indicates two loose flanges, M a middle ring, R two india-rubber rings, and B two bolts and nuts. A similar joint is made by Messenger & Co. (see Fig. 169).

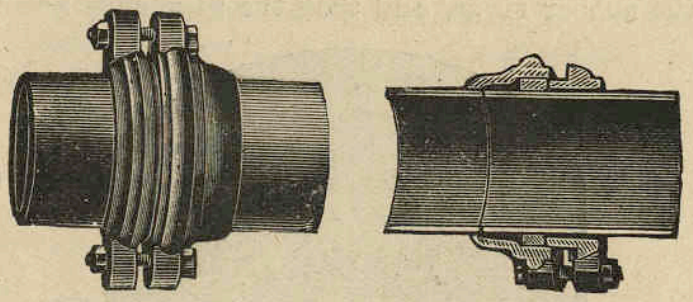

Fig. 169.—Messenger's Elastic Joint.

It is desirable to illustrate here a number of the better-known boilers constructed more or less on the principle of Messenger's "Loughborough" boiler. Those mentioned are but a small selection from the many scores now on the market.

"Desideratum" and "Very" boilers, made by Jones &

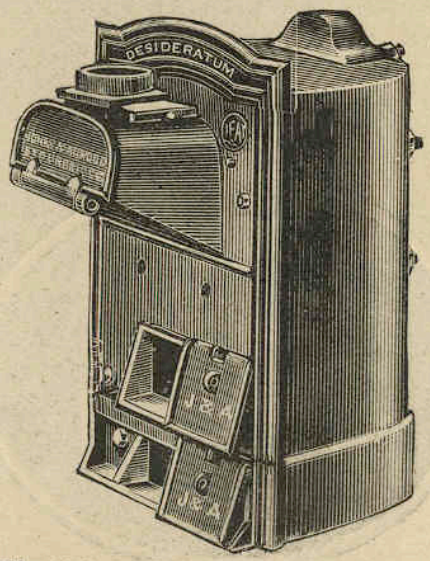


Fig. 170.—"Desideratum" Boiler.

Attwood, closely resemble one another (see Fig. 170), and both of them have attained to considerable repute. They are suitable for small houses requiring anything up to

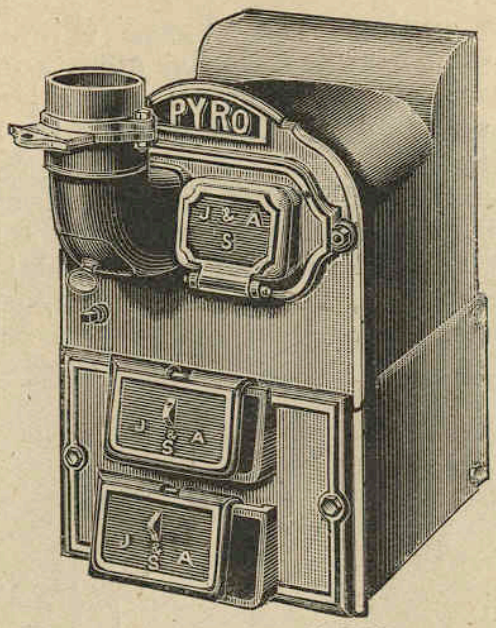


Fig. 171.—"Pyro" Boiler.

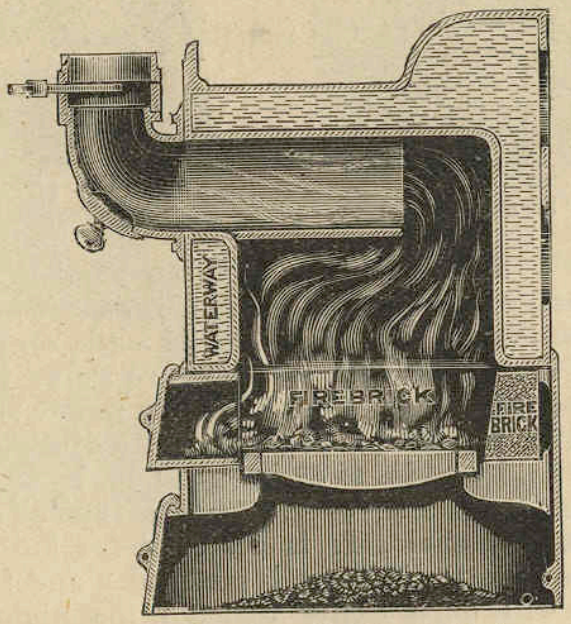


Fig. 172.—Section of "Pyro" Boiler.

