

No. 672,733.

Patented Apr. 23, 1901.

A. GRÖNVALD.
BOILER FLUE CLEANER.

(Application filed Nov. 1, 1900.)

(No Model.)

Fig. 1.

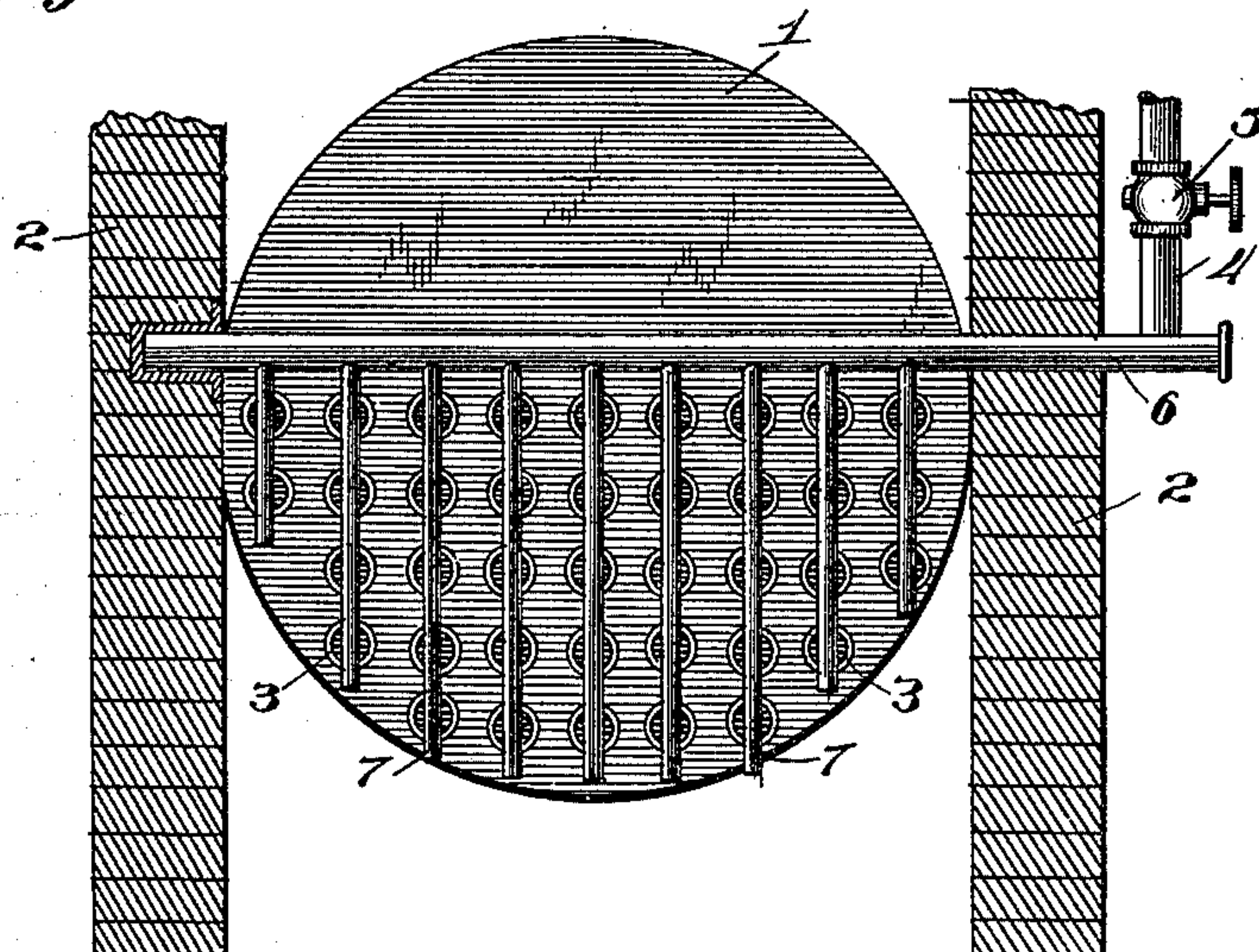


Fig. 2.

