

No. 629,216.

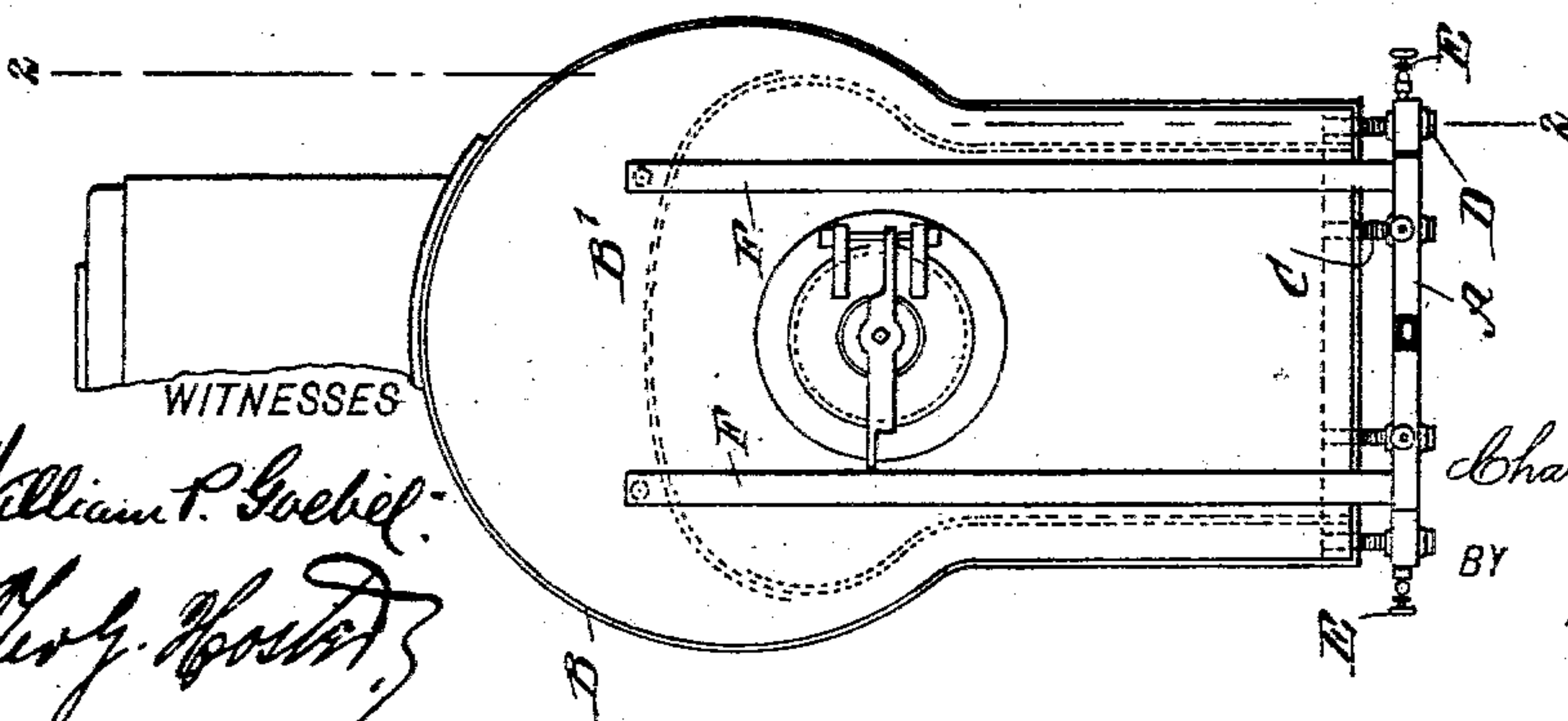