200 ft. of 4-in. piping. The "Pyro" (Figs. 171 and 172), made by the same firm, is a similar affair and has a water-way front, back, sides, and crown, and a large fuel space for banking up at night. It is suitable for heating 80 ft. of 4-in. piping.

Figs. 173 and 174 illustrate the "Finsbury" slow combustion boiler, this having a water-way top and front, and being well suited to small houses. It is supplied by Robert Jenkins & Co., Boulton & Paul, Jones & Attwood, and other firms.

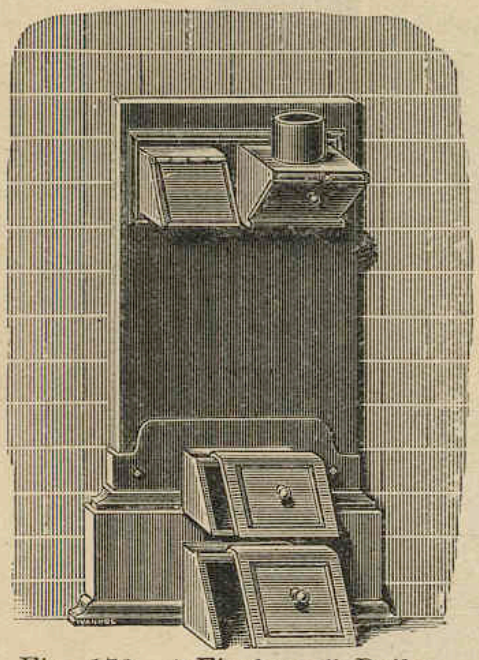

Fig. 173.—"Finsbury" Boiler.

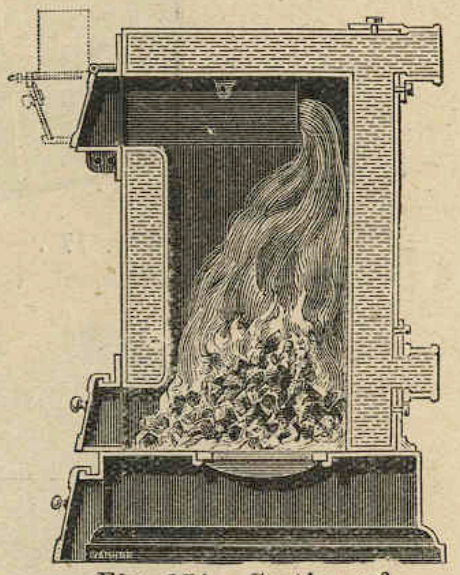

Fig. 174.—Section of "Finsbury" Boiler.

Hartley & Sugden supply a large number of boilers adapted for greenhouse use. This firm's "White Rose" cast-iron sectional boiler (Fig. 175) is made up of sections resembling Fig. 176, which latter figure shows the special formation of the side flues. Its heating power varies from 500 ft. to 2,200 ft. of 4-in. pipes, and its dimensions from 40 in. by 21 in. by 48 in. to 82 in. by 31 in. by 48 in.

