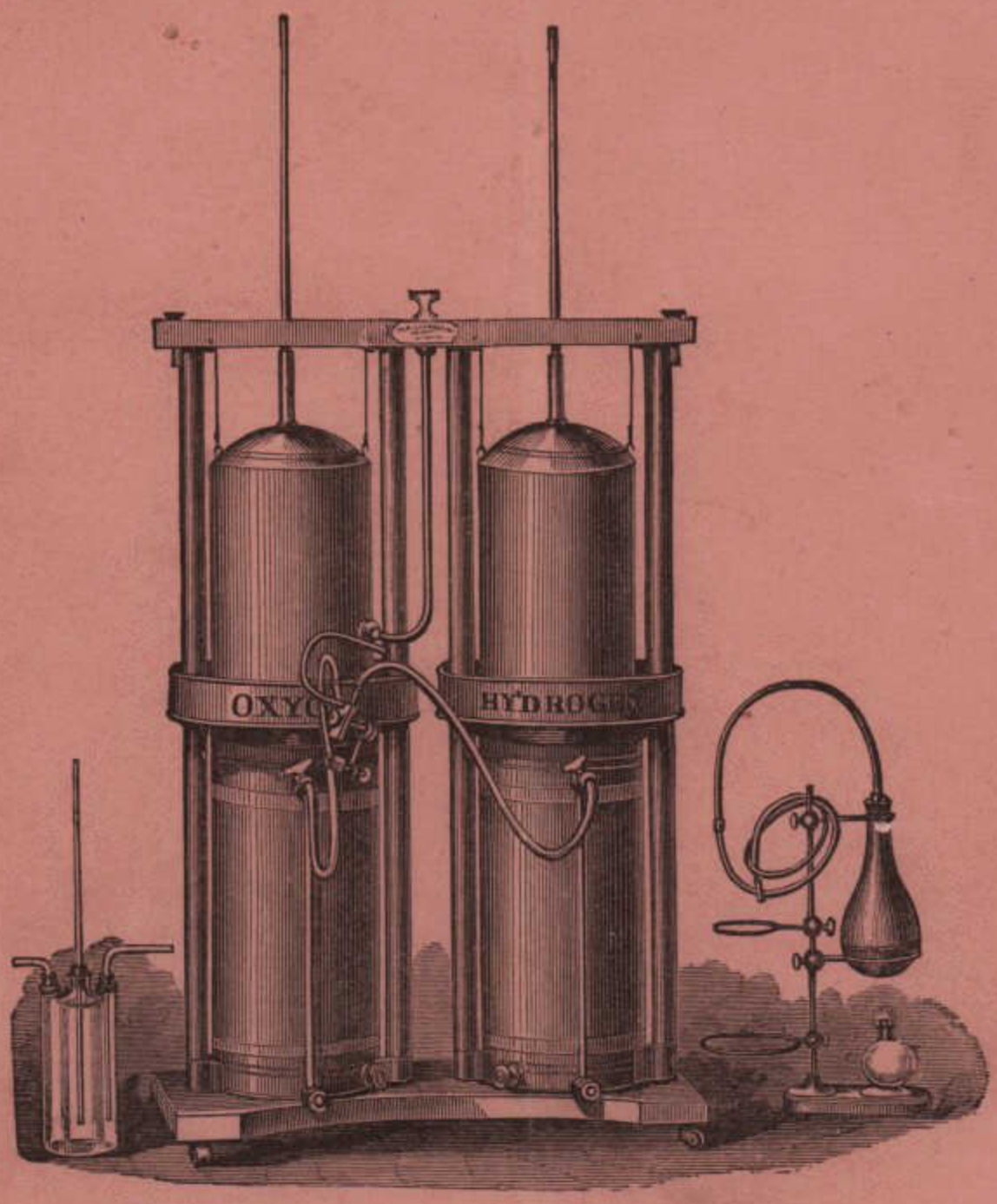
CATALOGUE

OF

CHEMICAL APPARATUS.



BOSTON:

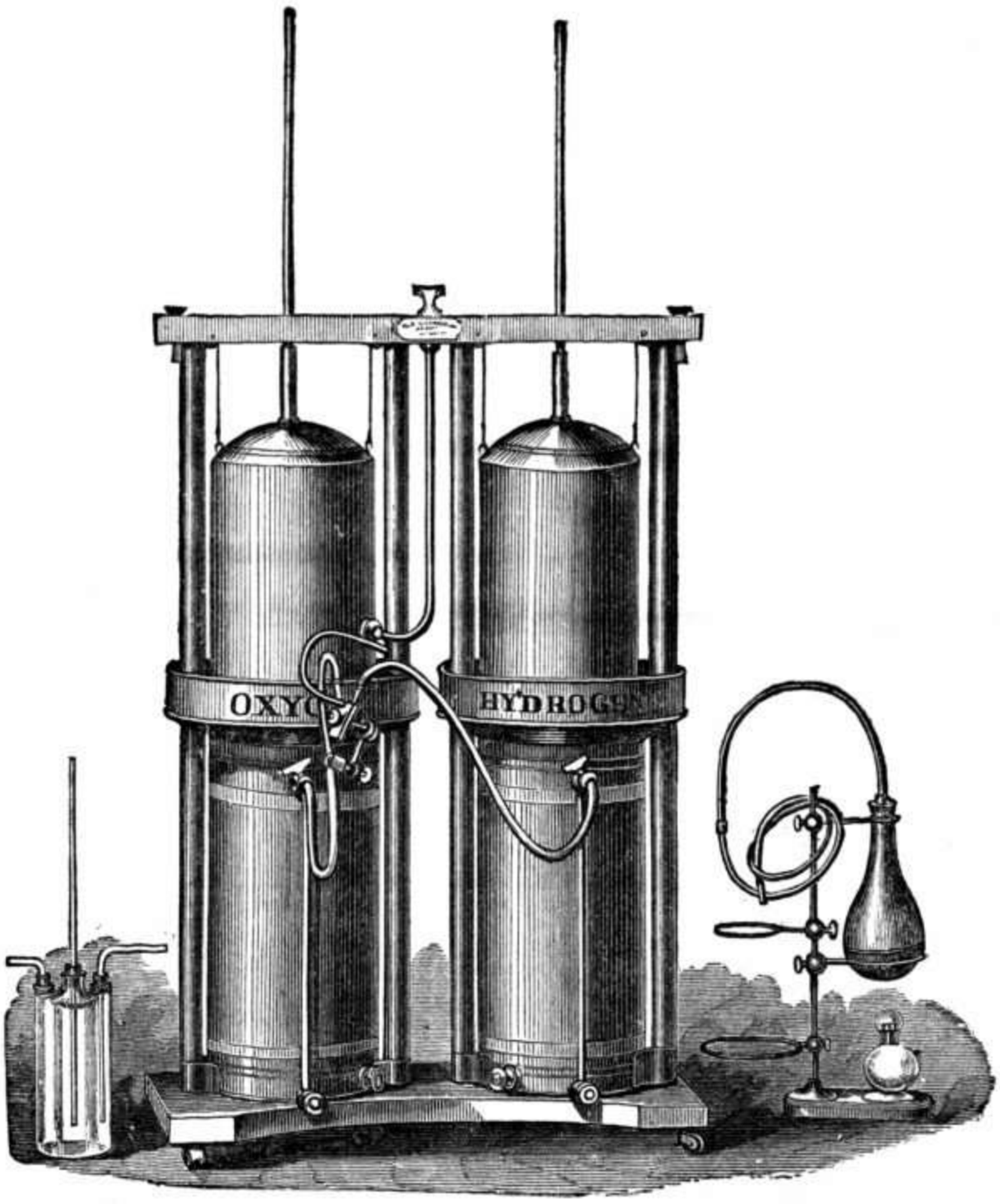
H. B. & W. O. CHAMBERLAIN,

310 & 312 WASHINGTON STREET.

CATALOGUE

OF

CHEMICAL APPARATUS.



BOSTON:

H. B. & W. O. CHAMBERLAIN,

310 & 312 WASHINGTON STREET.

PREFACE.

In giving this Catalogue to the public, we desire to preface it with a few general remarks.

We shall endeavor to keep our stock of Philosophical and Chemical Apparatus full and complete, so that we can answer our orders at once.

Our goods are of the best quality. Our chemical glass is of the best Bohemian ware, and is so thoroughly annealed as to bear the greatest variations of temperature; it is free from lead, and other impurities, which the nature of the material used and the skilful method of manufacture enable us to guarantee.

Our facilities for importing enable us to offer continually something new and interesting to our customers. We import all kinds of Apparatus to order. The prices given are for small quantities; when large amounts are wanted, special terms are given.

Boxing will be an extra charge, according to the size of the cases required and the nature of the goods packed.

We use our utmost caution in packing goods, and are not responsible for breakage after their leaving our store.

Sales are made for cash; bills payable on delivery of goods.

When bills are to be collected by express, the cost of collection will be added.

No bills forwarded for collection for a less amount than ten dollars.

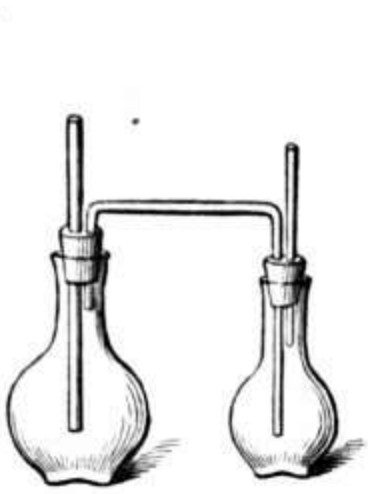
H. B. & W. O. CHAMBERLAIN.

ABBREVIATIONS.

m. m., for millimetre.
m., for metre.
grm., for gramme.
gr., for grain.
lb., for pound = 16 liquid oz.

c. m., for centimetre.
c. c., for cubic centimetre.
kilo., for kilogramme.
pt., = one pound.
qt., = two pounds.

The use of the metrical system of weights and measures in the arts and trades has been legalized both in the United States and Great Britain. The United States coin composed of copper and nickel, of the denomination of five cents, and date 1866, is two c. m. in diameter, and weighs five grms.



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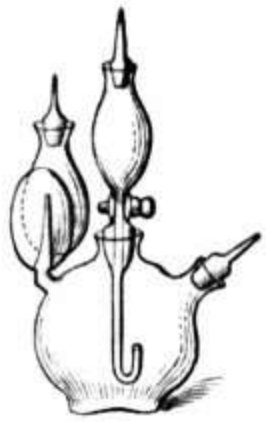

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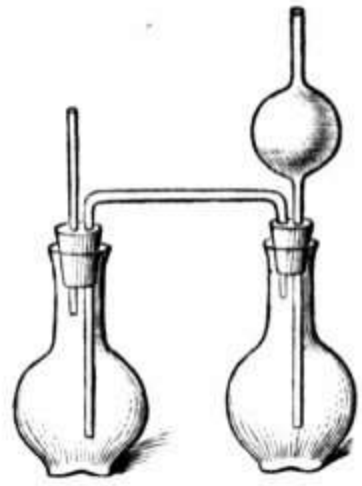

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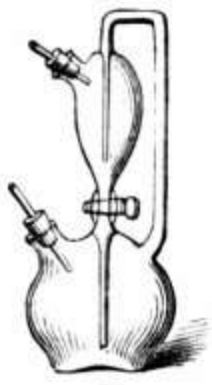

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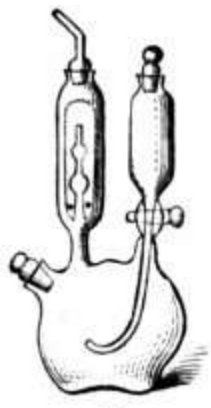

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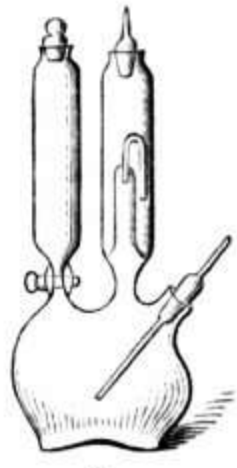

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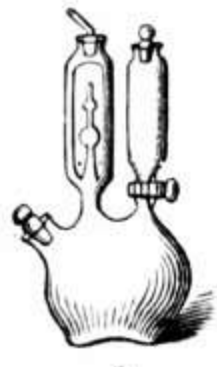

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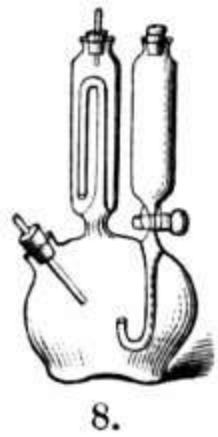

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H. B. & W. O. CHAMBERLAIN'S

CATALOGUE

OF

CHEMICAL APPARATUS.