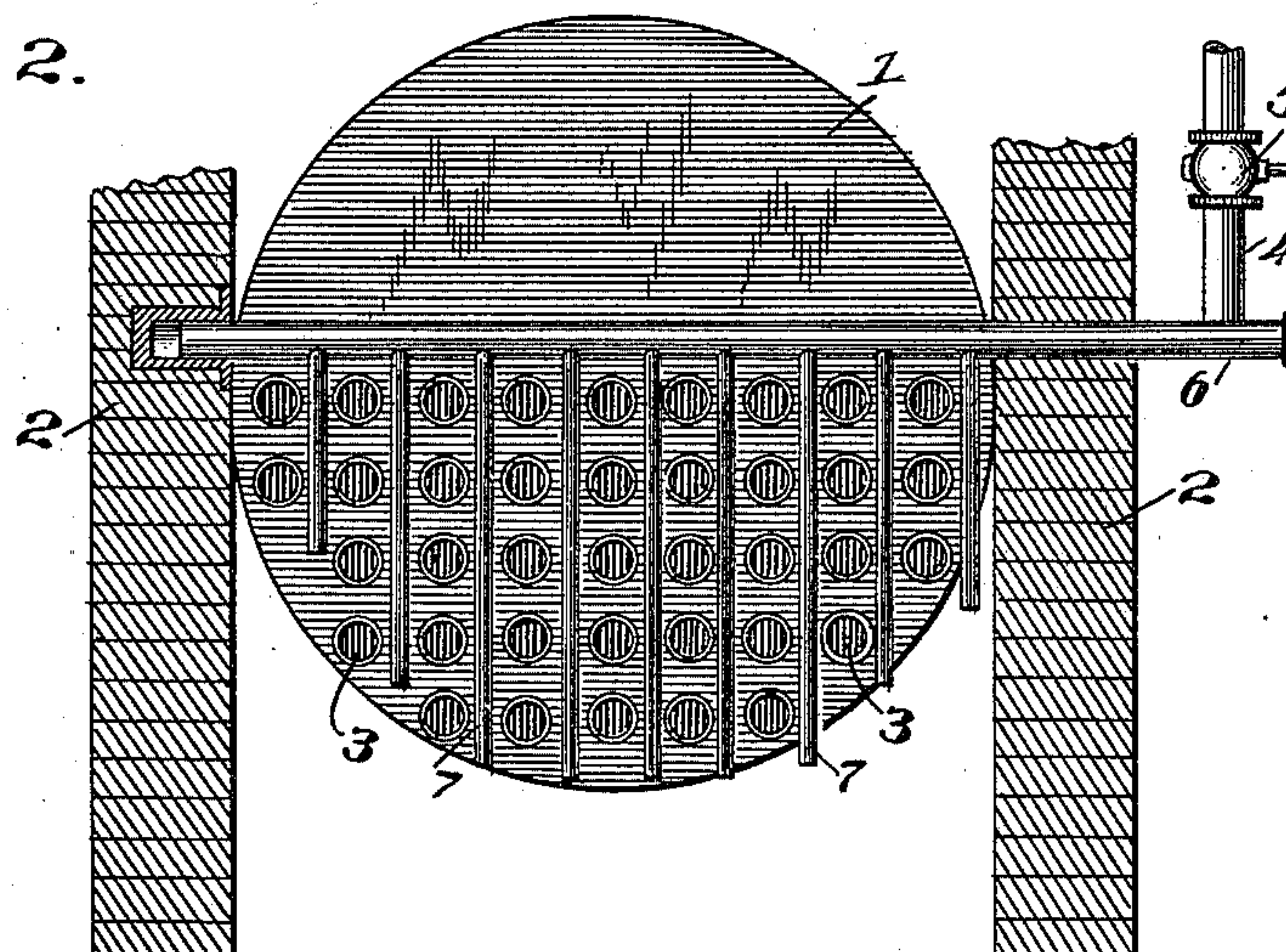
