

T. REESE.
Boiler-Feeder.

No. 164,595.

Patented June 15, 1875.

FIG. 1.

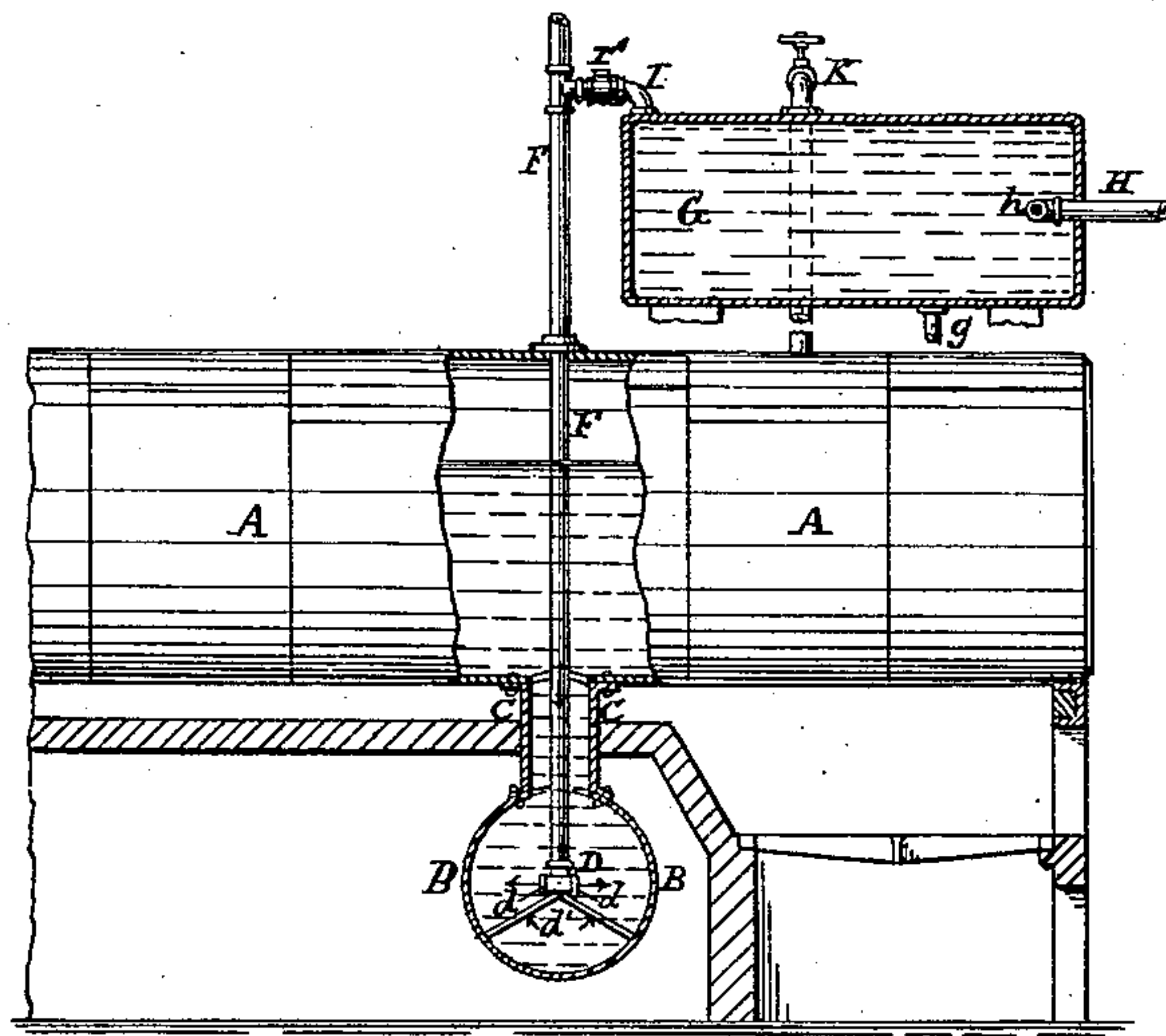


FIG. 2.