NUMBER		PRICE
1.	Alkalimeter, Fresenius' and Wills',	$1.00
2.	Alkalimeter, Rose's,	2.00
3.	Alkalimeter, Geissler's, with glass stopcock,	3.25
4.	Alkalimeter, Fresenius',	1.25
5.	Alkalimeter, Kipp's,	3.00
6.	Alkalimeter, Mohr's,	1.25
7.	Alkalimeter, Schrödter's,	4.00
8.	Alkalimeter, Rohrbeck's,	4.50
9.	Alkalimeter, Berzelius',	1.00

10. Alkalimeter Tubes, or Pourets, Bink's, or English Form.

Cubic cent.,	10	20	30	50	75	100	150	200
Divisions,	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{2}$
Price,	1.67	2.00	2.25	2.50	3.75	5.00	5.25	5.50
Divided in	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{1}$	$\frac{1}{1}$
Price,	1.50	1.87	2.25	3.00	3.50	3.75	4.00	4.50
Divided in	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{1}$	$\frac{1}{1}$		
Price,	1.25	1.67	2.00	2.75	3.25	3.75		

11. Mohr's Burette, or Dropping Tube, with spring clamp.

C. C.	10	20	30	50	75	100	150	200
Divided in	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$
Price,	1.00	1.50	2.00	3.00	3.75	5.00	5.25	5.50
Divided in,	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{1}$
Price,	.85	1.25	1.87	2.75	3.50	4.25	4.50	5.00

NUMBER PRICE

Divided in,	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{1}$
Price,	.75	1.25	1.67	2.50	3.00	3.50	3.75

12. Mohr's Burette, with glass stopcock.

C. C.	10	20	30	50	75	100	150	200
Divided in	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$
Price,	2.25	3.00	3.50	4.25	5.00	5.75	6.00	6.25
Divided in	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{1}$
Price,	2.00	2.75	3.50	4.00	4.50	5.25	5.50	5.75
Divided in	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{1}$	
Price,	1.85	2.50	3.00	3.75	4.50	5.00	5.25	

13. Erdman's Floats, or Burette Swimmers. See *Floats.*

14. Adapters, straight.

Diameter,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3 inches.
Price,	.20	.25	.27	.33	.42	.63	.87

15. Adapters, bent.

Diameter,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3 inches.
Price,	.25	.30	.35	.38	.50	.75	1.00

16. Air Pumps. See *Pneumatics.*

17. Air Thermometers, 25, 50, and 75 cents.

18. Air Thermometer, with stand and basin, ... 2.00

19. Alcoholometer. See *Hydrometers.*

20. Areometers. See *Hydrometers.*

21. Aphlogistic Lamp, ... 1.50 3.00

22. Alembic, with stoppered head, light glass.

Oz.	4	6	8
Price,	.75	1.00	1.25

23. Alembic, with plain, loose head.

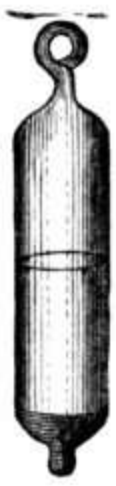
Oz.	4	6	8
Price,	.62	.75	1.00

24. Alembics, heavier glass, loose head, and tubulated.

Oz.	8	16	2-3	4-6 lb.
Price,	2.40	3.25	4.25	4.87

25. Alembics, plain, loose heads.

Oz.	8	16	2-3	4-6 lb.
Price,	1.60	2.25	3.00	3.50



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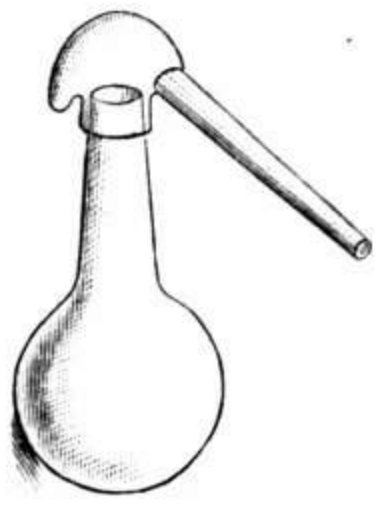

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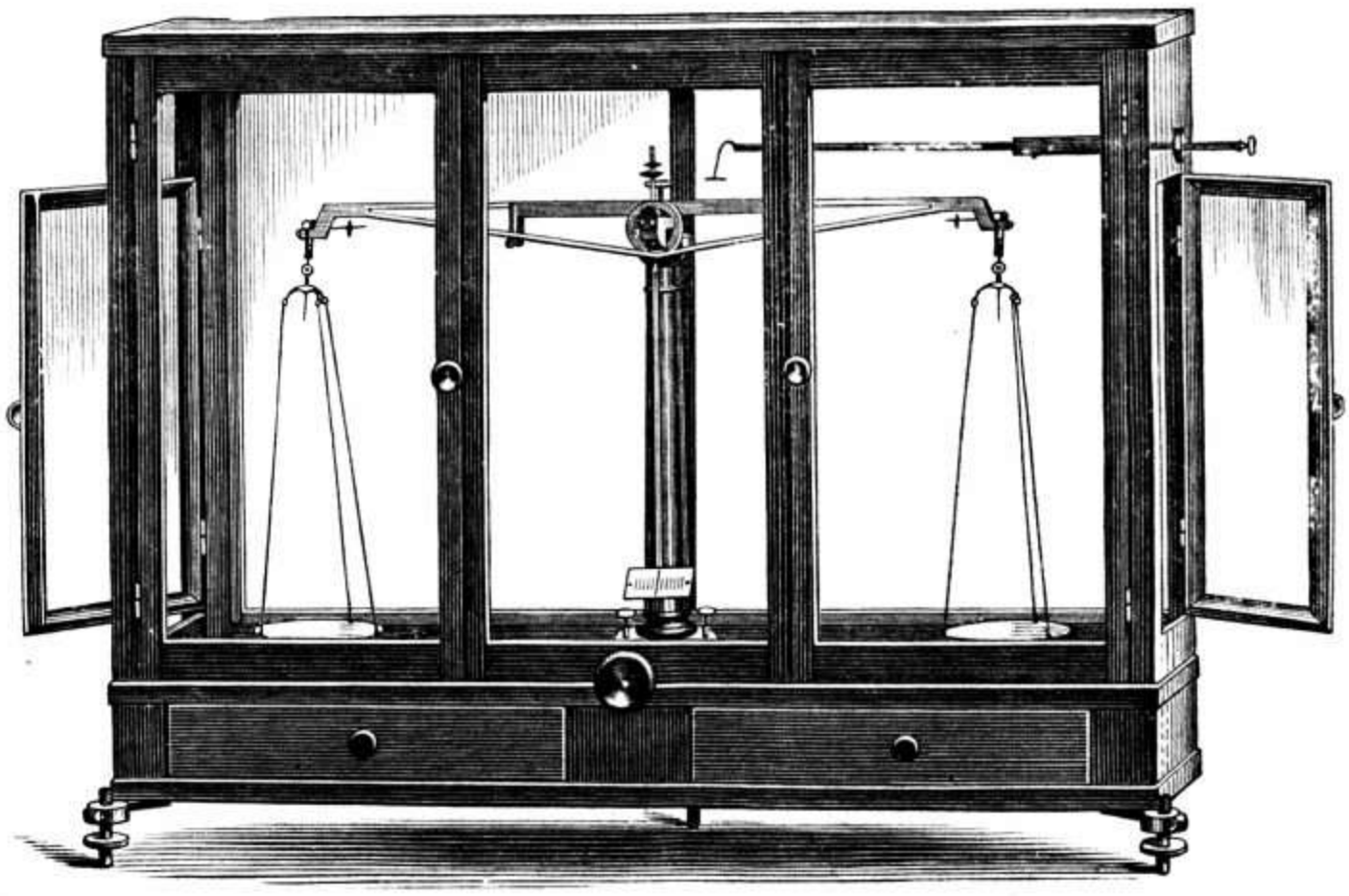

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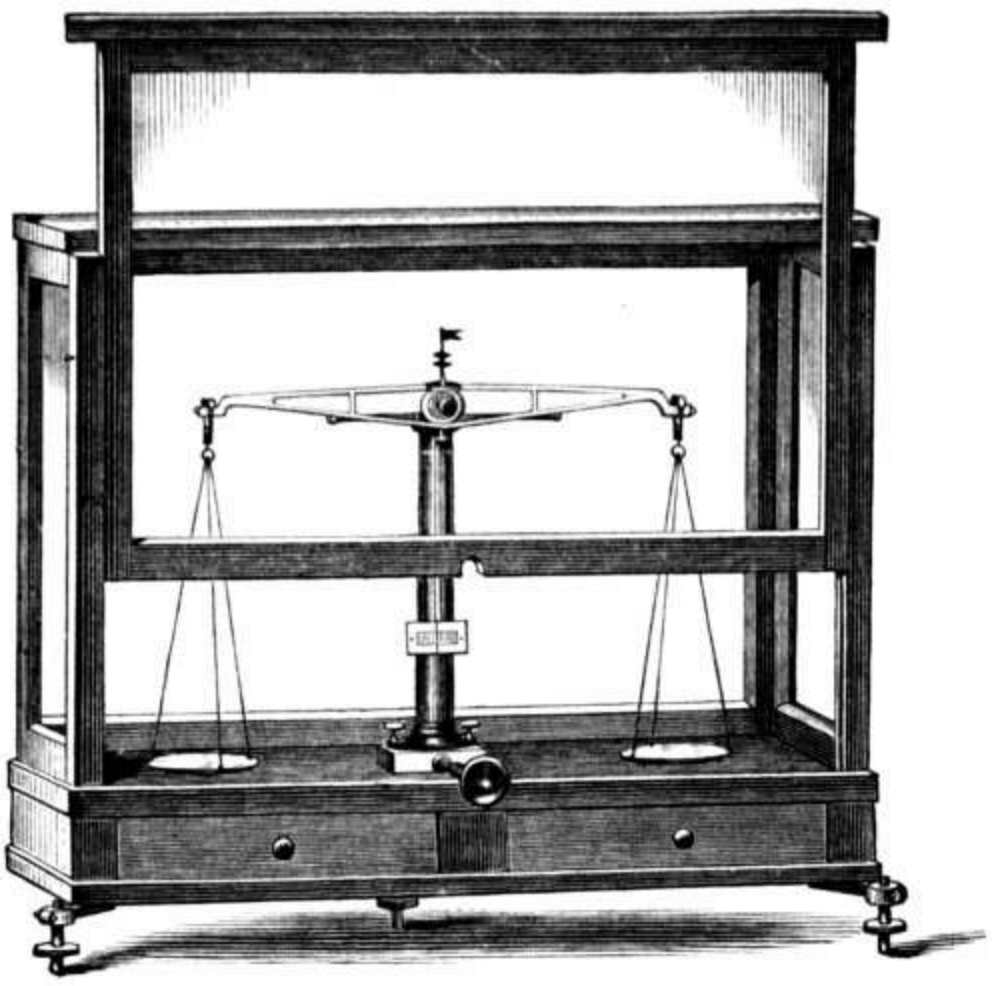

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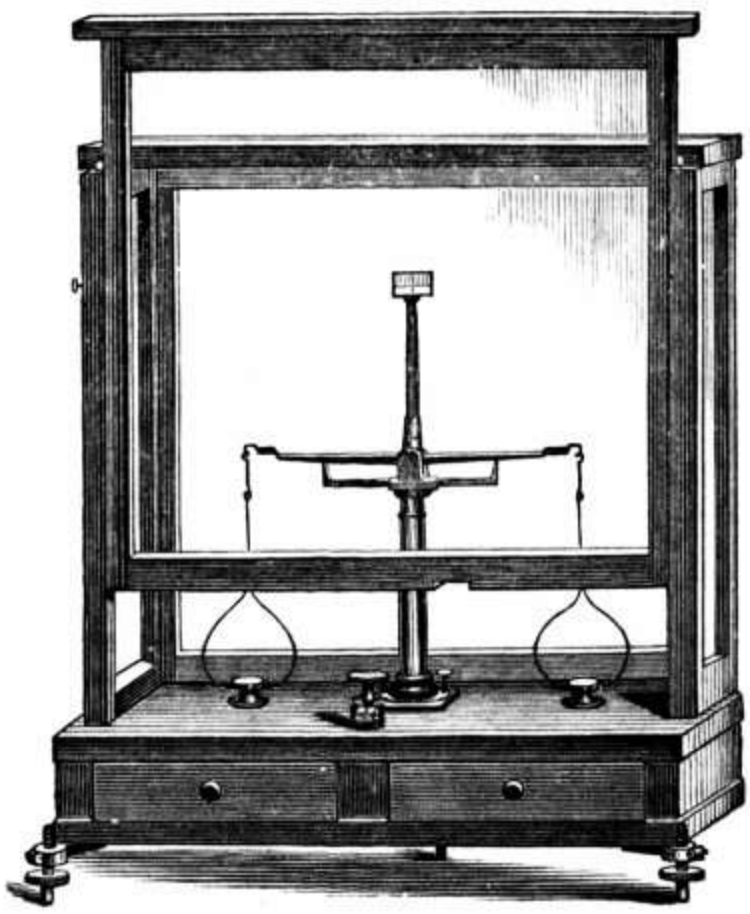

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NUMBER		PRICE
26.	Arsenic Tubes, Berzelius' form, per dozen, ...	1.00
27.	Arsenic Tubes, Rose's form, per dozen, ...	1.00
28.	Arsenic Tubes, Clark's form, per dozen, ...	1.00
29.	Arsenic Tubes, Liebig's form, per dozen, ...	1.00
30.	Arsenic Tubes, plain form, per dozen,.....	.50

31. Aspirator, with glass stopcock.

Quart,	1	2	4	8	capacity.
Price,	4.50	5.00	6.00	7.50	

32.	Anvil Plate,.....	1.00	2.00
33.	Anvil, mounted on block, ...	2.00	3.00

34. Balance, Analytical and Assay. The case is of glass, with front and side doors. Drawers are fitted for receiving the pans and suspensions. The case is levelled by adjusting screws. The beam is graduated. The weight on the beam is moved by a sliding bar which passes through the case. The wood work is finely polished, and the metallic work is gilt.

35. Capacity for carrying,	50	100	200	500	1000	grm.
Length of beam,	33	40	48	55	60	c. m.
Price,	125.00	150.00	180.00	225.00	275.00	

36. Balance, the same, with arrangement for arresting the motion of the pans and beam by the same movement.

Price,	190.00	220.00	250.00	290.00	350.00

37. Balance, plain, in glass case, brass work lacquered; beam graduated, with sliding bar for moving the light weight on the beam.

Price,	80.00	90.00	100.00	120.00	140.00

38. Balance, plain, without beam graduated.

Price,	45.00	50.00	60.00	75.00	90.00

39. Balance, Plattner's. The beam raises with a lever. The beam and post can be packed in the polished case on which the whole stands.

Length of beam,	33	38	44	50	55	65 c. m.
Height of pillar,	44	50	55	60	65	73 c. m.
Price,	28.00	30.00	34.00	40.00	45.00	55.00

40. Balance for prescriptions; open work beam, with brass pillar. The beam is raised and lowered by a cam in the base of the column. The indicator is attached to the beam, and the graduated arc is on the column. The pans are fitted into rings, and are easily removed. The whole is on a neatly polished box.

Length of beam,	20	25	30 c. m.
Price,	28.00	30.00	34.00

NUMBER PRICE

41. Balance same as above, except the beam is graduated, and the heavier weights only need be used in the pan. The lighter ones are substituted by moving a rider on the beam.

Price,	31.00	34.00	38.00

42. Balance, grain, with saddle on the beam, by which each grain or fraction of a grain is indicated without the use of weights, with silver pans, ... 8.00
43. Balance, same, with horn pans,..... 5.00
44. Balance, same as Nos. 41 and 42, for centigrammes,.....5.00 8.00
45. Balances, hand; brass beams, horn pans.

