown shotgun with Damascus barrels– bottom lever. A popular gun for goose hunting, the heavy aguge allowing a large, long-range load of shot.

Double Barreled Breech-Loading Shotgun (Numerous makers)
Gauge: 10 gauge
Action: Double Barrel (side by side) | Loading: Break Open | Ammo Capacity: 2
Weight: 7.25 – 10 lbs. | Available: | Price: $19.00 - $50.00

Notes: Sidehammer, full choke gun with Damascus barrels.

W.W. Greener Ejector Gun
Gauge: 10 or 12 gauge
Action: Double Barrel (side by side) | Loading: Break Open | Ammo Capacity: 2
Weight: 8 lbs. | Available: | Price: $260.00

Notes: A high-quality, hammerless, self cocking double-barrel shotgun (the action is cocked and the safety engaged when the gun is opened. Automatic ejectors (meaning that the fired casings - but only the fired casings – are completely ejected from the gun. Most shotguns lift both casings part way, and must be manually removed.)

The Daly Three-Barrel Breechloader
Gauge: 12 gauge, plus .45-70, .38-55, or .32-40
Action: Triple-barrel Drilling | Loading: Break Open | Ammo Capacity: 2 + 1
Weight: 9.5 lbs. | Available: 1895 | Price: $80.50

Notes: A beautifully made, fully-engraved, exposed hammer drilling. Twin triggers – moving the lock lever slightly to the left, the trigger for the right-hand barrel fires the center rifle barrel. Listed figures and prices are for the .45-70 version. The others are ½ pound lighter and $5.00 cheaper.

Pistol Ammunition

Name/Caliber	Damage	Date	Price per 100 rounds		
			1885-1894	1895-1904	1905-1914
.22 Short (rf)	1D4	1857	0.50	0.24	0.19
.22 Long (rf)	1D4	1871	0.60	0.30	0.28
.22 Long Rifle (rf)	1D6	1887	0.60	0.30	0.28
5.5mm VeloDog	1D4	1894	2.95	2.15	2.16
.25 ACP	1D6	1908	- - -	- - -	2.45
7.63mm Mauser	1D8+2	1893	2.30	1.67	2.00
7.63mm Mannlicher	1D8	1900	- - -	2.10	2.50
7.65mm Luger	1D8	1900	- - -	2.10	2.50
7.65mm Borchard	1D8	1893	2.88	2.10	2.50
.32 Extra Short (rf)	1D4	1871	0.63	0.46	0.55
.32 Short (rf)	1D8+1	1860	0.66	0.48	0.88
.32 Long (rf)	1D8+1	1861	0.99	0.56	1.06
.32 ACP (7.63mm)	1D8	1899	- - -	1.10	1.44
.32 S&W	1D8	1878	1.10	0.80	0.90
.32 S&W Long	1D8	1903	- - -	0.94	1.06
.32 Long	1D8+1	1861	1.20	0.88	1.00
.32-20 Winchester	1D8+4	1882	1.60	1.16	1.75
9mm Parabellum	1D10	1902	- - -	2.25	2.75
.38 Long Colt	1D8	1875	1.45	1.05	1.25
.38 Special	1D10	1902	- - -	1.50	1.80
.38 S&W	1D8	1877	1.38	1.00	1.20
.38 Colt Automatic	1D10	1900	- - -	2.13	2.14
.380 Long (Webley)	1D10	1868	1.15	0.91	1.00
.410 Rimfire Short	1D6	1863	0.70	0.72	0.75
.41 Long Colt	1D10+1	1877	1.50	1.15	1.24
.44-40	1D10+1	1873	1.85	1.38	1.35
.44 Special	1D10+1	1907	- - -	- - -	2.00
.44 S&W American	1D10	1870	2.20	1.38	1.35
.44 S&W Russian	1D10+2	1870	1.95	1.42	1.42
.44 Colt	1D10+1	1871	2.00	1.45	1.74
.44 Webley	1D10+1	1868	1.70	1.20	1.45
.44 Bulldog	1D8	1880	1.65	1.20	1.40
.45 ACP	1D10+2	1905	- - -	- - -	2.42
.45 Long Colt	1D10+2	1873	1.57	1.90	1.57
.455 Webley Mk-2	1D10+1	1897	- - -	1.45	1.58
.46 Short (rf)	1D10+1	1870	1.65	1.20	1.44
.50 Remington Army	1D10+2	1871	1.70	1.25	1.50
.577 Webley	1D8+1D4+1	1877	1.95	- - -	- - -
PINFIRE ROUNDS					
7mm	1D6		1.10	0.80	0.96
9mm	1D8		1.38	1.00	1.20
12mm	1D10		1.75	1.30	1.56

Rifle Ammunition

Name/Caliber	Damage	Date	Price per 100 rounds		
			1885-1894	1895-1904	1905-1914
.22 Short (rf)	1D4	1857	0.50	0.24	0.19
.22 Long Rifle (rf)	1D6+1	1887	0.60	0.30	0.28
.22 Win. Single-Shot	1D6+1D4	1885	1.50	1.10	1.40
.25 Remington	2D6-1	1906	- - -	- - -	3.50
.25-20 W.C.F.	1D8+1	1895	- - -	1.35	1.56
.25-35 W.C.F.	2D6-1	1895	- - -	3.00	3.60
6.5mm Swedish Mauser	2D6+3	1894	4.50	3.40	4.00
7mm Mauser	2D6+4	1874	4.75	3.43	4.12
.300 Rook Rifle	1D8	1874	1.30	0.99	1.21
.30 Remington	2D6+3	1906	- - -	- - -	3.50
.30-30 Winchester	2D6+3	1895	- - -	3.32	4.00
.30-40 Krag	2D6+3	1892	5.00	4.25	5.25
.30-'06	2D6+4	1906	- - -	- - -	6.00
.303 Enfield	2D6+4	1888	4.30	3.15	3.76
8x50R Lebel	2D6+4	1886	4.00	3.00	3.50
7.92mm Mauser	2D6+4	1905	- - -	- - -	5.75
.32-20 Winchester	1D8+2	1882	1.60	1.16	1.75
.32-40 Ballard/Winch. *	1D10	1884	2.70	2.29	2.29
.32 Win. Self Loading	1D10	1905	- - -	- - -	4.50
.32 Remington	2D6+3	1906	- - -	- - -	3.50
.32 Winchester Special	2D6+3	1902	- - -	5.00	5.50
9x57mm Mauser	3D6+2	1895	- - -	6.00	6.50
.35 Remington	2D6+3	1906	- - -	- - -	4.00
.35 Win. Self Loading	2D6+3	1905	- - -	- - -	2.79
.351 Win. Self Loading	2D6+1	1907	- - -	- - -	5.00
.35 Winchester	2D6+3	1895	- - -	5.00	5.58
400/.375 Belted N.E.	3D6+2	1905	- - -	- - -	4.24
.38-40 Winchester	1D8+1D6+2	1874	1.90	1.38	1.98
.38-55 Ballard/Winch. *	1D8+1D6+2	1884	3.30	2.72	3.49
.38-56 Winchester (Colt)	1D8+1D6+2	1887	3.30	2.70	3.49
.40-60 Colt New Lightning	1D8+1D6+3	1881	3.60	2.62	3.15
.40-70 Winchester	1D8+1D6+3	1886	4.15	3.00	3.75
.40-82 Winchester	1D8+1D6+3	1885	3.60	2.97	3.75
.40-90 Sharps	1D8+1D6+3	1885	4.50	4.78	5.70
.405 Winchester	1D8+1D6+4	1904	- - -	6.25	7.50
.44-40	1D10+2	1873	1.90	1.38	1.35
.44 Colt (New Lightning)	1D10+2	1881	1.85	1.37	1.35
.44 Henry Flat (rf)	1D10+1	1860	1.5	1.17	1.25
.44-100 Rem. Creedmore	1D8+1D6+4	1880	4.50	4.75	5.25
.577/.450 Martini-Henry	1D8+1D6+4	1871	4.45	3.23	3.88
.45-70 Government	1D8+1D6+3	1873	3.80	2.98	2.76
.45-90 Winchester	1D8+1D6+4	1888	3.60	3.17	3.75
.45-100 Sharps	1D8+1D6+4	1876	5.80	5.65	6.30
.50-70 Government	1D8+1D6+4	1866	4.40	3.62	2.69
.50-95	2D8+3	1876	4.00	3.35	3.06
.50-110 Winchester	1D8+1D6+4	1887	4.80	3.92	4.85
.50-110 Sharps	1D8+1D6+4	1880	5.75	5.25	6.00
.500 Nitro Express	3D6+4	1890	6.00	5.75	6.43
.56-56 Spencer (rf)	2D6+2	1862	4.00	1.94	1.90
.577 Snyder	1D8+1D6+4	1867	3.60	2.61	3.15
.58 U.S. Musket	1D8+1D6+4	1869	4.40	3.20	3.85
.600 N. E. Magnum	3D6+6	1903	- - -	17.75	21.35

* Identical rounds were produced by both Winchester and Ballard.

Firearms

Weapon	Base	Damage	Range	Attacks	Rounds In Gun	Mal-function	Hit Points
Sharps Model 1A Derringer	20	1D4	5 yds	2	4	00	5
Remington-Elliot Derringer	20	(by caliber)	5 yds	2	4 or 5	99	5
Chicago Palm Pistol	20	1D4	5 yds	2	5	98	5
Remington Double Derringer	20	1D6	5 yds	1 or 2	2	00	5
H &R Revolver	20	1D4	10 yds	2	7	00	8
Colt 1851 Navy	20	1D8	15 yds	1/2	6	BP	10
Remington 1863 Army	20	1D10+1	15 yds	1/2	6	BP	10
S & W .32 Safety Revolver	20	1D8	12 yds	2	6	00	8
S & W Hammerless Revolver	20	1D10	12 yds	1	5	00	8
S&W Schofield	20	1D10+2	15 yds	1	6	00	10
Colt Single-Action Army	20	(by caliber)	15 yds	1	6	00	10
Colt Lightning Revolver	20	1D8	15 yds	2	6	00	10
Colt Thunderer Revolver	20	1D10+1	15 yds	1	6	00	10
.455 Webley Mk 1	20	1D10+1	15 yds	1	6	00	10
Bland-Pryse Revolver	20	1D8+1D4+1	12 yds	1/2	5	00	10
LeMat Revolver (pinfire)	20	1D10/shot	20 yds	1/2	9/1	00	9
Remington Bull Dog	20	1D10+2	25 yds	1/3	1	00	12
Borchard C93	20	1D8	20 yds	2	8	98	7
Mauser C96	20	1D8+2	35 yds	2	10	99	7
Mauser C96 (with stock)	30	1D8+2	50 yds	2	10	99	7
Browning Model 1900	20	1D8	15 yds	3	7	99	8
Luger P08	20	1D8	20 yds	2	8	99	9
Colt .45	20	1D10+2	15 yds	1	7	00	10
Colt Lightning Magazine Rifle	25	(by caliber)	50 yds	1	15	99	10
Colt Lightning Express Rifle	25	(by caliber)	50 yds	1	10	99	10
1840 Hall Carbine	25	1D10+2	50 yds	¼	1	BP	10
Henry's Patent Repeating Rifle	25	1D10+1	50 yds	1	12	98	10
.577 Enfield Rifled Musket	25	1D10+4	60 yds	1/4	1	95	12
Lee Enfield Mk1	25	2D6+4	100 yds	1/2	10	00	12
SMLE, Mk1	25	2D6+4	100 yds	1/2	10	00	12
Marlin 1881 Carbine	25	(by caliber)	50 yds	1	8	98	10
Marlin Model 1895 Carbine	25	(by caliber)	50 yds	1	4	99	10
Mauser Reichsgewehr 1888	25	2D6+4	100 yds	1/2	5	00	12
Mauser Gewehr 1898	25	2D6+4	100 yds	1/2	5	00	12
Mauser Sport Rifle, 9x57	25	3D6+2	120 yds	1/2	5	00	12
Martini-Henry Mk1 Rifle	25	1D8+1D6+3	80 yds	1/3	1	00	12
Remington Model #1	25	(by caliber)	120 yds	1/3	1	00	12
Rook Rifle, "The Champion #1"	25	1D8	70 yds	1/3	1	00	12
Sharps Hunter's Rifle, M1874	25	(by caliber)	80 yds	1/3	1	00	12
Sharps Long Range Rifle M1878	25	(by caliber)	90 yds	1/3	1	00	12
Spencer 1860 Carbine	25	2D+2	50 yds	1/2	7	98	10
Spencer 1860 Rifle	25	2D6+2	50 yds	1/2	7	98	10
.58 Springfield Rifled Musket	25	1D10+4	60 yds	1/4	1	95	12
Springfield M1868 Rifle	25	1D8+1D6+4	60 yds	1/3	1	99	12
Springfield M1873 Rifle	25	1D8+1D6+3	60 yds	1/3	1	99	12
Winchester Model 1885	25	(by caliber)	100 yds	1/3	1	00	12
Winchester Model 1905	25	(by caliber)	50 yds	1	5	97	10
Winchester Model 1907	25	2D6+1	50 yds	1	5	97	10
Winchester Model 73 Carbine	25	(by caliber)	50 yds	1	15	99	10
Winchester Model 86	25	(by caliber)	50 yds	1	4	99	12
Winchester Model 92	25	(by caliber)	75 yds	1	5	99	12
Winchester Model 94	25	(by caliber)	75 yds	1	6	98	12
Winchester Model 95	25	(by caliber)	75 yds	1	5 or 4	99	12
Jeffrey's .600 Bore Cordite Rifle	25	3D6+6	80 yds	1 or 2	2	00	12

Shotgun Shells

Name/Caliber	Damage	Range	Price per 100 rounds		
			1885-1894	1895-1904	1905-1914
.410	1D10/1D4/1D4	10/20/50	1.51	1.10	1.21
20 gauge	2D6/1D6/1D3	10/20/50	1.85	1.34	1.48
16 gauge	2D6+2/1D6+1/1D4	10/20/50	1.78	1.30	1.45
12 gauge	4D6/2D6/1D6	10/20/50	1.85	1.34	1.40
10 gauge	4D6+2/2D6+1/1D8	10/20/50	2.00	1.46	1.59
8 gauge	4D6+6/2D6+4/1D10	10/20/50	6.25	4.55	5.00

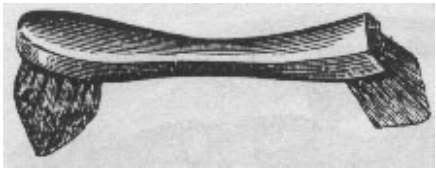
Listed prices are for birdshot in paper-cased shells using black powder. Buckshot pellets, and all-brass casings are available for handloading, but are usually not available over the counter. Smokeless powder rounds are sometimes available at a higher price.

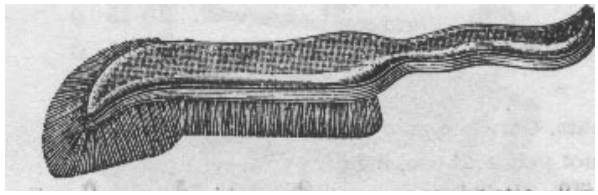
Shotguns

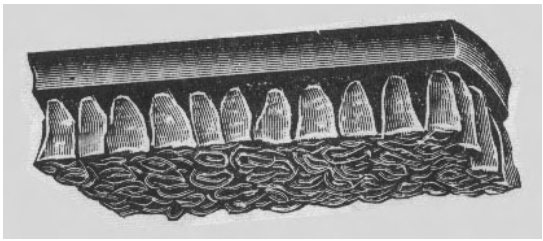
Weapon	Base	Damage	Range	Attacks	Rounds In Gun	Mal-function	Hit Points
Single Barrel	30	(by gauge)	10/20/50	1	1	00	12
Double Barrel	30	(by gauge)	10/20/50	1 or 2	2	00	12
12 gauge Pump (Win. 97)	30	(by gauge)	10/20/50	1	5+1	00	12
12 gauge Lever (Win 87)	30	(by gauge)	10/20/50	1	5+1	99	10
10 gauge Lever (Win. 87)	30	(by gauge)	10/20/50	1/2	5+1	99	10
20 gauge Automatic (Auto-5)	30	(by gauge)	10/20/50	2	5+1	00	10
12 gauge Automatic (Auto-5)	30	(by gauge)	10/20/50	1	5+1	00	10
Combination Gun	30	(by gauge)	10/20/50	1 or 2	2+1	00	10

Hardware and Housewares

This broad chapter covers the everyday, useful items that one would find in the home, kitchen, or garage, as well as building materials and some of the heavier equipment required by farms and homesteads.







Brushes and the Cult of Cleanliness

To the Victorians, cleanliness really was next to godliness, and many a servant was tasked with cleaning, scrubbing, and dusting. With their fondness for small, ornamental knick-knacks and their habit of decorating every imaginable surface with ornate floral or geometric relief, combined with the use of dirty fuels like coal and illuminating gas, the average Victorian household was an unimaginable dust magnet.

To combat this sooty invasion, householders were armed with a staggering array of specialized brushes, each carefully designed for a particular task. There were hairbrushes and hat brushes; clothes brushes to whisk the dirt and coal dust off the shoulders of a coat; there was one sort of brush for polishing one's boots, and another to dust them off after a long ride. There were brushes for bottles and for banisters; ones for dusting the outside of the coachwork, another dusted the upholstery inside, while a third type cleaned the spokes of the wheels. There was even a special brush for dusting billiard tables, and a slightly different one for dusting bagatelle boards.

The bristles could be hog or palm fiber for stiffness, horse or badger hair for softness; even tightly-coiled chamois leather for polishing furniture.

Barrel Sizes

Barrels were made from staves split from white oak. Originally made by hand with bent hickory hoops, the demand for kerosene brought automation to the process, and iron hoops were driven down with steam hammers and the ends were trued and grooved on a lathe. After 1866, barrels made for oil were lined with glue or isinglass to render them leak proof (unless the barrel was poorly made or the glue dissolved), while water barrels were held tight by the swelling of the wood, and if they had been dry for a while, would leak profusely until the wood swelled up enough.

Pin	4½ Gal
Firkin	9 Gal
Kilderkin	18 Gal
Barrel	36 Gal
Hogshead	54 Gal
Puncheon	72 Gal
Butt	108 Gal
Tun	216 Gal

(Measures are in Imperial gallons, equal to approximately 1.2 US gallons.)

Confusing the issue further, some commodities are measured by "barrels". Some examples are:

Wine	31½ Gal
Flour	196 lbs
Beef or Pork	200 lbs
Oil	42 Gal

Note that the 42 gallon oil "barrel" was not settled on until the early 1870's. Before that, a "barrel" could range in size from 40 to 50 gallons.

In a similar vein, unscrupulous dealers would sometimes use barrels with staves that were thicker than normal, reducing the actual volume and thereby stretching the dealer's profit.

A barrel was approximately 33 inches long, and about 24 inches in diameter.

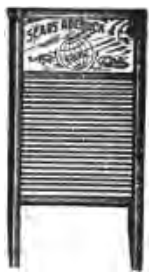
Item and Description	Weight	US Price	UK Price
Andirons (Fire Dogs), bronzed iron, 1 pair		3.00	12/5
Barrels:			
Barrel		4.35	18/0
Kinderkin		3.00	12/6
Firkin		1.95	8/0
Brushes:			
Baluster Brush, double bristle		1.00	4/3
Banister Brush, w/ hand guard		0.57	2/4
Bagatelle Board Brush		1.50	6/2
Billiard Table Whisk Brush		0.35	1/5
Boat or Carriage Brush, w/ 6' handle		0.65	2/9
Boot Wiper, mixed bristle, w/ iron and oak handle		4.00	16/6
Bottle Brush		0.07	0/3½
Crumb Brush		0.55	2/3
Feather Duster		0.50	2/1
Furniture Brush, bristle, w/ pointed tuft		0.50	2/1
Furniture Brush, Inside Carving		0.60	2/5
"Kleeneezi" brush (chamois 'bristles')		0.10	0/5
Lamp Brush, Hair, Duplex		0.17	0/8½
Parquet Floor Brush, w/ iron block and tufts; 5' handle	24 lbs	3.35	13/9
Stove Brush, High Cut		0.42	1/9
Turnout Library Duster		0.53	2/2
Varnish Brush, English Chiseled Flat, 1"		0.08	0/4
Varnish Brush, English Chiseled Flat, 3"		0.40	1/8
Wall Broom, Gray Bristle, w/ 5' handle		1.15	4/10
Wall Paint Brush, Bristle, 4"		0.31	1/3
Whitewash Brush, 8"		0.33	1/4
Bucket, tinned iron, 2 gallon		0.50	2/1
Bucket, oak well bucket, 5 gallon	8 lbs	0.40	1/8
Carpet Sweeper, Bissell "Grand Rapids"	6 lbs	2.35	9/9
Cement, Portland, 1 barrel		3.40	13/0
Chain, Galvanized, short link:			
¼" link, 1500 lbs strength, 133'	100 lbs	14.55	60/0
½" link, 6000 lbs strength, 33'	100 lbs	9.25	38/0
1" link, 24,000 lbs strength, 9'	100 lbs	7.65	31/6
Cinder Sieve		0.36	1/6
Frame is 16" in diameter, with ¾" mesh. Used to sift unburned bits of coal from the spent ashes.			
Cinder Sifter, Patented, with dust bin		5.50	22/8
A 30" tall x 14" x a4" dustbin, with a cylindrical sifter and hand crank at the top – waste ashes are poured into the sifter ad the crank is turned; the ashes fall down into the bin, while the unburned cinders can be emptied and re-used.			
Cloth and Yard Goods:			
Cloth, Cotton Duck, 15oz, 60" width, per yard		0.30	1/3
Cloth, English Wool Whipcord Serge, per yard		0.75	3/1
Cloth, Gingham, per yard		0.05	0/2½
Cloth, Silk Satin, Black, per yard		1.30	5/4
Cloth, Ticking (cotton), 27" width, per yard		0.05	0/2½
Chamber Pail, with lid		1.16	4/9
Enameled iron pail with close-fitting lid to prevent odors.			
Chamber Pot		0.38	1/7
Glazed ceramic – no lid.			
Clock, alarm clock, 2" dial		1.25	5/2
Clock, Table/Mantel clock, Seth-Thomas		5.75	23/9
22" high, 6" dial, 8-day movement, cathedral chimes on the hour and half-hour. Black walnut case.			
Clothes Pins, wooden, 1 gross		0.12	0/6
Coal, Blacksmith's, finest quality	1 ton	8.50	34/0
Coal Bunker, holds 2 cwt.		4.95	20/3
Tall, rectangular, hinge-topped box used to store coal near a fireplace. Bunker was 18" x 16" x 36" high and held 224 pounds of coal.			
Coal Helmet, copper		7.65	31/6
Coal Scuttle, Japanned iron		0.18	0/9
Coal Tar, 1 barrel (approximately 30 gallons)		7.50	30/11
Coffee Mill		0.50	2/1

Item and Description	Weight	US Price	UK Price
Coffee Roaster		1.75	7/2
Commode, Sanitary House Commode, upholstered		4.00	16/6
Polished hardwood cabinet, upholstered armrests and lid. Contains a porcelain bowl.			
Corkscrew, Pocket, Folding	-	0.12	0/6
Corrugated Iron, Roofing, 26" x 96", 6 sheets		2.80	11/6
Dairy Equipment:			
Butter Churn (Dash churn), 3 gallon		0.56	2/4
Butter Churn, Sturges, 5 gallon		5.00	20/8
Steel churn, tin-lined tank, hand-cranked.			
Cheesemaking Apparatus, #1 (family-sized)		12.00	49/6
Uses 10 gallons of milk at a batch for 20 pounds of cheese.			
Cream Separator, 150 lbs/hr		64.68	£13/7s
This separator is suitable for 1-5 cows. Larger sizes are available. As sold, it is operated by a handcrank, though it is recommended that it be operated by dog power.			
Pulley, for connecting the Cream Separator to a dog-powered treadmill		2.00	8/3
Dairy Thermometer, all-glass construction		0.25	1/0
Milk Can, 8 gallon, w/ lid	18 lbs empty	2.25	9/4
Amusing trivia: the dome-shaped lid to a milk can is called a "breast".			
Milk Strainer, Curtis' Improved Milk Strainer		1.30	5/5
Dual screens, fits in neck of milk cans.			
Dustbins, Square, riveted iron, w/ "Sanitary Covers", 18" square		3.15	13/0
"Powers", Motors, and Engines:			
Animal 'Power' – 1 dog treadmill		15.00	£3/2s
Animal 'Power' – 2 animal treadmill (sheep or goat)		23.00	£5/2s
Animal 'Power' – 2 horse treadmill	2,800 lbs	78.30	£16/3s
Animal 'Power' – 1 horse overhead power	450 lbs	17.98	£3/14s
This was a vertical shaft descending from an overhead gearbox. The horse was harnessed to the shaft and was lead in a circle around it.			
Engine, Gas, 10HP		600.00	£123/14s
Uses 1.25 gallons per hour. Can run on gasoline or illuminating gas.			
Engine, Steam, 2HP, 350 rpm	300 lbs	49.50	£10/4s
Requires a 2HP or greater boiler (see below).			
Boiler, 2HP	475 lbs (empty)	52.90	£10/18s
Engine, Steam, 10HP, 200 rpm	1,300 lbs	107.75	£22/4s
Requires a 10HP or greater boiler (see below).			
Boiler, 10HP	1,850 lbs (empty)	106.75	£22/0s
Engine, Steam, 15HP, 175 rpm	1,800 lbs	143.00	£29/10s
Requires a 16HP or greater boiler (see below).			
Boiler, 16HP	2,950 lbs (empty)	148.50	£30/12s
Steam Whistle, 2", w/ valve		2.85	11/9
Fire Tools, iron and brass, with stand		3.25	13/6
Includes poker, tongs, brush, shovel, and stand.			
Fireplace Screen, brass, folding		3.85	15/10
Glass, window panes:			
9" x 12", 64 panes/box		1.98	8/2
12" x 24", 25 panes per box		2.25	9/3
24" x 30", 10 panes per box		3.10	12/9
Grease, Axle, 1 keg	60 lbs	2.10	8/8
Heater, Oil-burning		8.50	34/0
Cast iron; 39" high, 9" diameter; holds 5 quarts of oil (kerosene) Will burn for 10-12 hours.			
Wick, for oil heaters, each	-	0.10	0/5
Hip Bath		4.45	18/5
A broad, tinned or galvanized tub with a backrest used for bathing.			
Hot Water Can, 10 quart, spill-proof		1.05	4/4
Naylor's Patent Can – japanned; no hinges to rust. Used to carry hot water from the kitchen to elsewhere in the house.			
Insect Powder, 1 tin	1 lb	0.55	2/3
Insulators, glass, each		0.05	0/2½
Ice Cream Freezer, 4 Quart, Hand-Cranked		2.20	
Ice Maker – "The Raplin"		46.00	190/0
A hand-cranked ice maker, using a sulfuric acid solution as a refrigerant. It could produce a 1¼ lb block of ice with 20 minutes of brisk cranking, or chill a carafe of water in three minutes.			
Iron, Fluting iron	4¾ lbs	0.80	3/4
A sawtoothed iron and base used to pleat fabric.			

Item and Description	Weight	US Price	UK Price
Iron, Sad irons	16 lbs	0.65	2/8
A set of 3 'sad irons' – cast iron blocks used to press clothes. The three are of different sizes and shapes for ironing different parts of the garment, and are placed on top of a stove of oil heater to warm. The handle is detachable, so that when one sad iron is too cool, it can be replaced on the heater and a new one used.			
Sad Iron Stand, each	-	0.05	0/2½
A decorative iron trivet used to support a sad iron and prevent it from scorching the table.			
Ironmongery and Fasteners:			
Carpet Tacks, "6 oz" size, 100 on a paper		0.02	0/1
Carriage Bolts: ½" x 1¼" – ½" x 16", per dozen		0.05 - 0.45	0/2½ - 1/10
Lag Screws: 5/16" x 1½" – ½" x 12", per dozen		0.12 - 0.32	0/6 - 1/4
Nails, 1"	8 oz	0.10	0/5
Nails, 2"	8 oz	0.08	0/4
Rivets, Copper, w/ burr, asst sizes, 3/8" – ¾", one box	½ lb	0.28	1/2
Rivets, Iron, ¼", 1" – 3" in length, per pound		0.07	0/3½
These rivets are used by heating red hot, rounding them over on both sides, so it pulls the joint together tightly as it cools.			
Rivets, Slotted, copper coated steel, ¼"–¾" long, box of 100		0.20	0/10
These rivets are used by fitting them through a hole, then spreading the split legs and hammering it flat.			
Wood Screws, plain, ¼"–3" long, per gross		0.07 - 1.01	0/2½ - 4/2
Jars, Canning, 1 lb size. W/ lids and rubber seals, 1 dozen		0.48	2/0
Knife Machine, 4-knife capacity		12.75	52/6
In the days before stainless steel, knives had to be carefully cleaned and polished, and dried to prevent rust. The knife machine was a cylindrical box with a hand crank; the inner buffing wheel was treated with mason's dust. After cleaning, knives were placed in the slots and the crank turned to polish them.			
Laundry Wringer – "The Peerless Wringer"		2.00	8/3
Wheel top screws, ball-bearing joints. Mounts on table or on edge of a washtub.			
Linseed Oil, Boiled, 1 gallon		0.45	1/10
Lock, Front Door, w/ knob and warded lock.		1.55	6/5
Lock, Nightlatch, Yale Pattern (pin-tumbler), w/ 2 spare keys		1.25	5/2
"The Low-Vacuum Pneumatic Dust Attractor"		24.25	£5/0s
A vacuum cleaner using a lever-operated suction pump – requires two people to operate efficiently. Includes 1 dust bin, 2 dust bags, 12' flexible metallic hose, a carpet sweeper nozzle, and 2 small nozzles.			
Lumber, Hardwood, per cubic foot		3.40	13/0
Common hardwoods were teak, mahogany, and walnut.			
Lumber, Softwood, per cubic foot		0.12	0/6
Mason's Dust, 14 pound bag		0.12	0/6
Powdered brick, used as a scouring abrasive for cleaning and for polishing knives and cutlery.			
Match Safe. Wall mounted		0.10	0/5
Japanned tin box with a cover, keeps matches handy in the kitchen, but out of reach from little hands.			
Neat's Foot Oil, 1 gallon		0.95	3/11
Used to oil and preserve leather goods like harnesses, boots, and bags.			
Needles, Sewing, per 10 papers		0.45	1/11
"Golden eye", 10 sizes of needle are available, as well as 4 different assortments of sizes.			
Oilcloth, best quality, per yard		0.72	3/0
Used for flooring or for table covers. 2 yards wide (72"), sold by the yard. Available in many colors and patterns.			
Padlock, brass, 4-lever lock		0.20	0/10
Padlock, wrought iron, warded lock		0.55	2/3
Padlock, Yale pin-tumbler lock	5 oz.	0.70	2/11
Paint, House paint, 1 gallon		1.15	4/9
Available in 48 colors. 1 gallon will double-coat 300 square feet of surface.			
Paint, Roof, Fence, or Barn paint, 1 gallon		0.75	3/1
Available in 6 colors. Thins with linseed oil. Also available in 5, 10, 25, and 50 gallon barrels.			
Pipe, Lead, extra strong, 1" diameter, per foot	4lb/foot	0.28	1/2
Plaster of Paris, 1 barrel		2.00	8/3
Plow, Brush or Timberland, 12" plowshare	88 lbs	8.22	33/11
Refrigerator (Ice Box)		16.28	67/2
Solid ash, antique finish, porcelain-lined inner cooler (50" x 36" x 23"). Takes 60 lbs ice.			
Rope, Hemp (best Italian), ¾", per pound	43 ft/lb	0.20	0/10
Rope, Hemp (best Italian), 1", per pound	33 ft/lb	0.20	0/10
Safety Pins, Large (size 2), card of 12		0.02	0/1
Safety Pins, Small (Size 3), card of 12		0.03	0/1½
Salt Box, wooden	-	0.08	0/4
In the kitchen, salt was kept in a small wooden box hung on the wall near the stove keeping it handy.			