The "Handy" boiler (Fig. 177) is a typical apparatus of its class, and obviously is designed for building into the greenhouse wall; it has a large feeder and fuel space, so that it will burn easily through the night without attention; it is fitted with a baffler plate, which forms a

flue at the top. The smallest size (14 in. by 14 in. by 18 in.) will heat 140 ft. of 4-in. piping, and the largest size

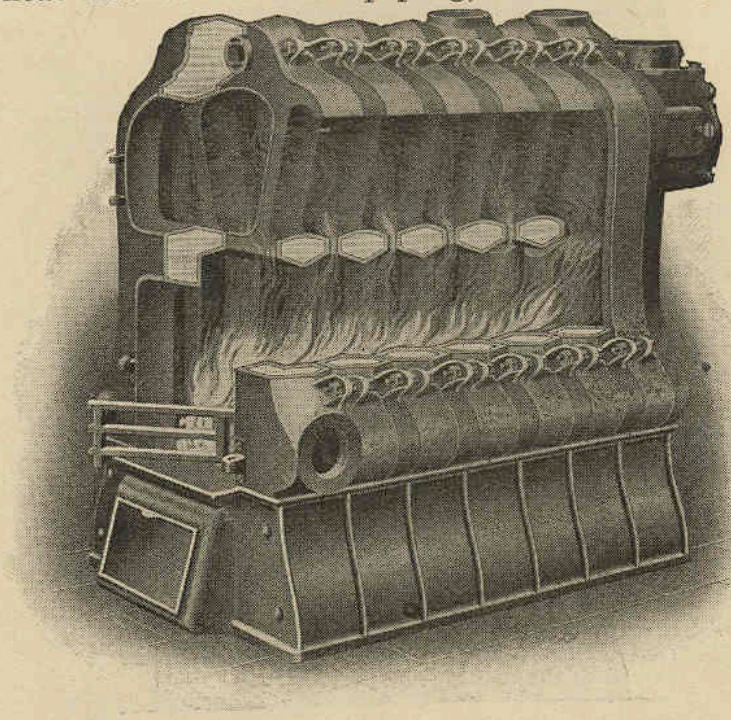

Fig. 175.—Sectional Elevation of "White Rose" Boiler.

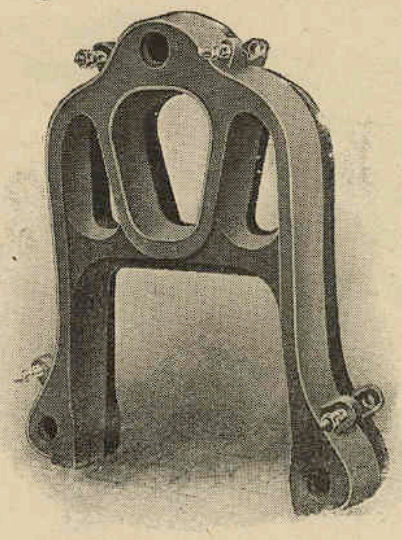

Fig. 176.—Middle Section of "White Rose" Boiler.

(26 in. by 14 in. by 18 in.) will heat 260 ft.

Kinnell's "Horse Shoe" boiler (Fig. 177) and "Rochford" horizontal tubular boiler (Fig. 178) are respectively for amateur and expert employment, and differ wholly in construction from each other, as the illustrations clearly show. Both of them have points of merit, and may be recommended.