Length of beam,

	11	12	13	15	17	19	22	25	27	30	33 c. m.
Price,	2.34	2.50	2.60	2.75	3.50	4.25	4.75	5.25	6.44	7.00	8.50

46. Weights for balances. Grammes; the heavier ones are cylindrical, of brass; the smaller weights are of silver; the whole fitted with forceps in finely polished case.

Set from	10	20	50	100	200	500	1000	grm. to mgm.
Price,	10.00	11.00	12.00	16.00	22.00	30.00	40.00	

47. Weights; the same size and shape; the large ones are gilt; the fractions of the gramme are platina. The socket for each weight is lined with velvet. Forceps are in the case, which is polished.

Set from	10	20	50	100	200	500	1000	grm. to mgm.
Price,	15.00	16.00	18.00	22.00	30.00	40.00	52.00	

48. Weights, grammes; large weights are cylindrical brass; the fractions of the gramme are of brass, in case with forceps.

Set from	10	20	50	100	200	500	1000	grm. to mgm.
Price,	8.00	9.00	10.00	13.00	19.50	26.00	34.00	

49. Weights of 1 gramme to milligramme of silver, in case with forceps, ... 6.00
50. Weights from 1 gramme to milligramme of platina, in case with forceps, ... 10.00
51. Weights from 1 gramme to milligramme of aluminium,..... 8.00
52. Weights, medical, of brass, cylindrical.

Ounces,	½	1	2	4	6	8	12
Price,	.75	.80	1.20	1.60	2.00	2.75	3.60

53. Battery, Bunsen's. See *Magnetics*.
54. Battery, Grove's. See *Magnetics*.
55. Battery, bi-chromate of potash. See *Magnetics*.
56. Balloon, goldbeater's skin, 12 to 30 inches diameter,..... 2.00 to 6.00

NUMBER PRICE

57. Beaker Glasses, of uniform thickness, and thoroughly annealed. Griffin's form.

	1-4	1-6
Per set,	1.60	3.00

No. 1 is 2 inches wide, and $2\frac{3}{4}$ high. No. 6 is 4 inches wide, and $4\frac{1}{2}$ high.

58. Beaker Glasses, common form.

	000-0	00-1	1-3	1-4	1-5	1-8	1-10	1-12	00-12
Per set,	.40	.42	.62	1.00	1.60	3.00	4.50	6.30	6.60

No. 000, the smallest, is $\frac{3}{4}$ inch wide by $1\frac{1}{2}$ high. No. 12, the largest, is $5\frac{1}{2}$ inches wide by 11 high.

59. Beaker Glasses, wide form.

	1-3	1-4	1-5	1-8	00-10	00-13
Per set,	.75	1.20	1.80	3.75	6.00	9.00

No. 00, the smallest, is 1 inch wide by 2 high.
No. 13, the largest, is 6 inches wide by 11 high.

60. Beaker Glasses, high form.

	1-3	1-4	1-5	1-7	1-8
Per set,	1.00	1.38	1.87	3.15	4.20

No. 1, the smallest, is $1\frac{3}{4}$ inches wide by $4\frac{1}{4}$ high.
No. 8, the largest, is 4 inches wide by $11\frac{1}{2}$ high.

61. Bellows, double action, with table. French pattern, ... 35.00 to 55.00
62. Bellows, double action, for using with the blowpipe, ... 6.00 to 12.00
63. Bellows, hand, ... .50 to 1.50
64. Bell Glasses. See *Pneumatics.*
65. Bell Glasses, with ground stopper and rim, top and bottom.

	$\frac{1}{2}$	1	2	4	6	8	12	16	20	quarts.
Price,	.75	1.00	1.50	2.50	3.00	4.50	5.25	6.00	8.00	

66. Bell Glasses, cylindrical.

	1	2	4	6	8	12	16	quarts.
Price,	1.25	1.87	3.00	3.50	4.50	5.00	6.50	

67. Bell Glasses, knob top.

	$\frac{1}{2}$	1	2	4	6	8	12	16	quarts.
Price,	.60	.90	1.37	2.25	2.75	4.00	4.50	5.25	

68. Bell Glasses, with screw caps.

	2	4	6	8	12	quarts.
Price,	2.00	3.00	3.50	4.00	4.50	

NUMBER PRICE

69. Bell Glass Jars. See *Jars.*

70. Bell Glasses, accurately graduated.

Contents,	500	1000	1500	2000	3000	4000	5000	6000	8000	10000	c. c.
Price,	2.50	3.50	4.25	5.00	5.75	6.75	7.50	10.00	12.50	15.00	

71. Bell Glasses, accurately graduated.

Contents,	50	100	150	200	250	300	400	500	600	800	1000	c. in.
Price,	3.25	5.00	6.25	7.50	10.00	11.50	12.50	13.75	15.00	17.50	20.00	

72. Beehive Shelf, ... .25 to 1.25

73. Blowpipes, plain mouth.

	8	10	12	15	18	24	inches long.
Price,	.25	.33	.40	.50	.75	1.00	

74. Blowpipes, mouth, with bulb.

	8	10	12	15	18	24	inches long.
Price,	.50	.62	.75	1.00	1.50	1.75	

75. Blowpipes, mouth plain or with bulb, having trumpet-shaped mouth-piece; in addition to the above prices, ... .25 to .50

76. Blowpipe, Plattner's, with chamber and horn mouth-piece, solid platina tip, having all the parts separable, ... 3.50 to 4.75

77. Blowpipe, Plattner's, solid platina tip, ivory mouth-piece plated with nickel, which will not tarnish,..... 4.50 to 5.50

78. Blowpipe, compound, having concentric jet, fitted with adjustable socket for the lime, and adapted for use in the Magic Lantern for producing the Drummond Light, as well as for reducing metals, ... 18.00

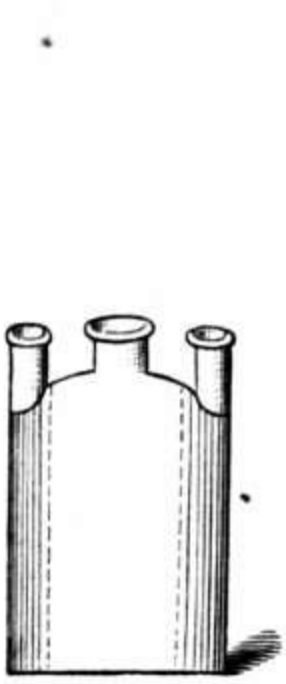
79. Blowpipe, having concentric jet without lime-holder, on iron stand, and having universal joint,..... 12.00

80. Blowpipe, Bunsen's improved form, having universal joint, two stopcocks, three tubes with orifices of different diameters; the whole on iron stand to fasten to the table. This blowpipe, when used with double-acting bellows and illuminating gas, gives sufficient heat for crucibles or glass blowing,..... 12.00

81. Blowpipe Case, complete for qualitative and quantitative analysis, containing all the apparatus for Plattner's set, with re-agents, ...125.00 to 175.00

82. Blowpipe Case, containing all the apparatus for qualitative and quantitative determinations, without re-agents,..... 110.00 to 150.00

83. Blowpipe Case, with apparatus for qualitative determinations only,.....35.00 to 50.00



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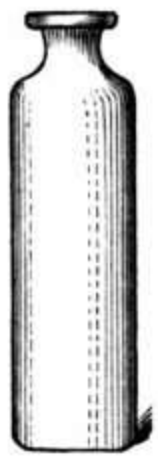

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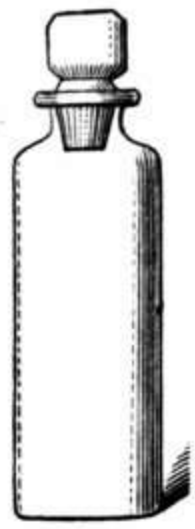

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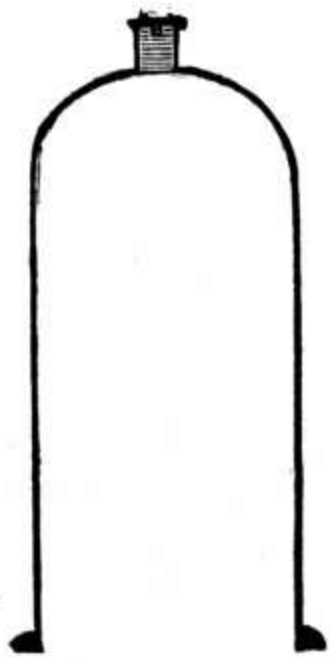

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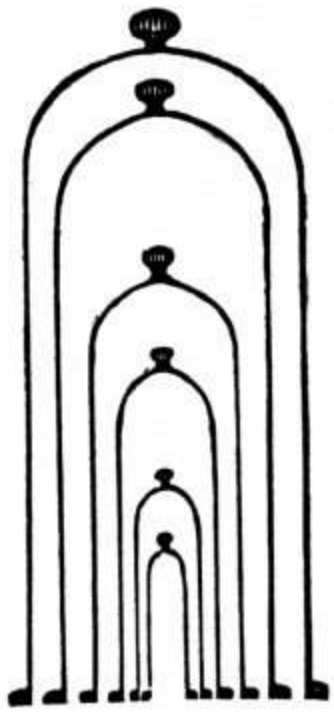

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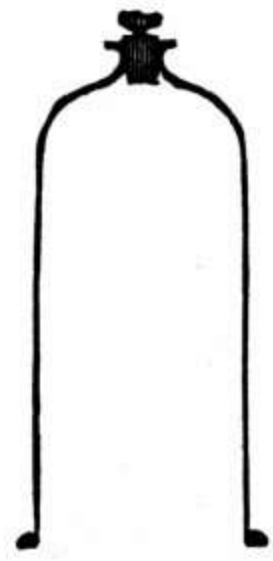


65.

NUMBER PRICE

84. Blowpipe Forceps. See *Forceps.*

85. Blowpipe Spoons. See *Spoons.*

86. Bottles, Woulf's, with three necks.

	2	4	6	8	16	32 oz.
Price,	.54	.63	.75	.81	1.00	1.25

	3	4	6	8	10	12	15	20	30 lb.
Price,	1.60	2.00	3.00	3.75	4.50	5.00	6.50	9.00	12.50

87. Bottles, Woulf's, with two necks, from .12 to .50 less than those having three necks.

88. Bottles, Woulf's, having two or three necks, and tubulated at the bottom, from .50 to 1.50 more than plain.

89. Bottles, for washing filters, &c. See *Wash Bottle.*

90. Bottles, iron, for mercury, ... 1.25 to 1.50

91. Bottles for corks, per hundred, ... 2.40

92. Bottles for corks, size of tube, per hundred, ... 1.50

93 Bottles with ground stoppers, per hundred,.....6.00 to 12.00

94. Bottle for specific gravity, 1000 grains, plain, ... 2.25

95. Bottle for specific gravity, 1000 grains, with thermometer, ... 4.50

96. Bottle for specific gravity, 500 grains, plain, ... 1.75

97. Bottle for specific gravity, 500 grains, with thermometer, ... 3.75

98. Bottle for specific gravity, 100 grammes, plain, ... 2.25

99. Bottle for specific gravity, 100 grammes, with thermometer,.... 4.00

100. Bottle for specific gravity, 50 grammes, plain,..... 2.00

101. Bottle for specific gravity, 50 grammes, with thermometer, ... 3.50

102. Bottle for specific gravity, 25 grammes, plain, ... 1.50

103. Bottle for specific gravity, 25 grammes, with thermometer, ... 3.00

104. Bottles, with finely ground high stoppers, for liquids.

½	1	2	4	6	8	12	16	oz.
.75	.80	1.00	1.10	1.37	1.70	2.00	2.50	per dozen.
8.00	8.75	10.50	12.50	15.00	18.00	22.00	27.00	per gross.

2	3	4	6	8	10	12	24	lb.
2.75	3.00	3.60	4.80	6.50	8.60	10.50	20.50	per doz.

105. Bottles, flat ground stoppers for liquids.

½	1	2	4	6	8	12	16	32	oz.
.96	1.15	1.50	2.00	2.25	2.75	3.50	3.75	4.50	per doz.
10.50	12.50	15.00	21.00	24.00	30.00	36.00	42.00	48.00	p'r gross.

106. Bottles, with wide mouth, high ground stoppers.

½	1	2	4	6	8	12	16	oz.
1.00	1.50	2.00	2.62	3.00	3.25	3.75	4.25	per dozen.
10.80	16.25	21.50	28.25	32.50	35.00	40.00	45.50	per gross.

NUMBER PRICE

2	4	6	8	10	12 lb.
5.00	8.00	12.50	15.00	18.00	21.00 per doz.

107. Bottles, with wide, flat ground stoppers.

½	1	2	4	6	8	12	16 oz.
1.25	2.00	2.50	3.00	3.75	4.00	4.50	5.50 per dozen.
13.50	21.50	27.00	32.50	40.00	43.00	48.00	58.00 per gross.

108. Bottles of black Hyalithe glass, wide ground stoppers.

½	1	2	4	6	8	12	16	24 oz.
1.75	2.00	2.50	3.50	4.00	5.00	7.00	8.50	12.00 per doz.

109. Bottles of black Hyalithe glass, narrow ground stoppers.

½	1	2	4	6	8	12	16	24 oz.
1.50	1.75	2.00	2.75	3.25	4.25	6.00	7.50	10.00 per doz.

110. Bottles, white glass, wide and narrow ground stoppers; the same price as black bottles of the same kind and size.

111. Bottles with caps and long stoppers, for cobalt solution.

2	4	6 oz.
.75	1.00	1.25 each.

112. Bottles with long stoppers, for applying acid as a test.

2	4	6 oz.
.50	.75	1.00 each.

113. Bottles, separatory, with glass stopcock.

2	4	6	8	12	16	20 quarts.
4.50	5.50	7.00	9.50	12.00	14.50	16.00 each.

114. Bottles for cork stoppers, narrow necks.

½	1	2	4	6	8	12	16	24	32 oz.
3.15	3.75	4.20	5.00	6.00	6.75	8.50	10.00	16.00	20.00

115. Bottles for cork stoppers, wide necks, same price as the narrow necks.

116. Bottles for re-agents, 6 oz. capacity, ground stoppers, enamelled labels; 36 in set, ... 36.00

117. Bottles for re-agents, 6 oz. capacity, enamelled labels, with symbols on flat stoppers; 48 bottles in set, ... 55 00

118. Bottles for re-agents, 4 oz. capacity, ground stoppers, enamelled labels; 24 in set, ... 20.00

119. Bottles for re-agents, ground stoppers, with the following enamelled labels.

NUMBER PRICE

Distilled water. Hydrochloric acid.
Ammonia. Sulphuric acid.
Sulphide of ammonia. Nitric acid.
Carbonate of ammonia. Chloride of barium.
Carbonate of soda. Acetic acid.