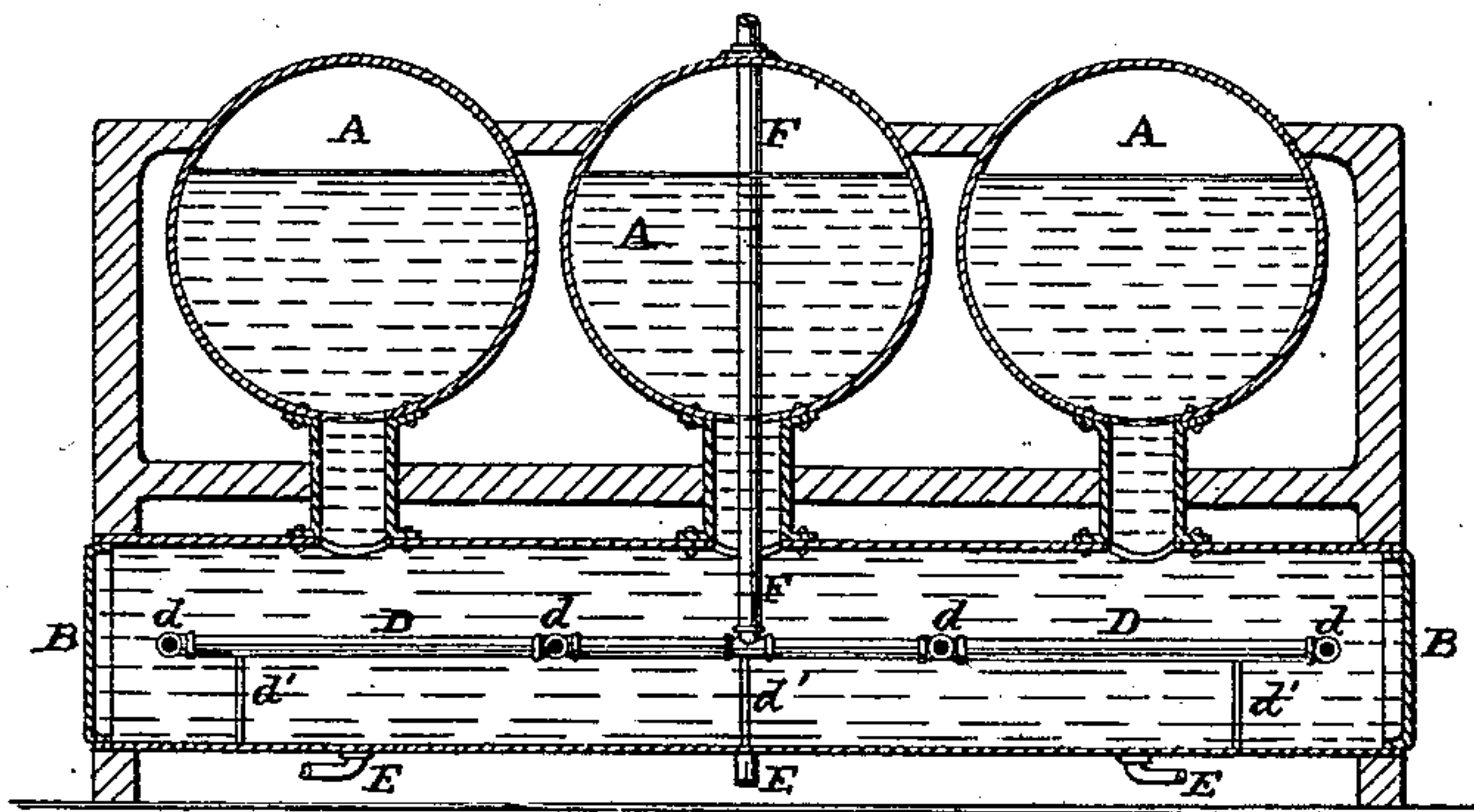


FIG. 3.