Item and Description	Weight	US Price	UK Price
Sealing Wax, #2, Sanford's Red Express	1 lb	0.35	1/6
"Selvyt" Polishing Cloth Treated cloth for polishing silver and silver plate.		0.16	0/8
Sewing Machine, Singer Treadle operated, with walnut drop-leaf table, self-threading shuttle, and automatic bobbin winder.		13.50	55/8
Sewing Machine Needles, per dozen		0.18	0/9
Stepladder, 4-rung		1.40	5/10
Stove, Cast iron, 4-hole, without reservoir A small, square, wood-burning stove. It includes a small oven, but does not have a tank for water.	115 lbs	4.32	17/10
Stove, Cast Iron, 6-hole, with reservoir Can use either coke, coal, or wood. Includes an oven and hot water tank.	535 lbs	21.00	£4/6/7
Stove, Pot-Bellied – "The Iron Age", number 11 A small stove used primarily for heating – the top can be used for cooking. Burns coal only.	105 lbs	3.65	15/0
"The Acme Drum Oven" A small baking oven; attaches to any 6" stovepipe, and is heated by the flue gasses. Oven is 18" x 14½"		1.75	7/3
Stove Tools, iron, with 'Always Cool' coiled handles:			
Lid Lifter For removing the covers from the 'burners'.		0.08	0/4
Poker		0.08	0/4
Shovel		0.18	0/9
Sugar Nippers Sugar used to be supplied in a hard, conical 'loaf.' Sugar nippers were used to break the loaf into suitably-sized chunks (for tea, for example, or for further grinding with a mortar and pestle.)	-	0.25	1/0
Tap Borer	1 ¼ lbs	0.55	2/3
Tap (for kegs or barrels)		0.10	0/5
Turpentine, 1 gallon		1.00	4/3
Wallpaper, per roll		0.10	0/5
Wash Board		0.18	0/9
Wash Tub, pine		0.58	2/5
Washing Machine – "The Anthony Wayne Washer" Wooden tub, crank-operated agitator (peg dolly).	46 lbs	2.50	10/4
Washstand Japanned oak stand with earthenware basin; plug and pull chain. Includes water pitcher and slop bucket.		3.55	14/9
Water Cooler Galvanized iron reservoir. Inner bucket holds 6 lbs of ice, the outer holds 3¾ gallons of water.		6.00	24/9
Water Filter, "Berkefeld Patent Germ Filter", 2½ gallon Decorated Stoneware.		5.10	21/0
Extra Filters	-	0.32	2/4
Wax, Beeswax	1 lb	0.42	1/9
Wax, Paraffin	1 lb	0.15	0/5
Windmill, all steel, 10' diameter, painted	470 lbs	33.75	£6/19s
Tower, for Windmill, 50'	1,000 lbs	32.95	£6/16s
Metal Anchor Posts, for towers, set of 4		3.00	12/5
Wire, Copper annunciator wire, double-wound, per pound		0.35	1/6
Wire, Galvanized telegraph wire, #12. per pound	30 feet/lb	0.09	0/4½
Wire Netting, Steel, Galvanized ('chicken wire'), 60" x 150'		3.50	14/5
Wire Rope, Steel, ½" Diameter, per foot 1 ton safe load.		0.08	0/4
Wire Rope, Steel, ¾" Diameter. per foot 3½ tons safe load.		0.125	0/6

Ice Tongs



Hand Washboard

Sad Irons

Icebox

Oil Heater

Coal/Wood-fired Stove

Cooking – Open Hearth and Cast Iron Stoves

Before the late 18th century, all cooking was done before the hearth: in a large fireplace, sometimes in the main room of the house. Food was prepared in cast-iron pots and kettles, either hung over the fire, or raised up on trivets or 'spiders' (pots with built-in legs), with the desired amount of coals burning underneath, raked over from the main fire. Bread (if not baked in a brick oven outdoors) could be made by covering the dough with an inverted pot, then raking coals over it.

This arrangement was convenient in that it required little additional material and expense other than the utensils themselves, and was common on the frontiers well into the middle of the century. The main disadvantage was that it could be hazardous, especially to women wearing long dresses and flowing sleeves. ("Hearth death" was an all-too-common fatal accident among women.)

Where the kitchen was a separate room, it would be supplied with a fireplace of its own, or possibly a raised platform of brick for the fire. This raised hearth soon included a built-in brick oven and raised shelves for warming plates and to store pots. As the cast-iron industry developed, an iron box oven replaced the brick oven, then a grate held the fire, and then finally the entire stove became enclosed.

By the mid-1800s, the closed-range cast-iron stove had become common, and was a vast improvement in both convenience and safety. A small firebox would be stoked with wood or coal, and the top of the range had several holes covered with removable lids. Pots could be placed directly on the range top, or the lids covering the 'holes' so they could be heated directly by the fire. Ashes would sift down from the grate into an ash pan for easy removal. The stove usually included a tank in the back where water was kept hot (pity the poor servant who had to carry hot water from the kitchen to master's bath upstairs; one pitcher at a time.) The heat going up the stovepipe could even be put to use by placing a warming oven or even a small bread oven in the chimney, so the hot stove gasses would flow around it.

The stove, a quarter-ton of iron with a fire inside it, made the kitchen a very warm place. In winter months, it would be a popular place for the children to stay and get underfoot; but in the heat of a muggy summer, the kitchen could be a miserable place to work.

Photographic Equipment

The art of photography, like many other discoveries of this era, developed rapidly from a cumbersome art form requiring vast amounts of specialized equipment, to a simple and sturdy tool that even an amateur could use.

Photographic History

1837 – The Daguerreotype process is developed. Exposure times are several minutes long, restricting it to landscapes and buildings.

1841 – Improved lenses and techniques make commercial portraiture possible. Exposure times are still several minutes, making head braces a necessity for the subjects.

1851 – Wet-collodion process introduced. Exposure times are now around 20 seconds.

1851 – First demonstration of flash photography using an electric spark from a bank of Leyden jars.

1855 – The stereoscope, which uses two closely-spaced photographic images to create a three-dimensional effect, is invented.

1860s – First aerial photographs as cameras are taken up in the gondolas of balloons in France.

1861 – James Clerk-Maxwell demonstrates the 'color separation' process – taking three images through red, green, and blue filters, then projecting the resulting images as magic lantern slides through similar filters.

1871 – Dry-plate process introduced.

1878 – The Dry-plate process is further improved, increasing the sensitivity of the plates. Exposure times of 1/25 second are common, making hand-held cameras possible by the early 1880s.

1880 – George Eastman begins manufacturing dry plates in the United States.

1882 – Isochromatic plates available, sensitive to blue and green light. Normal film plates were only sensitive to blue light.

1885 – Eastman introduces paper-backed gelatin negatives – the first roll film.

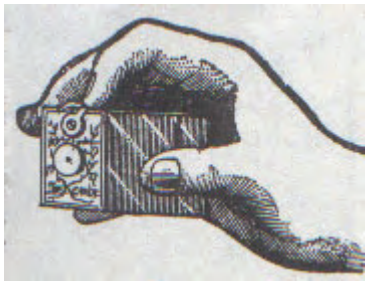
1888 – Eastman produces the Kodak hand-held camera, using multi-exposure roll film.

1889 – Roll film on transparent celluloid introduced.

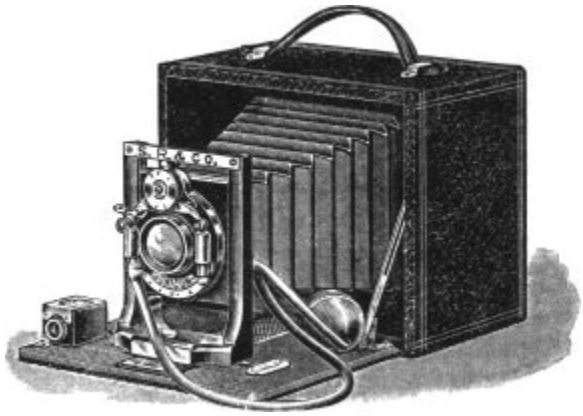
1903 – Black-and-white infrared film is developed in Germany.

1906 – Panchromatic film emulsion introduced – equally responsive to all colors of light. Sensitivity increases significantly – 1/100 sec or less. Roll film remains orthochromatic until the late 1920s.

1907 – Color photography with integral-color plates ("Autochrome") is possible, but was unpopular because of the cumbersome equipment and complex developing techniques.



The Kombi Hand Camera



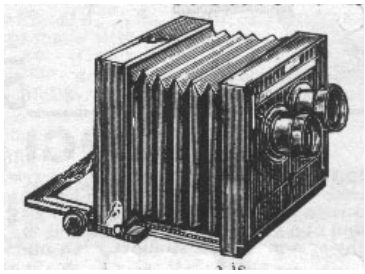
Folding Camera

Item and Description	Weight	US Price	UK Price
Miniature Cameras:			
The Kombi	4 oz.	3.50	14/5
An all-metal pocket camera, only 2" x 1½" x 1½". The case is of bronze-finished metal, and it uses a special roll of 25 exposures. Price includes a cloth-covered case.			
Kombi Roll Film, 5 rolls		1.00	4/2
Developing and Printing Outfit		3.00	12/5
Includes a developing tank, all necessary chemicals, and a printing frame. The Kombi film is a "positive" film, meaning that the images can viewed directly like slide film, perhaps using a magnifying glass. The developed film can be placed in a printing frame and attached to a larger camera so that prints can be made.			
Rubber Loading Sleeve		0.60	2/6
Allows the film to be loaded into the developing tank without a darkroom, and makes loading the camera more secure.			
Hand Cameras:			
The Nighthawk		4.80	19/10
Uses 4x5 glass plates. A dial on the side indicates the current focus setting. The shutter can be set for instantaneous or timed release. Includes one plate holder.			
Plate Holder		0.90	3/9
Folding Hand Cameras:			
Folding Premo Style "D"	2 lbs	10.75	44/4
Uses 4x5 glass plates or cut film. Includes three plate holders.			
Plate Holder		0.90	3/9
The Folding Premo Camera		34.00	£ 7/0s
Uses 5x7 glass plates, cut films, or roll film. It has a rising and falling front, swing back, and a reversible view finder. The body has two tripod plates, so it may be used either vertically or horizontally. Includes one plate holder.			
Plate Holder		1.35	5/7
Cut Film Holder		1.40	5/10
Roll Film Holder		9.00	37/2
Magazine Hand Cameras:			
The Heatherington Magazine Camera #1		20.00	82/6
Takes 6, 4x5 dry plates or 6 cut films. Camera body is covered in fine Morocco leather and measures 6" x 6½"x 4". The shutter can be set to instantaneous or time exposure.			
The Trokonet Camera, Style C		31.50	£ 6/9/11
Takes 5x8 film – 12 plates or 30 cut sheets, held in a special magazine with dividers. Rack-and-pinion focusing with an indicator scale, and has a counter that displays the number of exposures taken..			
Film Packs, 30 sheets		2.25	9/4
Septums for dry plates, 12 each		0.60	2/6
Roll Film Box Cameras:			
The Kodax Box Camera	26 oz.	25.00	£5/3s
Not Available Before 1888. A simple fixed-focus camera using preloaded roll film that opened photography to many amateurs. The camera held a 20-foot roll of paper-backed film, enough for 100 exposures. The box was 3 25" x 3.75" x 6.5", and was of wood covered with leatherette. Exposure time was 1/20 second, but there was a small felt plug that could hold the shutter open for time exposures. There was no film counter; a little record book was supplied to keep track of the pictures. When all the exposures were taken, the camera was shipped back to the factory, where the film was developed, the camera reloaded and returned to the owner. The Kodak slogan was "You push the button, we do the rest."			
Developing and Reloading		10.00	£2/1s
This fee covered shipping, developing, and reloading the camera with film. The images were circular, 2.5" in diameter.			
Stereoscopic Camera:			
The New Model Stereoscopic Camera		19.25	£ 3/19/5
Takes 5x8 dry plates, folding bellows, rack-and-pinion focus. Price includes the camera body, twin lenses, one plate holder, and a tripod.			
Plate Holder		1.25	5/2

View Cameras:

The Carlton Camera	43.75	£ 9/0s
Takes 8x10 dry plates. Reversible double-swing back, ground-glass focusing plane. The view camera is a large-format camera that must be mounted on a tripod.		
Plate Holder, 8x10	1.70	7/0
Carlton's Sliding Tripod	3.15	13/0
Developing Trays, japanned tin, 8x10	0.40	1/8
Dry Plates, Standard, per dozen:		
4 x 5	0.49	2/0
5 x 7	0.82	3/5
8 x 10	1.80	7/5
Dry Plates, Isochromatic, per dozen:		
4 x 5	0.60	2/6
5 x 7	1.00	4/2
8 x 10	2.15	8/11
Film, Cut, per dozen:		
4 x 5	0.78	3/3
5 x 7	1.65	6/10
Film, Roll, per 12 exposures:		
4 x 5	0.70	2/11
5 x 7	1.50	6/2
Flash Lamp, "The Perfection Magazine Flash Lamp"	1.80	7/5
The receptacle ("magazine") holds enough powdered magnesium for 20 flashes.		
Flash, "Lionel Photographer's Flashlight"	2.75	11/4
Not Available Before 1899. Uses flash powder. A folding flash tray with 2 D-cell batteries in the handle. Pressing the switch causes an electric spark that ignites the powder.		
Flash Powder, ½ ounce	0.15	0/8
Not Available Before 1899. Flash powder was explosive and not listed as not mailable in 1902 (though they would mail dynamite – gives an idea how volatile this was.)		
Hand Tint Kit	2.25	9/4
For hand-coloring photographs. Comes with 18 colors, mixing palette, japanned tin box and complete instructions.		
Magnesium Powder, per ounce	1.00	4/2
Magnesium Ribbon, per foot	0.25	1/0
The ribbon burns at about 15 seconds per foot.		
Photo Print Paper, 8x10, 1 dozen sheets	0.75	3/1
Retouching Pencils, each	0.23	0/11
Ruby Lantern, Pocket-sized	0.50	2/1
A small, collapsible oil lamp with ruby glass lenses. Used for darkroom work.		
Ruby Lantern, "Carlton's Dark Room Lantern"	1.80	7/5
A larger oil lamp with 3 illuminating surfaces with ruby glass lenses and a reflector. Used for darkroom work.		
Tripod, Folding	1.00	4/2


Box Camera


Stereoscopic Camera


Ruby (Darkroom) Lamp

A Hand Flash Lamp

Flash Powder Units

The earliest flash powder was simple powdered magnesium – it was available, affordable, and gave an extremely bright light for its weight. The problem is that unless the powder is finely divided and thoroughly mixed with air, it burns slowly with a sputtering flame, leading to multiple exposures on the negative; magnesium ribbon, while slower burning, gave a steadier light.

At its simplest, a photographer would set up the camera and gauge by experience how much flash was needed, then measure out the required length of magnesium ribbon. Crumpling it lightly, it was placed on a flame-proof surface and ignited with a match. It a large room was to be photographed, several pieces of magnesium could be burned in different locations to provide the needed coverage.

In order to get a flash, powdered magnesium had to be mixed with enough air for it all to burn at once; a flash lamp was needed. A flash lamp had a reservoir for the powdered magnesium, a small oil or alcohol lamp, and an air hose with a rubber bulb. Squeezing on the bulb blows the magnesium up into the air where it passes by the flame of the lamp. Most of these flash lamps were small table models, but there was one French device that resembled a small, pocket-sized book and had compartments for everything – even the matches used to light the alcohol lamp.

The Wet-Collodion Photographic Process

The wet-collodion process is the earliest practical form of photography likely to be used by investigators. While it required a large amount of specialized equipment and chemicals, it could be transported and performed in the field, and might be of use for recording the various monoliths, ruins, carvings and inscriptions that they are wont to encounter.

The photographer first prepared the plate (either metal for a 'tintype' or glass for a negative) by thorough cleaning. Once the plate was dry, he poured onto it a small amount of thin collodion (a mixture of nitrocellulose dissolved in ether), and then carefully tilted the plate from one side to another, evenly coating it from edge to edge. The excess collodion was then poured off one corner to return it to the bottle. The plate was then allowed to dry until the layer of collodion was just tacky enough. Under lightless conditions, the plate was lowered into a narrow tank of silver nitrate solution and soaked for about 10 minutes to penetrate the collodion and form the sensitized emulsion. The plate is then removed from the tank and fitted into a lightproof frame (wood, carefully varnished and waxed to protect it from the dripping chemicals).

The camera (hopefully set up before hand) is loaded with a frosted-glass plate set a holder that is a duplicate of the wet plate holder. On this glass screen, the photographer can then view the image and focus the camera; once everything was ready, the focusing plate was replaced by the sensitized plate and a lightproof shutter is removed from the front of the plate holder. To take the picture, the photographer removed the lens cap for several seconds, the replaced both the lens cap and the shutter on the plate holder. The plate holder could then be removed from the camera and the plate removed under lightless conditions for development.

As involved as this process seems, swarms of amateur and professional photographers packed their equipment into wagons or even wheelbarrows and hiked into the wilderness to take photographs under the most primitive conditions, sometimes huddled under a lightproof blanket on the ground, trying not to let their perspiration drip into the chemicals. In the army camps of the American Civil War, the photographer and his tent – a full studio-on-the-go was a constant fixture, arriving and setting up almost before the troops had finished pitching their own tents.

LABORATORY AND SCIENTIFIC EQUIPMENT

While the sciences underwent dramatic development during the 19th century, much of this change was evolutionary, rather than revolutionary – the gradual refinement of existing areas of knowledge, driven partly by the improvements in manufacturing technology that gave researchers more and more accurate instruments. This chapter lists some of the many scientific tools available to investigators.

Scientific Discoveries of the Gaslight Era

1800 – Alessandro Volta invents the electric pile, an early battery.

1800 – Sir William Herschel discovers infrared light.

1801 – Giuseppe Piazzi discovers Ceres, the first known asteroid. By the end of the century, several hundred are known.

1801 – Johann Ritter discovers ultraviolet light by its action on silver chloride solutions.

1801 – Thomas Young splits a beam of light and recombines it, producing interference patterns, demonstrating that light behaves like a wave.

1814 – Jons Berzelius develops the 1- or 2-letter symbols for chemical elements still used today.

1820 – The continent of Antarctica is discovered.

ca. 1830s-1850s – The First and Second Laws of Thermodynamics are proposed and refined, describing heat and work in a closed system, and introducing the concept of *entropy*.

1832 – Michael Faraday and Joseph Henry independently invent the electromagnet, demonstrating the connection between electricity and magnetism.

1846 – Michael Faraday goes public with his speculations that light is a form of vibration in magnetic lines of force.

1850 – The Law of Conservation of Energy is proposed by several physicists.

1859 – Charles Darwin publishes The Origin of the Species; The Descent of Man follows in 1871.

1863 – Gregor Mendel, the "Father of Genetics" formulates his 'Laws of Inheritance'. While unnoticed for almost 40 years, when combined with Darwinian evolution, it forms the basis of modern field of evolutionary biology.

1864 – James Clerk Maxwell publishes his theories on electromagnetism, which build on Faraday's earlier work. They predict radio waves and a *luminiferous ether* – a medium for the transmission of electromagnetic waves.

1868 – The spectrum of an unknown chemical element is discovered in sunlight. Named *Helium*, it is not discovered on earth until 1881.

1868 – Dimitri Mendeleyev develops the Periodic Table of the Elements, one of the foundations of modern chemistry. It predicts the molecular weight and properties of a number of elements unknown at the time - the first of these, Gallium, is discovered in 1875, confirming his predictions.

1875 – Sir William Crookes begins experimenting with cathode rays in evacuated tubes.

1877 – Oxygen is first liquefied. Over the next 30 years, every known gas is liquefied.

1877 – Phobos and Deimos, the two moons of Mars, are discovered by Asaph Hall of the U.S. Naval Observatory.

1877 – Giovanni Schiaparelli observes dark lines on the surface of Mars, which he calls "*Canali*" ('channels'). This is promptly mistranslated as 'canals', prompting speculation of an intelligent, technological civilization on Mars.

1887 – In an experiment designed to prove the existence of the luminiferous ether, Albert Michelson and Edward Morley end up doing the opposite, showing that the speed of light is independent of the motion of the observer.

1887 – Heinrich Hertz, while conducting experiments trying to prove the existence of radio waves, discovers that metals will emit electrons when struck by light of short wavelengths – the photoelectric effect.

1888 – Hertz discovers radio waves, confirming Maxwell's predictions from 24 years before.

1895 – Wilhelm Roentgen discovers X-Rays using a modified Crooke's Tube.

1896 – Henri Becquerel notices that uranium ore could fog a photographic plate through a light-proof envelope, discovering gamma rays.

1898 – J.J. Thompson accurately measures the photoelectric effect.

1899 – Ernest Rutherford discovers the alpha particle.

1900 – Henri Becquerel discovers beta particles, and shows that they are identical to electrons.

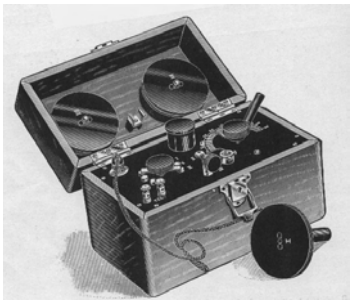
1900 – Max Planck publishes the radical idea that energy comes in discrete amounts, which he called *quanta*.

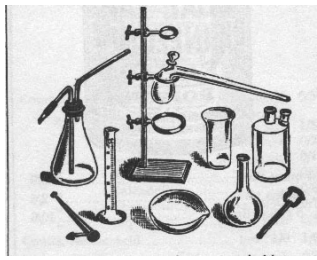
1904 – Hendrik Antoon Lorentz, attempting to resolve the contradictory results of the Michelson/Morley experiment, proposes a series of equations describing how objects contract in length and time slows as velocity approaches the speed of light. These equations form the basis of Special Relativity.

1905 – In a series of papers, Albert Einstein proposes the Theory of Special Relativity, the Photoelectric Effect, in which a quanta of light, called a *photon*, behaves like a particle.

Item and Description	Weight	US Price	UK Price
Analytical Balance, with weighing cabinet and weights 100 gram capacity, resolution to 0.2 mg. The glass-sided cabinet stops air currents from disturbing the pans.		24.60	£ 5/1/6
Barograph, with drum chart recorder Recording barometer – chart drive is spring wound with an 8-day movement. Charts cover 24 hours. Unit is housed in an attractive oak and glass case, with drawer for charts and pens.		24.25	£5/0/0
Barometer, standard ¾" bore, high accuracy, with vernier scale. With kew (calibration) certificate.		86.55	£ 17/17/0
Butterfly Net, Folding			4/3
Cadaver, suitable for dissecting As purchased from the "resurrection men". Demand for specimens always outstripped supply, and in many places it was illegal to perform dissections – Massachusetts did not legalize it until 1830, and Georgia until 1887.		10.20	2 gns
Calorimeter, Mahler-Coole Bomb Calorimeter Used to determine the specific heat content of a carbon compound of food. A precisely weighed sample is burned with compressed oxygen in a sealed "bomb," and the resulting heat is measured. Requires an analytical balance.		169.75	£35/0/0
Chemical Apparatus (glassware), for students		6.90 - 24.25	28/6 - 100/0
Chemical Balance, for students, with weights		13.80	57/0
Compass, Dip Needle, w/ Morocco leather case Used for mineral prospecting, it detects the angle of the earth's magnetic field to the ground.		9.75	£ 2/0/0
Compressor, High Pressure Gas Compressor Requires 1½ horsepower; can supply 20-50 cubic feet per minute at 200 atm (2940 psi).		412.25	£85/0/0
Crooke's Tube, center cathode		2.18	9/0
Dip Needle, 6" Includes heavy iron tripod base, leveling screws and two spirit levels. Used to precisely determine the direction of magnetic fields.		24.25	£5/0/0
Dissecting Gloves, finest Indiarubber, 1 pair		0.60	2/6
Dissection Kit, w/ pocket case, top quality Contains 2 scalpels, 2 pair scissors, 1 pair forceps, egg blowpipe, file, combined skinning hook and brain scoop.		3.00	12/6
Drafting Tools, deluxe set		5.50	22/8
Electroscope, Gold Leaf For accurate measurement in radio-activity experiments, as designed by Professor Rutherford.		15.25	£3/3/0
Furnace, Electric Arc Furnace For producing extremely high temperatures, for example when vaporizing metals. This model has colored mica shutters for observing the reactions. Uses currents of up to 250 amps.		99.45	£20/10/0
Extra Carbon Electrodes, 800 x 40 mm, per pair		1.20	5/0
Geologist's Set, with belt case Geologist's hammer/pick and chisel in a leather belt case.		1.58	6/6
Goniometer, with microscope For determining the angles and structure of crystals. Vernier reads to 2 minutes of arc.		45.85	£9/9/0
Hydraulic Pump, High Pressure Can produce pressures up to 3000 atm (44,100 psi).		281.30	£58/0/0
Killing Jar, Glass For collecting insects – uses either chloroform or cyanide vapor.		1.65	6/9
Micromanometer Measures minute pressure changes.		6.00	£1/5/0
Microscope, 70x - 295x, with case	11½ lbs	45.00	£9/6/0
Microscope, Universal, w/ Zeiss Lenses, w/ understage illuminator and case		39.30	£8/2/0
Oil Immersion Lens Allows greater resolution, clarity, and brightness at high magnifications.		24.25	£5/0/0
Polariscope attachment Permits samples to be viewed through polarized light, highlighting crystalline structure and stress patterns.		6.00	£1/5/0
Mounting Kit All necessary equipment (slices, covers, media, microtome, stains, etc.), stored in an attractive mahogany cabinet.		13.33	£2/15/0
Stains, 1 bottle Synthetic dyes used to highlight structures within a sample.		0.18	0/9
Triple revolving nosepiece		4.15	17/0
Mortar and Pestle, 6½"		0.42	1/9
Planimeter A sophisticated tool that measures the area of a region traced out on a map with the attached pointer.		11.65	48/0
Pressure/Vacuum gage, 3" (numerous ranges available)		2.15	9/0
Refractometer, Abbe Used to determine the refractive index of a liquid.		82.50	£17/10/0

Item and Description	Weight	US Price	UK Price
Sample Case Japanned tin box fitted with 26 glass sample tubes.		0.97	4/0
Selenium Cell, mounted on stand Cell changes resistance in response to wavelength/intensity if light. Very sensitive; mounted in an ebonite frame on an iron tripod – height can be adjusted.		14.00	£2/18/0
Slide Rules and Calculating Instruments:			
Boucher Calculator 2¼" circular slide rule in the form of a pocket watch.		8.50	35/1
Duplex Slide Rule, 10" A more versatile slide rule, capable of everything the Mannheim Rule, plus trigonometric functions. The rule has scales on both sides, and when performing calculations, the operator will frequently move from one side to the other.		8.00	33/0
Mannheim Slide Rule, 10" The basic slide rule – capable of multiplying, dividing, ratios, squares, cubes, and roots.		4.50	18/6
Thacher's Calculating instrument, w/ 3" magnifier Not Available Before 1882. In effect a 30 foot long slide rule divided into 20 segments and arranged as a cylinder. Capable of extremely accurate calculations out to four significant digits.		45.00	£9/6s
Specific Gravity Bottle, 100ml A bottle with a precise internal capacity – used to determine the density of liquid samples.		0.30	1/3
Still, 1 gallon For distilling purified water. All metal parts are tin-lined.		8.75	36/0
Spectrometer, Constant Deviation Table-top model with heavy iron base; has a vernier drum that reads directly in wavelengths. Used to determine chemical composition by the light emitted/absorbed.		121.25	£25/0/0
Camera Designed to mount to spectrometer – 21-inch focal length lens.		31.50	£6/10/0
Surveying Equipment:			
Clinometer, Military Accurately determines slopes and grades.		5.05	£1/11/0
Plane Table, 17" x 14", w/ tripod Used as the drawing surface for making maps. Includes a compass and sight rule, and metal tripod.		13.85	£2/17/0
Surveying Chain, iron		1.95	8/0
Surveying Rods, 5', pair		0.85	3/6
Theodolite, 5" scope, w/ tripod		121.25	£25/0/0
Telescope, Astronomical, 2¼" Refractor Brass body, rank-and-pinion focusing. Alt-azimuth mounting of brass claw table stand.		43.15	£8/18s
Telescope, Astronomical, 5" Refractor High quality instrument with 5 eyepieces, finder, and dew cap. Packed in a pine case.		266.75	£55/0s
Equatorial Mount, for 5" telescope Iron column base, equatorial mounting with fine adjustment knobs and setting circles. Declination graduated to 1 minute of arc, hour to 15 seconds of arc. Base includes leveling screws and two spirit levels.		242.50	£50/0s
Clock Drive for Equatorial Mount		109.15	£22/10s
Sun Diagonal Eyepiece Reduces light levels, allowing direct observation of the sun.		5.11	£1/1s
Tesla Apparatus		31.55	£6/10s
Thermograph, with drum chart recorder Recording thermometer – chart drive is spring wound with an 8-day movement. Charts cover 24 hours. Thermometer reads from 0 – 100 F.		23.65	£4/17/6
Vacuum Pump, 3-cylinder, with stage and bell jar A sophisticated tool that measures the area of a region traced out on a map with the attached pointer.		87.30	£ 18/0/0
Wavemeter, 0-5000 meter Not Available Before 1904. Determines the wavelength of an electronic signal (for example, a radio transmission.) The device uses a long spool of low-resistance wire, and detects the point of resonance.		140.00	£ 28/17/4





Lamps and Illumination

In our present day, electricity has triumphed, driving all other forms of light before it…or has it? Candles are as popular as ever, and there are many places in the world that still rely on the same kerosene lamps that have been used for a hundred and forty years. This chapter will list and describe, in some detail, the many ways that investigators would have used to light their homes and their way, showing some of the characteristics and limitations of sources of light now unfamiliar to people for whom light is available at the flip of a switch.

Illuminating History

1801 – Humphry Davy invents the electric arc light.

1807 – Streetlamps in parts of Pall Mall, London were lit with gas.

1812 – First gas company in London receives a royal charter – the London and Westminster Gas Light and Coke Company.

1859 – Edwin Drake drills the first oil well in Pennsylvania, starting America's first 'Oil Boom.'

ca. 1860s – Kerosene rapidly replaces whale oil and other fuels for lamps.

ca. 1860s - 70s – Electric arc lighting used for streetlights in some major European cities.

1879 – Thomas Edison invents the carbon-filament light bulb. Converts his Menlo Park laboratory to electric lights by New Year's eve.

1882 – The Edison Company begins to install d.c. electric systems in homes and communities.

1885 – George Westinghouse and William Stanley develop a practical a.c. generator. The "war of the currents" between Edison and Westinghouse begins.

1893 – President Grover Cleveland pushes a button, and 100,000 electric light bulbs illuminate the Colombian Exposition in Chicago, turning it into the "City of Light."

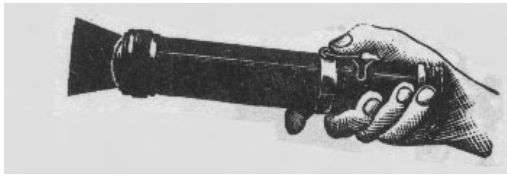
1896 – Westinghouse generators, designed by Nikola Tesla, and powered by the waters of Niagara Falls, deliver electricity to Buffalo, New York.

1896 – The D size dry-cell battery is patented. Workable "flashlights" become popular.

ca. 1900 – Carbide lamps develop rapidly for several applications, including miner's lamps, and headlights for bicycles, coaches, and automobiles.

1907 – The AA size dry-cell battery is patented, used for 'vest pocket' lights and penlights.

1911 – The tungsten-filament light bulb enters the market, improving both the light output and durability of the bulb.



The Ever-Ready 'Walleye' Flashlight

The latest wonder from the Wizard of Menlo Park

Item and Description	Weight	US Price	UK Price
Arctic Lamp, 8", nickel plated		1.00	4/1
Arctic Lamp, 6", brass		0.90	3/9
A spring-loaded candle-shaped tube (see sidebar article), can be fitted to a standard candleholder.			
Arctic Lamp, 6", brass, w/ mirror bracket		1.55	6/6
One arctic lamp with a brass bracket for attaching the lamp to a shaving or vanity mirror.			
Arctic Lamp - Piano Lamp, 6" w/ reflector and shade		1.50	6/1
Candles:			
Carriage Candles, 4's, 6's, and 8's	3 lbs	0.55	2/2
These are slightly longer and thinner than other candles, to fit inside the tubes of carriage lamps.			
Paraffin Wax, 8's, box of 24	3 lbs	0.40	1/8
Paraffin Wax, 6's, box of 18	3 lbs	0.80	3/4
Stearine	3 lbs	0.65	2/7½
Stearine	3 lbs	0.65	2/7½
Spermaceti, 8's, box of 24	3 lbs	1.55	5/4½
Spermaceti, 6's, box of 18	3 lbs	2.60	10/9
Best Wax Church Candles, long 1's, 6 ea.	6 lbs	3.15	13/0
1" in diameter, 36" long; suitable for altar candles.			
Arctic Lights, 6", box of 12		0.26	1/1
Arctic Lights, 8", box of 12		0.38	1/7
Candle Shade Support, brass		0.19	0/9½
Candle Shade, goffered (pleated) linen		0.07	0/3½
Candle Shade, flounced silk leaves on crepe		0.20	0/10
Candlestick, Blueware China, gold trim	1 lb	0.35	1/5½
Candlestick, Japanned tin	6 oz	0.03	0/1½
Candlestick, Opal Glass, 8"	1 lb	0.18	0/9
Candlestick, Pillar Style, Aluminum, 8"	1 lb	1.45	6/0
Carriage Lamp, square		5.40	22/3
Friction Matches:			
Lucifer/Congreve Matches, 1 box		0.60	2/6
Available Between 1827 and 1850. Lucifer matches were pulled through sandpaper; Congreves could be struck anywhere, but would sometimes light unexpectedly.			
Ordinary ("Strike Anywhere"), 1 doz boxes		0.10	0/5
Not Available Before 1850.			
Swedish Safety Matches, 1 doz boxes		0.16	0/8
Not Available Before 1855. Will only strike on the prepared surface of the box.			
Wax Vestas, 1 doz tins		1.82	7/6
Not Available Before 1833. Mostly waterproof.			
Lantern, Candle		1.15	4/10
Square, w/ glass. Suitable for camping.			
Tin Box w/ 12 candles, sized for the lantern		0.28	1/2
Miner's Candlestick		0.30	1/3
Made from wrought iron, It had a socket for a candle, a horizontal spike for driving into a wall or beam, and a hook so that it could be hung from a chain or horizontal object. Small and extremely versatile.			
Reading Light, double-tube candlestick		14.75	60/9
Electroplate on German silver – takes short 6 candles (2). With base and corrugated reflector hood.			
Stirrup Lamp		4.60	19/0
A small, sturdy, wind-proof candle lantern that could be hung from a horse's stirrup, giving some small light when riding at night. Candles are used since oil might be spilled by the sometimes violent movements of the stirrup.			