24 ounce bottles.

Phosphate of soda. Nitrate of silver.
Hydrate of soda. Oxalate of ammonia.
Hydrate of potash. Sulphide of sodium.
Chlorate of potash. Sulphate of copper.
Ferrocyanide of potash Sulphate of magnesia.
Iodide of potash. Solution of indigo.
Nitrate of baryta. Acetate of lead.

8 ounce bottles.

Price of set, ... 32.00

120. Bottles with enamelled labels.

	2	4	8	16	oz.
Price,	.75	1.00	1.25	1.75	each.

121. Bottles for acids, with ground stoppers and covers.

	2	4	8	16	24	oz.
Price,	.62	.75	1.00	1.50	2.00	each.

122. Bottles for acids, with ground stoppers, covers, and enamelled labels.

	2	4	8	16	24	oz.
Price,	1.25	1.50	1.75	2.25	3.00	each.

123. Brushes, for test tubes, ... .25
124. Bubble Pipe, for soap bubbles, with screw socket, ... 1.87
125. Bubble Pipe, plain, ... 1.00
126. Burner, Bunsen's, single tube, ... .75
127. Burner, Bunsen's, single tube with stopcock, ... 1.25
128. Burner, Bunsen's, three tubes, ... 2.50
129. Burner, Bunsen's, three tubes with stopcock, ... 3.00
130. Burner, Bunsen's, four tubes, ... 3.00
131. Burner, Bunsen's, four tubes with stopcock, ... 3.50
132. Burner, Bunsen's, six tubes, ... 5.00
133. Burner, Bunsen's, six tubes with stopcock, ... 5.50
134. Burner, Bunsen's, with rest for bath or dish, ... 2.25
135. Burner, Bunsen's, with crown or rose jet, ... 2.25
See also *Gas Furnace.*
136. Capsules. See *Scorifiers.*
137. Candle Bombs, per dozen, ... .75

NUMBER PRICE

138. Carbon Points for electric light, per pair, ... .25 to .75

139. Caoutchouc Tubing. See *Rubber.*

140. Caoutchouc Stoppers. See *Rubber.*

141. Colanders, or Strainers, porcelain, round bottom.

	2½	3	3½	3¾	4½	5	5½	6	6½ inches diam.
Price,	.35	.40	.45	.50	.55	.60	.75	.90	1.00

Set of the 4 largest, ... 3.00
Set of the 5 smallest, ... 2.00
Set of the 9, ... 4.75

142. Colanders, or Strainers, flat.

	6	8	10	12	13 inches diameter.
Price,	1.00	1.50	2.00	2.50	3.00

143. Combustion Furnace. See *Furnace.*

144. Combustion Tube. See *Tubing.*

145. Chlorine Jars. See *Jars.*

146. Chlorine Generating Apparatus, flask, rubber stopper, funnel tube and conducting tube.

	½	1	2	3	4 quarts capacity.
Price,	1.00	1.50	2.00	2.25	2.50

147. Chloride Calcium Tubes, straight, ... .20 to .35
148. Chloride Calcium Tubes, two bulbs, bent, ... .35
149. Chloride Calcium Tubes, two bulbs, straight, ... .30
150. Chloride Calcium Tubes, one bulb, ... .25
151. Chloride Calcium Tubes, one bulb, small, ... .20
152. Chloride Calcium Tubes, U form, ... .50 to .75
153. Chloride Calcium Tubes, Marchand's, ... .60
154. Chloride Calcium Jars, with chamber and tubulure at bottom.

	9	10	12	16 inches high.
Price,	1.00	1.25	1.50	2.00

155. Carbonic Acid Gas Apparatus, for Generating, Liquefying, and Solidifying Carbonic Acid Gas.

Much care has been bestowed in perfecting this most valuable and interesting apparatus.

A glance at the instruments will insure confidence in their perfect security, completeness of arrangement, and perfection in workmanship.

The Generator is about two gallons capacity, 1¼ inches thick, of the finest and strongest *gun metal*, weighs about 175 pounds, is mounted on a heavy iron stand, and arranged to revolve on centres, by which means the materials for generating the gas are mixed within.



147.



148.



149.



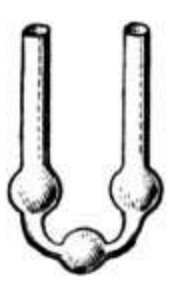
150.



151.



134.



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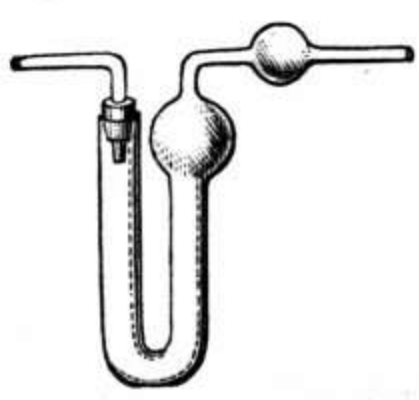

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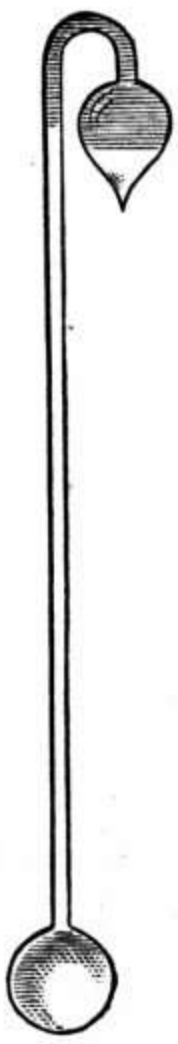

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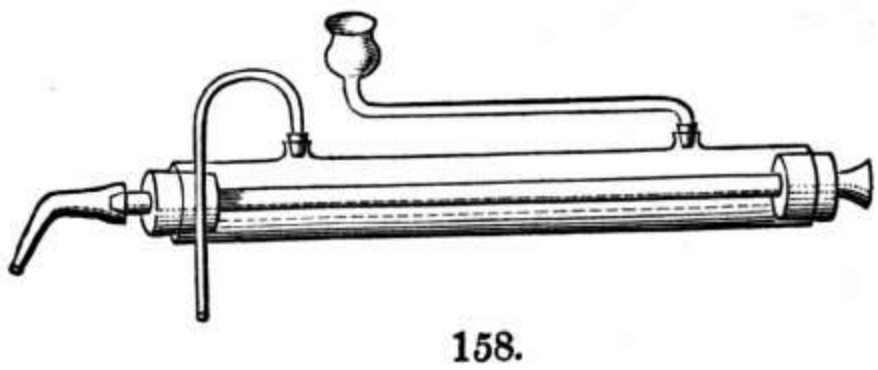

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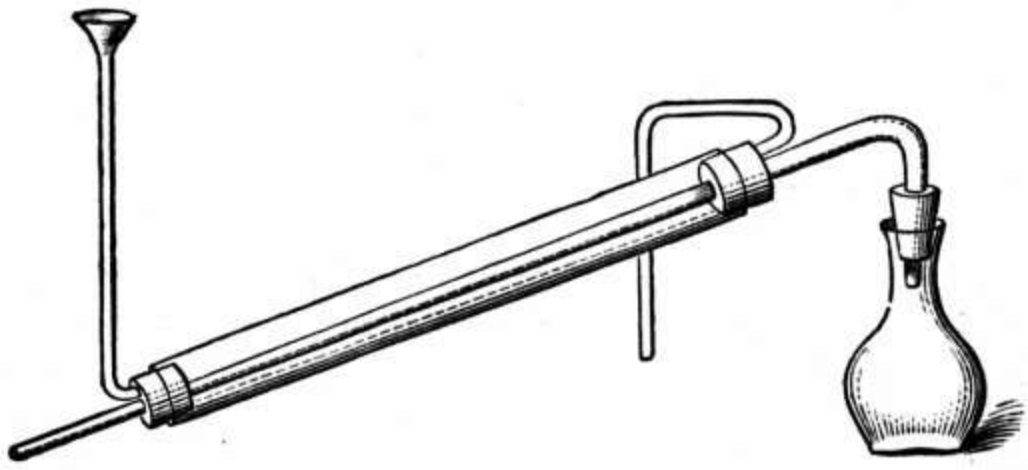


158.

NUMBER PRICE

The Receiver is of the same weight, capacity, and metal, stands on a floor or basement, connects with the Generator by means of a copper tube and screw couplers.

A strong Glass Receiver for retaining and exhibiting the gas as a liquid.

Two Brass Cases, quart and pint, with ventilated insulating handles; connect with the main Receiver by *socket fitting;* are so constructed as to break the force of the liquid as it issues from the Receiver, which is deposited as a pure white snow in the case.

Cylindrical Copper Cistern, contains three pounds of sulphuric acid, is lowered into the Receiver after pouring in the soda and water.

Hook and Handle for do. Funnel.

Copper Basin, in which to mix three pounds bicarbonate of soda with two quarts warm water, constituting, with the acid, one charge for the Generator.

Large Iron Wrench, Mallet, Two-hand Wrench, Wrench for the Vent Screws, Drawing Jet, Cylindrical Brush, Copper Cistern, into which the main Receiver is set, and surrounded with ice and salt.

Ten charges will fill the Receiver with liquid, which will yield about fourteen cases of the solid *carbonic acid*,..... 275.00

156. Condensing Pump, or Condenser. See *Pneumatics.*

157. Condenser, Liebig's, on stand, ... 6.00

158. Condenser, Liebig's, without stand, ... 3.00

159. Condenser, or Refrigerator, block tin tube for stills, from 1 to 20 gallons, with funnel tube for receiving the cold water at the bottom and discharging the warm water at the top,....5.00 to 15.00

160. Corks, vial, per gross, from ..... .25 to 2.00

161. Corks, bottle, per gross, from ..... .50 to 3.50

162. Cork Borers.

	6 in set.	12 in set.
Price,	3.00	4.50

163. Cork Files.

	6	8	10	12	inches long.
Price,	.25	.35	.50	.75	

164. Cork Files with handles, additional, ... .15 to .25

165. Cork Tongs, 6 inches, 8 inches, ... 2.00 2.50

166. Cork Press, ... 1.50 to 2.50

167. Cork Knife, ... .15 to .30

168. Corkscrew, ... .15 to .50

169. Conducting Tube, 4 feet, with sockets, ... 3.00

170. Condensation Tube, for condensation by measure, ... 1.50

NUMBER		PRICE
171.	Connectors, rubber, per dozen,	.75
172.	Connectors, or Couplers. See *Pneumatics.*	
173.	Covers, plate glass, for beakers, funnels, &c.; 3 to 10 inches diameter, .10	1.00
174.	Chisel for breaking minerals, .25 to	1.00
175.	Cutting Plyers. See *Plyers.*	
176.	Cylinders, graduated. See *Graduates.*	
177.	Cylindrical Jars. See *Jars.*	
178.	Cylinders, porous. See *Magnetics.*	
179.	Concentric Jet. See *Blowpipe.*	
180.	Cryophorus, 2.00	2.50
181.	Cubic Inch Measure, 10 inches,	1.50
182.	Charcoal, Boxwood.	
183.	Charcoal Holder, Plattner's, with platina wire and plate,	4.50
184.	Charcoal Borer, Plattner's, with spatula handle,	.75
185.	Charcoal Borer, Plattner's, with wooden handle,	1.00
186.	Charcoal Borer, Plattner's, large, round,	2.00
187.	Crucible Tongs. See *Tongs.*	
188.	Crucibles, Beaufay.	

No.	0	1	2	3	4	5	6	7	8	9	10	11	12	
Height,	1⅜	2	2¼	2¾	3	3¼	3¾	4¼	4¾	5½	6	6¾	7	in.
Diam.	1¼	1⅜	1½	1¾	2	2¼	2⅜	2½	2¾	3	3¼	3½	4	in.
Price,	.5	.7	.8	.10	.10	.12	.15	.18	.20	.25	.30	.40	.50	each.
Price,	.50	.75	.87	.90	.90	1.25	1.60	1.90	2.25	2.75	3.25	4.25	5.00	doz.

No.	13	14	15	16	17	18	19	20	21	
Height,	7½	8½	9½	10½	11	12	13	13½	14	in.
Diam.	4¼	4½	5¼	5¾	6	6½	7	7¼	7½	in.
Price,	.60	.75	1.00	1.15	1.25	1.50	1.75	2.00	2.75	each.

189. Covers for Beaufay crucibles.

Diam.	2	2½	3¼	4	4¾	5½	6½	7¼	8	9	
Price,	.5	.10	.15	.20	.25	.30	.35	.45	.60	.75	in.

190. Crucibles of Carbon, with covers, for melting gold and silver; will not crack nor absorb the metal, and can be used from twenty to fifty times.

Oz.	2	4	6	8	capacity.
Price,	1.75	2.00	3.00	3.50	

191. Crucibles, Hessian or sand.

NUMBER PRICE

small 3's. small 5's. large 5's. large 6's. large 8's.

	8	10	20	40	60	each nest.
Price,	.83	1.00	1.75	4.00	6.00	per dozen.
Price,	5.00	7.00	14.00	25.00	45.00	per 100.

192. Crucibles, iron, with gallows and tube, for mercury, oxygen, &c.

	1	2	quarts.
Price,	4.50	5.50	

193. Crucibles, Berlin porcelain, with covers, glazed inside and outside, very thin.

Con.	$\frac{1}{4}$	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	3	4	5	6	7	oz.
Price,	.20	.25	.30	.35	.40	.50	.60	.70	.80	.90	

194. Crucibles, porcelain, glazed inside, with covers.

Con.	$\frac{1}{2}$	1	2	4	5	6	8	12	16	24	32	oz.
Price,	.10	.15	.20	.35	.40	.50	.55	.60	.80	1.00	1.25	

195. Crucibles, triangular, glazed inside, with covers.

Con.	$\frac{1}{2}$	1	2	4	5	6	8	12	16	24	32	oz.
Price,	.15	.22	.35	.40	.50	.60	.65	.75	.95	1.15	1.50	

196. Crucibles, platina; drawing full size. The numbers represent, nearly, the fluid ounces capacity and Troy ounce weight. The covers are made so as to be used as capsules. These are not soldered, but are wrought, and are warranted not to crack; per grain, 4 cents; per gramme, 60 cents.

