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heating power ranging from 36 ft. to 100 ft. of 4-in. pipe. The "Beeston" boiler (Figs. 180 and 181) is made by the Beeston Foundry Company, Limited, Beeston, Notts. Fig. 181 shows a boiler which in the No. 1 size (18 in. by

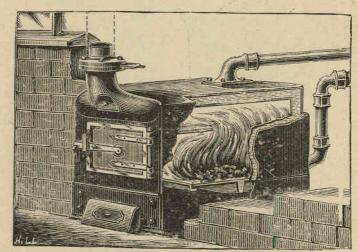


Fig. 181.—Beeston Boiler Fitted with Smoke Consumer.

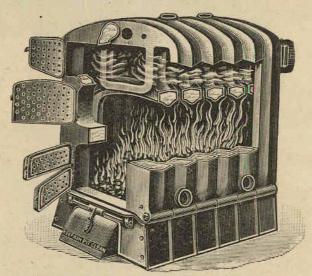


Fig. 182.—Section of "Acme" Boiler.

16 in. by 16 in.) heats 50 ft. of 4-in. pipe, and in the No. 5 size (36 in. by 16 in. by 16 in.) heats 275 ft. of 4-in. pipe.

The "Acme" boiler (Fig. 182) is capable of heating from 500 ft. to 1,800 ft. of 4-in. pipe; it is made in eight

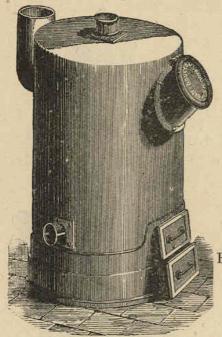


Fig. 183.



Fig. 184.

Figs. 183 and 184.—Independent Slow Combustion Boiler.

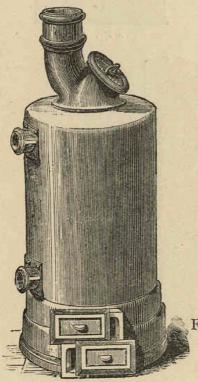


Fig. 185.

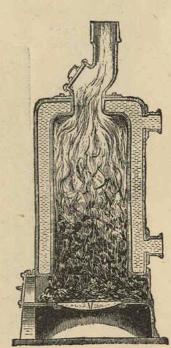


Fig. 186.

Figs. 185 and 186,—"Phœnix" Independent Slow Combustion Boiler.

## 118 GREENHOUSE CONSTRUCTION AND HEATING. Figs. 188 and 189.— Elevation and Vertical Section of "All-night" Boiler. Fig. 189. Fig. 188.

Fig. 187.—Vertical Section of Alton Boiler.

different sizes, varying from a four-section boiler measuring 22 in. long, 24 in. wide, and 48 in. high to an eleven-section boiler 57 in. long, 24 in. wide, and 48 in. high.

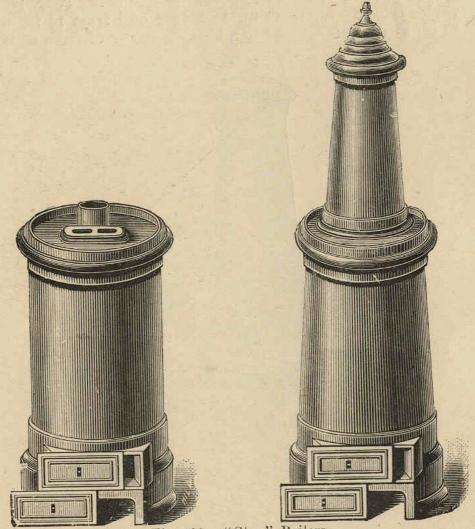


Fig. 190.—"Star" Boilers.

Independent slow combustion boilers are used for heating conservatories, etc., attached to buildings in which the boiler can be conveniently placed. Typical boilers are the Boulton & Paul Nos. 8 and 10 (Figs. 183 to 186).

The "Alton" boiler (Fig. 187) is an independent boiler made by Hartley & Sugden; heating power ranges from 800 ft. to 5,100 ft. of 4-in. piping and dimensions from 45 in. by 36 in. by 27 in. to 84 in. by 60 in. by 42 in.

## 120 GREENHOUSE CONSTRUCTION AND HEATING.

The "All-night" boiler (Figs. 188 and 189) will heat from 12 ft. to 40 ft. of 4-in. pipes, and can be banked to last from 12 to 24 hours.

One pattern of the well-known "Star" boiler (Fig. 190) varies from 24 in. to 42 in. in height and from 10 in. to 16 in. in diameter, and has a heating power of from 65 ft.

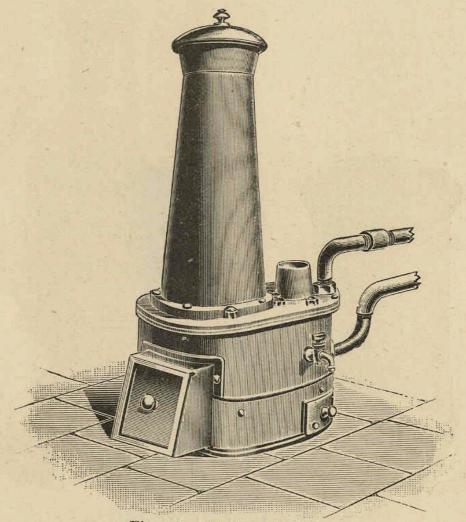


Fig. 191.—"12-hours" Boiler.

to 220 ft. of 4-in. piping. Another pattern ranges from 40 in. high and 10 in. in diameter, to 68 in. high and 16 in. in diameter, the heating power being the same as that of the G-pattern.

The "12-Hours" boiler (Figs. 191 and 192) is made by the Twelve Hours Stove Syndicate, Ltd., in three sizes, the heating power varying from 75 ft. to 350 ft. of

4-in. piping.

The gardener's or grower's apparatus is quite different from those above mentioned, as it consists of long runs of pipes, with branches, and the boiler is situated in a pit somewhere convenient to the work. Should the ground be sloping or uneven, every effort is made to place the boiler at the lowest point, to ensure getting the rise of, at least, 1 in. in 10 ft. to the runs of pipe from the boiler. The rise can be got quite well when the houses are on the

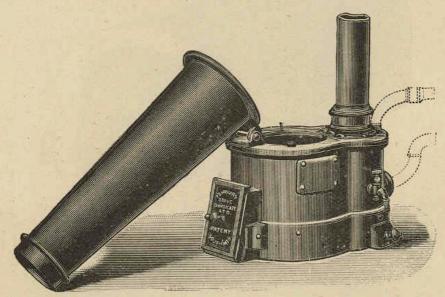


Fig. 192.—"12-hours" Boiler with Conical Top Hinged Over.

level; but with houses on ground sloping down from the

boiler the rise is not possible.

The familiar saddle boiler is the form most generally used by the gardener or grower. A terminal end saddle is a very effective and fairly economical boiler, and most gardeners and their assistants know how to get the best work out of it. A gardener is reasonably afraid of trying experiments with different boilers, lest injury should happen to his plants. An expert would almost certainly get much better results from a modern upright boiler; but this brings to notice another detail relating to choice of boilers.

In most cases, when the boiler pit is being dug, water