Oil Lamps:

Cigar Lighter Colored glass globe, hand-decorated vase.		1.10	4/7
Kerosene, per gallon		0.10	0/5
Lamp, Hand Lamp "Guaranteed non-explosive." Now that makes me feel so much better.		0.85	3/6
Lamp, Hanging Lamp Polished bronze, 80 candlepower central draft (Argand-style) burner, 14" shade.		5.45	22/6
Lamp, Parlor Vase Lamp Table-top model. 80 candle power central draft (Argand-style) burner; decorated glass font, metal foot. 10" decorated shade.		2.75	11/4
Lamp, Student Lamp Brass body; adjustable height, plain linen shade. The design has a separate tank for the oil/kerosene that is above the font, improving the flow of the thicker whale oils.		3.50	14/5
Lamp Box, Travelling Sturdy wooden box lined with green baize; includes a table lamp with opal glass globe, 3 chimneys, 1 roll of wick, 1 folding shade, scissors, and a chimney brush.		13.25	54/6
Lamp Chimneys, each The chimney is required for efficient burning, creating the draft that pulls air in over the wick. Without it, the lamp will burn with a dim and flickering light.		0.12	0/6
Lamp Chimney Cleaning Brush Cleaning the chimneys was a daily task, or soot would dim the light, wasting oil.		0.10	0/5
Lamp Trimmer A small pair of scissors for trimming lamp wicks. There is a receptacle on one blade to catch the bits of the wick.		0.55	2/3
Lantern, Dark Lantern, brass, 3" lens Lantern can be hand-held or clipped to the belt. The lens projects a strong beam of light, and a metal shutter can close off the lens, preventing the light from being seen. Requires Sperm oil.	25 oz.	2.45	10/1
Lantern, Dark Lantern, Tin, 2¾" lens A more inexpensive model. Burns Sperm oil.	22 oz.	0.85	3/6
Lantern, Storm Lantern Wind-resistant.		0.85	3/6
Lantern Globes, clear		0.10	0/5
Lantern Globes, red Used in railroad lanterns as 'tail lights.'		0.30	1/3
Miner's Lamp A small, simple tin lamp that strongly resembles a tiny pitcher or watering can. The wire bail can be held in the hand or hooked to a special cap	2 oz	0.10	0/5
Cadger, 1 Qt. A tin 'canteen' that clips to the belt and holds oil for refilling the lamp, which had to be done several times during a shift. Some models have a tube-shaped holder for extra lamp wicks.		0.06	0/3
Miner's Cap Sturdy brown duck, with metal clip on the front for holding a miner's lamp.		0.20	0/10
Sperm Oil, per gallon An extremely high-quality whale oil, still used in some lamps.		0.85	3/6
Wicking, 1", per dozen wicks		0.05	0/2½

Gaslight:

Gas Burner Assembly, with burner, chimney, globe, and mantel		0.50	2/1
Gas Lighter, Electric Handle contains 2 D-cells and has a long gooseneck shaft to reach chandeliers. The current heats a platinum wire which ignites the gas.		4.50	18/7
Mantle, Double-woven, w/ wire and cap, each		0.16	0/8
Taper Holder and Gas Turnscrew Used to adjust the gas flow and ignite the burners on chandeliers.		0.67	2/9


Table Lamp


Student Lamp


Dark Lantern

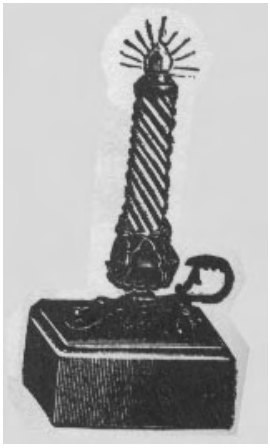

Storm Lantern

Electric Lights:

Electric Scarf Pin, do-it-yourself (1894)	2.00	8/3
For the enterprising dandy that is good with tools and wants to make an impression at parties: the component cost of a wet-cell battery, wire, bulb, and a cheap stickpin. The battery was often carried in a Gladstone bag (an extra $2 50), due to its size. The light could be flashed to attract attention, or used to read restaurant menus or theatre programs in the dark.		
Electric Scarf Pin, Ohio Electric Works (1895)	1.50	6/2
Factory made unit using a dry-cell battery. The battery pack was still quite bulky.		
Flashlight, The Ohio Pocket Flashlight (1899)	2.50	10/4
A cloth-covered cardboard box holding 4 D-cells; a small lamp and reflector was attached to a wooden block nailed to one end. The switch was a bare metal strap that could be pushed down to touch the sides of the reflector.		
Flashlight, Ever-Ready (ca. 1906), 'Walleye' lens, 11" long, fiber case	3.00	12/6
Batteries, each (Flashlight takes 2)	0.36	1/6
Bulb	0.60	2/6
Iron Candle, Ever-Ready	3.50	14/6
Batteries	0.36	1/6
It looks much like a candle in a candlestick: The enlarged wooden base holds the batteries, and the naked bulb is at the top of a metal tube made to look like a candle.		
Lamp, Hand and House Lamp, 5½ volt, Ever-Ready (1906)	6.20	25/6
Batteries	0.60	2/6
The batteries are housed in a square wooden box; the lamp and reflector are in the front, and a handle in the back. In general outline, it is similar to a dark lantern.		
Medical and Dental Appliance (1896)	6.00	24/9
This is the earliest form of the penlight, but because it required D-cell batteries, they were held in a table-top box, connected to the bulb and handle with a cotton braid-covered wire.		
Vest-Pocket Flashlight, Ever-Ready (ca. 1906),	0.99	4/0
Battery packs, each	0.30	1/3
Walking Stick Flashlight, Ever-Ready (ca. 1899)	5.00	20/8
Battery packs, each	0.50	2/1
A cane with the flashlight built into the head. While this first shows up in the 1899 catalogs, there are patents going back to 1891.		

Electric Home Lighting:

Engine and Edison Electric Dynamo	700.00	£144/6s
Includes a boiler and steam engine, dynamo, resistance box, and ampere meter. Cost for operation would be about $1.00 per day for coal, water, and maintenance, and the power could be run as far as 2 miles from the dynamo.		
Fuse Bases, Porcelain, each	0.65	2/7
Fuse Links, various amperages available, 4 each	0.10	0/5
Lamp Cord, #18, 2-stranded w/ cotton braid insulation, per yard	0.05	0/2½
Light Bulbs, 110 volt, Edison-screw base; 8, 10, or 16 candlepower, each	0.22	0/11
Sockets, Keyless	0.20	0/10
Wall Switches, 5 amp, each	0.21	0/11
Metal top. Switch is activated by turning the key-like blade.		
Wire, Waterproof, #10, per pound	0.26	1/1



The Iron Candle

Flashlights and Batteries

The lifespan of the early batteries was pretty bad by modern standards. The shelf life was only about 3 months, and if used continuously, they would burn out in less than 10 minutes. Because of this, the first flashlights were used only in short flashes – the switches only allowed momentary contact until after 1911. This is the reason that they were called "flashlights."

Candles

Before the middle of the 19th century, nearly all candles were made either of tallow or beeswax, but after the isolation of paraffin from petroleum in 1860, most candles were made from mixtures of this new wax.

By the end of the Victorian period, the only tallow candles usually sold were narrow, inexpensive tapers used for lighting gaslights – though extremely rural households might still make them for their own use. A butchered ox would yield about 80 pounds of suet that could be rendered into tallow. With store-bought wick (or even hand-made string), it could produce about 300 candles, enough for a small farm for a year. Tallow candles required trimming about every 15 minutes or the wick will become too long, causing the flame to gutter, smoke, and burn too fast. Left unattended, the candle can sag allowing the flame to set fire to surrounding objects. Note that in the event of a famine, a tallow candle could actually be eaten.

'Stearine' candles were made from a mixture of stearic acid (first refined from tallow in 1830) and coconut oil, and were both of good quality and extremely economical price.

Spermaceti candles, made from hardened sperm whale oil, were some of the finest (and most expensive) candles – these were recommended for use with candle shades.

Candle Shades

One of the more frankly bizarre Victorian affectations was placing tiny lampshades on burning candles. These looked exactly like normal-sized lampshades, from simple pleated linen shades to the most elaborate confections of flounced silk, and were held in place by little wire frames. While stylish, they required constant attention as the candle burned to prevent their catching fire.

Arctic Lights

Arctic Lights were high-quality wax candles that fit inside a candle-shaped metal tube. The tube narrowed at the tip, and a spring plunger pushed the candle up against the top as it burned. This kept the flame at the same level without any attention, and did not sag, melt, or drip. The base of the tube could be fitted into nearly any standard candle holder, and were popular for reading lamps, shaving/vanity lamps, coach lights, and for lighting music stands. The lights could also be fitted with shades, and required less attention to prevent the shade from going up in flames.

6's, 8's, etc.

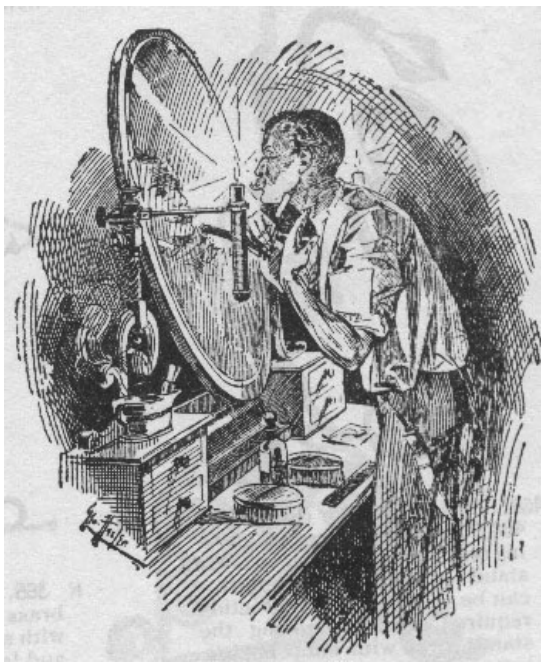
Candles were measured by their weight, the number indicating the number of beeswax candles to the pound. The Short "8" was a standard size: 8" long and weighed about 2 ounces (8 to the pound). An 8" wax candle would burn between 6 and 8 hours in still air; a tallow candle about an hour less than that.

Carriage Lamps

The lamps used on carriages, carts, tricycles, and early automobiles were originally candle-burning and had a distinctive shape with a long, projecting tube under the lamp. While a hand-held lantern needed a flat base so it could be set down, and an omni-directional light was an advantage, a headlamp is fixed in position and needs the flame to be at the same height relative to the reflector for the strongest beam of light. The projecting tube beneath the lamp held the candle and a spring like the 'Arctic' light. As the candle burned, the spring pushed the candle up against a restriction, so the flame was always at the correct height.

Hazards

Even with attention, the open flame of the candle could be hazardous. In the first half of the century, nearly one third of all the fires in London were due to candles.



The Arctic Light and Holder

Gaslight

Though gas lighting had been available since nearly the beginning of the century, it was mainly used in streetlights, mills, and factories, only gradually invading the home market. Home gaslight did not become commonplace until the 1880s.

Rooms were usually lit with some combination of two basic fixtures: the chandelier-type burner hung from the ceiling on its gas supply pipe, and had between one and four burners, and the wall-mounted sconce which supported one or two burners. In addition, there were also 'moveable' lamps, like table or reading lamps, which used a flexible hose to supply the gas. These were never popular, possibly because of the risk of tripping over the hose, knocking over the burning lamp.

The earliest burners were broad and fan shaped, with the mechanism by necessity under the flame, casting a shadow directly under the fixture. Each burner cast a warm yellow light about as strong as 3 or 4 candles, but smelled and produced soot that settled around the room, necessitating frequent cleaning.

The incandescent gas mantle was invented in 1884, and quickly became the standard. Made of a fine asbestos cloth, instead of using the light of the flame directly, it heated the fibers until they glowed brightly, and a single burner could produce as much bright white light as a modern 60-watt electric bulb. In addition, the burner could be hung upside down (a "reversed burner"), so the mechanism did not cast its shadow beneath it.

If a home were not connected to city gas mains, it could generate acetylene locally. After around 1900, some homes were fitted with gas generators in a room out back. It was a large canister of calcium carbide with a water reservoir on top that would drip into the carbide. The flow rate for the water (and the rate of gas production) could be adjusted. The generator would have to be maintained every day, removing the spent carbide, carefully cleaning the machine, and refilling it. If such a home were to have been suddenly abandoned (the inhabitants mysteriously fleeing into the night screaming, never to return, for example), the gas generator would be seriously corroded and not functional.

Illuminating gas, composed of a variable mixture of hydrogen, methane, and contaminants like both carbon dioxide and carbon monoxide, was poisonous, and if a burner was left unlit, the gas could kill the inhabitants, both by displacing the oxygen, and by the direct action of the toxic carbon monoxide.

Using a Gaslight

Gaslight fixtures usually had two controls: an on/off valve (stopcock), and a flame height adjuster. On overhead fixtures, the stopcock frequently had a pull chain so it could be turned on and off without needing to climb up on a chair. The flame height adjuster brightened or dimmed the light, and was a small thumbscrew right underneath the burner.

Some overhead fixtures had an elaborate pivot arm and counterweight so the lamp could be pulled down to a more convenient height for lighting or adjustment, then would return to its normal height.

Once the gas was turned on, a flame was applied with a match or a lit taper to ignite the burner. For overhead lights, long poles were used that had a socket to hold the taper. After 1896, electric lighters were developed that used batteries in the handle and a heated platinum wire.

Instead of turning a burner completely off, some people would turn the gas down as low as possible when leaving a room, so a tiny flame was still burning. That way, when they returned and turned up the gas again, the lamp was lit immediately.

If a mantle was damaged (perhaps by an errant moth), it was replaced by breaking apart the old one, tying a new mantle onto the burner, and letting it burn down to the bare asbestos. Once the cotton that gave it its flexibility had been consumed, the lamp was ready for use.

Primitive Lighting

If investigators were to find themselves in a building abandoned since colonial times, or perhaps in a remote and backward area (e.g. Dunwich, Massachusetts), what would they find for light?

The simplest option would be to use the hearth fire – everyone would gather around the fireplace to do his or her evening chores. If one required a more portable light, *Pine Candles* were used – splints of the resin-filled heartwood of old pine trees. These would burn fairly long for their size, and could be held in the hand, stuck in the ground, held between the teeth, or even clipped in a *Rushlight Holder*.

The *rushlight* was a primitive type of candle – rushes were gathered and allowed to dry, then peeled to expose the fibrous inner pith, leaving a thin strip of the skin in place to hold the pith together. The rushes were dipped a few times in melted tallow or even waste pan grease and allowed to dry. The rushlight, usually around 18" long, but sometimes up to twice that, was held in a special holder that looked rather like a pair of pliers pointing straight up, with one handle bent upward. That arm was weighted so the jaws were held shut (some even had a socket for a candle as the weight, allowing the same holder to burn either rushlights or candles). The rushlight was placed in the jaws of the holder and the end lit. It burned with a low flame, rather like a tallow candle, and while it dripped grease and ash beneath it, and required constant adjustment as it burned, a 18" rush would burn for around 30 minutes and was effectively free.

Grease Lamps have been common since the Roman times, at least. It consisted of some sort of tray to hold tallow, and a support for one or more wicks. This ranged from a simple square pan with the corners pinched up, to the *Phoebe Lamp* or the *Betty Lamp* with its cover and internal tube to hold the wick. Grease lamps, like most sources of light back then, required constant attention – tallow tended to liquefy and flow up the wick faster than it could be burned, so the excess would drip over the edge. The Phoebe had a pan under the lamp to catch the dripping fat, while the Betty lamp held the wick away from the edge using a tube so the excess would flow back into the lamp. Away from the wick, the tallow was solid, so the contents of the lamp had to be pushed around periodically to keep a fresh supply near the wick; and like any lamp, the wick needed adjustment – if it were too short, the flame would burn small and faint; too long, and the flame would flicker and smoke.

Lamp Fuels, circa 1850

In 1850, just before the birth of the oil industry, the householder had a number of options for lamp fuel:

Camphene and "Burning Fluid" – $0.50/gallon
Camphene was turpentine scented with camphor, and Burning Fluid a mixture of alcohol and turpentine, and were very similar. They were used in special lamps that had twin round wicks and long tubes with snuffer caps tethered by chains. They burned with a bright, clear light, but had a bad reputation for exploding – even blowing out the lamps could cause burning fuel to spatter, and cause a fire, hence the snuffer. Never extremely popular, when the government imposed a $2 per gallon tax on alcohol in 1862, burning fluid was doomed.

Whale Oil – averaged about $1.77/gallon, but the price fluctuated widely.
This was the most common lamp fuel in the early part of the century. It was of extremely high quality.

Lard Oil – $0.90/gallon
Refined from animal fat, this was also used to lubricate machines. It was of low quality, smelled, and burned with a dim flame. In addition, it solidified in cold weather, only burning in certain lamps designed to melt the solid grease, and would quickly turn rancid in hot weather.

Coal Oil – $0.50/gallon
A crude form of kerosene refined from coal – it smelled and burned with a sooty, dim flame.

Rushlights, 1000 stalks – $0.50
Finally, if one had to buy rushlights, rather than making them at home, they could be had for about 3/0 a pound (about 1600 per pound).

Medical Equipment and Medicines

Medicine and medical care was treated as a deadly serious business in the 19th century, which, of course, it was: without proper attention, any injury could turn life threatening in the days before antibiotics. Many ideas and inventions which are taken for granted today were only developed during the Victorian era, and some remained controversial throughout the period. It is in this period that precise surgery became possible, and the slow dawning of awareness about bacteria and their role in disease began. The study and control of epidemics began, and hospitals became places of healing, not the terrifying places of last resort for the poor and indigent.

Milestones of Gaslight Era Medicine

1819 – Rene Laënnec invents the stethoscope – seven years later he publishes a list of ailments that can be diagnosed by its use.

1846 – John Collins Warren first demonstrates a surgical procedure using the general anesthetic ether in Boston, Massachusetts.

ca. 1847 – Ignaz Semmelweis insists that doctors wash their hands with disinfectant before examining pregnant women to reduce the incidence of childbed fever. He is widely ridiculed, eventually driving him mad. Antiseptic techniques gain acceptance only after his death in 1865.

ca. 1850s – Claude Bernard, realizing that certain drugs and toxins affect only one organ, uses them to determine the function of the various internal organs of the body.

1854 – John Snow uses statistical techniques to trace the source of a London cholera epidemic to the Broad Street water pump, implicating sewage-contaminated water as the cause of the disease.

1854-55 – Florence Nightingale arrives in the Crimea with 38 nurses, sent by the British Sanitary Commission. She finds the hospitals in an appalling condition and proceeds to clean them up. Deaths on the ward drop from 42% to 2%.

Ca. 1860s – Louis Pasteur proves that airborne microbes are responsible for decay and do not generate spontaneously. He publishes the Germ Theory of Disease: that illness is caused by invading microbes. He develops *Pasteurization*, a technique for sterilizing milk and other liquids, and isolates vaccines for several diseases.

1865 – Joseph Lister introduces the use of sterilized instruments, disinfectant spray, and antiseptic dressings in surgery, reducing postoperative infection, which before killed nearly 50% of all surgical patients.

1868 – Carl Wunderlich proved that fever is a symptom of disease, not a disease itself.

Ca. 1870s – Robert Koch, the 'father of modern microbiology', develops "Koch's Postulates", the basic techniques for isolating a disease-causing germ.

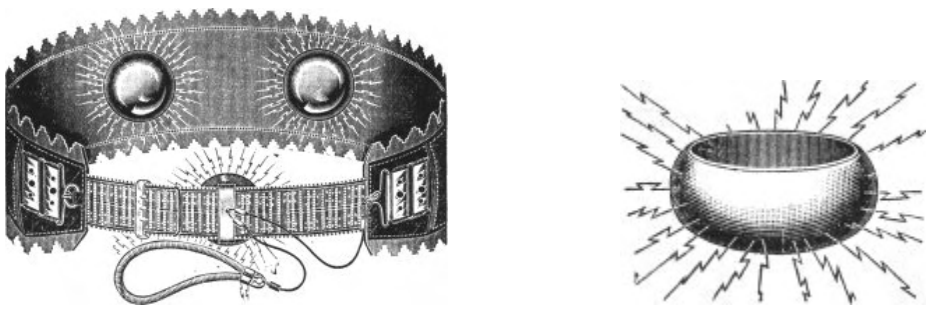
1895 – Dmitri Iwanowski discovers the first virus: the tobacco mosaic virus. Exact structure and nature remained a mystery until 1935 when it was successfully crystallized, and 1955 with the discovery of DNA.

Ca. 1900 – X-Rays in common use for medical diagnosis.

1901 – Blood Types discovered by Karl Landsteiner, though the 'Rh factor' remains unknown until 1940.

1903 – Electrocardiograph is invented by William Einthoven.

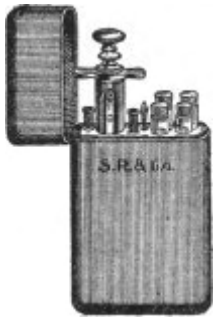
Item and Description	Weight	US Price	UK Price
Accident and Emergency Case In a black japanned tin case, suitable for yachts, mines, factories, etc.		9.10	37/6
Ambulence Case Fitted leather case, 8" x 5½" x 3", containing: scissors, forceps, tourniquet, syringe, caustic, measuring glass, brushes, 2½" elastic bandages, cotton bandages, finger bandages, court plaster, ½" tape plaster, oiled silk, cotton lint, spirit of sal volatile.		6.00	25/0
Artificial Limbs:			
Prosthetic Arm, above elbow		58.25	£12/0/0
Prosthetic Arm, below elbow Price listed is for the "standard quality"; "superior quality" is available for 50% more. For additional cost, the hands can be fitted with any sort of tool desired.		61.00	£12/12/0
Prosthetic Leg, above knee		61.00	£12/12/0
Prosthetic Leg, through knee		61.00	£12/12/0
Prosthetic Leg, below knee		49.50	£10/4/0
Prosthetic Leg, at ankle Price listed is for the "standard quality"; "superior quality" is available for 50% more.		35.15	£7/5/0
Bandage, covered elastic, 3" 3" width, 9' long (stretched). (Similar to a modern ACE™ bandage.)		0.75	3/1
Bedpan Enameled, slipper-shaped, with cover.		1.85	7/9
Bleeding Bowl Not Commonly Used After ca. 1860. Pewter bowl with handle used to catch the blood during bleeding.		0.20	0/10
Bottles, Flint Glass, per dozen:			
½ oz.		0.15	0/7½
4 oz.		0.30	1/3
16 oz.		0.42	1/9
32 oz.		0.80	3/4
Conversation Tube 3' length, rubber ends, braided mohair cover. One side ends in a small 'horn', the other in a 'mouthpiece'-like nozzle. Used by the hard-of-hearing, they place the 'nozzle' end to their ear, while the other person speaks into the horn. It minimizes the amount of shouting required to make one's self heard, and helps keep the conversation from disturbing others.		2.75	11/4
Corn Knife Best steel, with protective sheath.		0.25	1/0
Crutches, pair Wood (hickory), rubber pads and crutch tip; best quality.		3.85	16/0
Electrical Remedies and Devices:			
Giaffe's Battery (Medical Battery) Available By 1895, probably earlier. User can select three different currents. Silk covered conductors, insulated handles, metallic brush conductor, one olive-shaped, and one spherical exciter. Includes a vial of bisulphate of mercury. Polished mahogany case, 7½" x 4" x 1½", complete with instructions.	1¼ lbs	7.75	32/0
Heidelberg Electric Belt, "20 gauge current" Not Available Before 1900. "…for pains in the back, loins, …neuralgia, headache, indigestion, kidney complaints and such cases of nervous exhaustion not too severe or of long standing."		4.00	16/6
Giant Power Heidelberg Electric Belt, "80 gauge current" Not Available Before 1900. "…positively wonderful in its quick cure of all nervous and organic disorders arising from any cause, whether natural weakness, excesses, indiscretions, etc."		18.00	74/2
Magneto-Electric Battery Available By 1857, possibly earlier. Two conductors and handles. Polished wooden case containing a crank-operated flywheel and magneto generator. Current is instantly available and can be adjusted by the speed of cranking.	6¾ lbs	7.25	29/11
Electrical Battery Plaster Not Available Before ca. 1895. A medicated plaster containing a battery and two electrical contacts. "…for rheumatic, kidney, and muscular pains in the back."		0.45	1/10



The Heidelberg Electric Belt and the Electric Ring for Rheumatism, quackery at its finest

Item and Description	Weight	US Price	UK Price
Enema The Victoria Seamless Enema, suitable for all climates. Complete in box.		1.05	4/4
Eye Bath, glass Assorted colors available.		0.10	0/5
Field Dressing, aseptic Sterile cotton wool pad and gauze bandage in a waterproof, paper packet.		0.14	0/7
First Aid Kit, Small Bandages and instruments packed in a japanned tin case.		2.40	10/0
Flem, 2-bladed, folding Not Commonly Used After ca. 1860. 2-bladed folding, with brass case.		0.65	2/8
Forceps, Artery Like locking tweezers – pressing on the handles opens the forceps; releasing them causes the jaws to close under spring pressure.		0.18	0/9
Forceps, Haemostatic 8" length, locking.		0.42	1/9
Forceps, Splinter (tweezers)		0.12	0/6
Gelatin Capsules, empty, box of 100 Sizes available containing between ½ grain and 8 grains of powdered quinine – all sizes the same price.		0.12	0/6
Gloves, Dissecting, per pair Made of the finest Indiarubber.		0.60	2/6
Hearing Horn 2½" x 4", brass construction. A hearing horn was shaped like a bugle, and the user would hold the what would be the 'mouthpiece' (if it were a bugle) to their ear; the broad "mouth" of the horn would catch sounds and channel them to the user's ear. It was used by those who were hard of hearing.		2.50	10/4
Hypodermic syringe Glass body, protected by metal barrel, open on both sides with visible graduations. Nickel case with spring cover. Comes with extra body and 2 needles. Needles screw into case.		1.10	4/6
Extra Needles for hypodermic syringe		0.25	1/0
Ice Bag, 9" x 3", for spines		0.20	0/10
Ice Bag, 9" x 6", for heads Made of pure gum rubber.		0.26	1/1
Inhaler, Menthol A decorative glass flask with a nozzle in the stopper – the bottle contains menthol, and by inhaling with the nozzle in the nostrils, the fumes are directed into the sinuses.		0.28	1/2
Kidney Bowl, 10" Enameled iron.		0.26	1/1
Lancet, folding Abscess lancet; handle folds down to cover blade.		0.28	1/2
Mirror, Dental Metal handle; mirror has a ball-socket joint so angle can be adjusted.		0.32	1/4
Plaster, Court Plaster A type of adhesive plaster made by painting a mixture of glycerine and isinglass on a strip of silk cloth. Precut in a tin case.		0.05	0/2½
Plasters, Belladonna and Capsicum Plaster, each		0.15	0/8
Plasters, London Medicated Corn Plasters, per box		0.17	0/9
Plasters, Mustard Plaster, 6 in a tin box		0.15	0/8
Powder Blower (Insufflator) In Britain, medicine were commonly administered by blowing it as a powder onto the back of the throat.		0.35	1/6
Probe, silver		0.18	0/9
Saddlebags, Physicians The bags contain compartments for 24 stoppered bottles for drugs, powders, and preparations, with a tray for instruments.		11.00	45/4
Scale, Druggist's Polished pillar and beam, polished rosewood or walnut base; with drawer to hold weights. Full set of weights provided.	1½ lbs	3.50	14/5
Scissors, Surgical, straight blades Best Sheffield make.		0.73	3/0
Scissors, Surgical, curved		1.05	4/5
Seton Needle, 6" Not Commonly Used After ca. 1860.		0.50	2/0
Smelling Salts Vial Fancy, glass with silver-plated mountings.		1.55	6/6
Smelling Salts Vial Quite fancy, of cut crystal with pierced silver mountings and stopper.		14.00	58/0

Item and Description	Weight	US Price	UK Price
Sprayer, Steam-powered Steam generated by a small alcohol burner – used for spraying disinfectant in operatory theatres, or for spraying perfumed water for face massages.		2.20	9/0
Spring Lancet (Flem) Spring-loaded, automatic flem for lancing boils or bleeding.		2.25	9/4
Stethoscope, binaural Not Available Before 1856. Indiarubber tubes, nickeled metal fittings.		1.00	4/0
Stethoscope, binaural, higest quality Not Available Before 1856. Fittings are ivory, tubes are covered with silk braid.		2.45	10/0
Stethoscope, Monaural Not Available Before ca. 1820s. Introduced in the USA in 1835. Turned maplewood, two sections (the larger ear-piece unscrews for storage.)		0.45	1/10
Stoppers, Rubber ("Rubber Corks"), per 100 Numerous sizes available, price dependent upon size.		0.50 - 2.95	2/1 - 12/2
Surgical Case, Pocket Aseptic Pocket Army Regulation Case. Contains: Symes knife, single-edge scalpel w/ metal handle and detachable blades, straight scissors, silver director, plated spring dressing forceps, 2 pairs plated artery forceps, detachable blades, silver hypodermic syringe with spare needle, silver probe, clinical thermometer with magnifying index, 2 tubes of hypodermic tablets, plated needle case containing 6 half-curve needles, suture wire, and silk..		14.85	£3/1/2
Suture Needles, half-curve, one dozen Sizes available from 2 to 4 inches – straight and full-curve available at the same price.		1.00	4/0
Suture Silk, per tablet 4 sizes (thicknesses) on each tablet.		0.28	1/2
Thermometer, clinical Requires 60 seconds for reading. Magnifying body.		0.36	1/6
Throat Brush, camel hair Nickel shaft, cedarwood handle, available in either straight or crooked styles.		0.04	0/2
Throat Sprayer Finest quality. Beloved of singers and opera stars everywhere.		0.70	2/11
Urinal Bag, soft rubber Bag straps to leg. Male and female patterns available.		0.95	3/11
Vaccination Lancets, each, aseptic Used for administering vaccinations.		0.65	2/9
Vaccination Serum, 1 tube		0.20	0/10
Vaporizer, nasal For spraying fine mists into the nostrils.		0.60	2/6
Wheelchair, "The Morris" Solid wooden construction – high back, dark, polished walnut finish. Rubber tired bicycle-style wheels and a sliding, carpeted footboard.		20.60	85/0
Wheelchair, "The St. James" A luxurious leather easy chair, polished walnut or mahogany color. Spring-stuffed American leather cushions (either buttoned or plain). Rubber tired bicycle-style wheels and a sliding, carpeted footboard.		41.75	170/2
X-Ray and Fluoroscopic Equipment:			
Wagner Adjustable Focus X-Ray Tube, Available By 1900. Medium-duty tube.		14.00	57/9
Wagner Mica Plate High-Tension Electric Generator Available By 1900. Large, cabinet-sized device using 2 spinning mica plates. The motor to spin plates uses house current, but an optional water-powered motor is available. Device is supplied with an assortment of "Therapeutic Attachments" – electrodes for applying current to the body; it can also power an X-ray tube. Much larger devices are available.		250.00	£51/12s
Fluoroscope Screen, 5" x 7", Hand-held Available By 1900. Treated screen is held in a box to shield it from the ambient light, allowing the user to make examinations in lit rooms.		10.00	41/3
X-Ray Plates, per box of 6, with envelopes:			
4" x 5"		0.80	3/4
8" x 10"		3.00	12/5
20" x 24"		24.65	£5/1/8
Each plate is furnished with one black and one orange envelope. The plate is slipped into the black envelope shortly before use (prolonged contact with the paper can injure the film. The plate and its envelope is placed under the subject and exposed to x-rays and then developed. The plates require slightly different chemicals and techniques from normal photographic plates for best results.			
Developing Kit for X-Ray Plates Comes with trays, a red-filtered kerosene safety lamp, chemicals, printing frame, printing paper, and complete instructions.		10.00	41/3



Physicians, Surgeons, Apothecaries, and More

Closely mirroring the society it served, the medical profession in Britain was divided into a number of distinct levels.

At the top were the *Physicians*, so named because they prescribed "physic" (medicine). They were the aristocracy of the profession: university-educated and licensed by the Royal College of Physicians, their services were very expensive. They would take a detailed medical history, and then prescribe a medicine for an apothecary to fill. Anything resembling physical labor was to be avoided as ungentlemanly (it is perhaps because of this that the stethoscope was slow to be adopted in Britain.)

The next rung on the ladder were the *Surgeons*, who dealt with the physical body of the patient – they set broken bones, lanced boils, treated infections, sutured wounds, and amputated limbs. In addition to performing something that resembled physical labor, the Company of Surgeons had been formally a part of the Barber's Guild until only a century before. While many learned the profession by apprenticeship, they had their own colleges. The Royal College of Edinburgh was the most famous – and infamous - in Britain. (1829 saw the murder trial of William Burke, the notorious "resurrection man," who with his partner William Hare, supplied cadavers to Dr. Robert Knox.) The Gaslight era saw the rapid increase of surgery's reputation, as one scientific discovery followed on the heels of the last. By the end of the century, the "General Practitioner" became the most important figure, one who was both Physician and Surgeon.