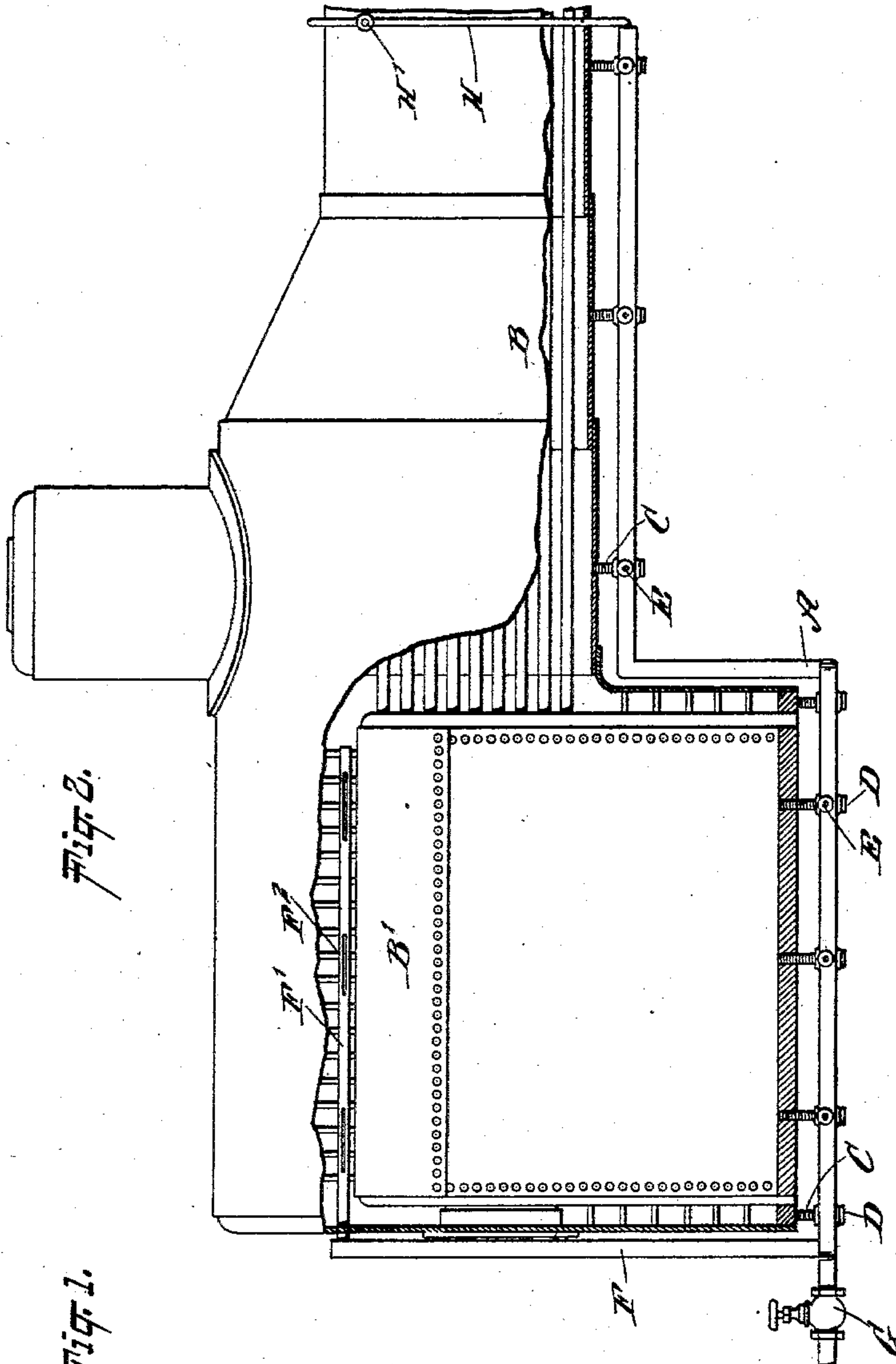
Patented July 18, 1899.