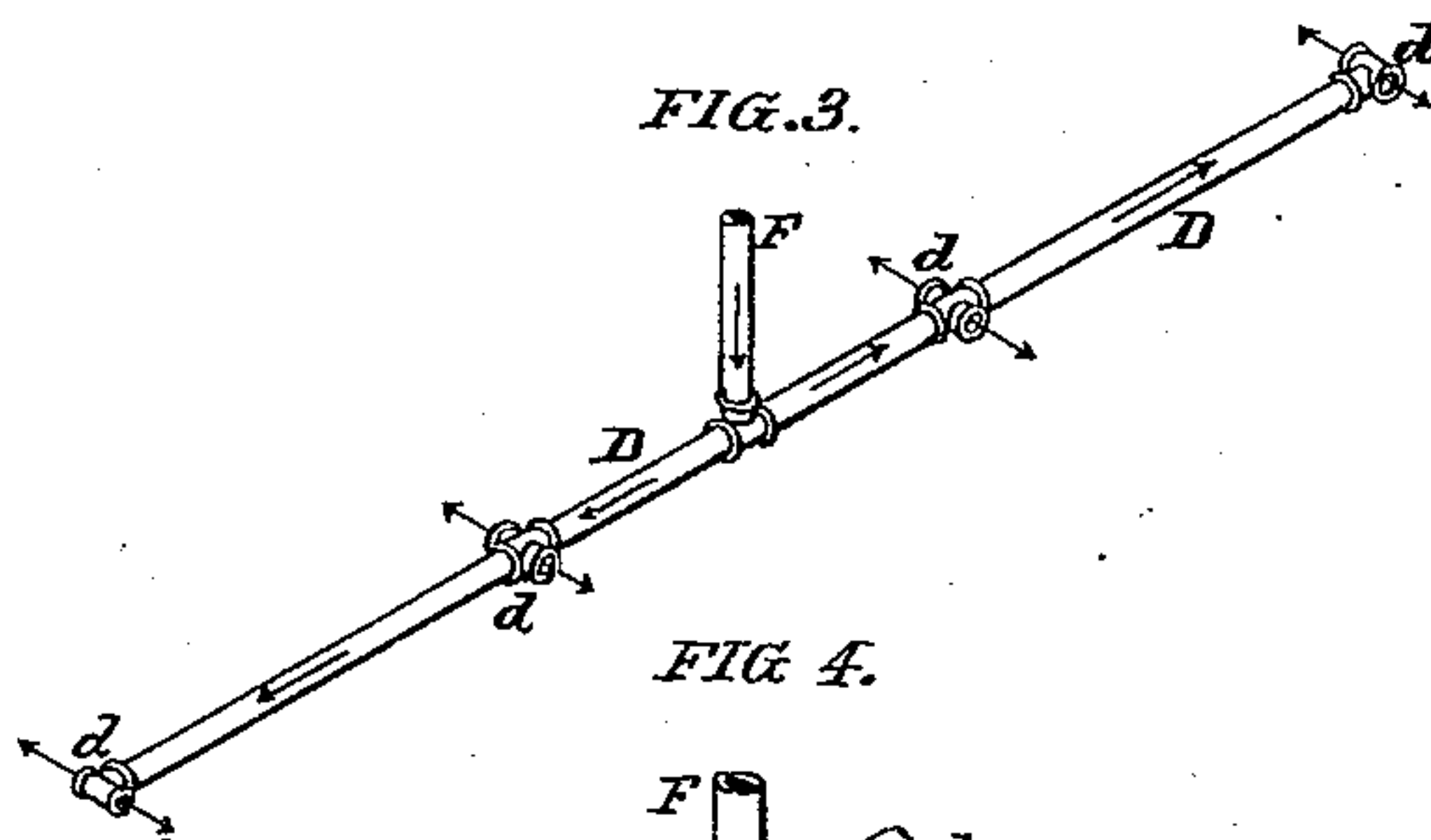
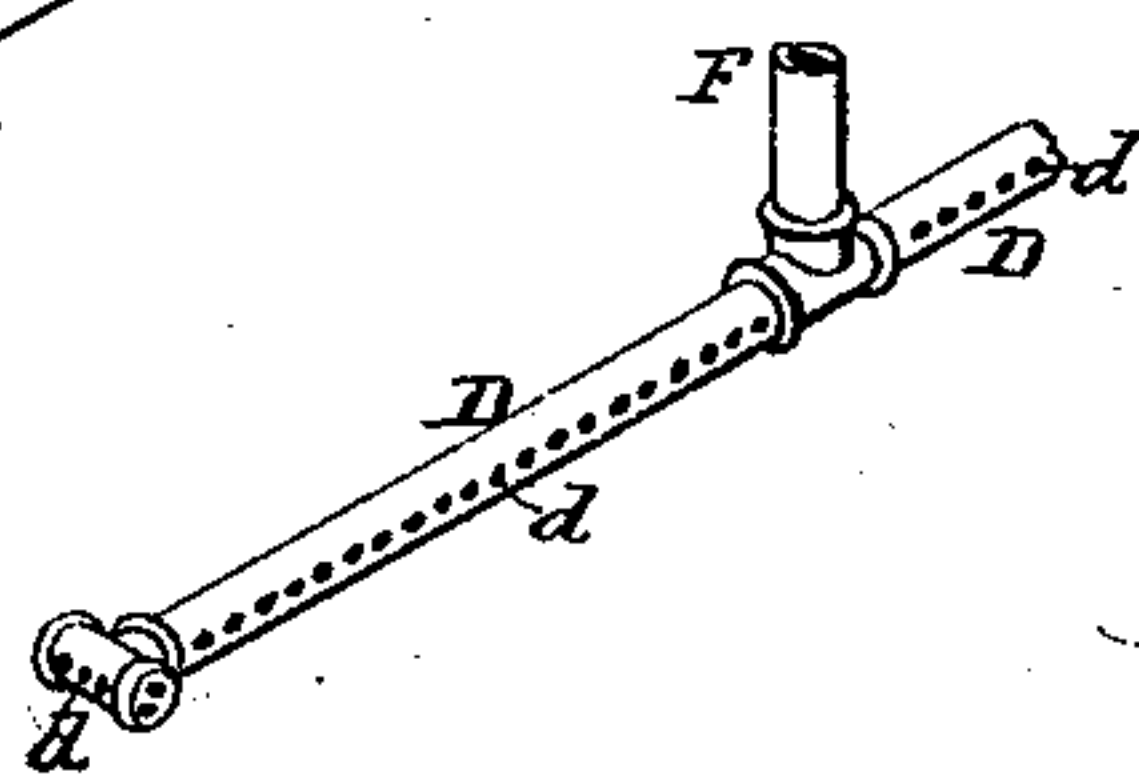


FIG. 4.