For most of the poor and the inhabitants of the rural villages, the *Apothecary* was the person to whom they turned for medical aid. They were permitted to examine patients and recommend medicines; they just were not allowed to charge for the service. One learned the trade (and a trade it was, selling products over the counter) by apprenticeship.

Doctors in the United States

In contrast to Britain, America saw a host of small medical schools crop up all throughout the colonies – an average of one a year. The quality of the education varied widely, ranging from prestigious institutions like Harvard or Princeton, to schools that were little more than diploma mills.

Many doctors still learned through apprenticeship, just as the surgeons in Britain. For a young boy able to afford a hundred dollars a year, possessed of a strong stomach, and able to stand the sight of blood, they could begin their own practice after a 2 to 5 year apprenticeship.

In addition, there were a host of alternative practitioners: Homeopaths; Thomsonians, who advocated herbal remedies; Hydrotherapists, which used baths and mineral water in huge amounts; and the inevitable peddlers of endless patent medicines.

The Well-Stocked Medicine Chest

The following list of medications appeared in the 1875 edition of Murray's Handbook for Travellers in Egypt. Those marked with an asterisk were noted as particularly useful:

Blue Pills*, Calomel, Rhubarb Pills*, Dover's Powder*, Gregory's Powder*, James' Fever Powder*, Carbolic Acid*, Laudanum*, Sulfate of Quinine*, Dilute Sulfuric Acid, Sweet Spirits of Nitre*, Chlorodyne, Sulfate of Zinc*, Nitrate of Silver, Seidlitz Powders*, Cream of Tartar, Ipecacuanha, Essence of Peppermint, Essence of Ginger, Blistering Plaster, Sticking Plaster*, Lint*, Arnica*.

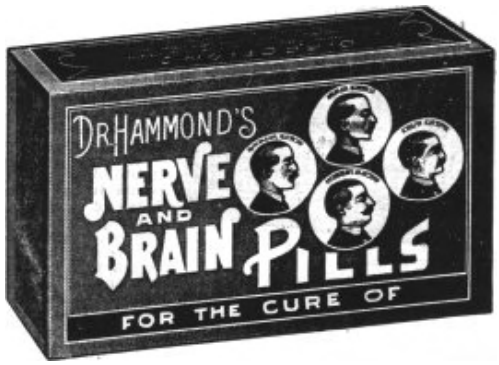
In addition, frequent eyebaths with a dilute Boric Acid solution were strongly recommended.

This same book, however, still advocated the use of leeches for various ailments, so its advice should be taken *cum grano salis* (with a grain of salt.)

Item and Description	Weight	US Price	UK Price
Medicines and Preparations:			
Alum, powdered, 1 lb		0.03	0/1½
Used in numerous home remedies – as a styptic applied to wounds (or inhaled to stop bloody noses), in a poultice with Vaseline for poison ivy, as a treatment for cold sores, some tried dissolving it in water and using it to control malaria symptoms (for those who could not afford quinine).			
Ammonia, Aromatic Spirits (Spirits of Hartshorn), 4oz		0.20	0/10
Used as a disinfectant and as an inhalant to revive unconscious patients ("smelling salts".)			
Amyl Nitrate, 4 minim ampoules, box of 8		29.50	£6/2s
A mild stimulant, and an antidote for the toxic effects of Prussic Acid (cyanide).			
Arsenic Complexion Wafers, 1 small box		0.40	1/8
Advertised as being safe if taken as directed. "…for rough or discolored skin, will tune up the whole system and when used for a length of time, will make thin persons plump…"			
Aspirin, powder			???
Not Available Before 1899. Aspirin is first distributed to pharmacies in powder form. Only available by prescription in the USA until 1915.			
Aspirin Tablets, 5 grain, 1 bottle		0.25	1/0
Not Available Before 1900. Quickly became one of the most widely-used drugs of the era. Only available by prescription in the USA until 1915.			
Blue Pills, 4 grain tablets, 1 oz bottle		0.12	0/6
A popular medicine containing mercury. It was widely prescribed for ailments like apoplexy, worms, consumption, toothache, constipation, even "child-bearing."			
Borax, Powdered, 1 lb		0.10	0/5
"…used for washing, starching, killing cockroaches, dressing bruises, etc."			
Boric Acid, 1 lb.		0.09	0/4½
A while crystalline powder. Was dissolved in water and used to bathe the eyes (that's what 'eye cups' are for). It cleaned and protected the eyes from irritation and infection, and travel guides of the era recommended the practice for travelers to deserts and the tropics.			
Calomel, 2 grain tablets, 1 oz bottle		0.20	0/10
Calomel was a tasteless gray powder, prepared from the mineral calomel – mercury(I) chloride. It acted as a purgative and cathartic, and was one of the most commonly prescribed medicines in the 19th century, despite being quite toxic. Concerns about its hazards began in 1863, but it was still available 75 years later.			
Camphor, 1 lb.		1.20	5/0
The pungent-smelling resin distilled from the camphor tree. Used in numerous of remedies for colds, coughs, and sinus trouble, and compounded in just about everything else. If a physician were at a loss, they would often prescribe camphor in some form. Also used in incenses.			
Carbolic Acid, medical grade, crystals, 1 lb.		0.40	1/8
A powerful disinfectant, usually used by dissolving in water.			
Castor Oil, 4 oz bottle		0.20	0/10
A mild laxative, usually forced on children once a week, need it or not. If it tastes this bad, it must be good for you.			
Catarrh Snuff, 1 bottle		0.20	0/10
"…guaranteed to provide immediate relief of nasal catarrh, hay fever, cold in the head." The bottle is packaged with a "Perfect Powder Blower" and complete instructions.			
Charcoal, prepared, 1 lb		0.25	1/0
Treatment for poison – when fed to the victim, it absorbed the toxin while in the stomach before it has a chance to be absorbed by the system.			
Chilblain Lotion, Eucalyptus		0.18	0/9
Reduces redness and inflammation.			
Collodion, 1 ounce stoppered bottle	-	0.12	0/6
Not Available Before 1848. Collodion was nitrocellulose dissolved in a mixture of ether and alcohol. It was used as we use band-aides today, to cover small cuts and scrapes. The thick liquid was brushed over the wound, and after the solvent evaporated, it left a strong, waterproof protective coating. It was also quite flammable.			
Cod Liver Oil, 16 oz bottle		0.50	2/1
Good for what ails you. Recommended for consumption, colds, throat and lung trouble. Commonly fed by the spoonful to protesting children.			
Cure for the Opium and Morphia Habit, 1 bottle		0.75	3/1
"A dose can be taken whenever a craving for morphia, or opium, exists."			
Dover's Powder, 5 grain tablets, 1 oz bottle		0.14	0/7
A combination of ipecac and opium. Relieves pain and induces sweating.			
Electric Ring for Rheumatism, each		0.85	3/6
Gray metal ring with suspiciously vague claims of "curative powers." Most likely similar to any number of rings still advertised to this day in the back of tabloid magazines. For the stylish (or very gullible), there was a gold-plated version of the ring available for $1.25.			
Electricating Liniment, 1 large bottle		0.29	1/3
"…valuable remedy for sprains, bruises stiff joints & swelling." It had nothing to do with electricity – that was just the popular marketing 'buzz word' of the day.			
Epsom Salts, 1 lb.		0.05	0/2½
Generally used in a hot water bath for soaking or for compresses – it reduces swelling and inflammation for sprains, strains, and minor infections. It is also used orally to relieve constipation.			
Ether, rectified, 1 oz bottle		0.12	0/6
General anesthetic. Abuse by drinking/inhaling is common in certain places in the late 19th century.			
Eucalyptus Oil, 6 oz. bottle		0.25	1/0
Used in many ointments, lotions, inhalants, and remedies.			

Item and Description	Weight	US Price	UK Price
German Liquor Cure, Small box of 24 doses		0.50	2/1
"Every man can be permanently cured of the habit or desire for intoxicating drink of any kind... after using a few doses you will feel the craving for liquor disappearing and a warm healthy spreading out from the stomach over the whole system." Makes one wonder just what was in these things… 12 boxes was the recommended course of treatment for "almost any case".			
Gregory's Powder, 5 grain tablets, 4 oz. bottle		0.12	0/6
A combination of rhubarb powder, bicarbonate of potassium, and peppermint leaves. Prescribed for diarrhea, cholera morbus, dysentery, acidity of the stomach, heartburn, and the "summer complaint of children."			
Glycerin, 8 oz bottle		0.14	0/7
Sweet, oily liquid used in lotions and creams. Applied to the skin it can help prevent windburn.			
Headache Cure, 12 powders in a box		0.25	1/0
"…Certain headache and neuralgia cure."			
Homeopathic Preparations, per ½ oz vial		0.25	1/0
Homeopathic Medicine was one of the major alternatives to conventional medicine through most of the 19th century, and relies on very weak solutions of drugs that cause the condition or symptoms in a healthy person. There were specific preparations for nearly any complaint, and were available in household cases of 12 or 24 commonly-used remedies and an instruction booklet. These were extremely popular, particularly in remote areas away from conventional doctors.			
Injection No. 7, 1 bottle		0.79	3/3
"…French specific for troubles of the urinary organs in either male or female. Will cure gonorrhea or gleet in from 1 to 5 days."			
Ipecauanha tablets, 1 oz. bottle		0.18	0/9
Ipecac – used as a purgative to induce vomiting. Also used in cases of poisoning.			
Jamaican Ginger Essence, 4 oz. bottle		0.25	1/0
"…contains all the stimulating, warming, and healing properties of good ginger…for stomach and bowel trouble…"			
Laudanum, 2 oz bottle		0.18	0/9
Tincture of opium in alcohol. Used for pain relief and to promote relaxation. Widely abused.			
Listerine, 24 oz bottle		0.53	2/2
Not Available Before ca. 1880. Originally invented as a surgical disinfectant. Not widely used as a mouthwash until the 1920's.			
Little Liver Pills, Carter's, tube of 100		0.16	0/8
"They've got more *xyz* than Carter has Little Liver Pills" has for ages been a colloquialism for "a whole lot." A popular and ubiquitous over-the-counter medicine that was supposed to increase the function of the liver and digestive system, and relieve constipation.			
Microbe Killer, ½ gallon bottle		0.97	4/0
"…This is Dr. Pasteur's microbe killer, which, if taken once or twice a day, will prevent La Grippe, Catarrh, Consumption, Malaria, Blood Poison, Rheumatism, and all disorders of the blood…This preparation of Dr. Pasteur's will eradicate any form of disease and purify the whole system.". (Whiskey kills germs just as well, and would probably be less hazardous…tastes better, too.)			
Myrrh Powder, 1 oz.		0.04	0/2
Bitter resin used in some old-time remedies. More frequently used in incense.			
Nerve and Brain Pills, 6 boxes		3.00	12/5
"…This will cure you if you feel generally miserable or suffer with a thousand and one indescribable bad feelings, both mental and physical, among them low spirits, nervousness, weariness, lifelessness, weakness, dizziness, feeling of fullness, like bloating after eating, or sense of goneness, like…" and so on for an entire paragraph.			
Paregoric Elixir, 2 oz bottle		1.20	0/5
Tincture of opium with camphor, anise, and benzoic acid. Widely used to cure diarrhea and coughs – also used to calm restless children (i.e. drug them into insensibility.)			
Peppermint Oil, 1 oz.		0.60	2/6
Used in stomach remedies.			
Peruvian Wine of Coca, per bottle		0.95	3/11
Wine with the leaves of the coca bush steeped in it; described as an "aid [to] digestion, removes fatigue and improves the appetite, never causing constipation." As coca leaves are the source of cocaine, I'm sure that was not this wine's only attraction. It was also sold by the case of 12 bottles for $10.00, and I'm sure many took advantage of the offer.			
Pink Pills for Pale People, 1 box		0.25	1/0
"…a great blood builder, cures pale and sallow complexions, rheumatism, and all other diseases arising from mental worry, early decay, etc."			
Quinine Powder, ½ oz.		0.18	0/9
Used as a specific against "miasmic fevers" (*see sidebar article*). In the case of malaria, this was actually an effective treatment.			
Quinine Tablets, 100, 1-5 grain.		0.18 - 0.45	0/9 - 1/11
Gelatin coated tablets, price depends on dosage.			
Seidlitz Powders, 10 doses/box		0.20	0/10
An extremely popular medicine – each dose consisted of powder in two paper packets (one blue and one white): one contains a mixture of bicarbonate of soda and Rochelle salts, the other of tartaric acid. The two powders were poured into a glass of water, which would effervesce strongly – the liquid was drunk once the fizzing began to die down. It was a mild cathartic and laxative. (There were 'urban legends' during the period of a woman who drank the mix immediately and died as her stomach burst, not unlike the "Pop-Rocks and Coke" legends of today.)			
Smelling Salts.		0.20	0/10
Aromatic carbolized eucalyptus smelling salts, used to revive unconscious victims. Due to the tight corsets that restricted their breathing, women in this century were quite prone to fainting.			

Item and Description	Weight	US Price	UK Price
"Somone – Sweet Refreshing Sleep," per bottle		0.75	3/1
"…We guarantee it to contain no opium, morphine or poisonous narcotics of any kind whatever. It is a vegetable preparation composed of herbs soothing and healing to the entire system." This patent medicine might prove useful to those attempting to extend their Dreamland stays.			
Sure Cure for the Tobacco Habit, Small box		0.50	2/1
"This is Nature's own remedy, entirely harmless. It cures because it builds up and fortifies, rejuvenates the weak and unstrung nerves caused by overindulgence in this poisonous weed." Makes one wonder just what was in these things… 12 boxes was the recommended treatment for "almost any case".			
Sweet Spirits of Nitre, 4 oz bottle		0.25	1/0
Used as a diuretic and to reduce fevers Whether it worked or not is open to debate.			
Tincture of Arnica, 4 oz.		0.18	0/9
Arnica extract in alcohol. Used as a liniment for strained and sore muscles – when rubbed into the skin, it increased blood flow and produced a powerful 'heating' sensation.			
Tincture of Benzoin, 2 oz.		0.14	0/7
Gum Benzoin in alcohol. Brownish liquid familiar to anyone who has had a cast for a broken bone. Painted on the skin to reduce irritation, prevent infection, and increase the adhesion of bandages.			
Tincture of Iodine, 4 oz bottle		0.30	1/3
Topical antiseptic. Stings like the dickens and stains clothes. Kids hate it.			
Vaseline, 1 lb tin		0.22	0/11
White petrolatum, used in ointments, and "…for bruises, cuts, chapped or rough skin…"			
Witch Hazel Extract, 1 quart			2/6
Astringent used for cleaning the skin; also "…sore throats, sore eyes, hemorrhage, sprains, bruises, in fact nearly every accident."			
Worm Cakes, 1 box		0.20	0/10
"…a very satisfactory remedy for destroying worms and removing them from the system."			



Typical Medical Fees

The following examples of medical fees were established at the December 1843 meeting of the College of Physicians of Philadelphia, and are probably typical of the time. Fees increased slightly later in the century.

For a single visit, and advise, in a case in which no further visits are required	$ 2 – 10
When detained, per hour	$ 2 – 5
For an ordinary visit, in a case where the physician is in regular attendance	$ 1 – 2
For a post mortem examination in a case of legal investigation	$ 25
For a vaccination	$ 5
For an ordinary case of midwifery	$ 10 – 30
For reducing fractures	$ 5 – 10
For amputation of a leg or arm	$ 25 – 100
For amputation of a finger or toe	$ 5 – 20
For extirpation of large tumors	$ 50 – 100
For extirpation of other tumors	$ 5 – 30
For trepanning	$ 25 – 100
For the operation for Cataract	$ 50 – 100
For the operation for Aneurism	$ 100 – 200

Dental Fees

These were obtained from an 1880 advertisement:

Administering Gas	$ 0.25
Extraction	$ 0.25
Silver Filling	$ 0.50
Gold Filling	$ 1.00

Inflammation Theory

Developed by Dr. William Collins in the mid-1700s, this was the theory that disease was caused by inflammation due to "nervous irritability" of the body. These could be either *Direct* or *Indirect Inflammation*.

Direct Inflammation was external, caused by burns, blows, gunshot or knife wounds, and similar causes. These were treated either by palliative care or through amputation if the damage were too great.

Indirect Inflammation affected the internal organs of the body, and could be brought on by excessive stimulation of many kinds, such as bad airs, disorders of the blood-purifying organs, excessive food or drink, exposure to cold air or water, etc. Since the internal organs were (perhaps fortunately) beyond the reach of the physician, treatments included *purgatives*, *cathartics*, and *emetics* to purge the body of poisons, and *diaphoretics* to sweat out what remained. Bleeding was used to reduce 'excess circulation' (though after around 1835 its use was rapidly falling out of favor.) Narcotics might be used to calm the body and induce sleep. Finally, a variety of counter irritants might be used to try to "draw" the irritation away from the affected organ. The skin might be rubbed with substances like mustard or turpentine, it might be blistered with applications of "Spanish Fly" (powdered cantharid flies) or stronger chemicals, even boiling water. The physician might even resort to the Seton Needle, where a fold of skin was pinched up, pierced with a lancet or slender blade, and the blunt needle threaded with a silk cord or tape was threaded through, leaving the cord in place to provide the necessary irritation. This dubious technique had largely fallen out of favor by the 1860's.

Oddly enough, both the seton needle and bleeding by flem or lancet continued to be a part of veterinary practice at least until the Great War.

Laudable Pus

Since the early Greeks, at least, the medical wisdom held that a white, creamy discharge, called "*laudable pus*" was a healthy sign of a healing wound. When the pus turned foul, the infection began to spread and the tissues became inflamed; drastic measures would need to be taken to prevent sepsis (gangrene) from setting in. Tissue might be removed, or even burned away with fuming nitric acid. Once gangrene began, immediate amputation of the affected limb was the only treatment.

Miasmic Fevers

This was the idea that disease, particularly fevers, were caused by the poisonous atmospheres exuded by swamps and decaying matter; the diseases were further subdivided into *Intermittent*, *Continued*, and *Eruptive Fevers*.

Treatment was generally to give the patient plenty of fresh air, with a dose of a cathartic to purge the bowels of toxins, followed by a diaphoretic to sweat any remaining poison from the body. *Intermittent Fevers* were further treated with Peruvian Bark (quinine), which in the case of malaria, was fortunately enough an effective remedy.

Continued Fevers included "Camp Fevers", food poisoning, typhus, pneumonia, etc. and were treated in a similar manner though with less effect.)

Eruptive Fevers included smallpox, plague, yellow fever, and were characterized by boils, lesions, or pustules. In addition to the normal care, the pustules might be treated with cold water, or a solution of acetate of lead dissolved in water, or even a mercuric paste. The pustules might be lanced to relieve the pressure.

Medical Terms

These terms, once common in the 19th century, have fallen from use, and some explanation may be in order:

Ague – Fever and chills, as those associated with malaria.

Apoplexy – A stroke; or a sudden fit resembling a stroke.

Catarrh – Nasal or sinus congestion due to inflamed tissues, as with a head cold.

Chilblain – Swelling of the extremities caused by exposure to severe cold then heat.

Consumption – The wasting away caused by the final stages of pulmonary tuberculosis. An extremely common disease in the Victorian era.

Croup – A number of similar diseases, primarily striking children. Symptoms ranged in severity from difficulty breathing and hoarseness to convulsions and death.

Dropsy – A symptom, rather than a disease itself; swelling due to accumulation of fluid in the tissues. It might affect any part of the body.

Dyspepsia – Indigestion.

Lumbago – Chronic lower back pain and numbness.

Palsy – Paralysis; sometimes localized to one part of the body.

Pleurisy – Inflammation of the lining of the chest. It could cause a dry cough, up to chronic pain and a hunched posture.

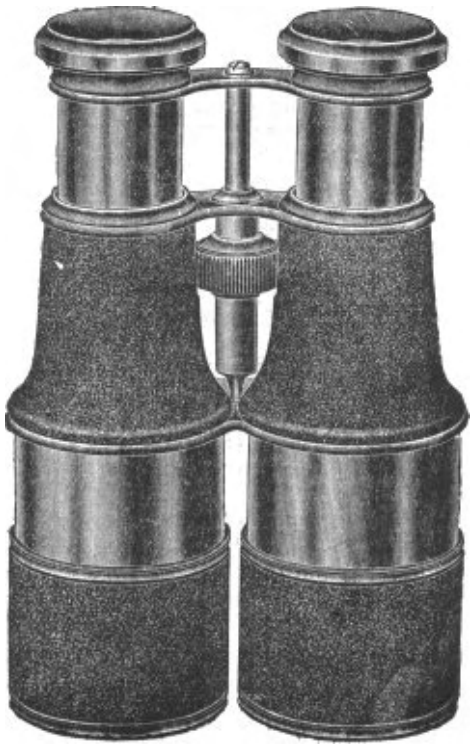
Putrid Fever – Another term for Typhus.

Optics

This chapter includes both corrective optics like eyeglasses, as well as various devices like magnifiers, telescopes, range finders, and field glasses. Purely astronomical telescopes and microscopes are covered separately in the chapter "Laboratory Equipment."

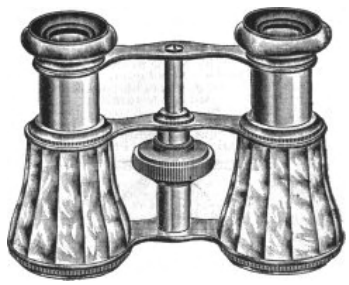
Spectacles

Pince-nez Eyeglasses,
With chain



Item and Description	Weight	US Price	UK Price
Binocular, Goerz Prism Binocular, 6x Single-wheel focusing, compact size.	-	31.50	6/10/0
Binocular, Goerz Prism Binocular, 12x	-	46.00	9/10/0
Binocular, Lumex Prism Binocular, 8x Single-wheel focusing, One eyepiece is adjustable to compensate for differences in vision between the user's two eyes.	-	31.50	6/10/0
Binocular, Lumex Prism Binocular, 12x	-	55.75	11/10/0
Eyeglasses (pince-nez), Gold frames, 10 kt		3.50	14/5
Eyeglass Chain and Hooks, solid gold		1.42	5/11
Field Glasses, US Cavalry, 4x 2" objective lenses; 5" closed. With leather case and neck strap.	2½ lbs	23.00	4/14/10
Field or Marine Glasses, 4½x Used by the US Signal Service2½" objective lenses. With leather case and strap.	2½ lbs	24.00	4/18/11
Field Glasses, Tourist 1½" Objective lenses; morocco leather covered. Short body, long draw makes them compact and easy to carry. With leather case.	1½ lbs	8.75	1/16/1
Magnifier, Coddington Fold-out magnifier, nickel-plated case, highest quality 1 5/8" lenses. 10x.	1 oz	2.10	8/8
Magnifier, Double Lens Fold-out Pocket Magnifier Rubber case, 1¾" lens. Approximately 2½ or 5x (depending on whether one or two lenses are used).	-	1.25	5/2
Magnifier, Single Lens Fold-out Pocket Magnifier Rubber case, ¾" lens. Approximately 2½ x.	-	0.25	1/0
Magnifier, Watchmaker's Loupe, 5x. 2" working distance.	-	0.30	1/3
Monocular, Zeiss, 8x One half of a binocular, or a spyglass shortened by folding the optical path with prisms.	-	14.50	3/0/0
Monocular, Zeiss, 12x	-	20.50	4/5/0
Opera Glasses, Genuine Colmont Smoked Pearl Glasses 1½" Objective lenses. High pearl tops, polished aluminum bars and tubes, high-power lenses. Morocco case.	9 oz	20.00	4/2/6
Opera Glasses 1½" Objective lenses, black enameled frame, covered with black leather. Morocco case.	8 oz	2.75	11/4
Range Finder, Weldon		17.20	3/11/0
Range Finder, Waltkins Artillery Telemeter		78.80	16/5/0
Reading Glass (Magnifier), 2¾ " Nickel frame, wooden handle. Approximately 2X.	6 oz	0.84	3/6
Reading Glass (Magnifier), 5" Nickel frame, wooden handle. Approximately 2X.	1 lb.	3.00	12/5
Spectacles, Steel frame, Straight temples		0.10	0/5
Spectacles, Gold frame, 10 kt, Straight temples.		4.00	16/6
Spectacles, Bifocals, Gold-filled Frame, Straight temples		1.95	8/1
Spectacles, Riding or Hook-bar Frame, Steel frames Temples have curved spring ends that hook around the ear, holding the spectacles securely to the face.		1.25	5/2
Spectacles, Colored lenses Corrective, colored lenses (smoke, blue, or amber), are available at the same price as corrective lenses. Flat lenses (no correction), in steel frames are available at the listed price.		0.25	1/0
Spectacle/Eyeglass Case, papier mache, mother-of-pearl inlay		0.29	1/3
Spyglass, 10x Polished brass body; 13¾" long extended, 4¾" long closed. 1" Objective lens.	1 lb.	1.85	7/8
Spyglass, 30x Polished brass tubes, morocco leather-covered body. 36" long extended, 10½" long closed. 2" Objective lens.	3 lbs.	9.50	39/2

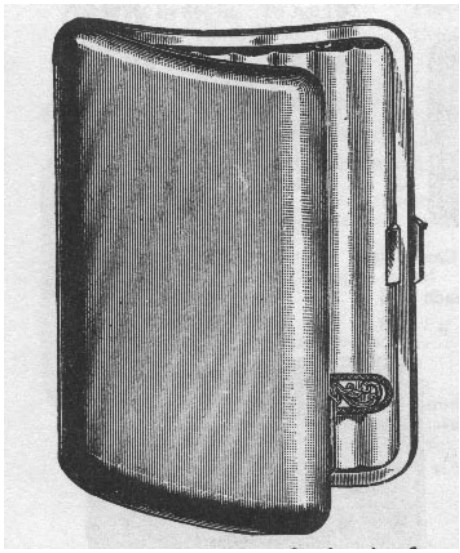
Coddington Magnifier



Opera Glasses

Toiletries, Luxuries, and Vices

This chapter is devoted to the many little (and some big) things that make life pleasant, both for themselves and for others. It includes the various necessities for grooming, candies and chocolates, tobacco and fine alcohol, plus those little requisites that speak of a gentleman or lady of quality.



Item and Description	Weight	US Price	UK Price
Barley Sugar 'Bull's Eyes', 1 bottle	2 lbs	0.28	1/2
Bookmark, silver		0.97	4/0
Brush Set, Gentlemen's, Ebony		5.21	21/6
Solid leather case, containing one pair of military hair brushes, hat brush, cloth brush, mirror, and comb, complete in ebony.			
Brush Set, Gentlemen's, Silver		34.65	£ 7/3/0
Velvet-lined leather case with silver hinges and latch; fitted with two hammer-pattern silver brushes, hat brush, cloth brush, and comb.			
Brush and Boot Set, Military		9.75	40/3
Leather trunk containing 3 shoe brushes, 1 clothes brush, 1 hat brush, 1 boot jack, 1 button stick,2 blacking bottles.			
Brush Set, Military		3.00	12/6
Two wooden military hairbrushes in an oval leather case.			
Calling Card Case, crocodile leather w/ 9kt gold corners		3.80	15/9
Calling Card Case, plain silver		3.25	13/6
Chocolate, Swiss	1 lb	0.79	3/3
Cigar Case, crocodile leather, solid silver frame		11.88	49/0
Cigar Cutter, horn handle		0.55	2/3
Cigar Cutter, silver		3.10	12/9
Cigar Lighter, Electric		6.00	24/9
Not Available Before 1896. Uses D-cell dry batteries to heat a platinum wire.			
Cigars, Cuban, per 100 (usually in boxes of 25)		5.70 - 52.60	23/6 - 217/0
Cigarette Case, roan leather, nickel frame		1.03	4/3
Cigarette Case, Silver		7.50	31/0
With gold hinge and gold push piece, spring opening. Holds two rows of cigarettes.			
Cigarette Case, 18 kt Gold, as above		88.50	365/0
Cigarettes, per 100		1.20 - 3.25	5/0 - 13/6
Cologne, 1 oz.		0.25 - 1.00	1/0 - 4/2
Comb, Dressing, pure aluminum	-	0.75	3/1
Comb, Dressing, Goodyear pure extra-heavy rubber, 8"		0.20	0/10
Crème Toffees, Devonshire, 1 tin	1 lb	0.17	0/8½
Dressing Bag, Ladies		43.75	£ 9/5/0
"The Ladies Fitted Monitor Dressing Bag" – Morocco leather, lines with silk, with silver-mounted fittings. Includes 2 hair brushes, cloth brush, velvet brush, soap jar, pomade jar, 2 scent bottles, tooth brush jar, and powder jar, all silver mounted. Also contains a leather writing case, a comb in a case, silver match box, ink jar and trinket box, mirror, scissors, and a full set of manicure instruments.			
Dressing Case, Gentlemen's		19.40	80/0
Leather case with strap and buckle, lock and key. Leather divisions, with 2 hair brushes, hat, cloth, tooth, nail, and shaving brush, screw powder jar, 2 square scent bottles, soap case, metal case for toothbrush, comb, razor strop, 2 razors, scissors, and button hook.			
Dressing Case, Fitted, Ladies'		330.00	£ 68/0/0
Crocodile leather, all silver hammer pattern bottles, soap, tooth powder, pomade, nail and toothbrush roll, 2 scent bottles, puff box, 2 hair brushes, cloth and velvet brushes, mirror, flask, jewel case, paper knife, shoe lift, button hook, glove stretchers, 2 tortoiseshell combs, silver-mounted crocodile leather writing case, ink, matchbox, cutlery board, 3 pair scissors, 5 instruments and 2 bodkins, pen and pencil, tooth and nail brushes, nickel watch in a silver case.			
Manicure Case, Morocco leather		4.00	16/6
Manicure Case, Silver-fitted		12.60	52/0
Leather case, fitted with polisher, 2 silver-mounted jars, tweezers, nail polisher, 2 pairs scissors, nail file, cuticle knife, nail brush, knife, and nail trimmer.			
Mineral Water, 1 dozen bottles		2.90	12/0
Palate Brush, badger hair, ivory handle		0.40	1/8
Pencil Case (holder), silver, for 3" cedar pencil		0.85	3/6
Pen/Pencil case, telescopic		2.85	11/9
Pen nib slides out of handle, pencil point screws out, handle telescopes down for convenient pocket size.			
Paper knife (letter opener), Ivory blade with silver handle		4.97	20/6
Peppermint Rock, 1 bottle	1½ lbs	0.27	1/1½
Perfume, 1 oz		0.50 - 1.00	2/1 - 4/2
Pipe, briarwood, w/ vulcanite stem		0.55	2/3
Pipe, Calabash		2.55	10/6
For those who want the "Sherlock Holmes" look.			
Pipe, Meerschaum, amber stem, Russian leather case		4.55	18/9
Pipe Bowl Scraper, Steel, with leather pocket case	-	0.50	2/1
Pipe Rack, Nickel-mounted, on polished mahogany base, for 4 pipes		1.20	5/0
Pipe Tool, combination tool w/ ivory handle	-	0.42	1/9

Item and Description	Weight	US Price	UK Price
Shaving Brush, wood handle, badger hair	-	0.15	0/8
Snuff, 1 lb tin		1.07	4/5
Snuffbox, silver		3.25	13/6
Soap, Plain Castille, 1 lb cake		0.12	0/6
Soap, Roger and Gallet, 'Heliotrope Blanc', 3 cakes		1.70	7/0
Soap, Shaving Stick, in celluloid case		0.20	0/10
Sovereign Case and Matchbox, Combined		3.65	15/0
Sovereign Case, 9ct gold Holds 5 gold sovereigns and 6 half-sovereigns.		16.75	69/0
Spirit Stand, Fall Front Dark oak with nickel fittings. Front has lock. Holds three cut-crystal bottles.		10.43	43/0
Ale, Wine, and Fine Spirits:			
Absinthe, 1 bottle		1.85	7/8
Ale, Beer, or Stout, 1 dozen pint bottles Price does not include the 1/0 deposit on the bottles.		0.73	3/0
Ale, Beer, or Stout, in cask (36 gallon) If the barrel was not returned within 3 months, a fee of 18/0 was charged.		12.10	50/0
Pale Amontillado (sherry), 1 dozen bottles		11.65	48/0
Champagne, Perrier Jouët, extra quality, extra dry cuvee, 12 bottles		20.85	86/0
Champagne, Pommery & Greno, nature, 12 magnums		48.50	200/0
Claret, 12 flagons		4.85	20/0
Cognac, Pale, 12 bottles		15.05	62/0
Cognac, J and F Martell's Extra – 50 years old, 12 bottles		72.75	300/0
Gin, Nicholson's Dry, 12 bottles		6.79	28/0
Lager, German, Imported, 1 dozen pint bottles Price does not include the 1/0 deposit on the bottles.		0.91	3/9
Sauternes, 12 bottles		23.25	96/0
Scotch Whiskey, Ben Nevis, 12 bottles		13.55	56/0
Tawny Port, Very Fine, Old, 12 bottles		11.15	46/0
Tobacco, Pipe Tobacco, Imported, 1 lb		1.09 - 2.05	4/6 - 8/6
Tobacco, Plantation Twist – 1 lb, 16 twists to the pound		0.32	1/4
Tobacco, Plug Tobacco, 1 lb cake		0.34	1/5
Tobacco Jar, Wedgwood, with air-tight lid, ½ lb capacity		1.33	5/6
Tobacco Pouch, rubber lined		0.36	1/6
Toothbrush, bone handle	-	0.15	0/8
Toothbrush, folding pocket brush		0.25	1/0
Tooth Paste, "American Wintergreen", 1 tube		0.12	0/6
Toothpick, Silver, with fluted case and ring for attaching to a chain		1.27	5/3
Tooth Powder, "Colgate's Antiseptic Dental Powder", 1 tin		0.20	0/10
Tooth Powder, "White Rose", 1 tin		0.12	0/6
Tooth Powder Box, ebony		1.58	6/6
Vesta Case, Hallmarked Silver With striking surface and chain ring.		2.42	10/0
Vesta Case, as above, 18ct gold		26.68	110/0

Tools

The tools found here are not only available to investigators, in later eras, they might commonly be found in old barns or garages. The tools were made to last, and a thrifty public kept them in good repair. Many have survived to the modern day.