C. W. SOMMER.
BOILER ATTACHMENT.

(Application filed Jan. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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No. 629,216.

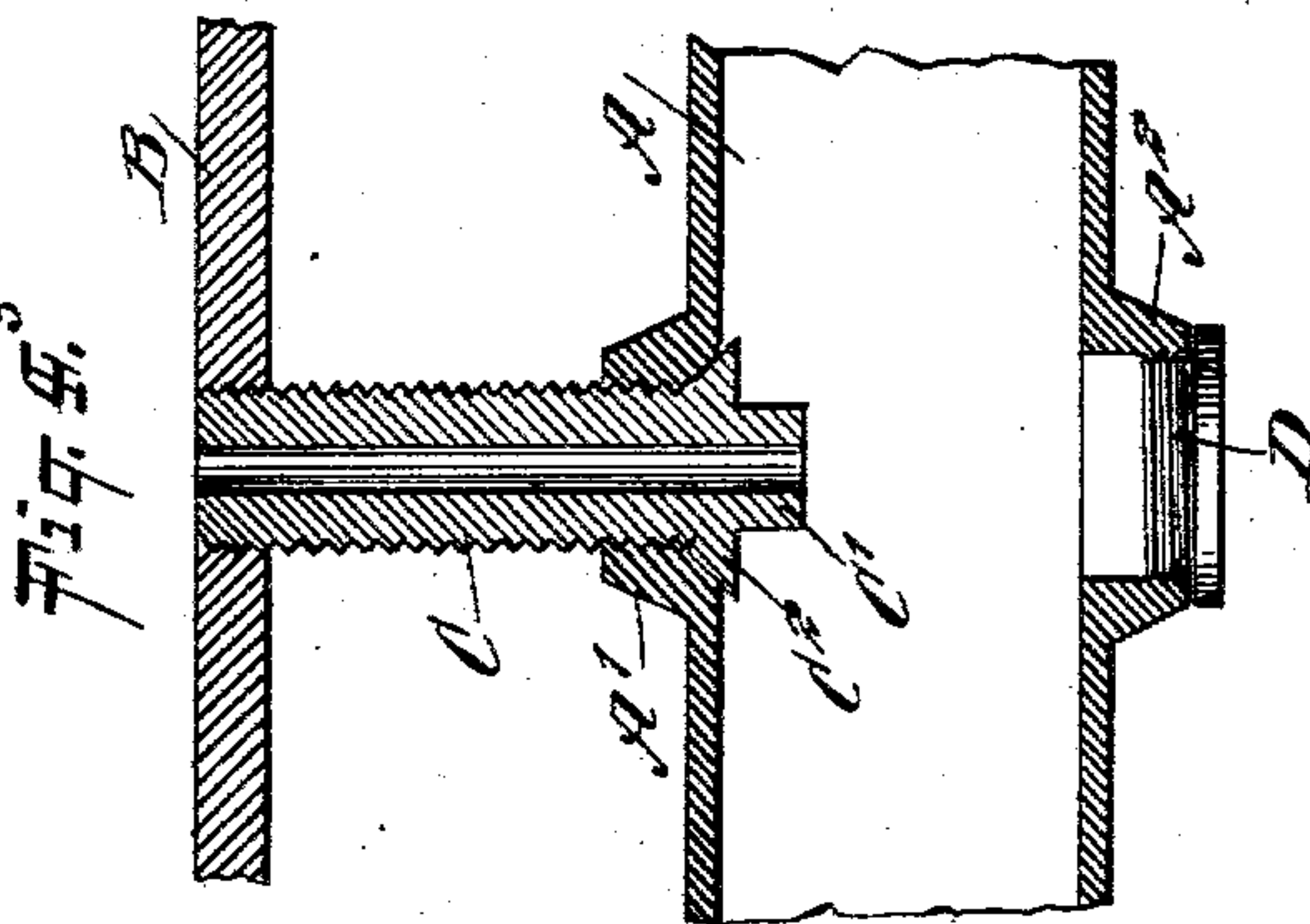
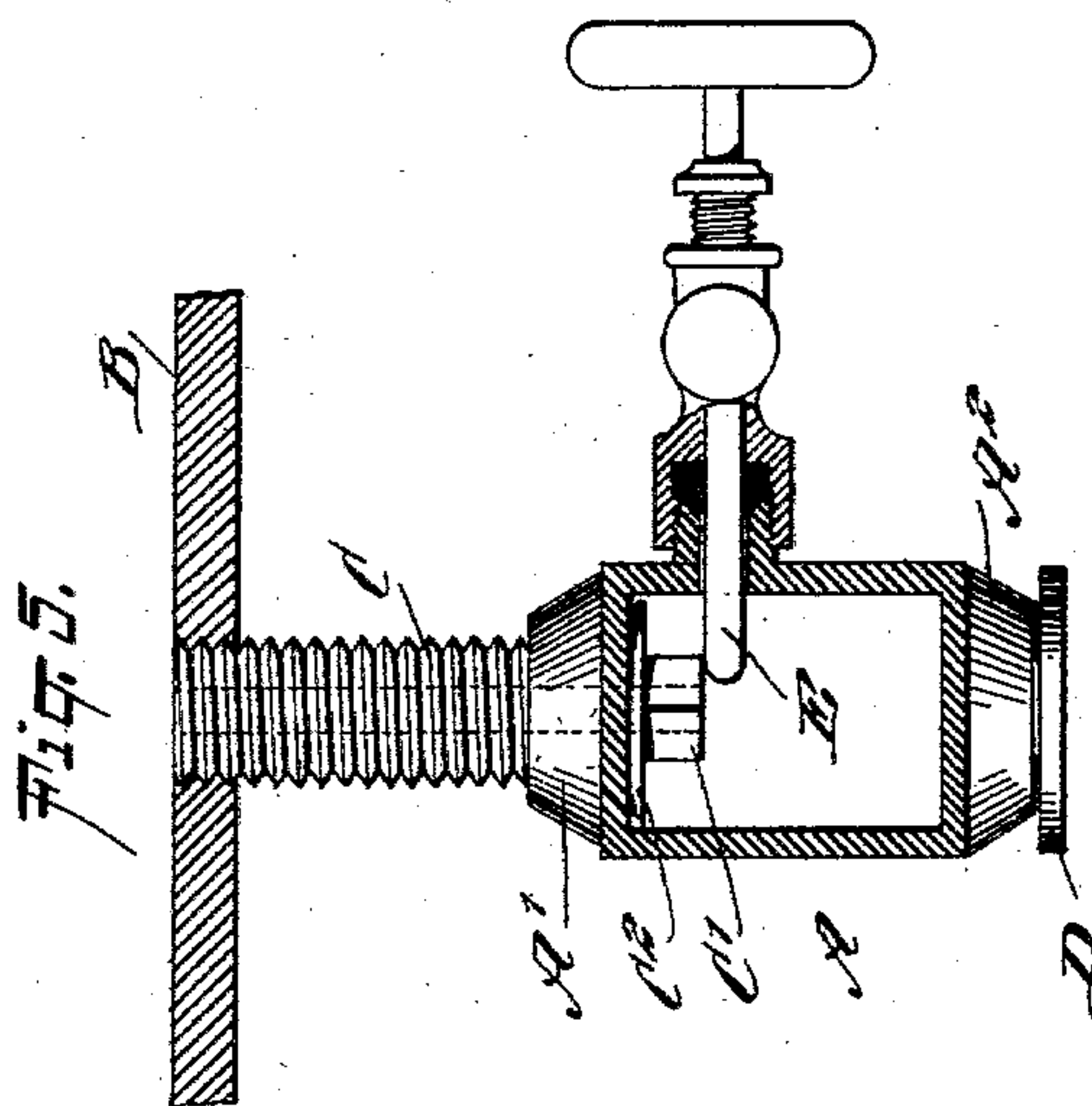
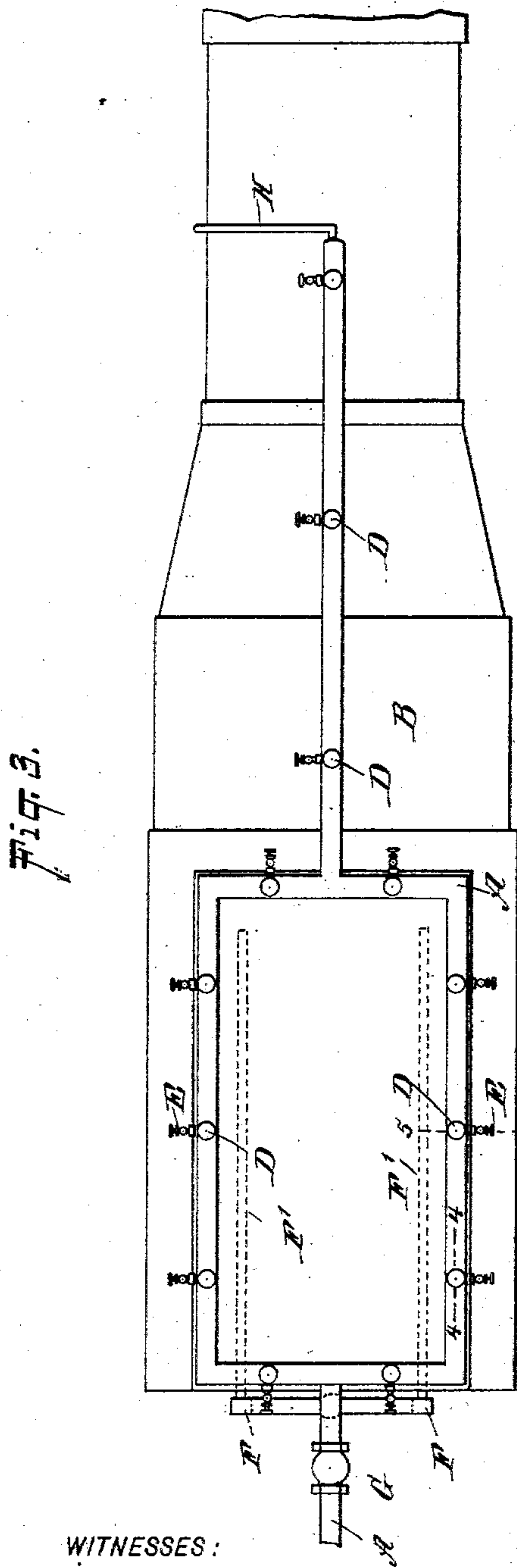
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2 Sheets—Sheet 2.