197. Cupels, French, bone ash.

Diam.	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{5}{8}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{3}{4}$	3	inches.
Price,	.36	.45	.50	.55	.60	.90	1.12	1.75	2.75	3.50	7.00	per doz.

198. Cupel Moulds, wood,..... 1.50

199. Cupel Moulds, brass, ... 2.50 to 4.00

200. Crystal Models. See *Crystallography.*

201. Deflagrating Spoon,..... .25

202. Deflagrating Socket, for tapers,..... .50

203. Detonating Jet, for musical sounds,..... .75

204. Detonating Tube, for musical sounds, each..... .75

205. Decanting Jars.

	1	2	4	quarts.
Price,	4.50	5.50	6.50	

206. Desiccating Apparatus, ... 4.50

207. Desiccating Apparatus, Fresenius', ... 7.00

NUMBER PRICE

208. Desiccating Apparatus, glass cover, with plate, ... 3.50
209. Desiccating Tube, Schrotter's, ... 1.75
210. Displacement Apparatus, 4 quarts, ... 12.00
211. Displacement Apparatus, light blown glass.

	6	8 oz.
Price,	1.25	1.50

212. Displacement Apparatus, no stopcock.

	1	2	4 quarts.
Price,	4.50	5.50	6.50

213. Distilling Apparatus. See *Stills.*
214. Dropping Tubes, graduated.

	5	10	20	30	50	75	100 c. c.
Divid. in	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{1}$
Price,	1.00	1.25	1.75	2.00	2.50	3.25	3.50

215. Dropping Tube, graduated on stem, ... 1.00
216. Dropping Tube, globe form.

	1	2	3	4 oz.
Price,	.15	.20	.25	.35

217. Dropping Tube, pear and cylindrical forms.

	1	2	3	4 oz.
Price,	.20	.25	.35	.50

218. Dropping Glass, Schuster's, ... .30
219. Dropping Glass, Schuster's, with stopper, ... .50
220. Dropping Tubes, volumetric.

	1	2	3	4	5	10	15	25	50	75	100	200 c. c.
Price,	.15	.18	.20	.25	.25	.30	.35	.50	.60	.75	1.00	1.50

221. Dropping Tubes, volumetric, set of 14 on stand, ... 15.00
222. Drying Bath, for filters, porcelain, ... 1.50
223. Drying Bath, copper. See *Water Bath.*
224. Drying Bath, porcelain. See *Water Bath.*
225. Drying Oven, 8 inches long, 6 wide, 5 high, ... 4.00
226. Drying Oven, having water space, the top having two openings, for thermometer and water; tin, 4.00, copper, ... 6.00
227. Drying Oven, Rammelsberg's, copper, ... 4.25
228. Drying Oven, with gas regulator, ... 12.00

NOTE. — For thermometers to use with these ovens, see *Thermometers.*

229. Drying Tube, Mitscherlich form, ... .50
230. Drying Tube, Liebig's form, ... .40



214.



220.



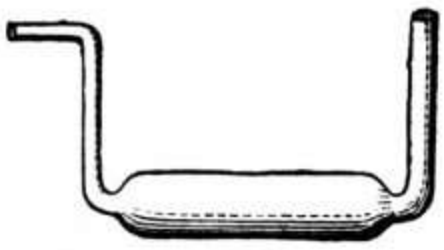
216.



217.



217.



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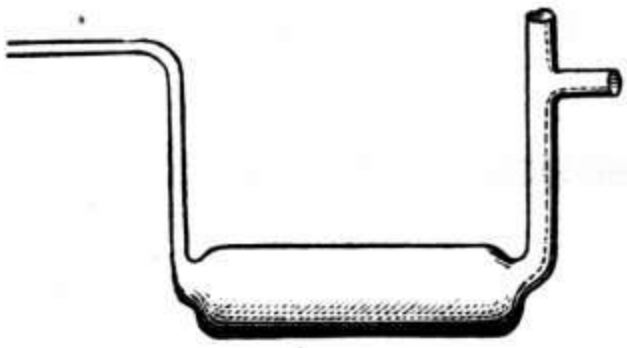

229.



243.



218.



219.



259.



261.



NUMBER PRICE

231. Drummond Light Apparatus. See *Blowpipe.*

232. Dutch Leaf, per book, ... .12

233. Evaporating Dishes, for wooden handle, German porcelain.

	1	2	3	4	5		oz.	
Price,	.20	.25	.30	.40	.50		each.	
	6	8	12	16	32	40	60	oz.
Price,	.72	.85	1.00	1.50	1.80	2.00	2.50	each.

234. Evaporating Dishes, with hollow handle, German porcelain.

	6	8	12	16	24	32	40	60	oz. with covers.
Price,	.90	1.44	1.62	2.00	2.25	2.50	2.75	3.50	each.

235. Evaporating Dishes, with solid handles.

	4	8	12	16	20	32	oz.
Price,	.50	.60	.80	1.00	1.25	1.75	each.

236. Evaporating Dishes, solid handles and covers.

	3	4	8	12	16	20	32	oz.
Price,	.60	.80	.90	1.25	1.50	1.80	2.25	each.

237. Evaporating Basins, glazed inside.

Diam.	8	9	10	11	12	13	15	16	inches.
Contents,	1½	2	2½	4	5	7	12	18	pints.
Price,	.75	1.00	1.50	2.25	2.50	3.00	3.75	5.00	

238. Evaporating Dishes.

No.	1	2	3	4	5	6	7	8	9	
Diam.	2½	3	3½	3¾	4½	5	5½	6	6½	in.
Contents,	1	2	3	4	5	6	10	12	16	oz.

4 in set, 1 to 4, per nest, ... 1.30
5 in set, 5 to 9, per nest, ... 1.50
9 in set, 1 to 9, per set, ... 2.75

239. Evaporating Dishes, porcelain, watch glass form; set of 4, ... 1.50

240. Evaporating Dishes, thin, with lip, 1½ to 4 ounces; set of 4, per nest..... 2.00

241. Evaporating Dishes, Bohemian glass.

Nest of 6, from 2½ to 5 inches in diameter; per nest,.... 2.00
Nest of 8, from 3 to 6 inches in diameter; per nest,..... 3.75
Nest of 11, from 2½ to 10 inches in diameter; per nest,.. 5.75

242. Evaporating Dishes, Bohemian glass, watch glass form.

Diam.	1	1½	2	2½	3	3½	4	5	6	inches.
Price,	.5	.10	.12	.15	.20	.25	.32	.40	.50	each.

NUMBER PRICE

243. Eudiometer, Bunsen's.

	250	300	400	500	600	700	800 m. m.
Price,	3.50	4.00	4.50	5.00	5.50	6.00	6.50

244. Eudiometer, Mitscherlich's, with glass stopcock, ... 12.00
245. Eudiometer, Ure's, ... 4.00
246. Eudiometer, Ure's, on stand, ... 4.50
247. Eudiometer, Ure's, on stand, with glass stopcock, ... 5.50
248. Eudiometer, plain, ... 3.00 to 4.50
249. Filter Paper, French, cut round, in packs of 100 sheets.
    No. 15, for 3¼ inch funnel, ... .45
    No. 19, for 4½ inch funnel, ... .35 to .50
    No. 25, for 5 inch funnel, ... .40 to .60
    No. 33, for 6½ inch funnel, ... .80
    No. 40, for 7½ inch funnel, ... 1.10
    No. 45, for 8½ inch funnel, ... 1.25
    No. 50, for 10½ inch funnel, ... 1.50
250. Filter Paper, German, per quire, ... .30
251. Filter Paper, Swedish, for analysis; No. 1, per quire, ... 1.50
252. Filter Paper, Swedish, for analysis; No. 2, per quire, ... .75
253. Filter Rings, for holding a funnel over a beaker; 2 arms, ... .36
254. Filter Rings, for holding a funnel over a beaker; 3 arms, ... .45
255. Filter Stand. See *Stands.*
256. Files for cutting glass tubing, with handle, ... .30 to .60
257. Files for boring corks, with handle, ... .40 to 1.50
258. Flasks, Bohemian glass, round bottom, vial mouth.

	1	2	4	6	8	12	16	24 oz.
Price,	.15	.16	.18	.20	.27	.30	.35	.40 each.

	2	3	4	6	8	10	12	16 lb.
Price,	.58	.60	.64	.76	.90	1.28	1.40	1.60 each.

259. Flasks, Bohemian glass, flat bottom, vial neck.

	1	2	4	6	8	12	16	24 oz.
Price,	.12	.15	.16	.20	.24	.27	.33	.36 each.

	2	3	4	6	8	10	12	16 lbs.
Price,	.52	.60	.68	.76	.84	1.12	1.20	1.40 each.

260. Flasks, Bohemian glass, round bottom, ring neck.

	1	2	4	6	8	12	16	24 oz.
Price,	.16	.18	.20	.24	.32	.35	.40	.48 each.

	2	3	4	6	8	10	12	16 lbs.
Price,	.60	.64	.76	.90	1.20	1.40	1.60	1.80 each.



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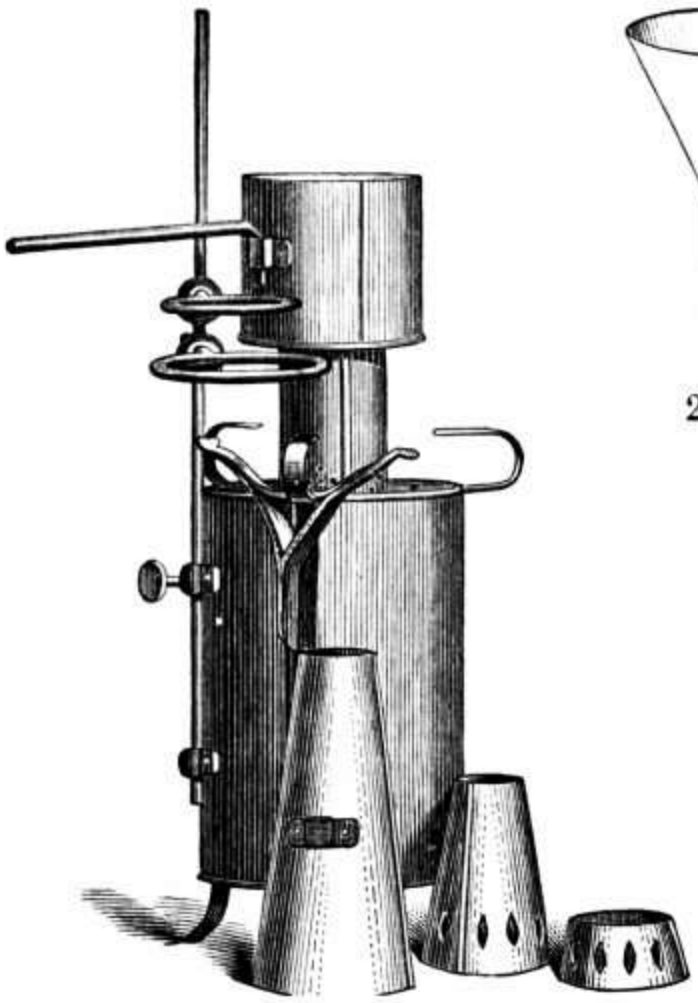

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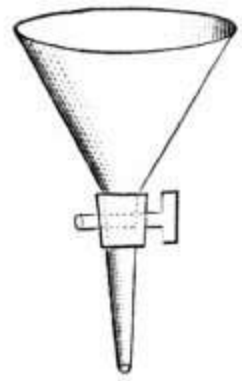

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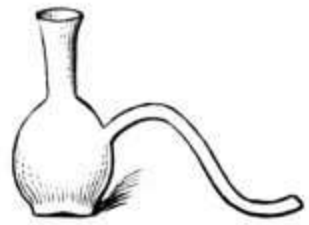


307.



307.

NUMBER PRICE

261. Flasks, Bohemian glass, flat bottom, ring neck.

	1	2	4	6	8	12	16	24 oz.
Price,	.15	.16	.18	.20	.27	.30	.35	.40 each.

	2	3	4	6	8	10	12	16 lb.
Price,	.58	.60	.64	.76	.90	1.28	1.40	1.60 each.

262. Forceps, or tweezers, steel, ...15 to .50
263. Forceps, or tweezers, steel, bent, ...35 to 1.00
264. Forceps, brass, platina tips, ... 1.75 to 2.75
265. Forceps, steel, platina tips, with slide for binding, ... 1.75 to 3.00
266. Funnels, for filtering, ground top, Bohemian glass, angle 60°.

Inch.	1	1½	2	2½	3	3½	4	4½	5	6	7	8	9	10 diam.
Price,	.12	.15	.18	.22	.25	.30	.33	.37	.45	.56	.75	.87	1.00	1.25

267. Funnels for filtering, ribbed, ground top; angle 60°; from 3 to 25 cents more than plain ones.
268. Funnels, in sets of three; ¾, 1, 1¼ inches diameter; per set, ...30
269. Funnels, with long tubes, or funnel tubes.

	9-10	11-12	13-14	15-18 inches long.
	2	2½	3	4 inches diameter.
Price,	.17	.20	.25	.30 each.

270. Funnel Tubes, bent, 16 to 24 inches long, ...50 to 1.25
271. Funnel Tubes, bent for safety tubes, ...35

	1	2 bulbs.
Price,	.50	.60 each.

272. Funnel Tubes, thistle shape. See *Thistle Tubes.*
273. Funnel Tubes, with ground stopper for dropping. 75
274. Funnel Tubes, with glass stopcock for dropping, ... 2.00
275. Funnels, separating, light blown glass, globe shape, ... 1.75
276. Funnels, separating, light blown glass, cup shape, ... 1.50
277. Funnels, separating, light blown glass, cylindrical, ... 1.75
278. Funnels, separating, glass stopcock, ground top.

	4	5	6	8	9 inches diameter.
Price,	3.00	3.50	4.00	4.75	6.00

279. Funnels, with covers and tubulature.

	4	6	8 inches diameter.
Price,	1.75	2.00	2.50 each.