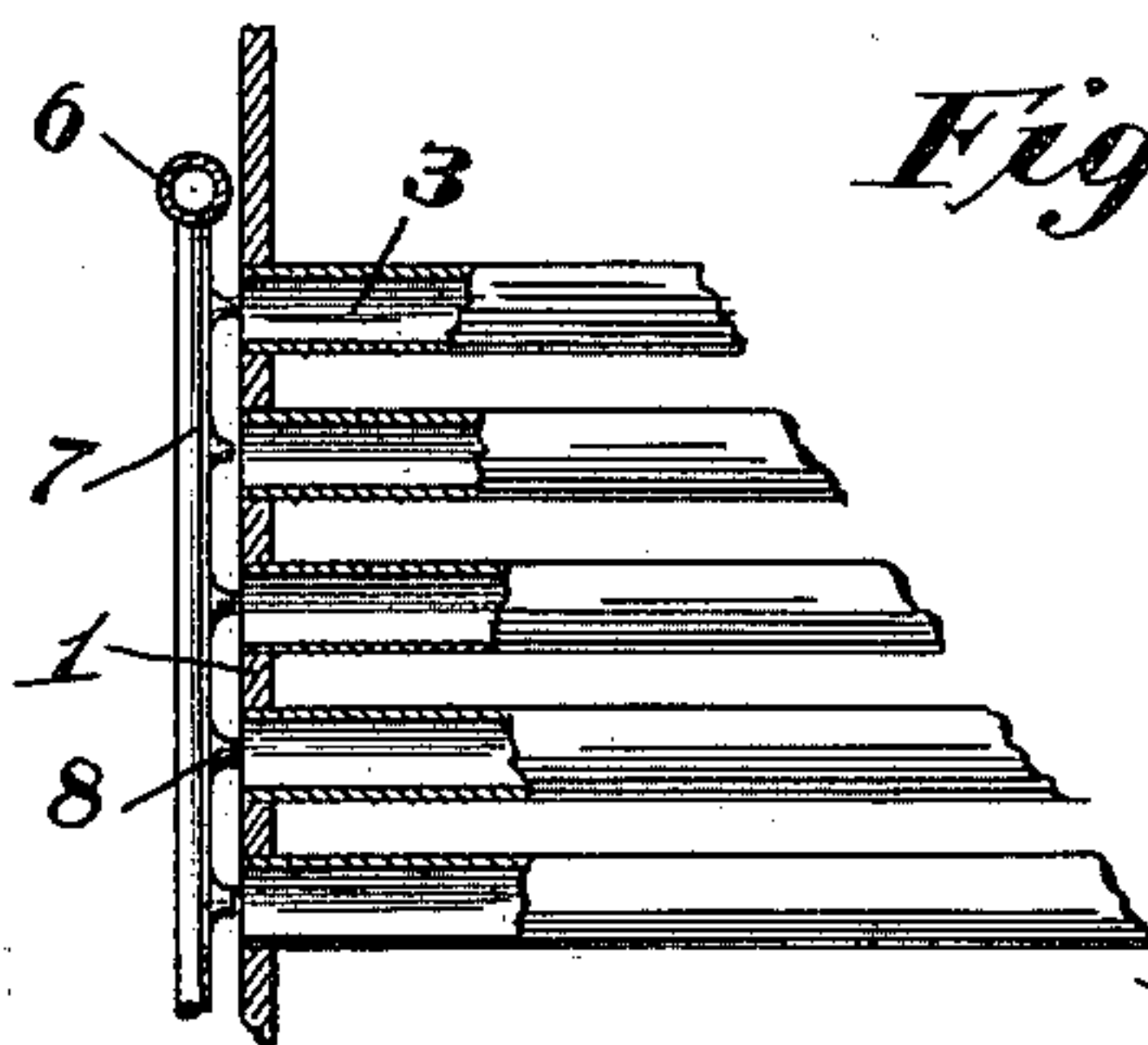