ATTEST:

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UNITED STATES PATENT OFFICE.

THOMAS REESE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN BOILER-FEEDERS.

Specification forming part of Letters Patent No. 164,595, dated June 15, 1875; application filed May 17, 1875.

To all whom it may concern:

Be it known that I, THOMAS REESE, of St. Louis, St. Louis county, State of Missouri, have invented a certain Improvement in Steam-Boiler Feeders, of which the following is a specification:

The object of this invention is to introduce the feed-water of steam-boilers into a mud-drum or other suitable settling-chamber, in such a manner that the mud and sediment will be deposited in the same, and a clear and pure water will be furnished to the boiler, and the deposit of mud and the incrustation on the boiler-sheets be thereby prevented; and this invention consists in the provision of a discharge-pipe running about centrally through the mud-drum, and having a number of horizontal side discharge-openings or branches, so as to discharge the water sidewise into the mud-drum in a number of streams having a very low velocity, so as to avoid the agitation of the mud and sediment that naturally settles in the lower portions of the mud-drum or settling-chamber. The feed-water is preferably brought to said discharge-pipe by a vertical supply-pipe passing through the boiler-shell, and through the mud-leg of same, and is connected centrally to the discharge-pipe.

Figure 1 is a longitudinal section. Fig. 2 is a transverse section. Figs. 3 and 4 are detail perspective views of the discharge-pipe.

A is the boiler; B, the mud-drum, and C the mud-leg. D is a discharge-pipe, arranged centrally in the mud-drum, and provided with a number of side discharge-openings or branches, *d*, through which the feed-water flows sidewise into the drum in a number of streams of low velocity, so as not to agitate the mud and sediment that naturally settles to the bottom of the mud-drum, and which is removed through the blow-off pipes E, which, in a single boiler, are arranged at the ends of the mud-drum.

In a battery of two or more boilers the blow-off pipes will be connected to the bottom of the mud-drum opposite the mud-legs, so as to insure a perfect removal of the mud and sediment in blowing off.

d' are supporting-legs for the discharge-pipe D. The number of discharge-openings *d* will vary according to the size of and number of boilers used.

Instead of the openings *d*, as shown in Figs. 1, 2, and 3, the pipe D may have small perforations *d* along its sides, as shown in Fig. 4.

F is the supply-pipe, connected either to the doctor or to a settling-chamber, G, as shown, and passing down centrally through the boiler-shell A and mud-leg C, and connected centrally to the discharge-pipe D. The purpose of the pipe F passing through the boiler, as described, is to heat the water passing through it, and prevent the cold water coming in contact with the boiler-sheets. In tubular boilers, &c., where pipe F cannot be thus arranged, it may be brought in in any convenient manner.

When a settling-chamber G is used the feed-water is introduced into it through a supply-pipe, H, entering one end of the chamber near its center. The water, in passing through said chamber, deposits the greater part of its mud before being discharged through pipe I, connected with the supply-pipe F of the boiler.

The pipe I has a check-valve, I'. The pipe H has side discharges or branches *h*, (similar to the pipe D,) so as to permit the water to gently flow into the chamber without disturbing its contents. K is a steam-pipe passing from the boiler to the top of chamber G, to supply steam for blowing off the mud and sediment from said chamber, which is done through the blow-off pipes *g*, arranged as shown.

I claim as my invention—

1. The discharge-pipe D, having a number of side discharge-openings, *d*, in combination with boiler A and mud-drum B, substantially as set forth.

2. The discharge-pipe D, having discharge-openings *d*, in combination with the mud-drum B, having blow-off pipes E, arranged substantially as described.

3. The discharge-pipe D, having discharge-openings *d*, in combination with mud-drum B

and vertical supply-pipe F, substantially as set forth.

4. The discharge-pipe D and vertical pipe F, in combination with settling-chamber G, discharge-pipe I, and supply-pipe H, having side discharges *h*, substantially as set forth.

5. The chamber G, having blow-off pipes

g, in combination with the steam-pipe K, discharge-pipe I, and supply-pipe H, having side discharges *h*, substantially as set forth.

THOMAS REESE.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.