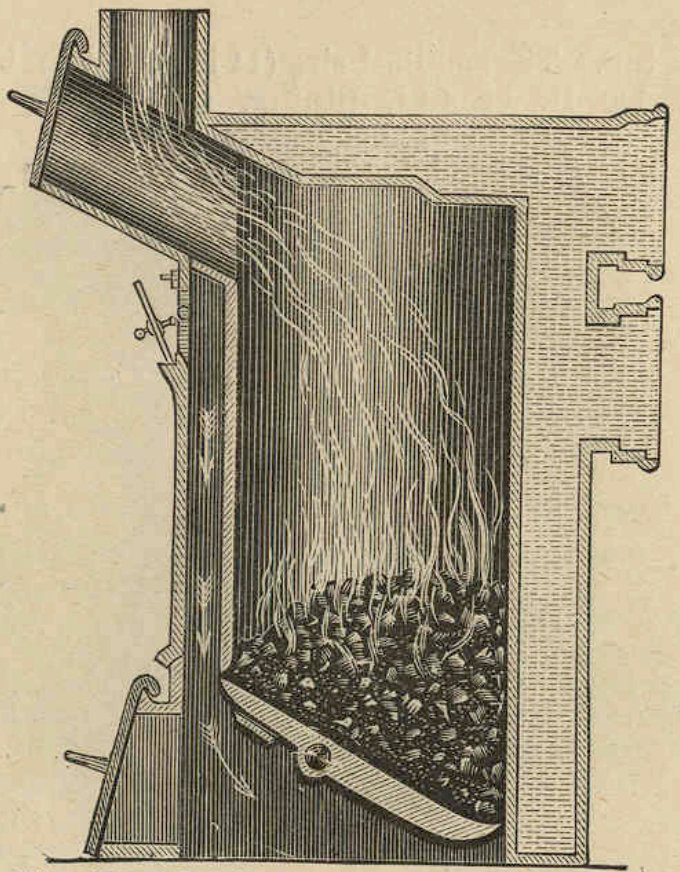

Fig. 177.—Section of "Horse Shoe" Boiler.

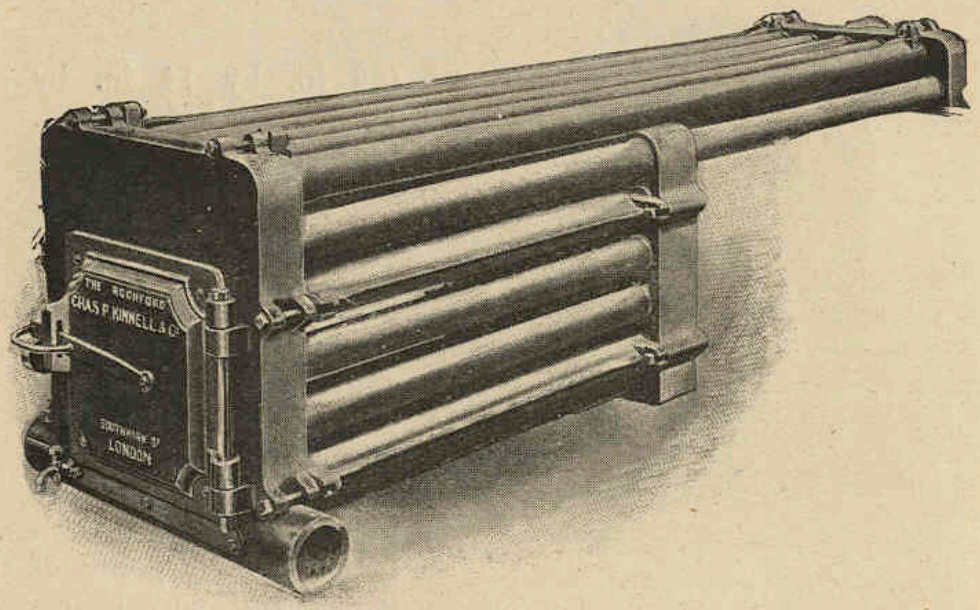


Fig. 178.—"Rochford" Horizontal Tubular Boiler.

The "Ivanhoe" boiler (Figs. 178 and 179), manufactured by Robert Jenkins & Co., is made in six sizes, the