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CHARLES WILHELM SOMMER, OF ABERDEEN, MISSISSIPPI.

BOILER ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 629,216, dated July 18, 1899.

Application filed January 30, 1899. Serial No. 703,861. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILHELM SOMMER, of Aberdeen, in the county of Monroe and State of Mississippi, have invented
5 a new and Improved Boiler Attachment, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved boiler attachment more
10 especially designed for the collection and removal of sediment, the attachment being simple and durable in construction, very effective in operation, and readily applicable to locomotives and portable and stationary boilers.

15 The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of my invention is
20 represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an end elevation of the improvement as applied to a locomotive-boiler. Fig.
25 2 is a longitudinal sectional elevation of the same on the line 2 2 in Fig. 1. Fig. 3 is an inverted plan view of the same. Fig. 4 is an enlarged sectional side elevation of part
30 of the improvement on the line 4 4 in Fig. 3, and Fig. 5 is a transverse section of the same on the line 5 5 in Fig. 3.

The improved boiler attachment is provided with a pipe-line A, arranged under the boiler
35 B and supported therefrom by hollow supports C, which also serve to connect the interior bottom portion of the boiler with the pipe-line A, so that any sediment sinking to the bottom of the boiler can pass by the said
40 supports into the pipe-line A to accumulate therein and to be blown out therefrom from time to time, as hereinafter more fully described.