Bit Brace and Auger Set

Gentleman's Tools

In Britain during this era, gentlemen (men of the upper classes) were indulged, in fact almost expected, to have various hobbies or pursuits. It was generally understood that this was merely an idle pastime (even if they became quite good at their little hobby), and for those who wanted to try their hands at the manual arts like woodworking and carpentry, having tools suitable to one of their station was an absolute must. Thus the strange practice of "Gentleman's Tools." These were usually supplied in full sets, lovingly stored in polished, fitted cases. The tools themselves were works of art – made of the finest materials, exquisitely finished, usually in a highly elaborate and decorated style. In an age where even ordinary tools had polished brass fittings and handles of rare woods like cocobolo or ebony, these were extraordinary.

Unfortunately, they were not very good: the temper was poor and the durability was low, perhaps under the assumption that the tools would not likely be subjected to sustained use.

The gentleman of leisure was therefore forced into the odd situation of being expected by his peers to pay twice as much for tools that were only half as good; Of course, to a 'gentleman', the price is never even a consideration, let alone a serious issue.

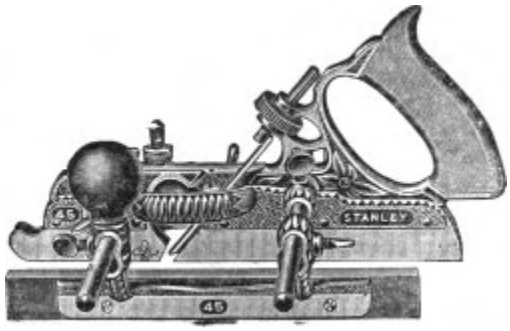
A truly eccentric hobbyist might insist on purchasing only "Journeyman's" tools: made for the craftsmen who earned their living by their trade and required both good quality and the greatest possible durability.

Item and Description	Weight	US Price	UK Price
Adze, Carpenter's, 4" head	3¾ lbs	1.15	4/9
Apron, Blacksmith's (sheepskin)		1.15	4/9
Apron, Machinist's (heavy cotton ticking)		0.20	0/10
Axe	5 lbs	0.70	2/11
Axe Handle, 36"	1 lb	0.10	0/5
Blacksmithing Tools:			
Anvil, wrought iron, steel faces	100 lb	11.00	45/5
Farrier's Tools, in leather tool roll		6.45	26/6
Includes Shoeing hammer, pointing hammer, rasp, whetstone, buffer, buttress, shoe nippers, and three farrier's knives.			
Forge, #2, w/ blower and hood	120 lbs	14.40	59/5
12" blower, 23" x 35" hearth.			
Hammer, Blacksmith's Cross-peen	2 lb	0.60	2/6
The cross-peen end stretches the metal in one direction only, while the flat face smoothes the surface and stretches the metal in all directions equally.			
Hoof Nippers, 12"	2 lbs	0.95	3/11
Hoof Rasp, 14"		0.40	1/8
Horseshoe Blanks, (6 different sizes), per pair		0.18 - 0.50	0/9 - 2/1
Horseshoe Nails,	1 lb	0.15	0/8
Knife, Farrier's		0.30	1/3
Pincers, Blacksmith's, 14"	2½ lbs	0.75	3/1
Sledgehammer, Blacksmith's, 36" handle	12 lbs	0.85	3/6
Swage Block, cast iron	110 lbs	3.00	12/5
A heavy, square block with channels and profiles molded into the edges. The workpiece can be shaped by hammering it down into the desired channel.			
Tongs, Blacksmith's, 20"	2¼ lbs	0.28	1/2
Vice, Blacksmith's	65 lbs	5.70	23/6
While the vice clamps to a bench, a long extension reaches all the way to the ground, allowing the vice to withstand a great deal of force: workpieces are often bent, twisted, or hammered while clamped in the vice.			
Babbitt Metal, hard alloy, per pound	1	0.27	1/1
A low melting point alloy used for bushings and to line bearings. A skilled mechanic will be able to replace or renew these by casting them in place with fresh babbitt metal.			
Blowtorch, gasoline		3.75	15/6
Holds 1 quart of gasoline. Brass body and tank.			
Bolt Cutter, Champion #2,		4.50	18/6
Can cut bolts (in the threaded area) up to ½" in diameter.			
Box Hook, Iron, with wood handle, 6", each		0.10	0/5
12", each		0.20	0/10
A vicious iron hook attached to a T-handle, used for handling heavy freight. It can be found in nearly any barn where they are used to carry hay bales, or to cut the balling wire by hooking under a wire and twisting until it snaps.			
Brazing Lamp		10.50	42/0
Holds 3 quarts of kerosene and burns with a 20" flame for 1 hour at maximum setting.			
Broadaxe, 10" blade	7 lbs	1.50	6/2
Broadaxe Handle		0.18	0/9
26" long, right or left-hand curve.			
Brush Hook		0.62	2/6
Butcher's Steel, magnetic, staghorn handle		0.95	3/11
Can, Kerosene Can, 1 Gallon	3 lbs empty	0.28	1/2
Includes pouring spout.			
Can, "New Ironsides" Oil and Gasoline Pump, 3 Gallon		0.90	3/9
Removable valve and pump.			
Can opener		0.08	0/4
Chisel, Cold Chisel, ½"	5 oz	0.08	0/4
Chisel, Wood Chisel, each		0.30 - 0.40	1/3 - 1/8
Sizes between 1" and 2".			
Clamp, Iron 'C' clamp, 4"	1½ lbs	0.15	0/8
Clamp, Iron 'C' clamp, 6"	2 lbs	0.25	1/0
Clamp, Iron 'C' clamp, 10"	5¼ lbs	0.42	1/9
Chisel, Wood Chisel, each		0.30 - 0.40	1/3 - 1/8
Sizes between 1" and 2".			
Combination Tool		0.40	1/8
Hollow cocobolo handle, storing the following 10 tools that chuck into the handle: chisel, gouge, 3 screwdrivers, tack puller, scratch awl, 2 gimlets, brad awl.			
Dividers, steel, 6"		0.13	0/7
Drawknife, 10"	1½ lbs	0.48	2/0

Item and Description	Weight	US Price	UK Price
Drill, Automatic Hand Drill Looks like a large screwdriver – 8 drill bits store in the handle. With a push, the shaft telescopes into the handle, causing the shaft to spin. Screwdriver bits can also be chucked onto the shaft to rapidly insert/remove screws.		1.30	5/5
Drill, Bench Drill, Hand cranked, 24" high Can drill 1/8" to 3/4" holes in metal. Takes square-shanked drill bits.	35 lbs	4.40	18/2
Drill, Bit Brace, 10" sweep. Hardwood head and handle. Takes square-shanked drill bits.		0.30	1/3
Drill, Breast Drill Double-handled style, accepts square-shank drills of up to ½". 12" long.		4.25	17/6
Drill, Hand Drill, geared "Egg beater" style. Takes round shank drills.		1.10	4/6
Drills, Auger Bit Set 13 bits from 4/16" – 1". 11" long, square-shank, in a canvas roll.		3.95	16/4
Drills, Machinist's Twist Drills, each Round shank, sizes available from 1/16" – 1/2".		0.50 - 4.00	2/1 - 16/6
Dust Mask – "Patent Dust Protector" Nickel-plated metal body, wet sponge filter.		0.90	3/9
File, Half-Round File, 12"	18 oz.	0.25	1/0
File, Mill File, 12"	1 lb	0.17	0/9
File, Wood Rasp, Half-Round, 12"	1 lb	0.40	1/8
File Handles, wood w/ brass ferrule		0.02	0/1
Framing Square, steel, 18"		0.45	1/11
Froe, Cooper's, 12" Used for splitting wood into barrel staves or shingles.	2¼ lbs	0.75	3/1
Gimlet, each Rosewood handles, assorted sizes.		0.07	0/3½
Gentleman's Tools – See: Tool Sets			
Glass Cutter, revolving		0.08	0/4
Glass Cutter, with glazier's diamond		5.00	20/8
Hammer, Claw Hammer	1 lb	0.28	1/2
Hammer, Machinist's Ball-Peen	1½ lbs	0.65	2/8
Hatchet, 4" blade	1½ lbs	0.45	1/11
Hoe		0.30	1/3
Ice Tongs, size #1 Jaws open 16", suitable for household use.		0.42	1/9
Ice Tongs, size #3 Jaws open 24", suitable for ice wagon use. The delivery man would use a pair like these.		0.73	3/0
Jack Screws, 8-12"		1.12	4/8
12-16"		1.67	6/10
16-20"		2.40	9/11
Ladder, Extension Ladder, 6' - 11'	20 lbs	1.50	6/2
Ladder, Extension Ladder, 12' - 23'	46 lbs	2.90	12/0
Lawn Mower (push mower), 14" (w/o grass catcher)		3.85	15/10
Lawn Mower Grass Catcher		0.67	2/9
Mallet, Rawhide, 2½" face		0.50	2/1
Mallet, Wooden	2 lbs	0.15	0/7½
Matches, wooden safety, long, 1 dozen boxes		0.17	0/8
Matches, ordinary non-safety, long, 1 dozen boxes		0.10	0/5
Mattock Adze head on one side, axe head on the other. Used for digging and cutting tree roots	6 lbs.	0.55	2/3
Maul	10 lbs	1.20	5/0
Miter Box, w/ 28" x 5" backsaw		12.75	52/7
Monkey Wrench, 12"	3 lbs	0.65	2/8
Oil Can 3" diameter, 3" nozzle. Body of can is brushed copper, base is of clock steel.		0.20	0/10
Oil Can, Railroad, 1 pint. 3" diameter, 3" nozzle. Body of can is brushed copper, base is of clock steel.			
Pick, Drift Pick	4 lbs	0.40	1/8
Pick, Mining	4 lbs	0.49	2/0
Pick Handle	1 lb	0.25	1/0
Pitch Fork		0.35	1/6
Plane, Adjustable Chamfer Plane		1.28	5/4

Item and Description	Weight	US Price	UK Price
Plane, Bench Plane, 16”	4½ lbs	0.39	1/8
Plane, Scrub Plane, “Stanley’s Improved Scrub Plane”, 9½”		0.68	2/10
Plane,– “Traut’s Patent Adjustable Beading, Rabbet, and Slitting Plane”		5.05	30/0
Plane Blade Sets, for Traut’s Adjustable…Plane”		0.88	3/8
Numerous profiles are available.			
Plane Set, “Barton’s Bench Planes”		1.80	7/5
Set of 4: one Smoothing Plane, one Jack Plane, one Fore Plane, and one Jointer Plane.			
Plane, Tongue and Grooving Plane		1.60	6/7
Pliers, Combination (flat nose w/ wire cutters), 6”		0.20	0/10
Pliers, Flat-Nose, 5”		0.13	0/7
Plumb Bob, brass, w/ steel point	6 oz	0.25	1/0
Post Hole Digger		1.00	4/2
Rake, Garden, w/ iron frame and tines		0.20	0/10
Reamer, square		0.09	0/5
Reamer, Fluted Taper Reamer		0.27 - 0.72	1/2 - 2/11
9 sizes between ¼” and ¾”.			
Rule, Folding, 2’		0.23	0/11
Folds in 4 sections.			
Saw, Bucksaw, 30”		0.60	2/6
Wood frame, metal turnbuckle.			
Saw, Hand Saw, 24”		1.86	7/8
There were two broad varieties – the Crosscut saw, designed to cut across the grain of the wood, and the Ripsaw, whose chisel-like teeth would cut quickly along the grain of a board.			
Saw, Hacksaw Frame		0.80	3/4
Metal frame, extends from 8-12”.			
Hacksaw blades, 9”, one dozen	-	0.59	2/5
Hacksaw blades, 12”, one dozen	-	0.89	3/8
Saw, Keyhole		0.18	0/9
Uses replaceable blades			
Keyhole Saw blades, each	-	0.10	0/5
Saw, Pond Ice Saw, 54”		1.86	7/8
Used for cutting up ice for storage. The blade is 4½’ long, with a tiller (t-style) handle.			
Scratch Awl, 5”		0.10	0/5
Screwdriver, The Champion Screwdriver, 6”		0.34	1/5
12”		0.57	2/4
Forged steel shaft, applewood handle.			
Screwplate Set, 5 sizes		4.55	18/9
Includes screwplates, matching taps, and tapwrench.			
Scythe Blade		0.57	2/4
Scythe Blade, Brush Scythe		0.50	2/1
Shorter and heavier blade for cutting light brush and clearing land.			
Scythe Snath (handle)		0.50	2/1
Shears, Pruning, 26” handles		0.60	2/6
Shears, Garden Hand Shears		0.25	1/0
Shears, Sheep Shears		0.20	0/10
Shears, Tinner’s, 3” jaws		0.35	1/6
Shovel, Mining Shovel		0.65	2/8
Shovel, Scoop Shovel		0.50	2/1
Sickle		0.25	1/0
Sickle Stone (sharpening stone)		0.08	0/4
Solder (60/40 tin/lead soft solder)	1 lb	0.25	1/0
“Solderine” (soldering flux), 8oz bottle		0.12	0/6
Soldering Copper		0.38	1/7
Soldering Copper Handle, basswood, iron ferrule		0.03	0/1½
Soldering Copper Stove		0.75	3/1
Holds two coppers; one is held ready while the second is in use. Comes with hose for attaching to domestic gas supply.			
Spirit Level, iron body, 6”		1.15	4/9
Tackle Blocks, with hook, 4” sheaf (for ½” rope):			
Single Sheaf		0.40	1/8
Double Sheaf		0.80	3/4
Triple Sheaf		1.20	4/11

Item and Description	Weight	US Price	UK Price
Tackle Blocks, with hook, 8" sheaf (for 1" rope):			
Single Sheaf		0.83	3/5
Double Sheaf		1.45	6/0
Triple Sheaf		2.28	9/5
Tackle Blocks, with hook, 12" sheaf (for 1½" rope):			
Single Sheaf		2.30	9/6
Double Sheaf		3.75	15/6
Triple Sheaf		5.88	25/9
Tape Line, 50'		0.28	1/2
Brass-bound case, folding crank handle.			
Tape, steel pocket tape, 6'		1.25	5/2
With spring and stop in German Silver case. 1/16" divisions.			
Trowel, Mason's, 10"		0.40	1/8
Tool Sets:			
Tool Set – "Number 6"		34.55	7/2/6
Fitted case is 21" x 11½" x 8¾". Contains 2 saws, axe, 2 hammers, mallet, rule, pincers, 6 gimlets, 6 bradawls, 6 chisels, 4 gouges, locksaw, smoothing plane, jack plane, marking gage, glue pot and brush, 4 files, oil stone, marking awl, 2 punches, 3 turnscrews, 2 spokeshaves, claw wrench, pliers, compasses, draw knife, cutting punch, scraper, &c.			
Tool Set – "The Colonist's"		34.55	7/2/6
Fitted case is 33" x 16" x 15". Contains axe, carpenter's adze, hand saw, tenon saw, compass saw, jack plane, one pair grooving planes, rabbet plane, smooth plane, 5 steel firmer chisels with handles, 3 steel firmer gouges with handles, 3 mortise chisels, handled marking awl, brad punch, compasses, carpenter's pincers, rile, 3 socket chisels with handles, 3 augers with handles, spokeshave, 2 London turnscrews, marking gauge, improved brass slide mortise gauge, best brace with 18 bits, bench and roofing hammer, 3 files (assorted), 6 cast steel gimlets, 6 brad awls, carpenter's mallet, boxed whetstone, glue pot and brush, pliers, chalk line reel, and coach wrench.			
Motor Car Tool Kit		13.35	55/0
18 of the most commonly-used tools for automobiles fitted into a leather tool roll. Each tool is outlined on the roll so that the motorist can see at a glance if any of the tools have not been replaced after use.			
Tool Roll		10.90	45/0
Leather tool roll, 13" x 9" x 3½" folded. Contains: 2 turnscrews, 3 files, 1 rasp, 2 hammers, 2 chisels, 2 gouges, 2 awls, 1 saw, 3 gimlets, 1 spring punch, 1 combination tool, 1 rule, 1 hone, 1 hand vice, 1 pair flat cutting pliers, 1 pair small pliers.			
Vice, machinist's, 4" jaws	38½ lbs	2.85	11/9
Mounts to workbench.			
Wedges, steel	5 lbs	0.20	0/10
Used with a sledgehammer or maul for splitting logs.			
Wheelbarrow, Railroad, steel wheel		1.25	5/2
Wheelbarrow, Garden,	40 lbs	2.25	9/3
Japanned steel frame, wood sides. 12" deep, 21x27" base.			
Whetstone, 8" x 1¾", hard Arkansas stone		0.60	2/6
Wire Cutters (side cutters), 6"		0.40	1/8
Wrench, Pipe wrench, 10" (for ½" – 1" pipe)		1.60	6/7
15" (for ½" – 2" pipe)		2.65	10/11



Traut's Patent Adjustable Plane


Soldering Copper Head


Stove for Soldering Coppers

Planes

One class of tool notable for its extreme variety and profusion in this era is the plane. All the jobs performed in modern times by sanders, sureforms, shapers, jointers, dado cutters, routers, and much more, were all done with specialized types of planes. There were planes for smoothing surfaces, for flattening curves, for shaping curves, for preparing squared edges for joining, and for cutting grooves. There were even special routers with profiled blades that would slowly cut a fancy molded edge. Any tool catalog from this period will have page after page of specialized planes – the ones in this list are only a tiny fraction of the broad variety available to the Victorian or Edwardian craftsman.

Soldering

Before the advent of plastics and epoxy adhesives, soldering was a common and necessary skill in many crafts and trades, being one of the best ways of joining metals: it requires less heat than welding, and is faster and more watertight than riveting.

Soft (low temperature) soldering is performed with a 'Soldering Copper", which is a pointed block of solid copper on an iron shaft with a wooden handle; the copper head may range between 1 and 8 pounds in weight (soldering coppers for small work like jewelry have heads that weigh an ounce or two). The copper is heated using a fire or furnace, and while heating, the joint is cleaned, fitted carefully together and held in place (thin iron wire may be used since the solder will not stick to it), and brushed with flux. When the joint is ready, the copper is taken from the heater and then used much as one would use a smaller soldering iron today – the mass of copper holds a lot of heat, and the high conduction lets it flow quickly into the part being soldered. Usually the craftsman will have at least two coppers, so that while one is in use, the others can be heating while the other is in use. The wooden handles are easily replaceable should they become scorched or burnt.

Larger pieces, like copper plumbing pipes, may be heated using a gasoline blowtorch (be careful to shield the walls and surrounding woodwork with some wet leather or asbestos sheeting), but the principle is otherwise the same.

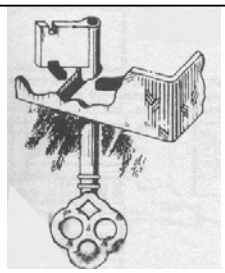
In a pinch, a soldering copper would make an excellent club (especially if hot.)

On Locks and Lockpicking

In this period, in fact even up until the Second World War, locksmithing was not a common skill. The reason is that it was learned the old-fashioned way: by apprenticing to a master locksmith. Anyone else wanting to learn the arcane art of opening locks without a key was required to spend a lot of time taking apart locks, studying them, and practicing (which is, of course, what an apprentice does, only without any guidance.)
Lock picks, meaning sets of specialized tools required to open locks, were even harder to come by – they weren't for sale; no companies manufactured pick sets like you can purchase today. Lockpicks were made by hand, usually by the smith or apprentice himself: the skills required – filing, shaping, and tempering metal, were a vital part of the craft, and making the tools was valuable practice for the apprentice. In addition, the tools could be customized to the taste and needs of the user. With very few exceptions, anything a locksmith could not buy in a normal hardware store he made for himself.

There were three types of lock in common use: the *Warded* lock, the *Pin Tumbler* lock, and the *Lever* lock, all of which are still used today.
The *Warded lock* was the simplest, and was used for everything from trunks and handcuffs to interior door locks ("night latches"), and even to front doors (though the Pin Tumbler lock gradually took over that duty). The warded lock used the characteristic "old-fashioned" key (see illustration). As the key was turned in the lock, the paddle-shaped "tooth" would catch the bolt and pull it in or out, depending on which way the key was turned. Metal projections in the lock called "wards" prevented the key from turning unless the 'tooth' had the matching cuts in its edge. Keys may be a "bit key", which has a solid shaft, or a "barrel key", which has a hollow shaft that fits over a post in the keyhole. Barrel key locks, by placing this obstruction in the keyhole, are often harder to pick. Bit key locks were more commonly used on doors, since they could more easily be made to work from either side of the door. In some padlocks and trunks, the locks were even 'double sided', meaning that two bolts had to be moved simultaneously to unlock – keys for these locks have a tooth on either side of the shaft.
Picks for warded locks consist either of flat metal tools that reach inside the lock and directly move the bolt, or a set of "Skeleton Keys." If the notch in the tooth of a key were too large, or if several cuts were combined into a single, large cut, the key would still work, so a "skeleton key" is one where the tooth has been cut away, allowing it to pass as many wards as possible – the thin webbing that remains looks like the bones of a skeleton, hence the name. A well-designed set of skeleton keys can open most locks of a given dimension and style. There is no such thing as a single skeleton key that will open all locks, so unless the locksmith knows ahead of time what sort of lock he is going to need to open, they will have to carry a rather large bunch of keys. Picking a warded lock, given the necessary skill and proper tools, requires very little time – often far less than a minute. Using a skeleton key – if you have the right one, requires no more time than using a normal key; but fumbling through a large bunch of skeleton keys and trying each one can take several minutes.

Another technique used to open warded locks was to file a new key by "Impressioning". One took a blank key (either a large number of different blanks had to be kept on hand, or preliminary research had to be done), and coated it with soot from a candle flame. The key blank was carefully inserted into the lock and turned until it was stopped by a ward. The blank was removed and the marks inspected. One filed away all the marks, coated the key with soot, and tried again. Eventually, a duplicate key was produced; in fact, when a locksmith made a warded lock from scratch, it was usually assembled with the wards in place, and then the key fitted afterwards by impressioning – this was far easier and faster than making the wards fit the key. With all the proper tools, it would take about 10 minutes for a smith to impression a key in a well-lit shop and with a bench vice to hold the key blank. When crouched in front of a storeroom door, trying to read the marks on the tooth by a sliver of light from a shuttered dark lamp, then holding the key blank in a pair of pliers to file one-handed, all while trying to prevent the tell-tale brass filings from scattering on the floor – that could take a bit longer.



On Locks and Lockpicking (continued)

The *Pin Tumbler* lock, invented by Linus Yale, Sr. in 1848, is the most common form of lock today. The core of the lock is the "plug", which rotates in a cylinder. A series of holes are drilled from the cylinder to the plug, and in these ride small sets of pins called "tumblers," these lock the plug and the cylinder together, preventing the plug from turning. Each tumbler has at least two pieces, and when the key is inserted, the cuts between the two parts of the pin line up with the joint between the plug and the cylinder, allowing it to turn.
A set of lockpicks for a pin tumbler lock will have an L-shaped strip of spring steel called the 'torsion wrench,' and one or more 'picks' – small probes used to lift the tumblers. Using the torsion wrench, the locksmith applies a tiny amount of turning force to the plug, then using the picks, moves the tumblers up and down until the cuts between the pins catch on the joint between the plug and the cylinder, allowing the plug to turn a minute fraction, holding the pin in place. Once all the pins have been lifted to the correct levels, the lock will open. The time required to pick a pin tumbler lock varies widely based on the age and complexity of the lock, with a large dose of luck in the mix. A lock might open within seconds, or might require an hour of patient manipulation.

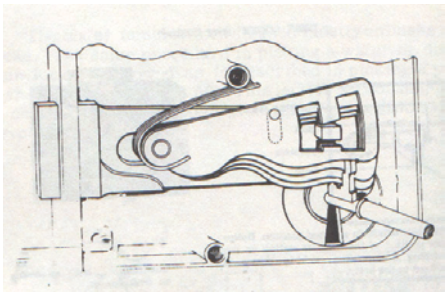
The *Lever lock*, which up until 1851 was considered to be unpickable, is used in a number of high-security applications. For example, the safety deposit boxes in banks still use a special lever lock that requires two separate keys (one held by the box owner and one by the bank) to be used simultaneously in order to open. Lever locks can be made extremely difficult to pick simply by adding more levers, and can include devious features like false 'gates' and notches in the lever that will cause it to freeze in place if the lever is at the wrong height when tension is applied, forcing the locksmith to start over from the beginning each time a mistake is made. A key for a lever lock is usually a long, flat piece of metal with a set of notches near the end, but some look like warded lock keys, and can even include side wards to make opening the lock with a different key more difficult.
Pick sets for lever locks will include several 'z' shaped torsion wrenches (of different lengths to accommodate locks of different depths), and several 'lifter' picks, usually more slender and sharply-curved than for pin-tumbler locks, on account of the narrow levers. Lever locks, especially high-security ones, usually require quite a bit of time to pick.

Improvised Lock Picks

One of the classic stunts in crime fiction is using a hairpin to pick a lock. With a warded lock this is often possible (as long as the wire was sufficiently strong and springy), bending the pin to fit past any wards and using it to draw back the bolt. In a pin tumbler and lever locks, it becomes far less likely. First, the person would require two pins – one to apply the tension on the plug/bolt, and the other to do the picking. While within the realm of possibility, it would be extremely difficult, and the locksmith would need a way of making careful bends in the hairpins/wires

Wax Impressions

If one is able to get access to a key, even for a brief moment, the key can be pressed into something soft that will take an impression, which can be later used to create a duplicate key. Impressions have been made with soap, wax, even candles. Some intelligence agencies made a small box that would look like a snuff or cigarette box, but contained wax in each side of the case. The key was placed inside the box and the cover was squeezed closed, creating an impression of all sides of the key at once.



The Lever Lock in action

Burglar's Tools and Techniques

Burglars, sometimes known as "Cracksmen," were criminals engaged in breaking into homes and shops, and developed or adapted a number of specialized tools to this end. Some of these were ordinary tools that could be bought (or stolen) from any hardware store, while others were designed and built by craftsmen who distributed their wares through a clandestine network; these tools were sometimes of extremely high quality. For those with access to underworld contacts, these tools could be purchased, or even rented for a special job. Some retired burglars would even rent out their tool kits

One of the simplest and most versatile tools was a very sharp, thin-bladed knife. It could be slipped through the gap between a window and the sash to open the latch; if the latch wouldn't cooperate, a pane could be cut from the frame in less than 15 seconds. Cracksmen rarely used glasscutters or glazier's diamonds for this – the knife was as fast and a more versatile tool. A knife could also cut a lock from a drawer or trunk, saving the time of picking it. A sharp chisel was sometimes used for this, since it could be used with a hammer to cut out the wood around deeper and stronger locks.
Locks could be picked with specialized tools, opened with a skeleton key, or a new key could be made by impressioning. In some situations, the key can be made in advance: the blank is covered with beeswax, and the cracksman uses some ruse to get close to the lock and work the key blank in it. The wax holds the impression of the wards, and can be filed down at leisure.
Locks on doors and shutters could also be bypassed entirely by drilling a hole in it. An auger or bit brace is used with an expanding bit – the adjustable blades quickly (and with proper lubrication, very quietly) cut an opening large enough to admit the burglar's arm, allowing them to open the latch from inside.
A diamond drill bit was a prized possession, quickly cutting through hardened steel and masonry. If a cracksman did not have access to one of these, hardened metal could often be drilled after a few minutes heating with an alcohol lamp and blowpipe, which destroyed the temper of the lock or bar, allowing it to be cut with ease.
The "Jemmy" was a modified crowbar used to force open locks and break masonry. It could be made in several segments that connected together, allowing a long tool (with a lot of leverage) to fit in a small kit.
A length of stout cord had several uses – it could bend iron bars by wrapping the cord around the bars and twisting it with a stick, tightening it like a tourniquet. It could be knotted into a rope ladder for climbing down from upper stories, or even used to tie up a subdued householder.
Hammers with heads of lead or soft copper and covered with leather would produce little noise; while screw jacks could silently apply tremendous force, breaking open bars and gates.
Finally, a burglar needed a source of light, and 'dark lanterns' were modified to project a small, coin-sized beam.

The tools would be carried in something that wouldn't arouse suspicion. One burglar used a violin case (in the days when every hotel and restaurant had live music, there were many musicians always going to and from work at all hours.) A burglar might have a female lookout carry the tools to the site in her handbag, since they were less likely to be searched. The tools were often padded with cloth so the bundle could be noiselessly thrown away if capture were likely.

The burglar's main foes were the constable on patrol, and the night watchman. Speed, silence, and subterfuge were the order of the night, and the first task was to get inside and out of sight as quickly as possible, leaving the outside of the building apparently undisturbed, so the watch would not be aroused. If a door were secured with a padlock, the criminals might obtain one that looked as similar as possible, then quickly cut away or break the existing padlock, enter the store, and have an accomplice lock them in with the new lock, so nothing looks disturbed until they give the signal to let them out. If a hole had to be drilled in a door or shutter, a piece of paper, painted to match the surrounding color, might be pasted over the hole. A cracksman might rent or break into an adjacent building, then drill out a brick in the connecting wall and remove more bricks with a jimmy, or he might enter through the roof or attic, and then cut a hole through the floor.

Finally, cracksmen rarely worked alone, usually having someone on the outside to keep watch and give a signal when the patrol is near, or to distract and delay the constable if required (perhaps by acting drunk and disorderly, requiring a trip to the station.) To carry the loot away, the lookout could also summon a wagon that had been arranged previously, signaling the burglars inside when it was ready to be loaded: getting out of the building and away from the crime scene quickly was as important as getting in quickly.

Transportation

This chapter covers the various means of getting about: horse-drawn carts and coaches, bicycles, boats, saddles and bridles, as well as some of the newer modes of transport available toward the end of the era, namely motorcars and aeroplanes.

Some Dates in Transportation

1824 – The steam locomotive and the railroad invented in England.

1863 – The first underground railroad in London opens, running between Paddington and Farringdon Street.

1865 – The Locomotive Act (also called the "Red Flag Act") passed in Britain. Restricted all self-propelled vehicles to 4mph in the country, 2 mph in the city, and required it to be accompanied by three people on foot, at least one of which had to carry a red flag.

1869 – Completion of the Transcontinental railroad in the United States.

1870 – First elevated railway in Manhattan.

1872 – The "Ordinary" or "Highwheel" bicycle invented in England (also called the "Pennyfarthing," since the different sizes of the two wheels resembled the British penny and farthing coins.)

1876 – The "Ordinary" bicycle first demonstrated in the United States.

1878 – The "British Cyclists' Touring Club founded.

1880 – The first of the "deep tubes" opens in London, from the Tower of London to Bermondsey.

1880 – "The League of American Wheelmen" founded in Newport, Rhode Island. The club actively lobbies for better roads by organizing local "Good Roads Movements."

1884 – J.K. Starley invents the "Safety Bicycle", where the front and rear wheels are the same size, making it less likely to send the rider over the handlebars in a "header."

1884 – British cycling clubs begin posting "Danger" signs at the top of steep grades.

1886 – Karl Benz begins commercial sales of gasoline-powered vehicles.

1889 – Pneumatic rubber tires are invented for bicycles. Previous tires were solid rubber.

ca. 1890s – Electric motors used to power streetcars, elevators, and subway systems.

ca. 1890s – A 'bicycle craze' both in the United States and in Europe leads to improvements and a rapid drop in prices.

1896 – British motorists force the Emancipation Act. Vehicles no longer require attendants; the speed limit is raised to 14 mph (though it is shortly thereafter lowered to 12 mph.)

1896 – The "Coaster Brake" is invented for the bicycle, where the rider moves the pedals backward to engage a brake in the rear hub.

1897 – First US subway opens in Boston. Workers digging alongside the Old Common Burial Ground discover the remains of more than 900 bodies in unmarked graves

1899 – While wearing 'rational' cycling attire, Lady Harberton is refused service at the Hautboy Hotel in Surrey.

1899 – Charles "Mile-a-Minute Murphy" sets a bicycle speed record of 1 mile in 57.8 seconds on June 30th, riding along a carefully-prepared wooden track behind a special coach that blocked the wind.

1903 – Dr. Horatio Jackson and mechanic Sewall Crocker make the first coast-to-coast automobile trip in the United States – on a $50 bet. The trip took 63 days, 12 hours, required 800 gallons of gasoline, and cost around $8,000.

1903 – The Wright brothers make the first powered flights at Kitty Hawk, North Carolina.

1904 – The Motor Car Act of 1903 takes effect – all vehicles require registration, and must display license plates, but the speed limits are raised.

1904 – The first subway system opens in Manhattan, the Interborough Rapid Transit, running 9.1 miles between City Hall and 145th Street.