280. Funnels, with stopcocks and covers, with tubulatures.

	4	6	8 inches diameter.
Price,	5.00	5.50	6.00 each.

NUMBER PRICE

281. Funnels, with two handles and stopper.

	3	4	6	8	inches diameter.
Price,	1.50	1.75	2.25	3.25	each.

282. Funnels, with stopcocks and two handles.

	3	4	6	8	inches diameter.
Price,	5.50	6.00	6.75	7.50	each.

283. Funnels, with stopcocks and tubulatures.

	3	4	6	8	inches diameter.
Price,	6.00	6.50	7.00	8.00	each.

284. Funnels, with stopcocks and tubulatures, angular sides.

	5	6	inches diameter.
Price,	6.25	6.75	each.

285. Funnels, porcelain, with handles, plain.

	4	5	6	8	inches diameter.
Price,	.56	.72	.85	1.25	each.

286. Funnels, porcelain, with handles and staves.

	4	5	6	8	inches diameter.
Price,	.65	.85	1.00	1.50	each.

287. Funnels, porcelain, with fine holes, plain.

	5	6	7	9	11	inches diameter.
Price,	.80	1.00	1.20	2.00	3.20	each.

288. Funnels, porcelain, with fine holes and staves.

	5	6	7	9	11	inches diameter.
Price,	1.00	1.20	1.50	2.40	3.00	each.

289. Funnels, porcelain, with handles, plain.

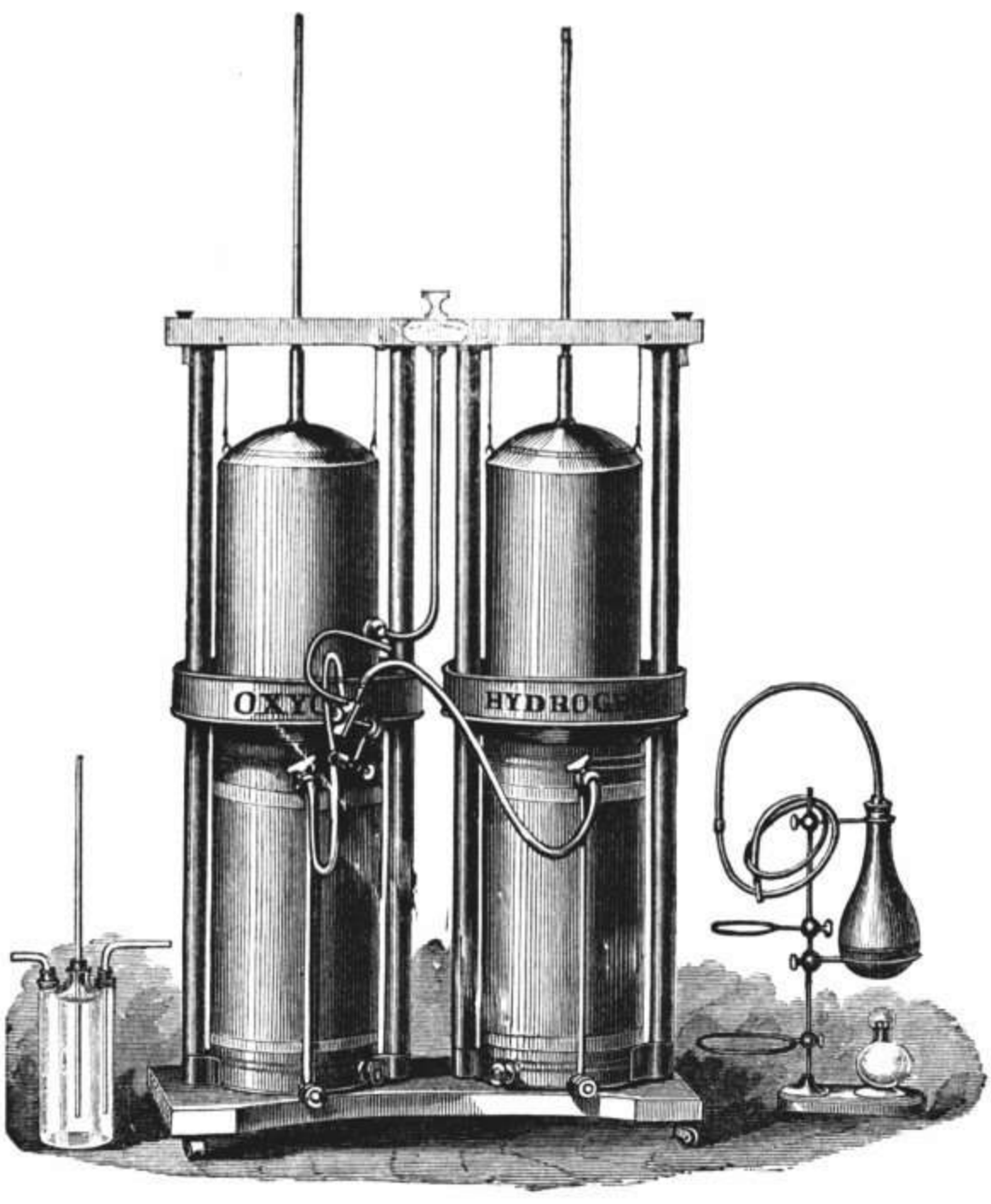
	4	5	6	inches diameter.
Price,	.80	1.00	1.20	each.
Price,	1.00	1.25	1.50	each, with staves.

290. Funnels, porcelain, with large holes.

	3½	4	5	5½	6½	7½	in. diameter.
Price,	.50	.60	.75	.90	1.50	2.00	each.

291. Furnaces, combustion, 36 burners, with stopcocks,..... 45.00

292. Furnaces, combustion, 36 ring burners, with stopcocks, which heat the tube on top as well as below, and produce the most even as well as the most intense heat, ... 65.00



311.

NUMBER PRICE

293. Furnaces, cupel, best French clay, iron bound.

No.	1	2	3	4	5	6
Price,	18.00	25.00	35.00	45.00	65.00	80.00

294. Furnaces, hand, French clay.

No.	1	2	3	4	5
Price,	1.00	1.25	1.50	1.75	2.00

295. Furnaces, Liebig's, for organic analysis, ... 4.00 to 6.00
296. Furnaces for melting, iron, lined with soapstone, with apertures for tubes, &c., fitted with rings for retorts and flasks; intended for general use in the laboratory, ... 25.00 to 45.00
297. Furnace, universal gas, for crucibles, &c., ... 12.00 to 15.00
298. Float's, Erdman's, or Burette swimmers,..... .35, .50 .75
299. Gallows Connectors, interior and exterior threads, ... 1.25
300. Gas Bags, wedge shape, 3 gallon capacity, ... 3.00
301. Gas Bags, wedge shape, 5 gallon capacity, ... 4.00
302. Gas Bags, wedge shape, 10 gallon capacity,..... 6.00
303. Gas Bags, wedge shape, 20 gallons capacity, ... 10.00
304. Gas Bags, flat, 50 gallons capacity, ... 20.00
305. Gas Bags, spherical, 1 and 2 quart,..... 1.00 1.50
306. Gas Furnaces. See *Furnaces*, *Burners*, &c.
307. Gas Bulbs, ... .25
308. Gas Heaters. See *Burners*.
309. Gas Jars, ground top, with covers.

	1	2	3	4	lb.
Price,	.25	.35	.50	.65	each.

310. Gas Jars, for chlorine, ground top and covers.

	8	10	12	15	18	inches high.
Price,	.60	.75	1.00	1.25	1.50	each.

311. Gasometers, of copper, each bell 30 gallons capacity, and fitted with stopcocks for inlet and outlet; weights for pressure, &c. The frame stands on castors. The posts enclose balance weights; the whole thoroughly made and finished, neatly painted and lettered, ... 175.00
312. Gasometers, of copper, each bell 15 gallons, ... 90.00
313. Gasometers, of copper, each bell 5 gallons, ... 52.00
314. Gasometers, single bell, 30 gallons,..... 95.00
315. Gasometers, single bell, 15 gallons, ... 50.00
316. Gasometers, single bell, 5 gallons, ... 31.00
317. Gasometers, Bunsen's, graduated, ... 5.00 7.00
318. Gasometers of other styles and sizes, made only to order.

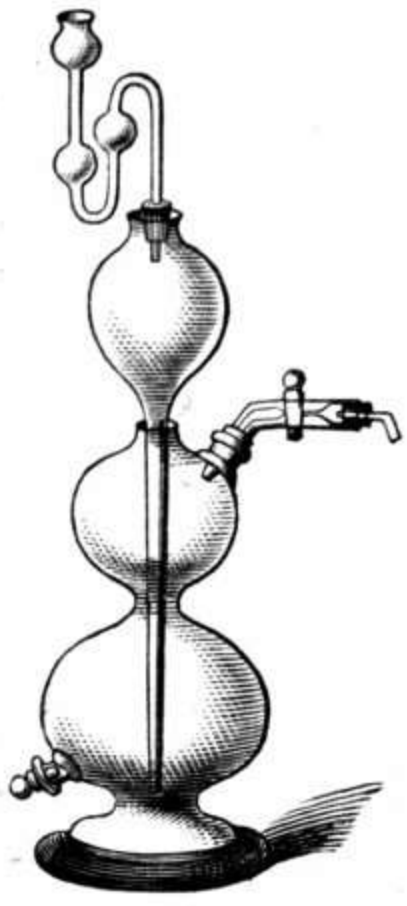
NUMBER		PRICE
319.	Gas Generator. See *Flasks*, *Copper*, *Iron*, and *Glass.*	
320.	Gas Generators, Kipp's, for sulphuretted hydrogen, ... 7.00	9.00
321.	Gas Generators, hydrogen, glass, ...	4.50
322.	Gas generators, hydrogen, copper,..... 12.00	18.00
323.	Gas Generators, oxygen. See *Copper* and *Iron Retorts.*	
324.	Globes for burning oxygen,..... 1.50	6.00
325.	Graduates, beaker form, or conical.	

	1	2	3	4	6	8	12	16 oz.
Price,	.40	.50	.60	.80	.90	1.00	1.15	1.25

326. Graduates, beaker form, or conical.

	25	50	100	200	250	300	500	1000 grammes.
Price,	.40	.60	.80	1.00	1.10	1.20	1.30	1.80

327.	Graduates. See *Bell Glasses*, *Flasks*, *Jars*, &c.		
328.	Hammers, small, of fine steel, ... 1.00		1.75
329.	Hammers, large, of fine steel, ... 1.50		3.00
330.	Holders for platina spoons, wire, &c., ... .50		.75
331.	Holders for test tubes, brass, ...		.50
332.	Holders for test tubes, wood, ...		.25
333.	Holders for watch glasses, ... .30		.50
334.	Holders, Burette, retort, &c. See *Stands.*		
335.	Hydrogen Generator. See *Gas Generator.*		
336.	Hydrometers, Beaume's scale, 0 mark in middle, ...		2.50
337.	Hydrometers, Beaume's scale, ether, 40° to 70°, ...		1.25
338.	Hydrometers, Beaume's scale, spirits, 10° to 50°, ...		1.25
339.	Hydrometers, Beaume's scale, heavy liquids, 0° to 70°, ...		1.50
340.	Hydrometers, Beaume's scale, heavy liquids, 25° to 45°,.....		1.25
341.	Hydrometers, Beaume's scale, heavy liquids, 40° to 70°, ...		1.25
342.	Hydrometers, Beaume's scale, heavy liquids, 0° to 70°, ...		1.50
343.	Hydrometers, Beaume's scale, coal oil, ...		1.25
344.	Hydrometers, Beaume's scale, bark liquor, ...		1.25
345.	Hydrometers, Beaume's scale, vinegar,.....		1.25
346.	Hydrometers, Beaume's scale, beer,.....		1.25
247.	Hydrometers, Beaume's scale, milk, ...		1.25
248.	Hydrometers, Beaume's scale, sugar syrup, ...		1.25
349.	Hydrometers, specific gravity 700 to 1000, with jar,.....		2.25
350.	Hydrometers, specific gravity 1000 to 2000, with jar,.....		2.25
351.	Hydrometers, Twaddle's, set of seven, with thermometer and jar in box, ...		18.00
352.	Hydrometers, Twaddle's, separate spindles, ... 1.25		1.50
353.	Hydrometers, Nicholson's, ...		6.00
354.	Hydrometer, for alcohol, alcoholmeter, Tralle's scale, showing per cent. by volume, with thermometer attached, for corrections of temperature, ...		4.50



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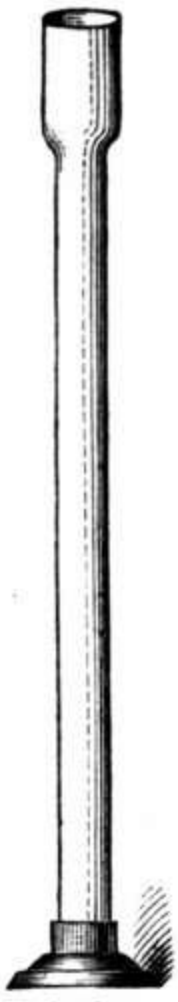

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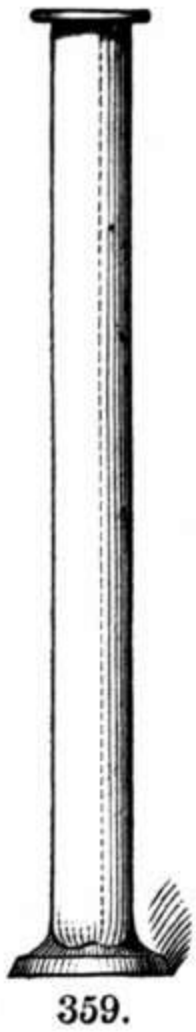

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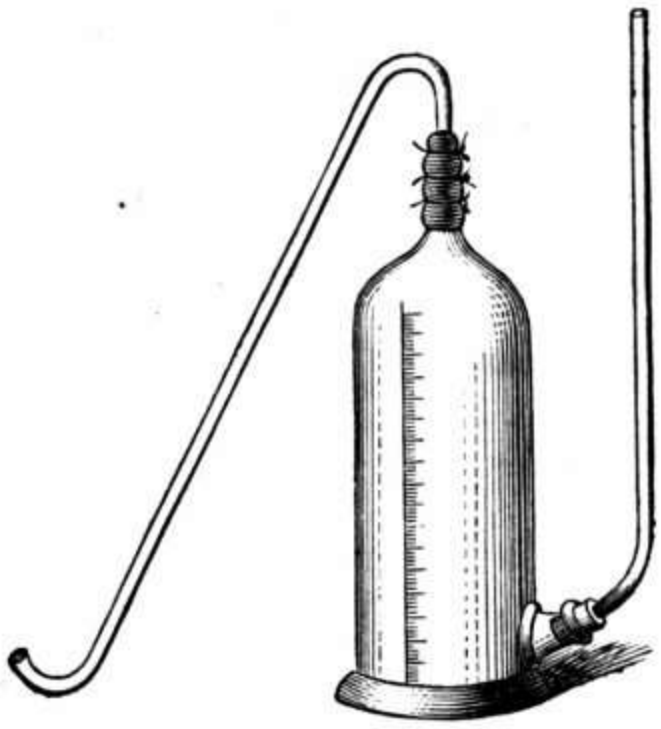

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361.