Each of the supports C screws in a lug A'
45 on top of the pipe-line A and also screws into the shell of the boiler B, as is plainly illustrated in Figs. 4 and 5, and the said support is introduced through an apertured lug A² in the bottom of the pipe-line, which apertured
50 lug is normally closed by a screw-plug D. Now in order to properly screw each support

into position in the lug A' and the boiler-shell I provide the lower end of each support with a square offset C' for the application of a wrench or like tool to turn the support, the
55 latter being also provided next to the square offset with a flange C², beveled on the top and fitting a corresponding counterbore on the inside of the pipe-line concentric to the lug A' to prevent leakage. 60

It is understood that when the plug D is removed from the lug A² the support can be readily placed in position to support the pipe-line from the boiler-shell and connect the bottom portion of the interior of the boiler with
65 the inside of the pipe. In order to close the supports C, I provide a plug-valve E, carried on one side of the pipe-line, as is plainly indicated in Fig. 5, to disconnect the interior of the boiler from the pipe-line whenever de- 70 sired.

As shown in the drawings, the pipe-line is made rectangular under the fire-box portion of the boiler, the supports running from this rectangular part to the water-compartment or
75 legs of the fire-box part of the boiler. A single branch extends under the forward part of the boiler, and this branch is likewise connected by supports with the boiler-shell, as will be readily understood by reference to 80 Figs. 2 and 3. The rectangular front or end of the pipe-line A is provided with two upwardly-extending branch pipes F, having horizontal extensions F' passing to the interior of the boiler directly over the crown-sheet 85 B', the extensions F' having slots or openings F² to permit sediment at this part of the boiler to pass into the extensions and from the same by way of the branch pipes F into the pipe-line A. The latter is provided at one end 90 with a blow-off valve G, and the other end is connected by a steam-pipe H, having a valve H', with the steam-compartment of the boiler, so that when the valves G and H are opened the steam passing from the boiler into the 95 pipe-line forces all sediment accumulated therein out of the pipe by way of the open valve G. It will further be seen that when sediment is forced through the pipe in the manner described a suction is created in the 100 supports C, so that any sediment remaining in the bottom portion of the boiler is readily

drawn through the supports into the pipe-line and forced out of the same by the action of steam.

By the use of the apparatus described the boiler can be kept free from mud, dirt, and other impurities contained in the water to insure long life to the boiler and a proper generation of steam without waste of fuel.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A boiler attachment comprising a pipe-line under the boiler, and hollow supports arranged for supporting the pipe-line from the boiler and for connecting the interior bottom portion of the boiler with the pipe-line, to allow the sediment to pass from the boiler by way of the supports into the pipe-line, to accumulate the sediment in the pipe-line, and a blow-out device for removing the accumulated sediment from the pipe-line, the said device comprising a blow-off valve in the pipe-line, and a steam-pipe connection between the pipe-line and the steam-space of the boiler, substantially as shown and described.

2. A boiler attachment provided with a pipe-line, and hollow supports for connecting the pipe-line with the boiler, each support having a square offset and an annular beveled flange for engaging the pipe-line at the inside, the pipe-line being provided with a screw-plug opposite the support, to permit of the introduction and removal of the support, substantially as shown and described.

3. A boiler attachment provided with a pipe-line, and hollow supports for connecting the

pipe-line with the boiler, each support having a square offset and an annular beveled flange for engaging the pipe-line at the inside, the pipe-line being provided with a screw-plug opposite the support, to permit of the introduction and removal of the support, and a plug-valve carried by the pipe-line for opening or closing the said support, substantially as shown and described.

4. The combination with a boiler having a shell, and a furnace located in the shell with a space between the sides of the furnace and the shell, of a pipe-line run beneath the boiler and having connection at one end with the steam-space of the boiler and having a blow-out at the other end, and hollow supports serving to sustain the pipe-line and establishing communication between the same and the interior of the boiler at a point between the sides of the furnace and the interior of the shell.

5. An attachment for boilers, comprising a pipe-line run beneath the boiler and having communication at one end with the steam-space and having a blow-out at the other end, hollow supports serving to sustain the pipe-line and to establish communication with the same and the lower portion of the boiler, and a branch in communication with the pipe-line and extending upwardly into the boiler and having openings adjacent to the crown-sheets thereof.

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Witnesses:

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