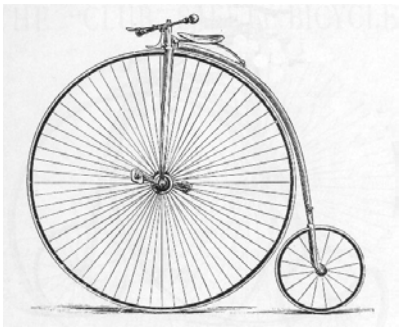
1908 – The New York Times and Le Matin sponsor 'The Great Race of 1908', an international road race around the world from New York to Paris, crossing three continents. The winning car, the Thomas Flyer, drove more than 22,000 miles in 169 days.

1911 – Calbraith Rodgers lands in Pasadena, California, after making the first coast-to-coast airplane flight in a series of short hops (and many crashes).

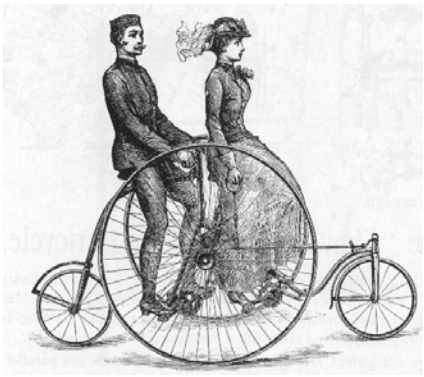
1913 – The famous red circle-and-bar logo is adopted by the Underground in London.

Item and Description	Weight	US Price	UK Price
Bicycles and Accessories:			
Bicycle, Velocipede (1840s - 1868) Several American manufacturers began making versions of the Velocipede, popular both in France and England. It was closer to a true bicycle that the earlier "hobbyhorse," and had a steerable front wheel and foot pedals attached to the front hub, rather than having to push against the ground.		25.00 - 75.00	£5/3s - 15/9s
Bicycle, "Ordinary" (highwheel) (1879) A good, high-end pennyfarthing bicycle. Listed price is for a 52" wheel – other sizes are available at adjusted prices. The "Racer" model is lighter, but sells for the same price. Other manufacturers make cheaper models, down to £6 ($ 30.00).	38 lbs	77.60	£ 16/0s
Bicycle, Hawthorn Safety Bicycle (1895) A man's bicycle. Only one gear, and no brakes; the bicycle was slowed by applying pressure backwards to the pedals, resisting their forward motion.		65.00	£13/8s
Bicycle, White Star No. 2 (1895) A ladies bicycle. Only one gear, and no brakes.		45.00	£9/5/7
Bicycle, "The Electric Bicycle" (1897) The "Electric" in the name is just an advertising hook; the rider still had to pedal. Men's and ladies versions were very similar, and of the same price.	24 lbs	29.90	£6/3s
Bicycle, Acme King Bicycle (1900) A man's bicycle. Only one gear, and no brakes.		14.95	61/8
Bicycle, Ladies New Model Acme Jewel (1900) A ladies bicycle. Only one gear, and no brakes.		14.95	61/8
Quadricycle, "The New Club Tandem" (1885) A two-seat quadricycle. It could be converted to a single-seat tricycle in a few minutes' time.		160.00	£33/0s
Bicycle Chain		0.25	1/0
Bell, Bicycle The "New Departure Bicycle Bell," clamps to the handlebars; thumb operated.		0.80	3/4
Camera Carrier, handlebar mounted Made from heavy steel wire and extra-long leather straps, it attaches to the handlebars of the bicycle, and can be used to attach various parcels or luggage.		0.35	1/6
Coaster Brake hub		3.45	14/3
Coaster Brake hub, complete with rim Not available until 1986. Pedaling backwards caused the mechanism in the hub to stop the rear wheel from turning.		5.45	22/6
Headlamp Bracket Made from iron; it can clamp to the handlebars or frame, and hold any standard bicycle lamp, which can be easily dismounted. Angle is adjustable		0.15	0/8
Headlamp, Oil burning, "The Ripper" A small, economical oil lamp, burning the special Illuminating Oil (q.v.)		1.25	5/2
Headlamp, Ohio Electric Works (Battery) A three-cell model is also available, for $ 6.00.		4.00	16/6
Headlamp, Gas (carbide), "The Searchlight" Not available before 1900. A lamp using calcium carbide and water to generate acetylene gas.		1.75	7/3
Hub Lamp, Oil, "Cooper's Patent Inextinguishable Hub Lamp" Circa 1879. A small oil lamp that hung from the axle of a highwheel bicycle within the cage of the spokes. While the tire cast an undesirable shadow, the lamp was more a warning to carts and horses. The low angle and the light closer to the road may also have made it easier to see obstructions liable to cause a highwheel rider to 'take a header'.		3.00	12/6
Horn, Bicycle Indiarubber bulb, tin-plated horn.		0.85	3/6
Innertubes, Morgan & Wright Pneumatic Tire, each Price is for 28" and 30" wheels. Includes tube, valve, and stem.		2.00	8/3
Lock, Bicycle lock Case is solid aluminum; self-locking, spring shackle, with 16" iron chain. Comes with 2 keys.		0.35	1/6
Oiler, each Pocket-sized oil can.		0.15	0/8
Oil, Illuminating, 16oz can A high-grade kerosene used in oil bicycle lamps.	1 lb	0.30	1/3
Parcel Carrier, Canvas A canvas bag that straps to the frame of the bicycle. It has a double-thickness flap and is waterproofed. Sze is 12" x 9" x 3".		0.24	1/0
Pump, Foot Pump		0.30	1/3
Pump, Hand Pump		1.00	4/2
Rubber Cement, per tube Not the cement used to glue paper, but an unvulcanized rubber compound used for repairing tires. Price is for a small, metal-foil 6" x 1" tube.		0.12	0/6
Tire Heater A small oil lamp with clips to hold the tire or innertube above it – used to vulcanize the rubber applied during repairs.		0.50	2/1

Item and Description	Weight	US Price	UK Price
Tires, Morgan & Wright Pneumatic Tire, each Price is for 28" and 30" tires.		3.00	12/5
Tool Bag Russet grain leather, embossed clasps. Bag is supplied empty – no tools are provided. Bag hangs from the frame of the bicycle.		0.45	1/11
Trouser Clips, per pair Small strips of spring steel that wrap around the trouser cuff, preventing them from getting caught in the chain – for those who choose not to wear knee-breeches and stockings while riding.		0.05	0/3
Wrench, "The Vulcan Bicycle Wrench" 4½" long adjustable wrench.		0.25	1/0



The "Ordinary" Bicycle



The "Tandem" Quadricycle

Safety Bicycle

An Oil-burning Headlamp

Highwheel Bicycles, or
"Just how do I get on this thing, anyway?"

The "Ordinary" or "Highwheel" bicycle, with its unstable design and hard rubber tires, could be quite tricky to operate and was very unforgiving: a sudden move or stop, or running into a rock or pothole in the road could send the rider sailing forward over the wheel with their legs trapped under the handlebars. This undignified but common means of dismounting was known as "taking a header." On smooth, level ground it was capable of remarkable speed, but its weight made hills difficult to climb, and the design made descending a steep hill something only an expert could hope to safely manage.

The size of the front wheel varied from 40 to 60 inches, and was determined by the height of the rider – the longer the legs, the larger (and faster) the wheel.

Getting on the bicycle was a task in itself. There was a footpeg mounted on the frame down near the back wheel, usually on the left side. The rider grasped the handlebars, put their left foot on the peg, then pushed against the ground with their right foot so the bicycle coasted along. The rider could then swing their right foot around to the pedal and begin to pedal the bicycle with it. Once they had their balance and they were beginning to press down on the pedal, they can smoothly push themselves up into the saddle and put their left foot on the pedal. The key word is 'smoothly', since a sudden jerk or trying to jump into the saddle would probably result in a 'header'.
Getting off was a little easier – the user normally would slow the bicycle, then swing a leg over so they were standing on one side with one foot on the pedal; the rider could then hop to the ground. In an emergency, if the bicycle was traveling slowly, the rider could throw himself backwards, jumping back from the pedals while hanging on to the handlebars. The bicycle pitches back, leaving the rider standing on the ground holding his bicycle by the handlebars.

RULES: Mounting a highwheel bicycle should require a *Ride: Bicycle* roll – double the chance if it is under good conditions. Obstacles or sudden maneuvers will require a *Ride: Bicycle* roll, modifiers determined by the Keeper

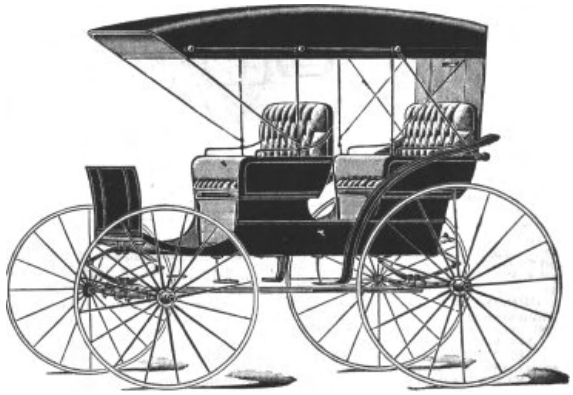
Horse Saddles and Tack:

Bits	2½ lbs	0.18 - 1.60	0/9 - 6/7
A bridle had one, and sometimes two different bits, to give different signals to the horse. 2-bit versions had 4 reins.			
Bridle and Reins	1 - 2 lbs.	0.55 - 4.25	2/3 - 17/7
Price includes the bit(s).			
Brush, Horse Brush		0.15	0/8
Cantanas, Leather, Plain	3 lbs	3.75	15/6
Leather saddle bags that fit over the horn of the saddle, in front of the rider. 9" x 14" each side			
Cinch, Cotton String, 6"		0.30	1/3
This is the strap that goes under the belly of the horse, keeping the saddle in place. It must be tight or the saddle could slip at the most inopportune moment. Devious horses will inhale deeply and hold their breath when the rider tightens the cinch, so it will be comfortable (for the horse), but dangerously loose. Experienced riders watch for this.			
Curry Comb		0.16	0/8
Fodder (grain and hay), per week		3.35 - 4.85	14/0 - £1
These prices assume that the fodder is bought from a supplier in the city; it costs far less if the animals are foraging in the country and being fed grain that you grow. The suppliers would charge 1/0 per 'hand' (4" of height) per week			
Halter		0.50	2/1
Hobbles, 1 pair	1½ lbs	0.60	2/6
Leather anklets connected by a short chain, rather like handcuffs. Placed on the horse's front legs, it (theoretically) prevents them from straying too far during the night, but still allows them to browse for food.			
Hoof Pick, Folding, Regulation		0.05	0/2½
Lariat, Rawhide, 43 foot	2½ lbs	6.75	27/10
Plaited from the best oil-tanned rawhide with a cable cord center. Very strong and durable.			
Lariat, Horsehair, 22 foot	2 lbs	3.75	15/6
Cowboys often believed that rattlesnakes would not crawl over a horsehair rope, and kept a lariat to lay on the ground in a circle around their bedroll. In the "real" world, this doesn't work, but in the game???			
Quirt, Rawhide		1.50	6/2
Riding Crop, Malacca handle, buckhorn crook handle		2.00	8/3
Riding Lessons (24 sessions)		35.75	7 gns
Mane Comb, hard rubber		0.15	0/8
Nose Bag, heavy cotton duck with ventilating mesh		0.55	2/3
Saddle, English Style	6 - 15 lbs.	3.00 - 35.00	12/5 - £7/4s
Price includes cinch.			
Saddle, McClellan Military Saddle	15 lbs.	13.00	53/8
Used by the U.S. Cavalry since before the Civil War.			
Saddle, Racing Saddle	5 lbs.	7.50	30/11
A very light, abbreviated version of an English saddle, used in horseracing. Price includes cinch.			
Saddle, Side Saddle, three-horn	10 - 25 lbs.	3.75 - 27.00	15/6 - £5/11s
Used by ladies in full skirts. Riding astride a horse was not considered "proper." Price includes cinch.			
Saddle, Western	15 - 40 lbs.	22.00 - 37.25	£4/11s - £7/14s
Used by the U.S. Cavalry since before the Civil War.			
Saddle Bags, Extra-Large, Leather	4 lbs	4.50	18/7
These fit over the cantle of the saddle, behind of the rider. 10" x 14" each side.			
Saddle Blanket, wool felt	1 lb.	0.60	2/6
Spurs, per pair	-	0.20 - 16.00	0/10 - £3/6s
Prices range from the simplest plated brass spurs to the elaborate "California" style, made of hand-forged steel with the wickedly-pointed rowel over 2" in diameter.			
Spur Straps, per pair	-	0.50	2/1
Texas pattern, made of oiled leather.			

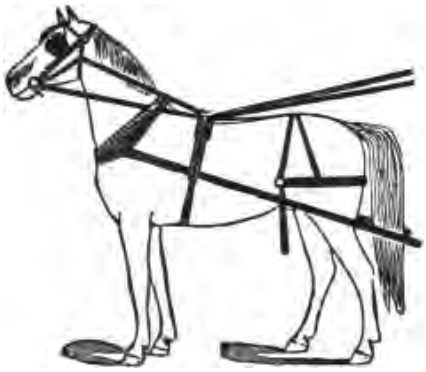
Draft and Riding Animals:

Donkey	1.95 - 14.55	8/0 - £3
Prized animals for pulling small carts around in the cities, used by street vendors.		
Horse	121 - 750.00	£25 – 150gns
Low end of price range is for a hack or cart horse – top end is for a trained hunter.		
Mule	30.00	£6/4s
Popular draft animals, used particularly in the American west. Notoriously smart and strong-willed.		
Pony	105.00	£21/0s
Favored by women and children as riding animals, or for pulling small carts.		

The Phaeton



The Surrey



Side Saddle

The McClellan Saddle

The English Saddle

The Western Stock Saddle

Horse drawn Carts, Buggies, and Wagons:

Cart, 2-wheel Pony Cart, "The Dream," w/o top		29.00	£ 6/0s
Cart, 2-wheel, "The Eureka," w/o top		30.00	£ 6/4s
Delivery Wagon, Light,		32.00	£ 6/12s
Holds up to 600 pounds in addition to the driver and passenger. Available in Standard grade only.			
Family Carriage (4-seat), 3-spring buggy w/ cover, standard grade		140.00	£ 28/17s
Family Carriage (4-seat), 3-spring buggy w/ cover, special grade		155.00	£31/19s
Farm Truck, 3 ton capacity, 36" steel wheels	750 lbs	39.50	£8/3s
Phaeton (2-seat), 3-spring buggy w/ cover, standard grade		75.00	£15/9s
Phaeton (2-seat), 3-spring buggy w/ cover, special grade		90.00	£18/11s
Special grade includes fine wood wingdash and silver rails.			
Surrey, Canopy Top (4-seat), standard grade		99.00	£20/8s
Surrey, Canopy Top (4-seat), special grade		122.00	£25/3s
Harness, Pony Harness	19 lbs	10.00	£2/1/3
Harness, Single Buggy Harness		10.00	£2/1/3
Harness, Team Buggy Harness, w/ Collars		14.00	£2/17/9
Harness, Heavy Truck Harness (2-horses), w/ Collars		28.00	£5/15/6
Horse Blanket		0.85 – 3.00	3/6 - 12/5
Lap Robe, Wool	3 lbs.	2.00	8/3
Stable Sheet		1.00	4/2
A very light blanket worn when cooling off a horse or to it protect from flies.			
Whip, Buggy Whip, 7'		0.30 - 1.25	1/3 - 5/2
Whip, Drover's Whip, 10', shot-loaded		2.25	9/4
Whip, Team Whip, 7', shot-loaded		1.70	7/0

Renting Horses from the "Jobber"

Keeping horses is an expensive proposition; they have to be fed, exercised, and stabled; and their shoes have to be changed on the average of every four to six weeks. Even if they are not being used, they are a constant drain on money and time. In addition, there is the constant threat of illness or injury. Because of this, most people who came to London rented their horses from one of the "Jobbers." (In America, a similar institution was called a "Livery Stable.") One could rent either for the evening, for a day, a month, or even for an entire year. Renting annually was more economical than renting by the week during "the season" (May, June, July, when parliament was in session.)

Even if one <u>had</u> horses (and if one had an estate in the country, one had plenty of horses,) conditions on the London streets were hard on horseflesh, so most people rented while in town, leaving their own prized animals behind in the country to rest up for harvest and hunting season. If one had a stable, coach, and coach house at the residence in London, one could just rent a horse or two. One horse would cost 5 guineas a month ($25.50), 7½ gns ($32.33) if the jobber provides the stabling and forage.

At the other end of the scale, one could rent coach, tack, horses, and the coachman (providing only the household livery for the coachman.) This would typically cost 30 guineas a month ($153.30) for a one-horse carriage, and 45 guineas a month (#230.00) for a two-horse carriage like a landau. Prices typically are 20 to 30% lower out of "season," and if hiring by the year, a one-horse coach might run 200 guineas ($1022.00).

One could also hire a horse or a coach for a few hours. A one-horse coach typically cost 7/6 ($1.82) for two hours during the day. An evening out cost 10/6 ($2.55) to 27/6 ($6.67), depending on the particulars. Rental for a full day runs £1/1s ($5.10) for a one-horse carriage, and £1/10s ($7.25) for a two. In any case, the coachman will expect a gratuity.

If a rented horse suffers any sort of mishap, illness, or injury, all that is necessary is to send word to the jobber, and a replacement will be delivered, usually within two hours.

Jobbers typically require that their coaches not be taken outside of a 7 mile radius from Charing Cross Station.

Horseless Carriages and Motorcars:

Benz Victoria (1893) 500.00 £103
Power: 4 HP – 2 cyl. Speed: 14 mph Weight: 1451 lbs
Seats: 2 (or 4) Range: 60 miles

Notes: Tiller steering, hand brake lever. The Victoria got about 10 miles to the gallon, but the open cooling system only got 1.5 miles to the gallon of water, which had to be frequently replenished. Body styles were clearly copied from horse-drawn carriages; the two most common were to two-seat phaeton and the 4-seat "vis-à-vis" which had the driver in the rear and the two front seats facing backwards.

Duryea (1895) 1,250.00 £257
Power: 6 HP – 3 cyl. Speed: 20 mph Weight: 500 lbs
Seats: 2 (or 4) Range: (unknown)

Notes: The first gasoline-engine motorcar produced in the United States. Tiller steering – the tiller was mounted in the center so it could be driven from either side. Price shown is for the 2-seat Phaeton; a 4-seat Surrey is available for $1,500.00.

Stanley Steamer (1898) 600.00 £123
Power: 6½ HP – 2 cyl. steam Speed: 27 mph Weight: (unknown)
Seats: 2 Range: (unknown)

Notes: While their production of the popular and iconic steam-powered vehicles began in earnest in 1901, their first sales were three years earlier. The water is heated with a kerosene or gasoline burner, and took about 5 minutes for the water to boil and reach operating pressure. Tiller steering.

Baker Electric (1899) 850.00 £175
Power: ~3 HP electric Speed: 6 or 12 mph Weight: (unknown)
Seats: 2 Range: ~120 miles

Notes: Baker was one of the popular and successful makers of electric cars in America. The first models were the Imperial Runabout (shown), and a Phaeton Standhope ($1,600.00). Later models came in a number of body styles, including enclosed, tall, 4-seat vis-à-vis with short wheelbases that were extremely convenient for motoring about town.

De Dion Bouton (1900) 600.00 £123
Power: 3½ HP – 1 cyl. Speed: 18 mph Weight: (unknown)
Seats: 2 Range: (unknown)

Notes: one of the most popular cars in France. Wheel steering, foot brake. Later models had a hand brake on the steering column. The engine was splash lubricated, and the oil cup needed to be refilled by hand every 20 miles.

Oldsmobile Curved Dash (1901) 650.00 £134
Power: 4 HP – 1 cyl. Speed: 20 mph Weight: 700 lbs
Seats: 2 (or 3) Range: 30 mpg

Notes: An extremely popular motorcar – in 1903 2,100 were sold – in 1904 this jumped to over 5,000. Named for the characteristic curved front, it could seat 2 (and an optional rear-facing back seat ("Dos-a-dos") could carry one extra adult or two children. Right-hand drive, tiller steering, floor-mounted foot brake, and a lever for low/high/reverse gears. The car had a crank starter which protruded from the right side of the vehicle, so the driver could start the engine while seated.

Ford Model A-Two (1903) 850.00 £175
Power: 8 HP – 2 cyl. Speed: 20 mph Weight: 1200 lbs
Seats: 2 Range: (unknown)

Notes: Not the famous Model A of the 1920s, this Model A was the first production car sold by Ford. Price shown is for the 2-seat Runabout; a 2+2-seat Phaeton is available for $950.00. Wheel steering.

Stanley Steamer "Gentleman's Speedy Roadster" (1906) 1,000.00 £206
Power: 20 HP – 2 cyl. steam Speed: 67 mph Weight: (unknown)
Seats: 2 Range: (unknown)

Notes: Don't underestimate the steamer – a modified version of this roadster set the world land speed record in 1906: 127.66 miles per hour. Wheel steering was now standard.

Chadwick "Great Six" (1908) 5,500.00 £1,134
Power: 75 HP – 3 cyl. Speed: 96 mph Weight: 500 lbs
Seats: 2 Range: (unknown)

Notes: Probably the earliest American "Muscle Car." The enormous 11.5 liter, 6-cylinder engine developed 70-75 HP, and in 1910, the company added an optional supercharger for $376.00. The experience of going at top speed in an open roadster over the roads that existed at the time must have been terrifying, to say the least.

Ford Model T (1908) 835.00 £172
Power: 24 HP – 4 cyl. Speed: 39 mph Weight: 1200 lbs
Seats: 2 (up to 7) Range: (unknown)

Notes: Steering wheel with throttle and spark advance levers, pedals for low gear, reverse, and brake. First model year (1908) had hand levers for reverse and brake. After 1909, Ford offered to convert 1908 vehicles to the 1909 controls for $15.00. Price shown is for the 2-seat Runabout; a 7-seat Touring Car is available for $950.00.

The Pioneering Motorists

Today, automobiles are a tested and mature technology, but this was not always the case. The earliest motorists were an adventurous bunch, and as a hobby it required a great deal of perseverance, ingenuity, and mechanical skill; as well as a flexible attitude about one's actual arrival time.

Breakdowns were common, including ones requiring serious mechanical work. It was not unknown for a motorist to have to pull and replace the transmission, or to rewind the ignition coil, all while stopped at the side of the road. A motorist was advised to carry a change of clothing for when, and if, they finally arrived at their destination.

Filling stations did not exist, and fuel was purchased by the 2-gallon can from mechanics, hardware stores, or even pharmacists, and one had to know ahead of time where the next fill up could be found.

Probably the single biggest hazard and source of delays for the early motorist was flat tires. In fact, for a trip of any length, at least one puncture was almost guaranteed. Most roads were dirt or gravel, and heavily traveled by horses wearing iron shoes, held on by nails. These nails, and sometimes entire shoes, fell out regularly, leaving tire-chewing hazards everywhere. The narrow inner-tube tires used before the balloon tire was invented had to be of extremely high pressure to support the weight of the vehicle (often around 90 psi), and pumping up a patched tire was a strenuous chore. Because of this, some cars carried up to four spares.

With all these drawbacks, one might think it a wonder that this new machine caught on at all, but it did have its advantages. Some of the biggest users of early automobiles (aside from wealthy hobbyists) were physicians – small town or country doctors. While a coach required at least a half hour to prepare and to harness the horses, an automobile could be ready to go within 5 minutes, a life-saving advantage when news of a medical emergency arrived via the telephone.

Gasoline, Steam, and Electric

In 1900, gasoline-powered motorcars were very much in the minority: of all the cars registered in the United States, fully 40% were steam-powered. 38% were electric, and only 22% were gasoline.

Electric vehicles were particularly popular with women, because the gasoline engines required a crank for starting. It took some strength to get them going, and accidents that bruised fingers or broke arms were not uncommon. In 1912, Cadillac invented the Self Starter, eliminating the effort and risk of the crank starter; the electric vehicle declined in popularity, but was used for urban delivery vehicles well into the 1930s.

Boats:

Canoe, Canadian, 16½'	75 lbs	77.60	£16/0/0
Dinghy, Sailing, 14'	224 lbs	115.20	£23/15/0
Gunning Punt, 22½'		174.60	£36/0/0
Designed for a 140 lb gun. 22'6" long, with a 3'8" beam. Comes with 1 pair of sculling oars, 1 paddle, 1 setting pole, gun elevator, and recoil rope spring.			
Thames Pair Oared Skiff, 25'		152.75	£31/10/0
With seats, oars, and oarlocks – completely fitted; seats two rowers and several passengers.			
Yacht		5000.00	£1,030
Anchor, 10-20 lb		4.85	20/0
Bailer, Iron, 8" scoop		0.16	0/8
Bilge Pump, hand-operated		4.00	16/6
Boat Hook		0.42	1/9
Boat Lamps, per pair		4.61	19/0
Fenders, Woven Rope, each		0.36	1/6
Fog Horn, mouth blown		0.97	4/0
Oars, 10', 1 pair		3.88	16/0
Seats, Cork (can be used as a floatation device), 12" x 12", each		0.97	4/0
Sounding Lead, 5 lb, w/ 20 fathom line		1.82	7/6

Steering Compass, 8", w/ oak case and brass bowl	1.82	7/6

Aeroplanes:

Antoinette Type VII Monoplane (1909) — 5,000.00 — £1030
Length: 40 feet | Wingspan: 46 feet | Weight: 1301 lbs
Seats: 1 | Speed: ~60 mph | Endurance: 10 miles
Power: 50 HP | Controls: Two hand-wheels and pivoted lever for feet.

Blériot Model 11 Monoplane (1909) — 2,400.00 — £495
Length: 25 feet | Wingspan: 28 feet | Weight: 661 lbs.
Seats: 1 | Speed: 45 mph | Endurance: 5 miles
Power: 25 HP | Controls: Universal lever for hands, pivoted lever for feet, spark interrupt button on stick.

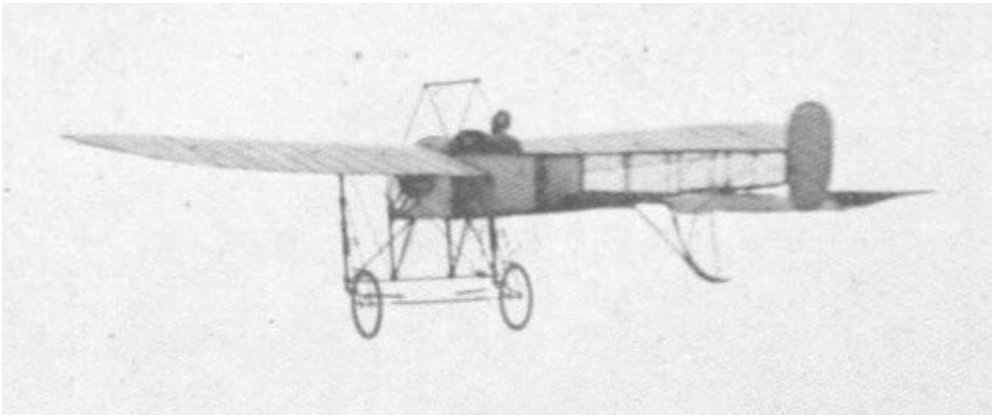
Curtiss Model A Pusher Biplane (1909) — 4,000.00 — £825
Length: 33.5 feet | Wingspan: 29 feet | Weight: 550 lbs
Seats: 1 | Speed: 55 mph | Endurance: 5 miles
Power: 25 HP | Controls: Wheel for steering and elevation, hand and foot throttle levers, pivoting seat controls ailerons.

Farman III Monoplane (1909) — 5,600.00 — £1155
Length: 39 feet | Wingspan: 32.5 feet | Weight: 1150 lbs
Seats: 2 | Speed: ~60 mph | Endurance: 10 miles
Power: 50 HP | Controls: Universal lever for right hand, pivoted lever for feet.

Santos-Dumont Demoiselle Monoplane (1909) — 1455.00 — £ 300
Length: 26.25 feet | Wingspan: 16.75 feet | Weight: 315 lbs
Seats: 1 | Speed: 56 mph | Endurance: 10 miles
Power: 35 HP | Controls: Left-hand wheel for rudder, right-hand lever for elevation, stick attached to back of jacket for wing-warp, toe lever for throttle, spark interrupt button on stick.

Wright Model A Biplane (1908) — 6,000.00 — £1237
Length: 29 feet | Wingspan: 41 feet | Weight: 1200 lbs
Seats: 2 | Speed: ~55 mph | Endurance: 20 minutes.
Power: 30 HP | Controls: Left-hand lever for elevating, right hand lever for steering and wing-warping
Note: Unlike the other planes listed which use wheels for takeoff and landing, the Wright Model A required a wooden rail for takeoff and has skids for landing.

Engine, Aircraft, 2-Cylinder, 30 HP	110 lbs	775.00	£160
Propeller, Wooden, 6'	7 lbs	30.00	£6/4s
Propeller, Wooden, 8'	11 lbs	50.00	£10/6s
Tuition, Flight School		250.00	£51/11s



The Bleriot XI in flight

Learning to Fly

While the bicycle and the motorcar had obvious advantages that outweighed their temporary disadvantages, for the first decade after its invention, the aeroplane was a frivolous and extremely dangerous hobby. By 1909, flying schools had been established in a number of cities in France *(see below)*, but in the United States, the Wright Company was the only one that provided formal training.
A two-seated Wright Flyer was used with dual controls; the student would make 60 flights or more; at first just feeling the way the aeroplane moved, then with their hands lightly on the controls they could feel how the pilot instructor moved them in response to the ever-changing conditions of the air. Only after many flights of increasing duration would the student begin to operate the controls themselves, and eventually make solo flights.

The flight schools run by the Aero Club of France were in the following cities: Châlons, Pau, Buc, Étampes, Mourmelon, Lyons, Juvisy, Issy, and Mouzon. After training, a pilot's license would only be issued after the candidate had made three flights of at least five kilometers in the presence of a committee from the Aero Club.
By 1911-1912, numerous flight schools were cropping up all over the United States: the Curtiss Aircraft Company opened schools in Miami Florida and San Diego, California, while the Burgess Company opened a school in Squantum, Massachusetts.

For those hobbyists who must teach themselves, they needed a smooth, open field of at least a square mile (a flat expanse of sturdy lake ice also provided an ideal beginning training ground). A knowledgeable mechanic and some friends with an automobile to follow along on the ground was of incalculable assistance.
It was recommended that new pilots have a thorough grounding in the operating and servicing of automobiles enabling one to operate and service the engine; experience in hot air balloons gave one a feel for being in the air and for the way the air moved; and a detailed knowledge of the weather was absolutely vital.
The student was urged to start by merely taxiing on the ground scores of times, pausing between each run to check the cables and parts of the plane. Once confidence has been developed, the student could begin to make short hops, sometimes of only a few feet. Only then could longer and higher flights be made with any degree of safety.

It was estimated that even if a new pilot managed to avoid serious injury to themselves or catastrophic damage to the plane, they could expect to pay about $2000 in parts and repairs to the plane before they got a good feel for flying.

By 1911, there were enough planes that it was possible to find one second-hand. Prices ranged from $500 - $2000 for an aeroplane in good condition

The Balloon and Early Aeronauts

1808, - Italian aeronauts Pascal Andreoli and Carlo Brioschi ascend 25,000 feet in a hot air balloon.

1821 – A balloon was first inflated with coal gas (an impure mixture of hydrogen and methane). It cost between £25 and £50 to fill a balloon. Filling a balloon from the municipal gas mains was far easier, faster, and cheaper than filling using a hydrogen generator, and a balloon could be filled in 2-3 hours, rather than taking all day or longer. A balloon filled with coal gas, while not as buoyant, remained inflated longer since hydrogen diffused more rapidly out of the envelope.

1836 – The Royal Vauxhall balloon was made for a cost of £2,100. It was enormous: 80 feet tall, and could carry 9 passengers up 13,000 feet in 5 minutes.

1838 – The Vauxhall set an altitude record of 27,146 feet.

1840 – The Royal Vauxhall was sold for £500.

1844 – During a night ascent, a balloon burst at 7000 feet, but one of the aeronauts (Henry Coxwell) was able to cut some of the ropes, allowing the envelope to become a sort of parachute.

1862 – James Glaisher and Henry Coxwell set an altitude record of 37,000 feet – over 7 miles. The thin air caused Glaisher to black out, and Coxwell, nearly unconscious and hands frozen by the cold, was able to save them by pulling the cord to the exhaust valve with his teeth.

1862-1865 – Balloons are used for military observation during the American Civil War. Hydrogen gas is generated on the site by reacting zinc or iron powder with acid in large, wagon-like units.

ca. 1860s – Parisian photographer and avid aeronaut Félix Tournachon takes his cameras up in his balloon, taking the first aerial photographs.

1870 – During the Siege of Paris, some Parisians were able to escape over the Prussian lines in balloons, taking with them mail, and even carrier pigeons, allowing messages to be sent back to the city.

1900 – Count von Zeppelin launches his first dirigible

Long-Distance Coaches (Stagecoaches)

The Concord Coach was widely used in America and Europe; it weighed about 3,000 lbs. empty and could carry over 2 tons of passengers and cargo when pulled by 6 or 8 horses. The body of the coach hung from a system of leather straps, transforming much of the bumps and vibration of the road into a gentle rocking motion. One difference between the European version of the Concord and its American cousin is that in the former, the driver's seat is attached to the chassis, rather than the cab, so the driver would have to suffer through everything the road had to offer. On both sides of the Atlantic, the driver sat on the right, while the guard (riding "shotgun") sat on the left.