NUMBER PRICE

355. Hydrometer for alcohol, alcoholmeter, Tralle's scale, showing per cent. by volume, without thermometer, ... 2.50
356. Hydrometer, with thermometer and jar in case, ... 7.50
357. Ignition Tubes, per dozen, ... 2.00, 2.50 3.00
358. Jars, Hydrometer.

	8	10	12	16	18	inches high.
Price,	.40	.50	.75	1.00	1.25	each.

359. Jars for chlorine, &c. See *Gas Jars.*
360. Jars for anatomical preparations, various sizes and shapes.
361. Jets, detonating, for musical sounds, ... .50 .75
362. Jets, concentric. See *Blowpipes.*
363. Knives, for cutting corks, &c..... .10 to .25
364. Labels, for test series, according to Morfit, per set, ... .25
365. Labels, plain, for laboratory, per set,. ..... .25
366. Labels, giving English and Latin name of the substance, and the chemical formula, about 600 in set, ... .60
367. Lamps, spirit, glass, ground caps, ... .50, .75 1.00
368. Lamps, spirit, glass, ground caps, tubulated,. ..... .75, 1.00 1.25
369. Lamps, spirit, glass, ground,..... .50, .75 1.00
370. Lamps, spirit, copper, ... 1.25
371. Lamps, spirit, copper, five wicks, ... 1.75
372. Lamps, spirit, Berzelius', mahogany base, ... 6.50
373. Lamps, spirit, Berzelius', porcelain base, ... 7.50
374. Lamps, spirit, universal, of brass, ... 8.00
375. Lamps, spirit, universal, of brass, plain, ... 6.00
376. Lamps, spirit, Rose's, with chimney, &c., ... 6.50
377. Lamp, with flat wick, and stand, for blowpipe use,..... 3.00
378. Lamps, gas. See *Burners, Furnaces,* &c.
379. Lactometer. See *Hydrometers.*
380. Litmus Paper, per pack, ... .25 .50
381. Litre Flasks.

	$\frac{1}{4}$	$\frac{1}{2}$	1	litre.
Price, stoppered,	1.00	1.25	1.50	each.
Price, plain,	.75	1.00	1.25	each.

382. Mercury Troughs, ... 2.50
383. Mercury Troughs,..... 1.10
384. Mercury Troughs, Liebig's, ... 1.25 2.50
385. Mortars, of agate, according to size and quality, from $1\frac{1}{2}$ inches to 6 inches diameter, ... 1.50 to 40.00
386. Mortars, Bohemian glass, with pestles.

	2	3	4	5	6	7	8	inches diameter.
Price,	.40	.50	.75	.90	1.20	1.50	2.10	each.

NUMBER PRICE

387. Mortars, iron, with pestles.

	4	5	6	7	8	9	inches diam.
Price,	.85	1.25	2.00	3.00	4.00	4.75	each.

388. Mortars, porcelain, with pestles.

2	2½	3	3½	4½	5	5½	6½	7	8	9	10	11	12
Price,													
.30	.50	.70	.90	1.10	1.30	1.60	1.80	2.00	2.50	4.00	5.00	6.50	8.00 each.

389. Mortars, porcelain, with pestle.

Diam.	3½	4	4½	5½	6	6½	7½	8½	9	9½	10	12	14
Price,	.80	.90	1.10	1.50	2.00	2.50	3.25	4.00	5.00	6.00	7.00	9.50	12.00 ea.

390. Mortars, porcelain, with pestle.

	4	5	6	7	8	inches diam.
Price,	1.50	2.00	3.00	6.00	9.00	each.

391. Moulds, cupel, of brass, ... 3.50
392. Moulds, cupel, of wood, ... 1.50
393. Muffles.

	5	6	7½	9	10	inches long.
	3	3¾	4½	5	6	inches wide.
Price,	.60	.80	1.00	1.25	1.40	

394. Muffle Doors, 40, 50, and 60 cents.
395. Nitrogen Bulb, ... .65
396. Nitrogen Tube, ... .75
397. Paper, filter. See *Filter Paper.*
398. Pendent Spoon, ... .25
399. Pendent Socket, ... .25
400. Pipettes, gas, Ettling's, ... 1.00
401. Pipettes. See *Dropping Tubes.*
402. Pneumatic Trough, 30 long, 14 wide, 12 deep, with shelves, neatly japanned, ... 12.00
403. Pneumatic Cistern, copper, japanned, ... 15.00
404. Pneumatic Cistern, 15 × 8 × 8, tin, japanned, ... 3.50
405. Pneumatic Cistern, other sizes, made to order.
406. Pneumatic Cistern, glass, 12 × 6, ... 10.00
407. Pneumatic Cistern, glass, 16 × 8, ... 15.00
408. Platina Wire, per grain 3 cents, per gramme, ... .45
409. Platina Foil, per grain 3 cents, per gramme, ... .45
410. Platina Crucibles, per gramme, ... .60
411. Platina Spoons, per gramme, ... .60
412. Platina Spatula, ... .60



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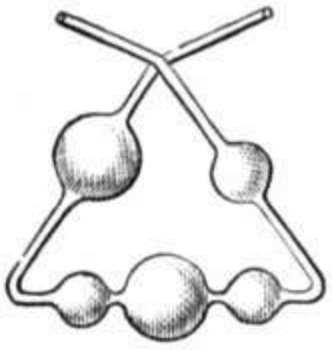

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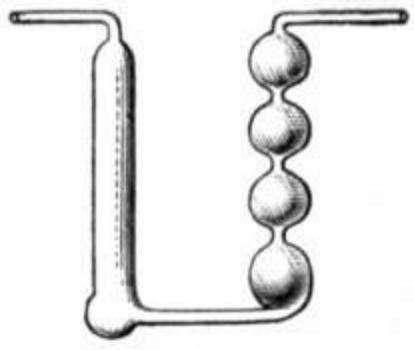

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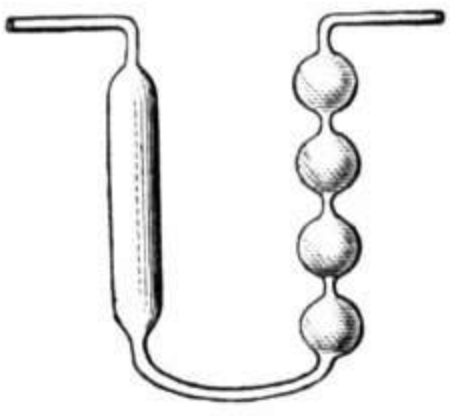

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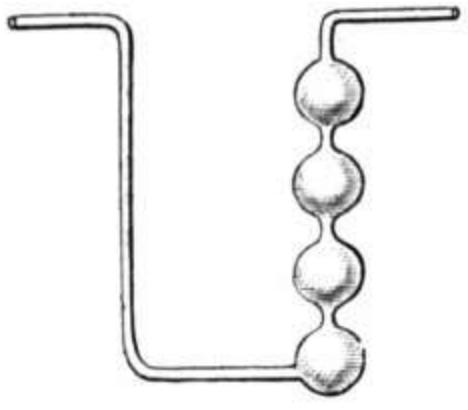

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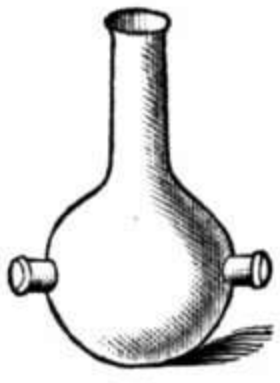

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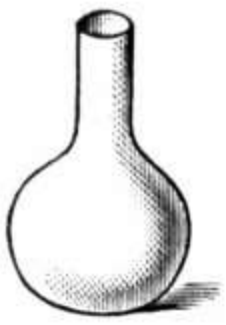

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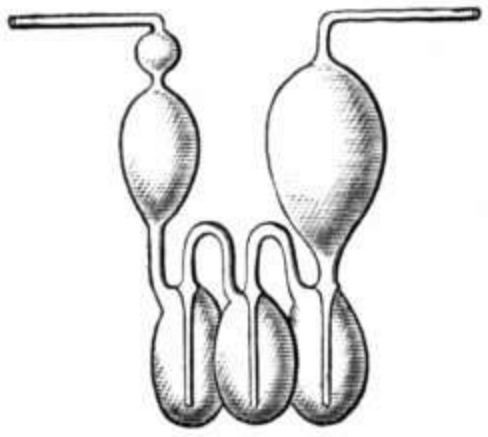


417.



425.



426.

NUMBER		PRICE
413.	Platina Sponge for hydrogen lamp,.....	.75
414.	Hydrogen Jets for blowpipes,..... 1.25	1.50
415.	Potash Bulbs, Liebig's,.....	.75
416.	Potash Bulbs, Mitscherlich's,.....	.75
417.	Potash Bulbs, Mohr's,.....	1.25

418. Precipitating Glasses.

	4	8	16 oz.	2	4 lb.
Price,	.30	.40	.50	.75	1.00

419. Presses for corks, ... 1.00 to 3.00

420. Purifiers. See *Bottles*, Woulf's.

421. Receivers, tubulated and stoppered, the same price as retorts same size.

422. Receivers, plain, same price as retorts same size.

423. Receivers, with two tubulatures.

	8	16 oz.	2	4	6 lbs.
Price,	.75	.90	1.25	1.50	1.75

424. Receivers, tubulated and quilled.

	½	1	2	4	6 lb.
Price,	.96	1.25	1.50	2.00	3.00

425. Retorts, copper, for oxygen, ... 5.50 7.50

426. Retorts, iron, for oxygen and mercury,..... 4.00 5.50

427. Retorts, Berlin porcelain, with loose heads.

	½	1	2	4 lbs.
Price,	2.00	2.50	3.00	4.00

428. Retorts, Berlin porcelain, tubulated and stoppered.

	1	2	3	4 lbs.
Price,	1.50	2.00	2.75	3.00

429. Retorts, Bohemian glass, tubulated and stoppered.

	2	4	6	8	16	24 oz.
Price,	.37	.45	.50	.60	.67	.75

	2	4	6	8	10	12	16 lbs.
Price,	1.00	1.50	1.75	1.87	2.50	3.25	3.75

430. Retorts, Bohemian glass, plain.

	2	4	6	8	16	24 oz.
Price,	.25	.35	.40	.45	.50	.60

	2	4	6	8	10	12	16 lbs.
Price,	.75	1.15	1.35	1.50	1.87	2.50	2.85

NUMBER PRICE

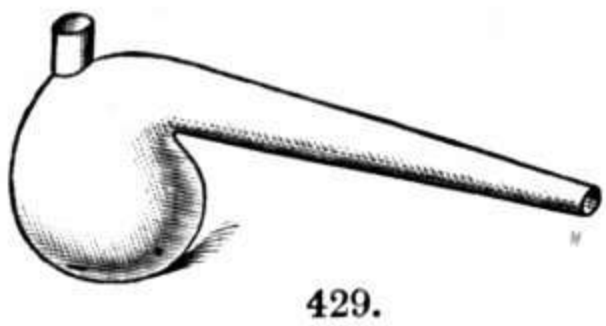
431. Retorts, very light blown glass, plain.

	1-2	3-4	5-6 oz.
Price,	.20	.25	.30
Price,	.30	.35	.40 tubulated and stoppered.

432. Retort Stands. See *Stands.*
433. Rods of Glass. See *Stirrers.*
434. Roasting Dishes. See *Scorifiers.*
435. Rupert's Drops, per dozen, in box, ... .50
436. Rubber Stoppers. See *Stoppers.*
437. Stands, Burette, double, ... 2.00
438. Stands, Burette, single, ... 1.50
439. Stands, elevating, ... 1.75
440. Stands, for test tubes, ... 1.00
441. Stands, for test tubes, with pins, ... 1.25
442. Stands, filter, wooden, double, ... 1.50 2.00
443. Stands, filter, wooden, single, ... 1.25 1.50
444. Stands, iron ring, ... 2.00
445. Stands, iron, triangular; set of three, ... 1.50
446. Stands, iron, concentric, ... 2.00
447. Safety Tubes, thistle shape, plain, ... .25
448. Safety Tubes, thistle shape, one bulb, ... .50
449. Safety Tubes, thistle shape, two bulbs, ... .60
450. Safety Tubes, thistle shape, four bulbs, ... .75
451. Stand, cupel, moulds, &c., ... 3.50
452. Stand for burning phosphorus, ... .75
453. Stoppers, rubbers, plain.