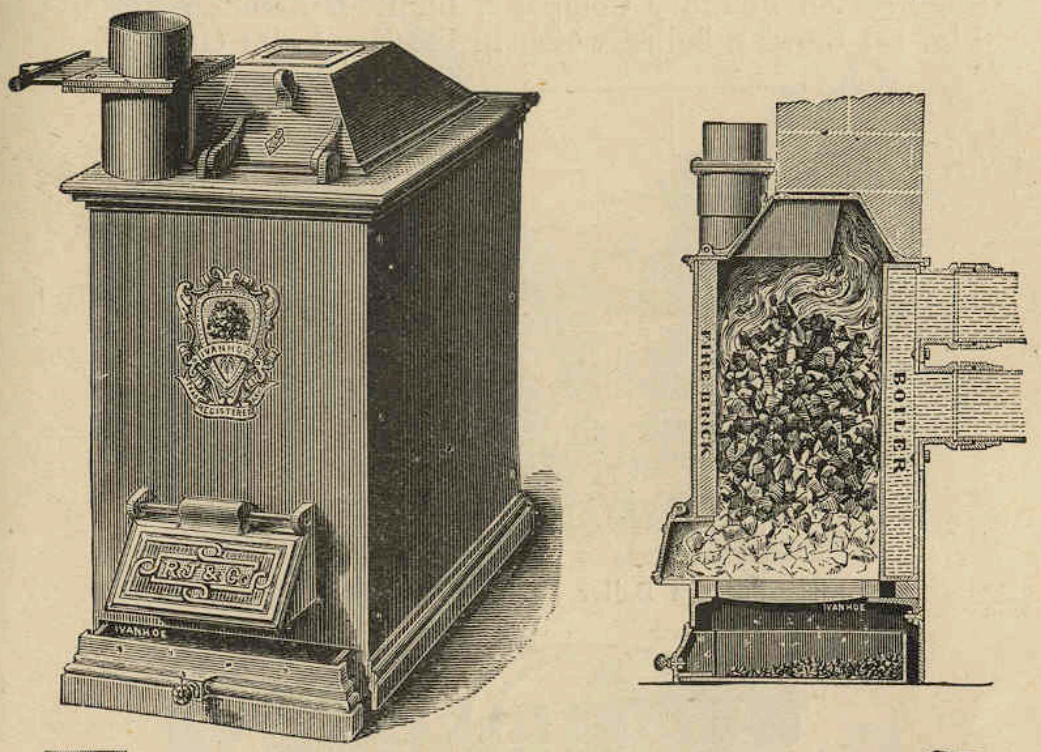


Fig. 179.—"Ivanhoe" Boiler.

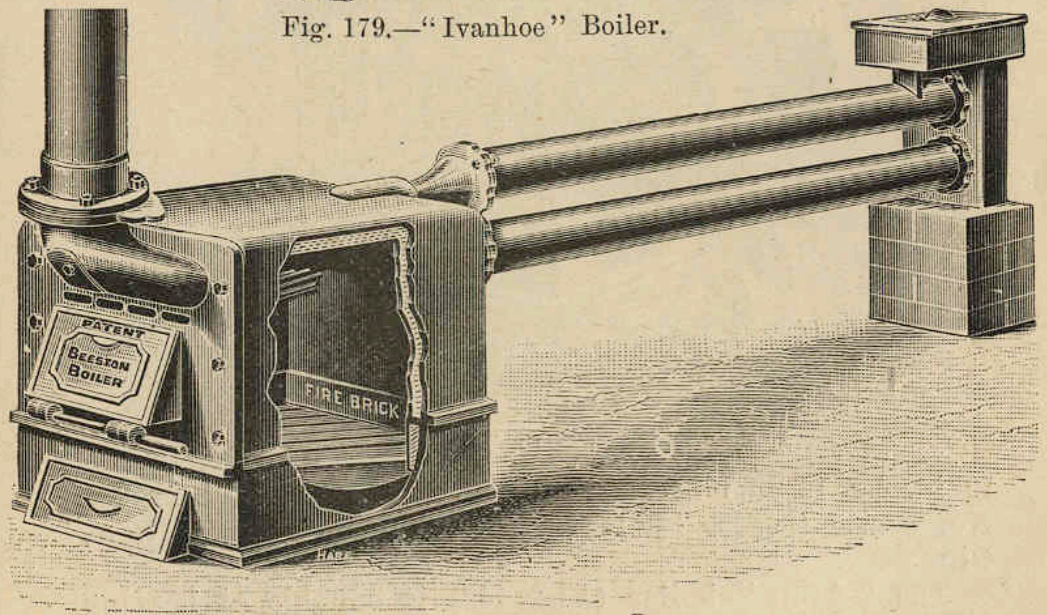


Fig. 180.—Cast Beeston Boiler and Hot-water Apparatus.