Inside the cab, there were three bench seats – two facing forward, and the front most facing back – there was storage space beneath the benches, which sat three comfortably. Three more could sit on a bench on the roof with their legs hanging off the back (where they had a ringside view of anyone or anything pursuing the coach.) It could carry 12 persons comfortably, but twice that number could be crammed inside in a pinch.

Despite the 'gentle' suspension, a rough road could frequently toss riders off of the top seats, and on the less-developed American roads, even overturn the coach – something that happened often enough that most travelers resigned themselves to enduring at least one rollover on their journey.

A coach could travel about 35 miles in 8 hours. Some stage lines would run around the clock – only stopping long enough to change horses or drivers; others would only run during the daytime, stopping at stations for an overpriced meal and a bedbug-ridden cot for the night. On the better-quality roads back east or in Europe, coaches could travel up to 9 or 10 miles per hour for stretches. It typically took an entire month to cross the United States from coast to coast.

When mud or winter snows made a stretch of road impassible, the driver would send ahead to a station to send a "mud wagon", a lighter, 4-horse coach that would ferry the passengers and cargo across the bog.

Fares were about $0.08 per mile.

Railroads

After its invention in the 1830s, the railroads became the main form of land transportation in both Britain and America for both passengers and freight, though the stagecoaches continued to service the smaller towns off of the lines into the first decade of the 20th century.

The owners of the railroad companies, both in Britain and in America, were notorious for their greed and lack of safety standards. For example, in order to stop a train, the driver would signal by blowing the whistle, and the brakemen would race through the cars, setting each of the brakes by hand – a slow and uncertain process that led to many accidents and collisions. The open platforms at the ends of the cars would ride up over each other, crushing anyone standing there, and nearly 20,000 employees a year were killed or injured, many while trying to couple or uncouple the cars.

In 1868, George Westinghouse invented the Air Brake system, allowing the driver to apply all the brakes at once, and it was improved in the 1880's so that if any cars became uncoupled, the brakes would apply automatically, bringing them to a stop. While some railroads quickly adopted these improvements, it was not until 1893 that President Harrison signed the Safety Appliances Act, requiring all trains to use automatic couplers and air brakes. The enclosed 'vestibule platform' on the Pullman cars was also a safety measure, protecting passengers in a collision.

Fares per 100 miles:

1st Class:	$5.00
2nd Class:	$ 3.75
3rd ("Emigrant") Class:	$ 2.00

A coast-to-coast trip across America 1st class cost $173, not counting meals that were usually taken at the stations.

A berth in a Pullman Sleeper car cost $2.00 per night, and you were expected to tip the porter at least $0.25 a night.

The 3rd Class, called "Emigrant Class" in America, was better than riding in a cattle car…but not by much.

In England, the Third Class fare was on the "Parliamentary Trains" – in 1844, parliament passed a regulation that all lines were to have at least one train a day (in each direction), that stopped at each station, and cost 1d ($0.02) per mile. No one of substance would use these trains, but they gave the working classes their first real opportunity for travel.

Railroads averaged between 20 and 25mph. A coast-to-coast trip across the United States took six and a half days.

Conditions on trains, especially for 2nd and 3rd class, could be Spartan – steam heating was not introduced until 1874, and there were no toilet

facilities until 1892. A stop at a station often brought a mad rush for the lavatories.

Railroad Baggage Allowances:

1st Class:	112 lbs
2nd Class:	80 lbs
3rd Class:	60 lbs

Railroads usually did not charge for baggage being overweight unless the amount was exorbitant.

Freight rates for 100 pounds per 100 miles:

Express:	$0.50
1st Class:	$0.10
4th Class:	$0.07

Riverboats

Before the railways bridged the American Continent, the broad rivers were the arteries and veins of the country, carrying both passengers and cargo. Paddle-wheel steamers could travel about 25-30 miles a day upstream, and 50-100 miles a day coming back. Out west, the boats usually had stern wheels – if they were blocked by a shallow sandbar, they could turn the boat around, back the engine, using the wheel to chew a passage through the sand. They also carried a pair of heavy spars on the bow; by lowering the spars and digging them into the bottom, pointed forward, then pulling them back with block and tackle and a winch while gunning the engine, they could limp forward one hop at a time over the obstacle, like a man on crutches – a maneuver called "grasshoppering".

It cost about $0.01/mile to ship 100 lbs of cargo. Passengers cost between $0.12 and $0.15 per mile if you wanted a stateroom (and usually included a 250 lb. baggage allowance), or less than half that if you slept out on the main deck. People transporting coaches up or down stream would often sleep inside them.

A moderately-sized steamboat cost $20,000 and up to build, but could be purchased second-hand for around $5,000. The huge floating glitter palaces of the Mississippi, as luxurious as the finest hotel, could cost up to $250,000 to build and decorate.

Thames River Boats

The Thames is London's "Silent Highway", and long before the tubes and the omnibus carried passengers about, riverboats, steam packets, and ferries of all sizes shuttled people up and down the river. Some of the ferries could take several 2-horse carriages in addition to foot passengers. Boats left from the numerous docks every five to 20 minutes, and a single passenger fare cost between 1d and 6d, depending on the distance traveled. Boats could be hired, as well: a two-oared boat (called a 'wherry') could be had for 1/0 for the first hour, and 0/6 for every hour after that. Four-oared boats cost 1/6 for the first hour, and 1/0 for every hour after that.

Hansom Cabs and Coaches

In cities of any size, there were a number of 2- and 4-wheeled, horse-drawn coaches available for hire; either roaming through the streets or waiting in neat queues at cabstands. There were several common types: The Hansom, a 2-wheeled, enclosed cab that would comfortably seat 2 (invented in 1835); the Landau, an open, 4-wheel coach that could seat 4-6, and the Brougham, a 4-wheel enclosed coach that could seat 4.

Before 1850, fares were generally around 8d per mile. The following fares were typical of London in the second half of the century:

For fares that start and finish in a 4 mile radius around the Charing Cross station – 1/0 for the first two miles, and 0/6 for each mile or part of a mile.

Each mile beyond 4 miles of Charing Cross – 1/0

Each person beyond 2 – 0/6 (each child under the age of 10 counted as half a fare.)

A reasonable amount of baggage could be carried inside the cab; for each parcel carried on the outside – 0/2

A cab could be asked to wait – the first 15 minutes was free, but every 15 minutes or portion thereafter was 0/6 for a 4-wheeled coach, or 0/8 for a 2-wheeled cab.

Drivers were not obligated to travel more than 4 miles per hour – if asked to rush, he was entitled to an extra 0/6 per mile.

Drivers had the right to refuse any fares in excess of 6 miles, at their discretion.

Fares were to be agreed upon in advance. If a driver agreed to a lesser fee, and then required a larger fee at the completion, there was a 40s fine.

In the event of a dispute, drivers were required, if requested, to take the passenger to the nearest police-court or police station for the local magistrate to decide the matter.

Lost luggage was required to be turned in to the nearest police station within 24 hours (if not claimed sooner.) Anyone claiming the luggage was required to prove to the satisfaction of the local police commissioner that it was his or her property, pay all expenses, and a suitable reward to the cab driver as determined by the commissioner.

It was not considered proper for a woman to accompany a man in a Hansom cab. An open Landau was more suitable.

Steamships

While the great sailing ships continued to ply the world's oceans carrying cargo well into the 20th century, the steamships carried nearly all the passengers by the end of the century.

The fares varied wildly, as did the frequency of the trips: the Dover to Calais run left three times a day, while the Atlantic crossings by Cunard and White Star left once or twice a week. Here are some sample fares (1st class – 2nd class):

Dover-Calais:	10/5 – 8/5
London-Amsterdam:	23/0 – 15/0
London-Hamburg:	30/0 – 20/0
London-St. Petersburg:	£7/10s - £5
London-New York	£35 - £12
Boston-New York:	$2.00

The price of the London-New York passage also varied by season: 1st class passage ranged between £15 and £35 ($75 - $175), while 2nd class ranged from £8 to £12 ($40 - $55). The fares for White Star Lines were slightly cheaper than Cunard.
The price for "Steerage" dropped sharply all through the period. By the mid 1890s, a transatlantic crossing was $20.00 (22/6), and continued to fall

Servants traveling with their 1st class employers were only charged the 2nd class rate.

Crossing the Atlantic in one of the large passenger liners took five and a half to six and half days – about 500 miles a day. Going from New York to San Francisco required either traveling "Around the Horn" in a sailing vessel in the first half of the century took between 150 and 200 days. The Panama Canal did not open until 1914, but in 1855, the Panama Railway crossed the isthmus. Cargo and passengers would offload, purchase tickets on the railway, and be picked up by another ship on the other side. Because of the way Panama makes an "S" bend, the Atlantic is on the west, and the Pacific on the east.
Traffic going from Asia to the Mediterranean could go through the Suez Canal, which opened in December of 1858. The 100-mile trip would take about 16 hours to cross through the desert.

Freight rates varied considerably throughout the century, but a good rule-of-thumb is $11.00 per ton per 1000 miles:

The Omnibus

Omnibuses, which originated on the continent, are large coaches drawn by two horses and can carry 12 people inside and an additional 9 on top. The seats inside were two benches running the length of the coach, facing each other. On muddy days, there never seemed to be enough room to keep women from muddying their hems against someone's boots.
In 1844, the fares ranged from 6d to 1s. By 1870, the fares had dropped to 1d to 6d. Most lines were 2d; half fare if the passenger was willing to ride on top.

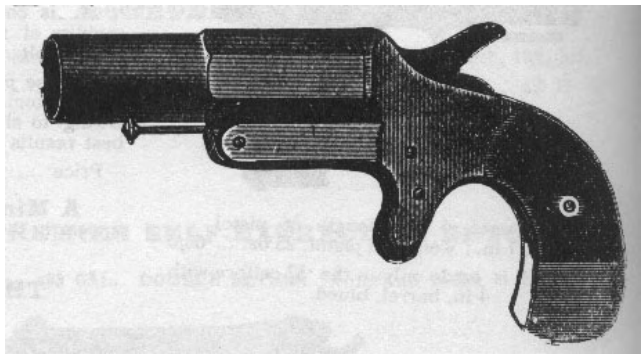
The Underground

Until 1880, the underground lines were built using the "cut and cover" method – a trench was dug, the tracks laid, the tunnel roofed over and buried. These lines are relatively shallow, and can run two trains abreast. The later lines were "tubes" burrowed out of the deep clay using a drilling machine, and have only enough space for one train. Initially, these were powered by moving cables, but in 1890 the locomotives were gradually switched over to electric power.
The earlier lines charged varying rates depending on the distance traveled. In 1902, the Central London line opened, and charged only 2d ($0.04), no matter what distance traveled, earning it the nickname of the "Twopenny Tube." In 1907, the fares were increased to 3d for journeys of more than 8 stations, but the name stuck for years.
The earlier trains had 1st, 2nd, and 3rd class carriages; the two upper classes had comfortable leather seats, with the ones on the 1st class carriage divided by armrests, preventing overcrowding. Light was provided by gas burners of oil lamps (in 3rd class), but the draft made the lights flicker while the trains were in motion. Until the lines switched to electricity, the air could get quite foul. Between the smoke, sulfur and steam of the engines, the fumes from the oil lamps, and the tobacco smoke, one patron in 1887 was moved to note "…I had my first experience of Hades to-day."
In lieu of a complicated fare chart, assume a ticket costs between 1d-6d ($0.02 - 0.12)

Various Anti-Social Devices

This section describes materials and equipment that can be used (or more often misused) for purposes of mayhem and destruction, but are not classified as 'weapons'. Most, if not all, of these are freely available, or can be obtained without too much difficulty, and could often be ordered through the mail. All are legal to own (in this time period), though their possession in certain circumstances might raise questions. For example, were a person found to be storing a large quantity of sulfuric acid after a string of unsolved acid attacks, he would face a lot of very awkward questions, if not immediate arrest.
These items might be of use to investigators who have decided upon a course of direct and drastic action, and would be quite at home in the arsenal of a villain on a budget.


The Gasoline Blowtorch


The "Very Pistol," or 12 gauge Signal pistol


Handcuffs


Chain Twister


Nippers

Some Useful Inventions

1845 – Nitrocellulose (guncotton) discovered.

1847 – Ascani Sobrero discovered Nitroglycerine.

1859 – The hand-cranked magneto generator is patented.

1867 – Alfred Nobel invented dynamite.

1874 – Barbed wire is patented.

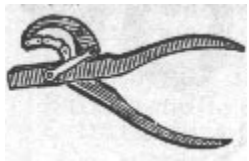
1847 – Ascani Sobrero discovered Nitroglycerine.

1891 – Nicola Tesla invented the 'Tesla Coil'.

Item and Description	Weight	US Price	UK Price
Ammoniacal Nitre, pure 5 pound tin Ammonium Nitrate – used both in fertilizer and explosives.	6 lbs	1.10	4/7
Aromatic Spirits of Ammonia, 1 pint	1 lb	0.79	3/3
Apron, Rubber This is a ladies fancy white kitchen apron, lined with rubber. Easily available, but perhaps not the most desirable look for a budding psychopath	-	1.35	5/7
Barbed Wire, 560 yards Not available before 1874. Galvanized, 2-strand, 4-prong. 2-prong barbed wire is available for a slightly cheaper rate. When first introduced, the price was far higher - $20.00 for 100 pounds; within 10 years the price had dropped to the amount shown. The British price is slightly higher (less demand.)	100 lbs	2.00	14/3
Barbed Wire Cutter		0.48	2/0
Leather Saddle Case for Barbed Wire Cutter		0.30	1/3
Staples for barbed-wire fencing, box of 1000		0.48	2/0
Brazing Lamp Holds 3 quarts of kerosene and burns with a 20" flame for 1 hour at maximum setting.		10.20	42/0
Carbolic Acid crystals, 1 gallon tin When dissolved in water, was used as a powerful disinfectant.		0.67	2/9
Carpet tacks, bulk, 25 lb boxes	25 lbs	3.75	15/6
Caustic Soda, 5 lb tin. Sodium hydroxide. Produces lye when dissolved in water	5.5 lbs	0.32	1/4
Chloroform, 1 oz bottle	-	0.13	0/7
Fire Extinguishers:			
The "Model" Hand or Garden Pump or Fire Extinguisher Pumps from a pail or container. Will force a ¼" stream 40 to 60 feet. Made of polished brass.		2.00	8/3
Fire Extincteur (backpack fire extinguisher), 10 gal	123 lbs filled	27.85	114/11
5½ gal	83 pounds filled	21.00	86/6
Pressurized via hand pump, brass nozzle, leather harness straps. Refill chemical 0/6 per gallon			
Harden Star Grenade Fire Extinguisher, 1 dozen Decorative glass globes filled with flame retarding chemical liquid. The grenades are thrown into the fire and break, scattering the chemical.		7.64	31/6
Wire basket for 6 Harden Star Grenades		0.42	1/9
Lewis's Fire Extinguishing Tube, 1 dozen A long, telescoping tube with a small nozzle on one end, By pulling the two halves of the tube together, the chemical liquid inside is squirted out the nozzle.		12.30	50/9
Wall sockets for Lewis's Fire Extinguishing Tubes, each Holds one tube ready for use.		0.18	0/9
Formalin, 1 quart bottle	2 lb	0.40	1/8
Formalin lamp, The lamp vaporizes formalin, creating fumes to sterilize a room or lab. The smell is vile.		2.06	8/6
Gasoline, 1 gallon	7 lbs	0.12	0/6
Gauntlets, Rubber, 1 pair There are men's gloves, lined with indiarubber. The look and styling are identical to men's dress gloves, complete with the decorative seams on the back.	-	1.50	6/2
Gloves, Indiarubber, 1 pair Heavy indiarubber gloves, for work with high-voltage electricity of x-rays (after 1895).	-	2.65	10/11
Glycerine, 16oz	1 lb	0.28	1/2
Handcuffs and Restraints:			
Handcuffs, Double Lock Detective's Handcuffs		3.50	14/5
Chain Twister A chain with a two-piece t-handle, It fitted around the wrist of the prisoner, and by twisting on the handle, the chain is tightened. A pain-compliance device.		0.90	3/9
Thomas' Nipper No. 4 The claws lock around the prisoner's wrist automatically when pressed against it. The t-handle could be twisted to apply pressure to the wrist forcing compliance		1.75	7/3
Insect Powder, 1 lb tin	1 lb	0.55	2/3
Kerosene, 5 gallon can Deposit required on the can – or empty cans may be refilled.		0.25	1/0
Lead, bar or shot, per pound		0.09	0/4½
Matches, "Ordinary" or Strike-Anywhere, long, 1 dozen boxes		0.10	0/5
Meat Hook, large Made of 7/8" iron; available with either a screw end for attaching to beams, or a hook end for hanging from rails or tracks.		0.25	1/0
Mercury Metal, 1 lb		1.45	6/0

Item and Description	Weight	US Price	UK Price
Explosives and demolition equipment:			
Blasting Caps, Electric ("Electric fuses"), per 100. 4' lead wires		2.70	11/2
12' lead wires		4.65	19/2
Packaged in boxes of 50. Also available with 6', 8', and 10' lead wires.			
Blasting Caps, non-electric, per 100		0.85	3/6
Blasting Powder, extra strong	25 lbs	1.58	6/6
Compressed black powder pellets, packed in 25 lb. tins			
Crimping Pliers/Fuse Cutter		0.45	1/11
Can be used to cleanly cut safety fuse and crimp non-electric blasting caps onto the fuse. One leg of the pliers usually has a flat tip to use as a screwdriver, and the other end is pointed to make a well for the blasting cap in the stick if dynamite. It is sometimes made from copper or bronze to prevent sparking.			
Dynamite, 40% nitroglycerine, per pound		0.14	0/7
60% nitroglycerine, per pound		0.17	0/9
Dynamite is shipped in cases of either 25 or 50 pounds, or sold by retailers either by the case or by individual ½ pound sticks. Dynamite is rated by its nitroglycerine content (usually between 30 and 75%); the higher the percentage, the sharper and more "shattering" the explosion. 40% is used for breaking ore, lifting stumps, and breaking ice. 60% and higher is used in hard rock mining.			
Safety Fuse, Single tape, for use on damp ground, 1000'		3.50	14/5
Triple tape, for use in mud or underwater, 1000'		5.70	23/6
Safety fuse is supplied in 50' coils, and burns at a rate of 30-45 seconds per foot, depending on the temperature and humidity at the time. Users are encouraged to test-burn a known length before use to determine the current burning rate. It can ignite black powder directly, or a non-electric blasting cap may be crimped on the end to fire dynamite or other high explosives.			
Magneto-Exploder	19 lbs.	17.50	3/12/6
'Hellbox' for firing high or low tension fuses (electric blasting caps). Crank handle is removable to comply with latest Home Office regulations. Will fire 8 caps.			
Miner's Squib Case, tin, 1¼ " x 7", each		0.04	0/2
Miner's Squibs, 1 case (10 boxes of 100)		10.00	21/3
A "squib" was a small pyrotechnic delay used to fire a black powder demolition charge. After the powder was packed into the shot hole, a long brass "needle" was stuck down into the charge and the hole packed with tamping material. The needle was removed, leaving a small passage down to the powder. A squib (which looks like a long twist of paper) was placed in the hole left by the needle and the end lit. After a 30 to 60-second delay, the match composition in the tip fired, exploding the charge.			
Wire Reel, 500'		15.00	61/11
Dispenses twin wires for firing electric blasting caps. Reel holds 500' of wire, with an additional 5-10 feet in the middle to run to the exploder box.			
Oil of Vitriol, 1 gallon	9 lbs.	0.73	3/0
Concentrated Sulfuric Acid.			
Piano Wire, steel, 24 gauge, 1 lb roll		0.79	3/3
Prussiate of Potash, 1 lb		0.55	2/3
Potassium Cyanide. Used in electroplating and the refining of gold, and was supplied to jewelers, miners, smelting plants, and prospectors.			
Prussic Acid, 2% solution, 1 lb bottle		0.25	1/0
Hydrogen Cyanide.			
Quicklime, 1 pound		0.10	0/5
Calcium Oxide. A caustic powder used for making mortar and whitewash, for reducing the odor in outhouses, and speeding the decomposition of bodies and animal waste.			
Rat Poison (warfrin)		0.11	0/6
Rocket Shells, 12 ga, 1 dozen		1.58	6/6
Made for alarm guns, but would theoretically fit in standard cylinder-bored shotguns.			
Saltpeter, powdered, 1 lb		0.10	0/5
Commonly used in the pickling and preserving of meat.			
Saw, Butcher's, 24"		1.30	5/5
Steel framed (like a hack saw).			
Scalpel		0.28	1/2
Signal Pistol	1 lb	6.06	25/0
Break-open, single-shot. Weighs 1 lb 3 oz			
Signal Flares, dozen		2.79	11/6
300 foot range; available in red, green, blue, and white.			
Signal Rocket Apparatus		14.55	60/0
Includes one rocket, firing trough, and stand			
Signal Rockets, each		2.42	10/0
Spray Pump, Meyer's	66 lbs full	4.80	19/10
Brass tank and pump, 8 gallon tank, wire bail carrying handle (like a bucket handle). This sprayer is not the type that uses a pressurized tank, but rather must be pumped continuously. It is usually carried from place to place, set down on the ground, and then pumped with one hand while the hose is held and directed with the other hand.			

Item and Description	Weight	US Price	UK Price
Snare wire, 1 lb coil Fine twisted brass wire.	1 lb	0.55	2/3
Sulfur candles, each Used for disinfecting rooms, cleaning wine barrels, and sometimes in preserving dried fruit. They burn for several hours, producing sulfur dioxide gas.		0.17	0/9
Sulfur Flowers, Granular sulfur, used for fumigation or dusted as a fungicide. Available in any rural hardware store.		0.07	0/4
Taxidermist's Flensing Kit Leather tool roll containing 3 skinning knives, 1 oil can, 1 oil stone, 1 pair scissors, 1 pair cutting pliers.		2.79	11/6
Tobacco Extract, 1 pint A solution high in nicotine used as a pesticide on plants. Quite poisonous: is even absorbed slowly through the skin.	1 lb	0.30	1/3
Traps, steel, Newhorn brand, Size 0, each For gophers, rats, etc. 3.5" jaws.	13 oz.	0.25	1/0
Traps, steel, Newhorn brand, Size 4, each For beaver. 6.5" jaws.	3 lbs.	0.80	3/4
Traps, steel, Newhorn brand, Size 4½, each For wolves. 8" jaws. With long drag chain. Guaranteed to hold 2000 lbs.	9 lbs.	2.00	8/3
Traps, steel, Newhorn brand, Size 6, each For grizzly bears, lions, moose, etc. 16" jaws.	42 lbs.	12.00	49/6
Setting clamps for Newhorn steel traps – Size 4, 4½		0.15	0/8
Setting clamps for Newhorn steel traps – Size 6 A metal bracket which holds the jaws of the trap open while setting and baiting the trigger, preventing the trapper from accidentally losing a hand in the process.		0.50	2/1
Veterinary Tools:			
Ecraseur, Halstead's Emasculating shears, for gelding bulls and horses.		9.75	41/3
Incisor Cutters, Straight		3.00	12/5
Molar Extracting Forceps, 13"		3.00	12/5



Explosives and the Law

Explosives have many perfectly legitimate uses, particularly in a young and developing nation like the United States. Farmers need to remove tree stumps and large rocks from their fields; prospectors and miners need to break through the overburden to get at ore; there are tunnels to be dug, grades to be leveled, earth to be moved, all made easier and faster through the use of explosives. Black powder in bulk, and later dynamite, were freely available in rural hardware or general stores, and it could also be ordered directly through the mail from suppliers like Sears and Roebuck. In fact, Sears only stopped supplying these materials in 1909 because the cost of insurance would be too high. It was not until the threat of bolsheviks, anarchists, and the bombing campaigns of 1919 that many communities began restricting the sale of explosives.

Dynamite could be ordered by the case of 25 or 50 pounds and shipped through the mail, or it could be bought from a general store either in case lots, or by the individual stick.

In England, black powder and blasting agents could be shipped anywhere by rail. For amounts up to 1 cwt (112 lbs), the charge was 3/6 for distances under 200 miles, and 4/6 ($1.10) for over 200 miles. The materials were shipped in a special metal canister that had to be immediately returned. If it was not, a charge of 60/0 ($14.55) would be made.

British regulations permitted the storage of up to 50 pounds of black powder in a residence; 100 pounds if it was kept in a fire-proof safe. If it was kept in such a safe apart from a dwelling, and a reasonable distance from any public place, 200 pounds may be stored.

"Explosives", which also included ammunition, fireworks, fuses, and pyrotechnic signals, could only be carried in a passenger vehicle or boat if the amount were less than 5 pounds, and "all due precautions be taken for the prevention of accident by fire or explosion." Certain explosives, like nitro-glycerin and fulminates, could not be carried on a passenger vehicle under any circumstances.

It is interesting to note that the police could only enter a boat on the Thames to search for or seize explosives during the hours of daylight.

Blasting Machine

Crimping Pliers

Matches

During the 19th century, a confusing number of friction matches were invented and discarded, improved and pirated, leaving such a bewildering mess that no two references seem to be able to agree with one another. Somewhere around 1827, two types of friction matches were invented – the "Congreve," and the "Lucifer." A box of 50 Lucifers cost 2/6 ($0.37) and came with a piece of sandpaper. They were lit by squeezing hard and pulling them sharply though a fold of sandpaper. If the head didn't pull off, it sputtered and popped loudly like a string of firecrackers, sending sparks and embers flying. Congreves cost about the same, but contained white phosphorous and were far easier to light – perhaps too easy: they were known to ignite if stepped upon. They also had to be kept in an air-tight case.

In 1833, a smaller match was invented – one easier and more convenient to light. They were called "Wax Vestas," as the matchstick was either wax or paper heavily soaked in wax – actually making the match waterproof. They came in a vest pocket sized tin that had a rough striking surface on the bottom, and were extremely popular. Never ones to give up a good name, the British still call pocket match safes "Vestas."

Around 1850, the "Strike-Anywhere" match was invented; also popularly called "Lucifer Matches." They could be struck against almost any rough, dry surface (even the seat of the pants), but emitted a cloud of poisonous and foul-smelling gas (users were warned not to breathe that smoke); it also left behind a tell-tale briefly glowing streak. Containing a mixture of white phosphorous and sugar, the deceptively sweet match heads lead to several deaths every year, usually children.

In 1855, a Swedish company developed the "Safety Match," which replaced the poisonous white phosphorous with the more benign and stable red phosphorous and moving it to a special striking surface on the box. This formula remains in use to this day.

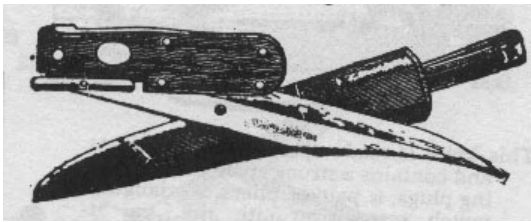
Strike-Anywhere matches were sometimes supplied in "block" form: the individual matches were not sawn all the way through to separate them from the strip of wood, but were still attached on the bottom – much like the teeth of a comb. One merely broke off a match as needed. These 'blocks' sometimes found use by people fleeing on horseback – a single lit match, dropped from a running horse, stood little chance of igniting the brush; but a whole block probably would. More than one traveler in the American west shook off pursuing natives in this way.

Paper matches in booklets were invented around 1890, but did not become popular until 1897, when an opera company in New York used matchbooks with their logo printed on the cover to advertise their opening. A book contained 20 matches and had the striking strip on the inside of the book. Not the safest of arrangements.

One early form of match that might be of (mis)use is the "Promethian." Invented in 1829, they were a long strip of twisted paper that contained a glass bulb of sulfuric acid, coated with chemicals that would burst into flame if the bulb were broken by a pair of nippers (or if you were brave, by crushing it in your teeth.) Charles Darwin was apparently quite impressed by them while on his famous voyage on the HMS Beagle. Their application to various booby traps and infernal devices should be obvious.

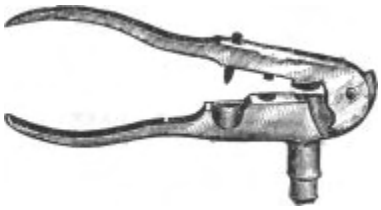
Weapons and Accessories

This section describes objects that may be directly used as weapons – they are either purpose-built (like bowie knives), or are common tools and implements that have historically been used for weapons (such as hatchets and sledgehammers, butcher knives and ice picks.) Also included are various accessories for firearms and melee weapons, such as holsters, cleaning kits, magazines, sights, and slings. It does not include the near-infinite variety of tools and household devices that can be used as weapons; investigators in a tight spot are heartily encouraged to peruse the chapters on "Tools" or "Hardware" and use their devious imaginations.

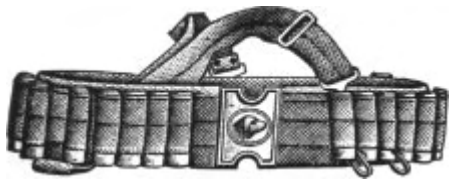


The "Bowie" Knife

Police "Sap" or Blackjack



Hand Reloading Tool



Anson Mills Cartridge Belt

"Pull Through" Cleaning Rod

Item and Description	Weight	US Price	UK Price
Air Rifle, The Improved Daisy Air Rifle, single-shot repeater	2	0.73	3/0
Darts, .177 caliber, 1 dozen	-	0.25	1/0
Lead BBs, .177 caliber, ~1800 pellets	1 lb	0.10	0/5
Archery Equipment:			
Bow, gentleman's		8.55	35/3
6' length, 35-55 lb pull. Hickory belly with yew backing.			
Arrows, target arrows, best quality, 1 dozen		6.55	27/0
Plain target points, footed shafts.			
Arrow case		0.36	1/6
Canvas covered wood. Holds 1 dozen arrows. Shafts are held apart so the fletchings are not damaged.			
Arm guard, leather		0.32	1/4
Bow bag; chamois-lined canvas		0.26	1/1
Bow string, linen		0.36	1/6
Skeleton Glove, leather		0.40	1/8
Targets, canvas on straw, 48"		6.50	26/9
Target Stand, iron, 5'6"		2.42	10/0
Quiver with belt		1.21	5/0
Axe, Single Bit	5 lbs.	0.70	2/11
Axe Handle, 36"	1 lb.	0.14	0/6
The handle to an axe can act as a strong, well-seasoned, 3-foot long club: fast and versatile.			
Baseball Bat		0.50	2/0
Baton, Policeman's, Rosewood, 14" ('Dayclub')		0.50	2/0
Baton, Policeman's, Rosewood, 22" ('Nightclub')		1.00	4/0
Bayonet, with scabbard and frog (belt loop)		4.24	17/6
Bicycle Chain		0.25	1/0
Billy, Plaited, 9½"	6 oz.	0.95	3/11
The classic "Blackjack" – a short, flexible leather club weighted with lead shot.			
Billy, Braided leather Pocket Billy	4 oz.	0.50	2/1
Also known as the "Slungshot", a teardrop-shaped lead weight covered with braided leather, with a long wrist loop. The billy is small enough to be hidden in the hand, and is can be used like a normal blackjack by holding the cords short, or the cord can be looped around the wrist and the billy swung for extra force or thrown into the target's face, jerking the weight back after the throw. It can even be slipped inside a glove and hidden in the palm of the hand and the target attacked by slapping.			
Box Hook, Iron, with wood handle, 6", each		0.10	0/5
12", each		0.20	0/10
A vicious iron hook attached to a T-handle, used for handling heavy freight. It can be found in nearly any barn to carry hay bales, and is a staple tool on the docks. It is often used as a weapon by Longshoreman in dockside brawls.			
Cane Knife ("Machete")		0.60	2/6
Cane, Loaded		0.25	1/0
Looks like a normal walking stick, but the head is weighted with lead and the shaft is steel rod. Head covered with extra-heavy spun cloth.			
Cartridge Belt, Web, Pistol		0.45	1/11
Made of sturdy cotton webbing. For pistol calibers: .32, .38, .44, and .45. The belts hold 36 rounds.			
Cartridge Belt, Web, Shotgun		1.25	5/2
Anson Mills woven shell belt (not sewn); fits 10, 12, or 16 ga shells. Includes a shoulder strap for support, and a game hook. Incidentally, 'Anson Mills' was the designer: General Anson Mills.			
Cleaner, Rifle (pull-through)	-	0.33	1/5
U.S. Government-Issue. Includes cord, weight, brass brush, and slotted wiper. Available for .22, .32, .38, and .45 calibers. With canvas carrying pouch.			
Cleaning Brush, Rifle, Brass		0.19	0/10
Screws on to the end of a cleaning rod. Available for a wide variety of calibers.			
Cleaning Rod and Brush, Pistol		0.38	1/7
Available for a wide variety of calibers.			
Cleaning Rod, Brass, 4-section		0.35	1/6
4 section rod with wooden handle – rod can rotate within the handle as the brush or patch follows the rifling.			
Cleaning Rod, Wood, 3-section, for Shotguns		0.27	1/2
Includes swab, scratch brush, and wiper.			
Cleaver, Butcher's, 10" Blade	4 lbs	1.12	4/5
Dagger, 4" Blade		1.25	5/2
Pearl handle, steel guard; finest quality steel blade.			
Dagger, Push Dagger		1.75	7/3
A favorite of the professional gambler, the push dagger had a short blade and a t-shaped handle. When gripped, the blade protruded from between the fingers of the closed fist, and was used by punching at the target. It was fast and powerful. The sheath could be hung from the inside of a coat, allowing a fast draw.			
Grass Suits	-	1.75	7/3
Made of long, tough marsh grass, patterned like a caped coat with hood. Light, easily packable, and sheds rain well.			