No.	1	2	3	4	5	6	7	8	9	10	11	12
m. m.	15	16	18	22	25	27	30	35	38	40	44	50
Price,	.05	.06	.08	.10	.12	.18	.22	.30	.40	.60	.80	1.00

454. Stoppers, rubber, with one, two, or three holes; Nos. 1 to 12 add one cent for each hole to the price of the plain.
455. Safety Tubes, funnel shape, plain, ... .30
456. Safety Tubes, funnel shape, one bulb, ... .62
457. Safety Tubes, funnel shape, two bulbs, ... .75
458. Sand Baths, sheet iron, shallow, ... .10 .30
459. Scorifiers, or roasting dishes, ... .10 .40
460. Still of copper, with loose head, tinned inside, 3 gallon, ... 15.00
461. Still of copper, with loose head, tinned inside, 8 gallon, ... 25.00
462. Still, with block tin condensing worm in galvanized cistern, 22.00 35.00
463. Sieves, brass cloth, six inches diameter, ... .75
464. Scoops, horn, ... .10 to .25



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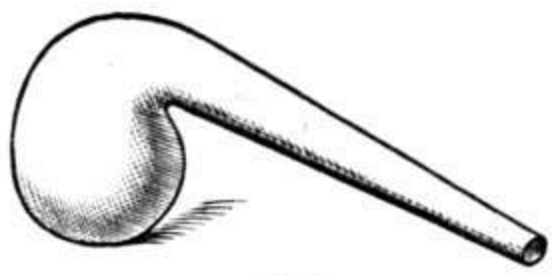

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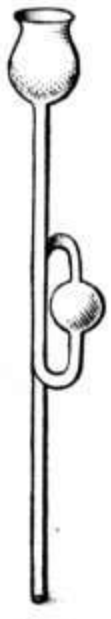

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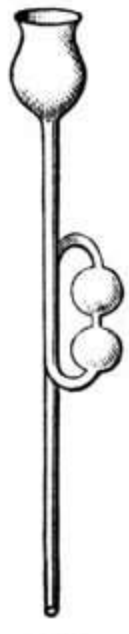

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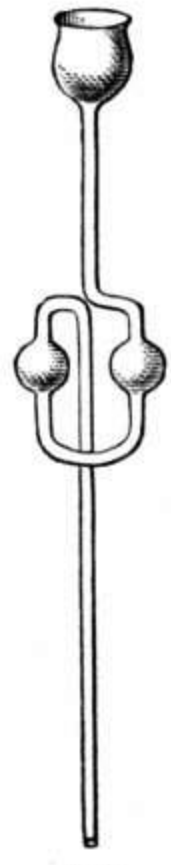

449.

NUMBER PRICE

465. Spatulas.

	3	4	5	6	7	8	in blade.
Price,	.25	.30	.35	.40	.50	.65	

466. Spatulas, horn, different shapes and sizes, ... .20 .60

467. Spatulas, platina, according to weight, per gramme,..... .60

468. Spatulas, porcelain, with spoon.

	6	8	12	14	16	inches long.
Price,	.40	.50	.80	1.00	1.50	

469. Spatulas, porcelain.

	6	8	12	14	16	inches long.
Price,	.50	.60	.90	1.20	1.70	

470. Spatulas, porcelain.

	4	6	8	12	14	16	inches long.
Price,	.60	.80	1.00	1.25	1.50	1.75	

471. Specific Gravity Bottles. See *Bottles.*

472. Spirit Lamps. See *Lamps.*

473. Spoons, porcelain, on foot, 1 oz., ... .60

474. Spoons, glass,..... .10 to .30

475. Spoons, steel, with spatula, ... .25 to 1.50

476. Stirrers, stirring rods.

	8	10	12	inches long.
Price,	.50	.75	1.00	per dozen.

477. Stirrers, French clay.

	6	8	10	12	inches long.
Price,	.20	.25	.30	.35	

478. Stopcocks, brass, for gas bags,..... .50 .75

479. Stopcocks, brass, 1½ inches, 1.00; 3 inches,..... 1.50

480. Stopcocks, glass, ... 1.50

481. Stopcocks, glass, ... 2.25

482. Stopcocks, spring,..... .50

483. Sulphuric Acid Basins,..... 1.50, 2.25 3.00

484. Sulphuretted Hydrogen Apparatus, Kipp's,...., ... 7.00 9.00

485. Syphons, with suction tube.

	12	16	18	24	inches.
Price,	.50	.75	1.00	1.25	

486. Syphons, with suction tubes and glass stopcocks.

	12	16	18	24	inches.
Price,	1.50	2.25	2.50	3.00	

NUMBER PRICE

487. Test Glasses.

	2	4	6	oz.
Price,	.20	.33	.45	

488. Test Tubes, $\frac{1}{2}$ to $\frac{3}{4}$ diameter.

	3	4	5	6	7	8	inches long.
Price,	.30	.35	.50	.65	.85	1.00	per dozen.

489. Test Tubes.

	5	6	7	8	inches long.
	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	inches diameter.
Price,	.75	1.00	2.00	2.50	per dozen.

490. Test Tubes, on foot.

	4	5	6	7	8	inches high.
Price,	.75	1.00	1.25	1.50	1.75	per dozen.

491. Test Tube Racks. See *Stands.*

492. Thermometers, paper scale, enclosed in tube.

	100	200	350	centigrade.
	212	400	600	Fahrenheit.
Price,	1.25	2.50	3.00	

493. Thermometers, enamelled scale, enclosed in tube.

	100	200	350	centigrade.
	212	400	600	Fahrenheit.
Price,	2.00	3.00	3.75	

494. Thermometers, graduated on the tube.

	100	200	350	centigrade.
	212	400	600	Fahrenheit.
Price,	3.00	4.00	4.50	

495. Tubes, bent for wash bottles, per set,. . . . . .12 to .25

496. Tubes, bent for Woulf's bottles, per set,. . . . . .10 to .20

497. Tubes, arsenic. See *Arsenic Tubes.*

498. Tubes, Berlin porcelain.

499. Tubes, for collecting gas, graduated.

	25	50	75	100	150	200	c. c.
	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{1}$	$\frac{1}{1}$	
Price,	.85	1.00	1.25	1.50	2.00	2.25	

500. Tubes, for musical sounds,. . . . . .50 .75

501. Tubes, drying, two stopcocks,. 3.50



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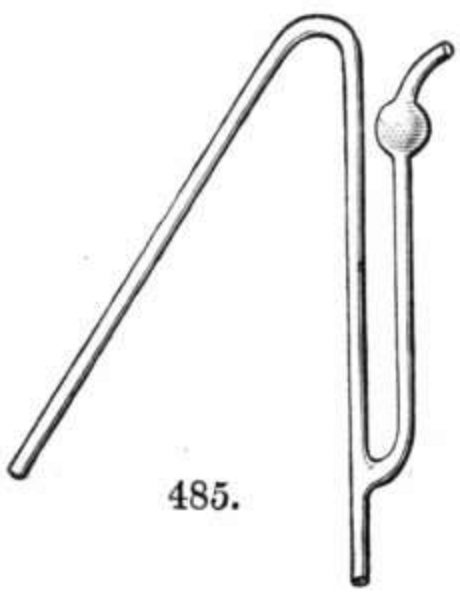

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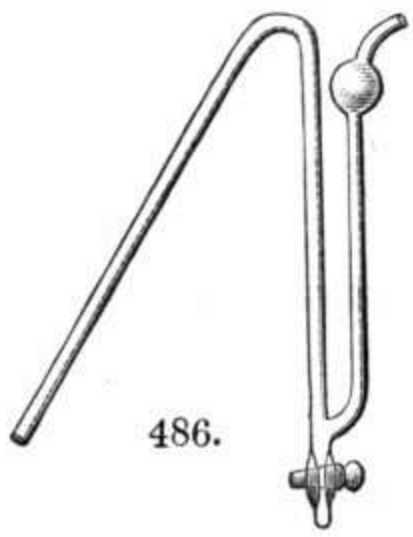

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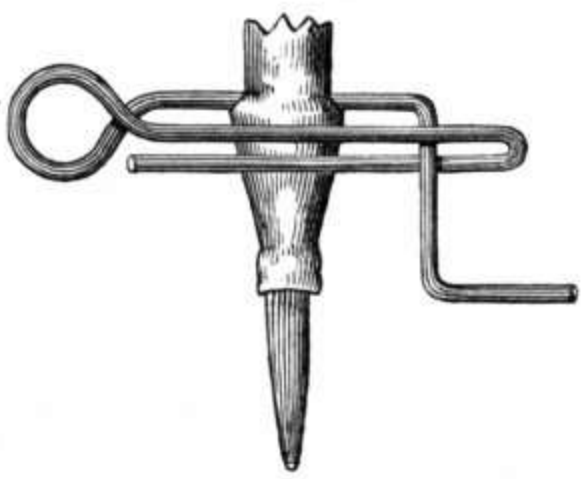

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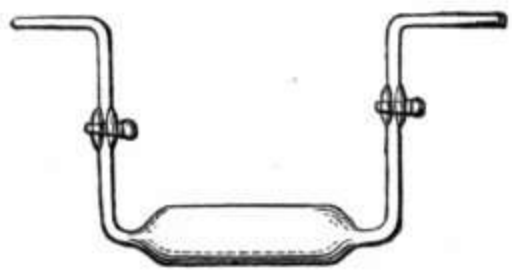

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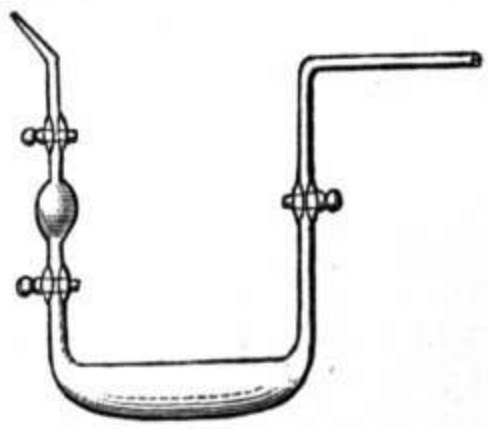

502.

NUMBER		PRICE
502.	Tubes, drying, three stopcocks,	4.25
503.	Tubes, drying, plain,	.50 .75
504.	Tubes, drying, Mohr's,	.50
505.	Tubes, drying, Liebig's,	.50
506.	Tubes, drying, Liebig's, with tubulatures,	.62
507.	Tubes, drying, Berzelius's,	.25
508.	Tubing, glass, for bending, free from lead, $\frac{1}{8}$ to $\frac{3}{8}$; per lb.	.75
509.	Tubing, glass, hard, $\frac{1}{8}$ to $\frac{3}{8}$; per lb.	1.25
510.	Tubing, glass, combustion, per lb.,	1.50
511.	Tubing, glass, combustion, bent, each	20 to .50

512. Tubing, rubber, light, for connections.

	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	inches diameter.
Price,	.12	.16	.25	.30	per foot.

513. Tubing, for conducting tube, heavy.

	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	
Price,	.22	.30	.35	.42	per foot.

514.	Tongs, crucible, of iron, spring,	.50 to	1.25
515.	Tongs, crucible, of iron, jointed, straight,	.75	1.75
516.	Tongs, crucible, of iron, jointed, bent,	1.00	2.25
517.	Urinometers, with jars, and specific gravity weight,		2.00
518.	Urinometers, with jars, two spindles,		2.50
519.	Urinometers, with case, instrument, float, &c.,		5.00
520.	U Tubes,	.30 to	.75
521.	Wash Bottles. See *Flasks.*	.50 to	1.25
522.	Wash Bottle Tubes, per pair,	.12 to	.25
523.	Wash Bottle Tubes, Berzelius's,	.50 to	.75
524.	Watch Glasses, per dozen,	.50 to	.75
525.	Watch Glasses, per pair, with spring holder,	.40 to	.75
526.	Water Baths, copper, with concentric rings six inches diameter,		3.00

527. Water Baths, porcelain.

	3	4	6	inches diameter.
Price,	1.75	2.00	2.50	

528.	Watch Springs, for burning, per dozen,	.50 to	.75.
529.	Woulf's Bottles. See *Bottles.*		
530.	Weights. See *Balances* and *Weights.*		
531.	Wire, steel, for burning, per lb.		1.75
532.	Wire, iron,		.30
533.	Wire, gauze, for flame experiments, per set,		1.50
534.	Wire, gauze, iron, per square foot,	.50 to	1.00

NUMBER		PRICE
535.	Absorption Tube, Bunsen's,	1.50
536.	Absorption Tube, plain,	1.25
537.	Arsenic Tubes, two bulbs,	.75
538.	Arsenic Tubes, plain,	.50
539.	Decomposing Apparatus,	3.00 to 4.00

540. Flasks, with tubulature on neck.

	8	16 oz.	2	4	6 lbs.
Price,	.75	.90	1.25	150	1.75

541. Flasks graduated.

	10	20	25	50	100	150	200	300	500	1000 c. c.
Price,	.25	.33	.45	.55	.62	.65	.75	.80	1.00	1.25

542. Flasks graduated with two marks.

	50–55	100–110	150–160	200–220 c. c.
Price,	.65	.75	1.00	1.25

543. Jars, graduated, having lip.

	10	25	50	75	100	150	200	300	500	1000 c. c.
Price,	.75	1.00	1.15	1.25	1.50	1.75	2.25	2.50	3.50	4.50

544. Jars, graduated and stoppered.

	10	25	50	75	100	150	200	300	500	1000 c. c.
Price,	1.25	1.50	1.65	1.75	2.00	2.25	2.75	3.25	4.25	5.00

545.	Lamp Blast, one tube,	3.00
546.	Lamp Blast, three tubes,	4.75
547.	Reduction Tube, one bulb,	.25
548.	Reduction Tube, two bulbs,	.33
549.	Water Hammers,	1.00



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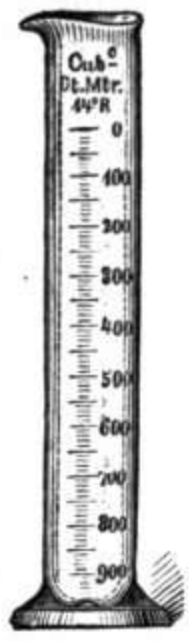

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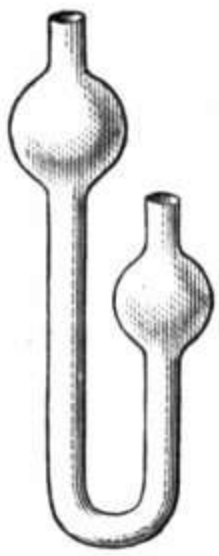

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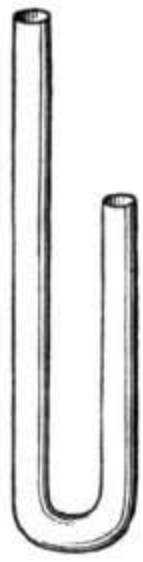

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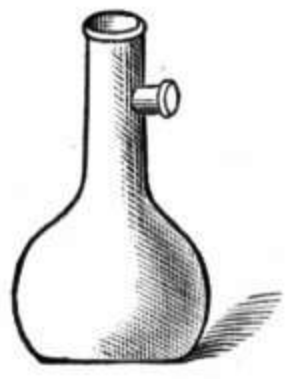

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