Fig. 3.



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UNITED STATES PATENT OFFICE.

ANDREAS GRÖNVALD, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF
THREE-FOURTHS TO OSCAR F. PETERSON, CHARLES R. ANDERSON,
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BOILER-FLUE CLEANER.

SPECIFICATION forming part of Letters Patent No. 672,733, dated April 23, 1901.

Application filed November 1, 1900. Serial No. 35,171. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS GRÖNVALD, a citizen of the United States, residing at Brockton, in the county of Plymouth and State of Massachusetts, have invented a certain new and useful Improvements in Boiler-Flue Cleaners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to flue-cleaners for cleaning the flues of steam-boilers, and particularly to a cleaner of this character wherein air or other fluid under pressure is employed as the cleaning medium.

The object of the invention is to provide a boiler-flue cleaner which is simple of construction and adapted to clean the flues speedily and effectively and which may be easily and quickly thrown into and out of operative position.

With this and other minor objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a front elevation, with parts in section, of a steam-boiler embodying my invention, showing the cleaner in operative position. Fig. 2 is a similar view showing the cleaner moved out of operative position. Fig. 3 is a longitudinal section through one of the rows of flues and one of the cleaning tubes or pipes of the cleaner.

Referring now more particularly to the drawings, the numeral 1 represents the boiler, 2 the side walls of the boiler-setting, and 3 the boiler-flues arranged in line and forming vertical and horizontal rows in the usual manner.

The numeral 4 designates a supply-pipe leading from a suitable source of supply of air or other suitable fluid under pressure and provided with a valve 5 for controlling the flow of the fluid therethrough. This pipe is connected to one end of a distributing-pipe

6, mounted to slide in suitable bearings in the side walls 2 in a transverse direction. From this distributing-pipe extends a series of cleaner-pipes 7, equal in number to the vertical rows of flues, each pipe being provided with a series of jet-orifices 8, equal in number to the flues in the row designed to be cleaned thereby. As shown in Fig. 1, these cleaner-pipes are brought into alignment with the vertical rows of flues when the cleaner is moved to its operative position, thereby bringing the jet-orifices in register with the open ends of the flues. By sliding the distributing-pipe laterally, however, the cleaner-pipes are shifted so as to lie between the rows of flues, which is the normal position when the device is out of operation.

To clean the flues, the cleaner is shifted to the position shown in Fig. 1, which brings the jet-orifices in line with the tubes, and when this is done the valve 5 is opened, allowing blasts of air to pass through the flues, whereby all the flues are simultaneously cleaned in a minimum space of time. When the flues have been cleaned, the supply of air is cut off by closing the valve and the cleaner shifted to the position shown in Fig. 2, where it is left to remain until again required.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be readily understood, and it will be seen that a simple, convenient, and easily-operated cleaning apparatus is provided.

While the preferred embodiment of the invention is as herein disclosed, still changes in the form, proportion, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

In a boiler-flue cleaner, the combination, with the boiler having vertical parallel rows of flues, and the side walls of the boiler-setting provided with bearings, of a flue-cleaner

comprising a supply-pipe for air or other fluid
under pressure, a horizontal distributing-pipe
located above said flues and mounted to slide
transversely of the boiler in said bearings, and
5 vertical cleaner-pipes equal in number to the
vertical rows of flues and connected to and
hanging pendent from said distributing-pipe
and provided with jet-orifices, the construc-
tion being such that said cleaner-pipes may
10 be brought into and out of alinement with the

rows of flues by sliding the distributing-pipe
laterally, substantially as set forth.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

ANDREAS GRÖNVALD.

Witnesses:

GEORGE E. FISHER,
JOHN JACKSON.