Item and Description	Weight	US Price	UK Price
Gun Case, canvas, for takedown weapons Best brown canvas; leather bound, with leather lock, handle, and end caps. Barrel and stock are stored in separate compartments, minimizing the length. With accessory pouch.		1.00	4/2
Gun Case, Molded Leather, for takedown weapons Heavy molded leather, finest quality. Barrel and stock are stored in separate compartments, minimizing the length. With tool pouch.		6.00	24/9
Gun Grease, Winchester, per tube Heavy grease for protecting metal surfaces from rust or for lubrication; manufactured by Winchester. Supplied in a metal foil tube.	-	0.10	0/5
Gun Oil, Sperm Spermaceti oil extracted from the head of sperm whales. An extremely high-quality light oil that does not gum up or go rancid. Commonly used for lubricating fine mechanisms like watches and scientific instruments, and for firearms.	2 oz	0.80	3/4
Hatchet	1 lb	0.45	1/11
Holster, Flap holster		0.38	1/7
Holster, Hip Pocket Holster Leather holster that fills the entire hip pocket to keep the gun firmly in place. Available for .32 and .38 caliber revolvers with barrels up to 3½" in length.	-	0.26	1/0
Holster, Shoulder Holster	-	0.75	3/1
Ice Pick		0.09	0/5
Ice Pick, Sliding The spike is stored inside the hollow handle, and slides out to lock into place for use.		0.12	0/6
Knife, Butcher, 8" Plain wood handle without any guard or bolster.		0.28	1/2
Knife, Hunting, 6" "Bowie"-style blade, staghorn handle, brass guard, with leather sheath.	1 lb	0.90	3/9
Knife, Hunting, Folding Clip-point blade, staghorn handle. When the blade is folded, it protrudes from the back of the handle, acting like a 4" fixed-blade knife. When opened, a folding cross-guard locks in place, and the blade length is 9½". With leather sheath.	1 lb	4.30	17/9
Knife, Sticking, 6" Plain wood handle without any guard or bolster. Blade is similar to a butcher knife, but with a more sharply pointed tip. It is used for slaughtering livestock (hence the expression "bleed like a stuck pig.")		0.15	0/8
Knife Sheath, leather, for blades 6-9" in length	-	0.20 - 0.32	0/10 - 1/4
Lance, Complete (regulation head, shaft, iron shoe, sling, flag, and sheath)		7.25	30/0
Lance Head, Regulation			
Lance Head, for boar hunting		2.55	10/6
Lance Shaft, Bamboo		1.45	6/0
Lance Sheath, leather All throughout this period, and even up to the outbreak of WWII, the lance was a common weapon for cavalry troops.		0.48	2/0
Maul, Splitting, 10 pound	11 lbs	1.20	5/0
Oiler, Pocket sized A small, leak-proof dispenser bottle for applying drops of oil to a gun mechanism.	-	0.10	0/5
Recoil Pad, Leather Leather sleeve laces together around the butt to hold the pad in place.	-	0.44	1/10
Recoil Pad, Rubber The pad is attached to the butt with screws, and the excess is filed down to shape it to the gunstock.	-	0.28	1/2
Reloading Supplies:			
Black Powder 1 pound = 256 drams = 7000 grains.	25 lbs	4.00	16/6
Smokeless Powder, Dupont Not Available Before 1896.	1 lb	0.75	3/1
Smokeless Powder, Walsrode Smokeless Shotgun Powder Not Available Before 1896.	1 lb	0.80	3/4
Reloading Tool Set, Winchester Includes the reloading too, a bullet mold, and a charge measure. Each set is made for a specific caliber, ranging from .22 Winchester Center Fire up to .50-110.		1.68 - 2.40	6/11 - 9/11
Bullet Mold Any caliber and profile can be supplied.		0.75	3/1
Bullet Mold, "Perfect Grooved Mold" This is a mold that has moveable punch with an annular groove that fits into rings in the mold – one mold can make bullets (of one caliber) of a variety of lengths and weights (and numbers of lubricating grooves.)		3.00	12/5
Melting Pot For melting lead for casting bullets.		0.38	1/7
Dipper/Ladle Cast iron with wooden handle.		0.40	1/8

Item and Description	Weight	US Price	UK Price
Shotshell Reloading Tool:			
20-16 ga.		0.18	0/9
12-10 ga.		0.15	0/8
8 ga		0.50	2/1
A device for decapping/recapping the shells and loading the charge.			
Shell Crimper (Roll Crimper):			
20-16 ga.		0.45	1/11
12-10 ga.		0.35	1/6
8 ga		1.50	6/2
A screw clamp tool that produced a rounded crimp over the top wad. Star-crimp tools are available for extra cost. (The 'star crimp' is usually used over solid balls or bullets for the paradox or 'jungle' guns.)			
Powder/Shot Measure		0.09	0/5
Available in different loadings.			
Shot Spreaders, box of 50		0.25	1/0
10 or 12ga. A cardboard 'x' that slips in the shell in the shot column, causing the load to spread more rapidly; this increases short-range accuracy, but at the expense of range. Does not work with buckshot. Increase chance to hit by 10%, but use the damage from the next-farther range band (e.g. 2D6 at short range for a 12ga., 1D6 at medium, no damage at long range.)			
Primers, Shotgun, #2, box of 250		0.35	1/6
Primers, Pinfire, for shotgun shells, box of 250		0.60	2/6
Primers, Pinfire, for pistol calibers, box of 250		0.50	2/1
Shot, chilled, any size: #12 to 000 buck	25 lbs.	1.50	6/2
Shot, chilled, "dust" size	5 lbs.	0.50	2/1
Shell Shells, Paper, Empty, box of 100			
20 ga.		0.70	2/11
16 ga		0.90	3/9
12 ga		1.25	5/2
10 ga		1.35	5/7
8 ga		2.00	8/3
Shell Shells, AllBrass, Empty, box of 25			
20 ga.		1.15	4/9
16 ga		1.15	4/9
12 ga		1.20	5/0
10 ga		1.20	5/0
8 ga		2.10	8/8
Shell Shells, Pinfire, Paper hulls, empty and primed, box of 100			
20, 14, and 16 ga.		0.70	2/11
12 ga		0.90	3/9
10 ga		1.45	6/0
Wads, Shotgun, Cardboard, all gauges, box of 250		0.08	0/4
Wads, Shotgun, Felt, all gauges, all thicknesses, box of 250		0.25	1/0
Wad Cutters:			
11-20 ga.		0.15	0/8
9-10 ga.		0.20	0/10
6-8 ga		0.80	3/4
A cutting die allowing the user to make shotgun wads from any desired material.			
Rifle Cover, Canvas		0.70	2/11
Waterproof canvas, leather binding, flannel lined.			
Rifle/Carbine Sheath, Leather		1.15	4/9
Attaches to saddle – leaves the butt exposed so the weapon can be quickly drawn.			
Saber, cavalry saber		18.20	3/15/0
Saber bag, cloth, chamois lined		0.85	3/6
Saber Knot		0.73	3/0
Flat braid strap with tassel. Regimental colors available.			
Safety Razor blade, double-edged.	-	1.00	4/1
Not Available Before 1903. In that year, Gillette began manufacturing cheap, stamped-steel blades for the safety razor – previous to this; a heavier, forged blade was used in "safety razors" since the mid 1880s. These blades cost $1.00. Safety razor blades have been sewn into hats or shoe heels, held between the fingers while slapping an opponent, or concealed in the mouth (that one takes practice.)			
Shell Box, Leather, holds 200 shotgun shells		2.95	12/2
Heavy sole leather box, tin lined, nickel plated fittings, with shoulder strap. 12¾" x 6" x 7½"			
Shell Extractor, Universal		0.14	0/7
Fits the bases of shotgun shells from .22 to 8ga.			
Shooting Glasses, steel-framed		0.25	1/0
Eyeglasses with distinctive yellow lenses. The color is said to increase the contrast, making the target easier to see in bright or in dim conditions.			

Item and Description	Weight	US Price	UK Price
Shooting Glasses, steel-framed		0.25	1/0
Eyeglasses with distinctive yellow lenses. The color is said to increase the contrast, making the target easier to see in bright or in dim conditions.			
Shooting Glasses – "Improved Goggle Shooting Orthoptic"		1.94	8/0
One lens is smoked, the second is black, with a small, adjustable aperture. Side-shields on the lenses cut out light from any direction other than the target; the small aperture significantly increases the depth-of-field, making it easier to sight the weapon accurately. Used by target shooters.			
Sight Black, one tube.	-	0.12	0/6
A flat black paint in a small, metallic tube used to darken the sights of a gun, preventing glare or reflections from visibly distorting the shape, permitting more accurate aiming (sunlight glinting off the top of a curved foresight makes it appear to be shorter that it actually is, leading the firer to aim too high.) Popular with target shooters.			
Sight, Rifle, Micrometer, flip-up	-	4.00	16/6
This sight is the familiar 'ladder' sight; when folded down, an open notch 'battle sight' is visible, usually sighted to 250 yards. When raised, the sight has graduations in 100-yard increments to 1000 or 2000 yards, and is adjustable for both elevation and windage. The elevation screw has ¼ minute-of-angle clicks (1/4" at 100 yards, 1" at 400 yards, etc.), and also has a 'quick thread' movement option for rapid adjustment.			
Sight, Rifle, Telescopic, 3X, by Voigtländer	-	21.85	4/10/0
Sight, Rifle, Telescopic, 2X, by Zeiss	-	30.30	6/5/0
This sight uses prisms and looks like a short periscope, allowing a long focal length in a short package. The sight has an extended eye relief, allowing it to set farther from the eye, useful on rifles with heavy recoil or for shooters who wear glasses.			
Silencer, Maxim		5.00	20/8
Not Available Before 1908. Models were available for numerous pistol and rifle calibers between .22 and .45. The barrel of the weapon would require threading, or even an adaptor. Recoil-operated firearms sometimes require modification to the action spring in order to function properly. The best results are obtained from manually-operated repeaters.			
Singlestick, Ash, w/ steel guard and knucklebow, each	-	0.83	3/5
This price is for only one stick – they are normally purchased by the dozen for use in practice. Singlesticks and their accoutrements are covered more thoroughly in Chapter 7: *Sporting Goods*.			
Sledge, Blacksmiths, 12 pound	13 lbs	0.85	3/6
Straight Razor, cheap	-	0.95	3/11
Switchblade, 4¾" blade	-	0.75	3/1
Swordstick (Swordcane)	1 lb	3.21	13/3
Finest Toledo blade, plain silver collar, polished cherry wood shaft.			
Targets, Paper, 1 dozen		0.15	0/8
Trap, The Empire Expert Trap		6.50	26/10
Throws clay pigeons for Skeet and Trap shooting. This type was more common after 1880-1890.			
Pigeons, Clay, barrel of 500	-	2.90	12/0
"The Cleveland Blue Rock Clay Pigeon," used for Skeet, Trap, and shotgun practice.			
Trap, Bogardus's Patent Glass Ball Trap		8.00	33/0
Throws round glass globes into the air for shotgun practice. This type was more common before 1880.			
Glass Globes, box of 100	-	2.00	8/3
For "Bogardus's Patent Glass Ball Trap," used for Trap and shotgun practice.			
Walking Stick Blowgun		1.25	5/0
Cane tube, Staghorn handle.			
Darts for Walking stick blowgun, 1 dozen		0.61	2/6
Clay Balls, 1000		1.21	5/0
Water Funnel, Rifle Cleaning		0.61	2/6
Designed to fit the chamber of the .303 Enfield rifle, this funnel allows hot water to be poured from breech to muzzle, quickly dissolving and washing away the corrosive fouling that can damage the bore.			
Whip, Bullwhip, 8'	-	0.65	2/8
Whip, Drover's, 12'	1 lb	2.50	10/4
End loaded with lead shot, revolving handle. The handles are frequently loaded with lead shot as well, allowing the wielder to use it as a 'blackjack'.			

Melee Weapons

Weapon	Base	Damage	Length	Attacks	Hit Points
Axe	as *Axe*	1D8+2+db	Medium	1 [1]	15
Axe Handle	as *Large Club*	1D8+db	Medium [4]	1	15
Baseball Bat	as *Large Club*	1D8+db	Medium	1	20
Bayonet (hand)	as *Knife*	1D6+db+impale	Short	1	15
Bayonet (fixed)	as *Bayonet*	1D8+1+db+impale	Medium	1	15
Bicycle Chain	*Chain* (20% base)	1D4+1+db+grapple	Medium	1	10
Blackjack/Billy	*Blackjack* (40% base)	1D4+db+stun	Short	1	4
Box Hook	*Hook* (25% base)	1D3+impale	Short	1	12
Cane Knife (Machete)	as *Small Club* or *Sword*	1D8+db	Medium	1	12
Cane, Loaded	as Small Club	1D6+2+db	Short	1	18
Cleaver, Butcher's	as *Hatchet*	1D6+db	Short	1	12
Dagger	as *Knife*	1D6+db+impale	Short	1	10
Dagger, Push Dagger	as Fist	1D6+1+db+impale	Short	1	10
Daystick	as *Small Club*	1D6+db	Short	1	15
Hatchet	as *Small Club*	1D6+1+db+impale	Short	1	12
Ice Pick	as *Knife*	1D3+impale	Short	1	5
Knife, Butcher [6]	as *Knife*	1D6+db+impale	Short	1	12
Knife, Hunting	as *Knife*	1D6+db+impale	Short	1	12
Hunting Knife, Folding	as *Knife*	1D4+2+db+impale [3]	Short	1	12
Knife, Sticking [6]	as *Knife*	1D6+db+impale	Short	1	12
Lance, cavalry	as *Lance*	1D8+1+1D6+impale	Long	1	15
Lance, hand-held	as *Spear*	1D8+db+impale	Long	1	15
Nightstick	as *Small Club*	1D6+db	Medium	1	15
Razor Blade [6]	as *Fist*	1D3	Short	1	3
Saber, Cavalry	*Sword* (15% base)	1D8+1+db	Medium	1	20
Singlestick	as *Small Club* or *Foil*	1D6-1+db	Medium	1	12
Sledge, 12 lb.	as *Large Club*	1D8+2+db	Long	1 [1]	25
Slungshot	*Chain* (20% base) [2]	1D4+1+db+stun	Short	1	4
Splitting Maul	as *Large Club*	1D8+2+db	Long	1 [1]	25
Straight Razor	as *Knife*	1D3	Short	1	9
Swordcane (blade)	as *Foil*	1D6+db	Medium	1	10
Whip, Bullwhip [5]	*Whip* (05% base)	1D3 or Grapple	Long (10')	1	4
Whip, Drover's [5]	*Whip* (05% base)	1D4 or Grapple	Long (15')	1	5

Notes:
(1) This weapon is heavy and slow – all attacks are made at the end of the round.
(2) If attacking with surprise, use the *Blackjack* skill instead.
(3) Use the stats for Hunting Knife if folded.
(4) May attack at Medium range without penalty.
(5) It the handle is weighted with shot, it jay be used as a Blackjack.
(6) Knife has no guard. On a fumble, the wielder's hand may slip up onto the blade, cutting the fingers

Ranged Weapons

Weapon	Base	Damage	Range	Attacks	Rounds In Gun	Mal-function	Hit Points
Air Rifle (pellets)	as *Rifle*	1D3-2	10 yds	1/3	1	97	6
Air Rifle (darts)	as *Rilfe*	1D2-1	10 yds	1/3	1	97	6
Bow	as *Bow (10% base)*	1D8 +Impale	60	1	1	-	10
Blowgun (pellets)	as *Blowgun*	1D4-3	3 yds	1/2	1	-	3
Blowgun (darts)	as *Blowgun*	1D2-1	3 yds	1/2	1	-	3

Miscellaneous Items

This chapter includes various items that investigators might find useful or entertaining, but do not readily fit into other categories. It includes games, some useful household items, and books and references. The 'Books' section contains a large number of strictly religious texts such as prayer books and study bibles – this was, you must remember, a far more devout age.

Cribbage Board and Cards

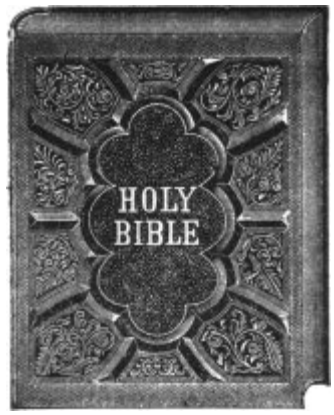
Bagatelle

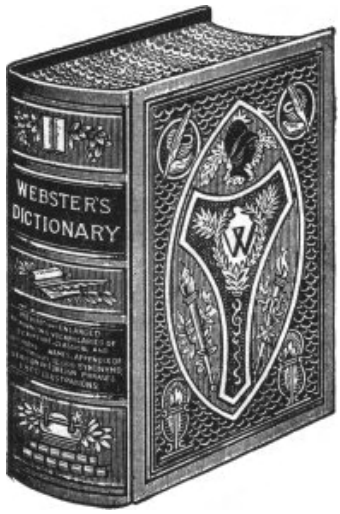
Calling Cards

Calling cards, printed from finely engraved copper plates, were a vital tool in the London society scene. Upon arriving in London at the start of the 'Season', it was customary to go around to the houses of acquaintances, (and those whom you would wish to number among your acquaintances), leaving your calling cards with the butler. The cards were kept on a silver platter or a bowl in the entrance hall, usually with the cards of the most prominent callers arranged where they could be most readily seen.

A woman would leave one card, and two of her husband's, if married – one for the master of the house, one for his wife; she would generally wait in the carriage while her footman actually went up to the house. A gentleman would similarly leave two cards, but if he were single and the household included eligible daughters, he might leave one for each of them as well.

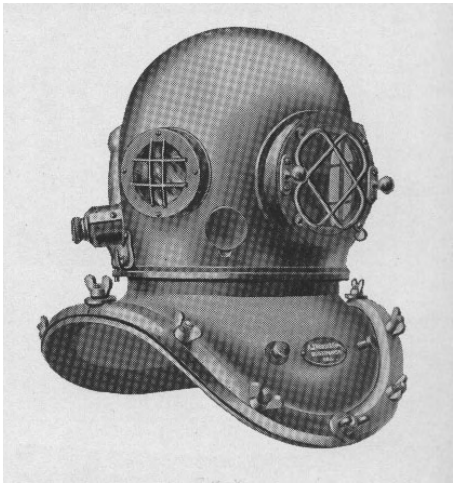
Upon receiving a card, it was considered proper to return the favor by dropping by the caller's house to leave a card of his or her own – or if favorable, one might stop for a short visit.





Item and Description	Weight	US Price	UK Price
Backgammon/Chess set, folding		1.00	4/2
Parquet wood board folds in half to create a storage box. Includes wooden chess pieces and counters (for either checkers or backgammon), dice, and leather dice cups. The chessboard is on the outside, while the inside of the case forms the backgammon board.			
Bagatelle Board		0.45	1/11
Spring cue, brass pins, steel balls with cloth storage pouch.			
Billiard Table and Set		256.00	£ 52/16/0
12 foot long mahogany table on 8 heavy, turned mahogany legs; Welsh slate bed, frost-proof bumpers, superfine west English cloth. Comes with 12 cues, 1 set solid ivory balls, marking board, long butt, half butt, long and short rests, brush, iron and shoe, chalk cups and chalk.			
Books and References, General Subjects:			
Bradshaw's Railway Guide (British; published annually)		0.12	0/6
Burke's Landed Gentry of Great Britain		10.20	42/0
Burke's Peerage		7.65	31/6
The Burke's books, or similar texts from different publishers, were vitally necessary for anyone who wanted to move in 'society' circles. It listed every titled individual (or member of the landed gentry) and gave his or her precedence, preventing such dreadful social *faux pas* as introducing Sir "X" G.C M.G. to Sir "Y" K.C.B. instead of the other way around. Updated annually; new edition published every December.			
Cassell's French-English/English-French Dictionary		1.50	6/2
Cassell's German-English/English-German Dictionary		1.50	6/2
Clergy List		2.42	10/0
A sort of "Burke's Peerage" for the Anglican Church; updated annually; published every February.			
Donovan's Science of Boxing		0.70	2/11
"…with fifty-eight beautifully-executed halftone photographs of the Professor and a skilled antagonist, photographed from life, which show exactly every movement described in the text…"			
The Encyclopedia Britannica (American Reprint)		29.50	£6/1/8
A low-cost American reprint of the British encyclopedia, with 5 additional volumes of the "American Supplement". 30 quarto volumes total. Original cost of the British edition ranged from $85 to $250.			
The Encyclopedia of Etiquette		1.45	6/0
Gunsmithing Manual		1.38	5/9
Hypnotism, Mesmerism, and Suggestive Therapeutics		0.67	2/9
Practical Ventriloquism (paperback)		0.18	0/9
Rand, McNally, & Co.'s New Pictorial Atlas of the World		5.00	20/8
Lists the areas, populations, resources, government, and climate of each country of the world. Includes ethnographic data for each of the world's peoples, with their origins and their historical development.			
Royal Blue Book: Court and Parliamentary Guide		1.20	5/0
Includes names and addresses; published twice a year in May and December.			
Til the Doctor Comes		0.70	2/11
Manual of basic first aide and sickroom nursing.			
Universal Encyclopedia, 12 volumes		9.98	41/2
Advertised as costing over $50.00 if purchased separately.			
Webster's Unabridged English Dictionary		5.00	20/0
Books and References, Religious Subjects:			
Altar Manual, Anglican – The Altar Service		9.70	£2/0s
Crimson morocco leather, gold stamping, red rubrics.			
Altar Manual, Anglican – Before the Throne		1.65	6/9
The Apocrypha		0.73	3/0
Book of Common Prayer and Hymnal, 2-vol. set		1.15	4/9
The Anglican Book of Common Prayer, 1662 revision, and Hymns Ancient and Modern. Two volumes attractively bound in a leather slipcase.			
Bible, Family Bible	8 lbs	3.75	15/6
Self-pronouncing, illustrated with engravings by Doré, includes concordance, Smith's Bible dictionary, with chapters on biblical history and the natural history of the Holy Land.			
Bible, Oxford Teacher's Bible		6.18	25/6
Imitation of Christ		5.20	21/6
Keble's Christian Year		0.79	3/3
New Testament, Red Letter Edition		0.98	4/1
'Words of Jesus in red.' Octavo sized (~5" x 8"), flexible leather binding.			
Prayer Book (Catholic)		0.35	1/6
Vest Pocket sized, with epistles and gospels.			
Prayer Book (Catholic), 2 vols.		1.30	5/5
Octavo sized, French calfskin binding.			
Short Daily Prayers		0.48	2/0
Buffalo Robe		11.25	46/5
Heavy buffalo hide, lined with lambskin, with an inner rubber lining. Popular as a blanket or lap throw when riding in carriages. The extravagant camper might find this a very comfortable ground sheet for their bedroll.			

Item and Description	Weight	US Price	UK Price
Checkers (Draughts) Polished wood, interlocking pieces, in a cardboard box. Board sold separately. Red/Black and White/Black sets are available.		0.12	0/6
Chess or Checker Board Board is of printed pressboard, and folds in half for storage.		0.50	2/1
Chessmen Polished wood, in a dovetailed polished hardwood box. Board sold separately. Red/Black and White/Black sets are available.		1.00	4/2
Church Service or Communion Set Includes chalice, paten, flagon, and baptismal bowl; silver plate, gold-lined.		12.50	31/7
Cribbage Board Wooden board with compartment for storing the pegs and two decks of cards.		0.80	3/4
Crucifix Candlestick, Opal Glass, 8" tall		0.18	0/9
Dice, bone, 9/16", one dozen		0.20	0/10
Dice, "Black Diamond" celluloid, 5/8", per dozen		0.30	1/3
Dice Cup, leather, each		0.18	0/9
Diving Equipment:			
Air Hose, ½", with fittings, per yard		1.80	7/5
Air Compressor		240.00	£50/0s
Diving Dress Rubber-lined, waterproof white canvas, gray vulcanized collar and cuffs.		60.00	£12/7/5
Diving Helmet, 3-light Siebe pattern		175.00	£36/1/8
Mittens, with rings and clamps, per pair		14.00	37/9
Shoes, Weighted, per pair		16.00	66/0



Diving Equipment

In 1829, Augustus Siebe invented his "Improved Diving Dress", which combined the now-familiar copper helmet with a waterproof suit that prevented the helmet from losing air if the diver fell or leaned over. In 1840, the British Royal Engineers tested several existing diving rigs during the salvage of the HMS Royal George, and formally recommended the Seibe rig. It has remained in use (with various improvements and modifications) for over 150 years.

A diver in the Siebe dress could stay underwater as long as there was light and people to operate the pumps on the surface – 6 or 7 hour shifts were not uncommon. The practical limit for depth was around 120 feet; it wasn't until 1905 that research determined that the culprit was carbon dioxide buildup from insufficient airflow to the helmets, causing the divers to pass out. With higher airflow, dives down to 200 feet were possible, though rarely successful, due to "the rapture of the deep" (nitrogen narcosis) below about 100 feet.

It was noted that divers were susceptible to attacks of "rheumatism", believed to be caused by the cold. The true reason – dissolved nitrogen bubbling out of the bloodstream – was not discovered until 1878. Preventative measures like slow ascents and an emergency recompression chamber (first used in 1879 during construction of the New York subway under the Hudson River) helped, but accurate dive tables were not developed until after WWI. "The Bends" remained a common occupational hazard throughout the Gaslight era.

Item and Description	Weight	US Price	UK Price
Dominoes, Double-Nine		0.75	3/1
Engraving, Printing, and Embossing:			
Die Sinking (for embossing dies) – Heraldic Crest, w/ motto and ribbon		2.55	10/6
Die Sinking, Monogram, 3 initials		1.15	4/9
Engraving, Copperplate, for letterhead, 2 lines Higher charges for elaborate/Old English script, logos, etc.		0.97+	4/0+
Engraving, Copperplate, for Gentleman's calling card, name only		0.25+	1/0+
Engraving, Copperplate, for small business card, 3 lines		1.10	4/6
Printing of cards, ordinary size, thin paper, 100		0.30	1/3
Printing of cards, ordinary size, thick paper, 100		0.32	1/4
Lever Embossing Press Uses monogram/heraldic dies (see above) for making raised designs on paper.		1.45	6/0
Globe, 12 inch, mounted, Terrestrial Included is a manual explaining geographical and astronomical terms, charts of temperatures, ocean currents and several valuable tables. Manual also includes 46 problems on the use of the globe, with rules and illustrative examples.		8.75	36/1
Globe, 12 inch, mounted, Celestial A globe illustrating the locations of stars and constellations, the plane of the ecliptic, and other celestial phenomena. Included is a manual describing astronomical terms, celestial charts, and several valuable tables.		10.00	41/3
Glue, "Bond's Cement", 1 bottle For mending glass, china, ivory, etc.		0.12	0/6
Headstone, Marble		9.98 - 14.98	41/2 - 61/10
Koran Stand, Carved and inlaid wood		2.50	10/4
Lodestone, 1 pound Naturally magnetic iron ore.		0.50	2/1
Magnet, horseshoe magnet, best English make, 6" long		0.50	2/1
Maps and Charts:			
School Maps, large-scale, on rollers From Rand, McNally, & Co, cloth-backed, colored with oils. 66" x 46" on rollers; can be pulled down for display. United States, North America, South America, Europe, Asia, Africa, and the world in Mercator projection.		3.40	14/0
Map Case, Diamond, containing Rand, McNally, & Co.'s School Maps Contains all 7 of the above maps.		33.25	£6/17s
Rand, McNally, & Co.'s "Globe" series maps, on rollers Cloth-backed, colored with oils. 41" x 58" on rollers; can be pulled down for display. Western Hemisphere, Eastern Hemisphere, North America, South America, USA/Canada/Mexico, Europe, Asia, and Africa.		2.45	10/1
Map Case, Diamond, containing Rand, McNally, & Co.'s "Globe" Maps Contains all 8 of the above maps.		28.80	£5/18/9
Rand, McNally, & Co.'s. Indexed Pocket Maps, each Size ranges from 14" x 21" to 28" x 21", fully indexed, color, on heavy paper. Available maps include all current states, the four territories (Arizona, Indian, New Mexico, and Utah), plus several Canadian provinces.		0.25	1/0
Monument, Marble		29.00 – 52.50	£6 - £10/16s
Mounting and Taxidermy:			
Bird, Large (pheasant-sized), mounted in glass case		10.91	45/0
Bird Small, mounted in glass case		1.82	7/6
Fox-sized animal, mounted in glass case		18.65	£3/17s
Fox-sized animal, head mounted on plaque		3.15	12/0
Leopard Skin, lined and edged as rug, flat		5.33	22/0
Tiger Skin, lined and edged as rug, head ¾ raised w/ teeth and glass eyes		14.00	58/0
Ouija Board ("Egyptian Luck Board")		1.00	4/2
Picture Puzzles Cheaper versions are on pasteboard; the more expensive are backed with wood.		0.15 - 0.75	0/8 - 3/1
Playing Cards, one deck		0.08	0/4
Poker Chips, celluloid, set of 100		0.35	1/6
Poker Dice, set of 5, with cardboard box		0.65	2/8
Safety-Deposit Box Rental, per year		4.00 - 12.00	16/6 - 50s
Scoring Pad, Bridge, 60 tear-off sheets		0.09	0/4½
"The Scientific Planchette Board" A sort of Ouija planchette on wheels, with a slot for a pencil rather than a pointer. The planchette is placed on a piece of blank paper (a desk blotter is excellent for this) to record automatic writing.		0.95	3/11

Item and Description	Weight	US Price	UK Price
Servants and Domestics (wages per year):			
Butler In charge of running the household, its accounts, and managing the male servants.		120 - 240	£25 - 50
Coachman Maintained and drove the coaches. Must be supplied with the household livery.		97 - 170	£20 - 35
Cook (male)		97 - 195	£20 - 40
Cook (female)		68 - 145	£14 - 30
Footman Must be supplied with the household livery.		97 - 170	£20 - 40
Housekeeper Oversaw the household and was in charge of the female servants.		97 - 220	£20 - 45
Lady's Maid A woman's body-servant; saw to all the mistress' personal needs, helped with dressing and changing clothes. The female equivalent of the Valet.		73 - 145	£15 - 30
Maid-of-all-Work Usually hired by a family that can afford only one servant. She was responsible for all cooking, cleaning, washing, and nursing duties as required.		43.50 - 68.00	£9 - 14
Valet A man's body-servant. Saw to the master's every personal need, prepared the clothing, assisted with dressing, ran errands as required.		120 - 240	£25 - 50
Tuition, university, per year		200.00	£41/5
Whist Set, "The Windsor" Two decks cards, marker set, and rulebook in fitted leather case.		1.75	7/3
Whist Markers One set ebonized, the second is natural-toned olive wood. Ivory marker tongues.		1.21	5/0
Wigs and Theatrical Makeup:			
Beard, False This is a full beard, with mustache, and is a high-quality hairpiece knotted into ventilated lace; it must be glued on with spirit gum and can look quite realistic. Many styles and colors are available. Cheaper versions on wire suitable for comedies or vaudeville are available at half the price. These simply hook over the ears and are not especially realistic, but may be donned quickly.		2.00	8/3
Burnt Cork, 4 oz bottle Used for "Blackface" makeup – a popular vaudeville/minstrel act.		0.25	1/0
Goatee, False On ventilated lace.		0.10	0/5
Makeup Kit, Theatrical Leather case with greasepaint set (8 colors), eyebrow pencils, rouge (8 shades), spirit gum, nose putty, and brushes.		5.00	20/7
Mustache, False As with the beard, this is a quality piece made on ventilated lace and must be glued on. Many styles are available, from pencil thin to handlebar. Cheaper versions on wire that clip to the septum of the nose are available as half the cost.		0.20	0/10
"Mutton chop" Sideburns, False Again, a quality piece made on ventilated lace that must be attached with spirit gum.		0.75	3/1
Spirit Gum, 2 oz. bottle		0.10	0/5
Toupee, Men's, Cheap A toupee is a small wig/hairpiece meant to cover a man's bald spot. It is glued to the scalp with Toupee Paste. Cotton weft foundation. Price listed is for ordinary shades. Red, blonde, or gray hair costs $8.25.		5.50	22/8
Toupee, Men's, Quality Silk foundation. Red, blonde, or gray hair costs $15.00.		10.00	41/3
Toupee Paste, per stick The stick is heated (for example over a lamp) and the softened paste is rubbed over the scalp to glue the hairpiece to the head. The paste has been known to leak or slip on hot days.		0.20	0/10
Wig, Ladies', Short, Curled hairstyle Red, blonde or half gray cost $12.50. Full gray cost $15.00.		10.00	41/3
Wig, Ladies', 24" Red, blonde or half gray cost $22.50. Full gray cost $27.00.		18.00	74/5
Wig, Men's, Cheap Cotton weft foundation. Red, blonde, or gray hair costs $12.00.		8.00	33/0
Wig, Men's, Quality Silk foundation, gauze net seams. Red, blonde, or gray hair costs $31.50.		21.00	86/7
Wig, Minstrel Short, curly black hair used for "Blackface" makeup.		0.75	3/1

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