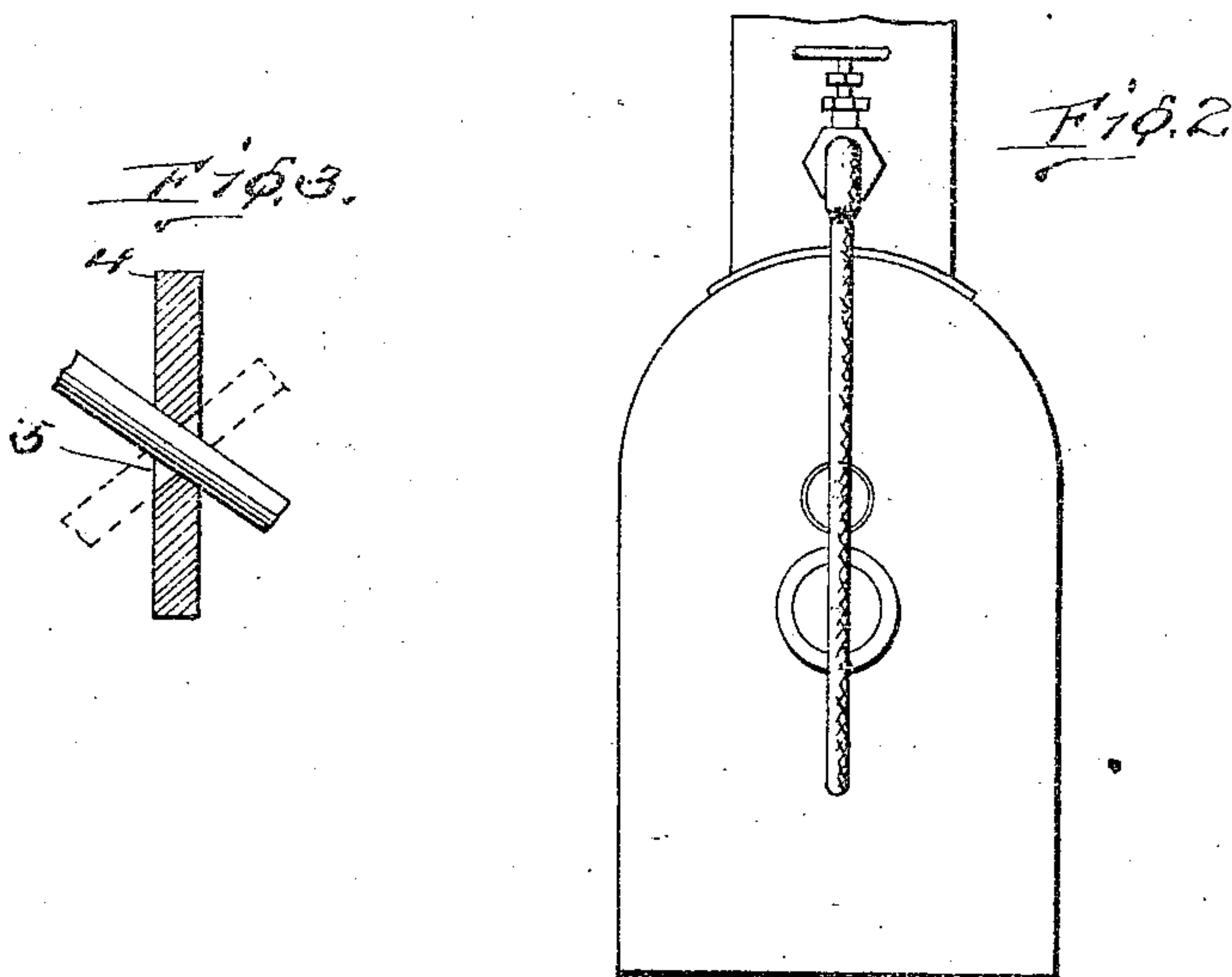
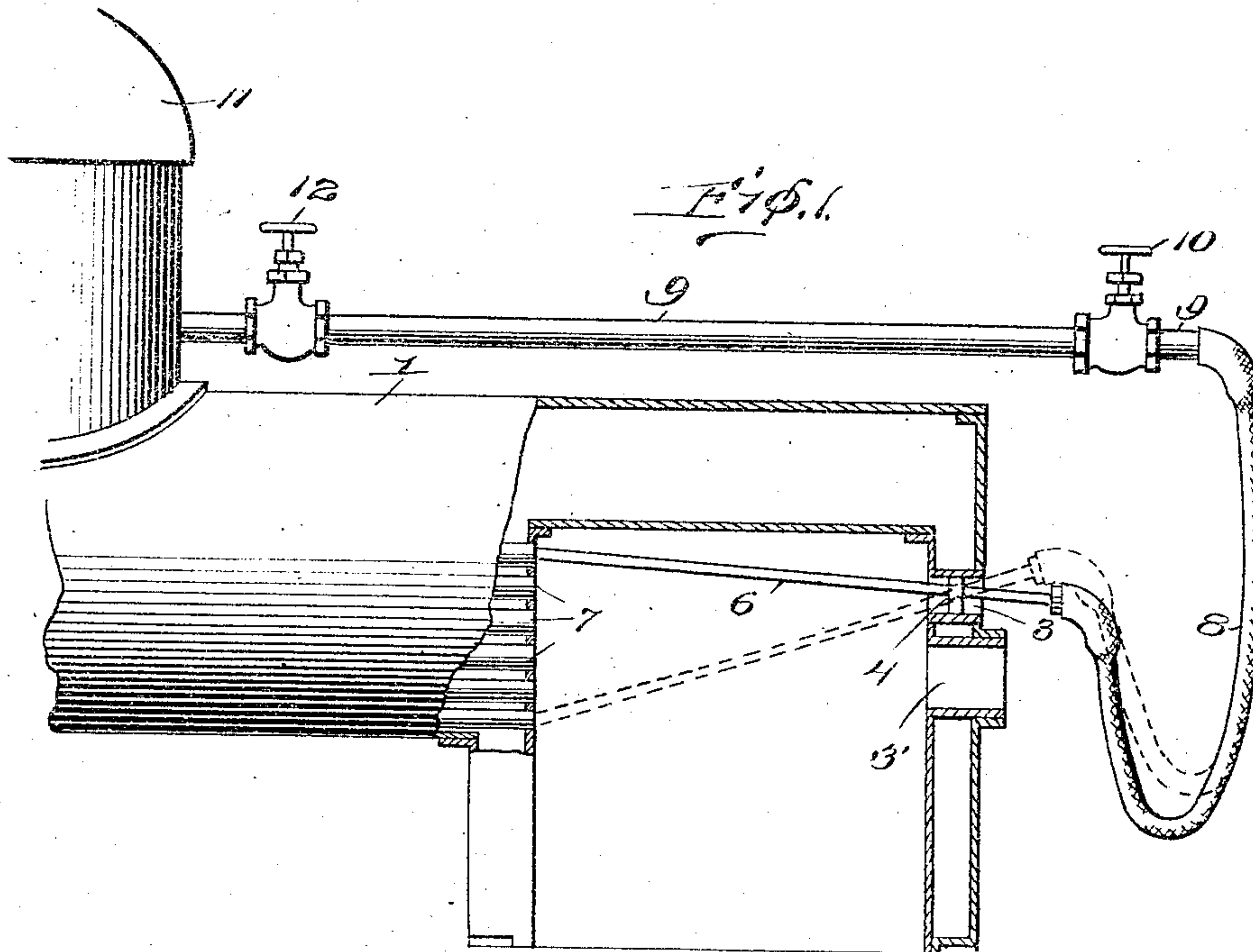


J. J. FLYNN.
BOILER FLUE CLEANER.
APPLICATION FILED NOV. 18, 1908.

914,940.

Patented Mar. 9, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES J. FLYNN, OF ATLANTA, GEORGIA.

BOILER-FLUE CLEANER.

No. 914,940.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed November 18, 1908. Serial No. 463,306.

To all whom it may concern:

Be it known that I, JAMES J. FLYNN, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Boiler-Flue Cleaners; and I do hereby 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 improvements in boiler flue cleaners, and has for an object the provision of improved means which may be readily applied to any class of boiler for forcing steam through the flues of the boiler.

Another object in view is the provision of means readily secured to a boiler arranged for injecting a steam blast into the flues of the boiler for cleaning the same without necessitating the drawing of the fire or reducing the steam pressure.

A further object of the invention is the arrangement of a tube through which a blast of steam is adapted to pass for blowing out each of the flues of a boiler independently, the tube being moved from one flue to the other during the process of cleaning so as to permit an individual cleaning of each flue.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts as will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a fragmentary view of an engine with the invention applied thereto, parts being broken away to better disclose the invention. Fig. 2 is an end view of the structure shown in Fig. 1. Fig. 3 is a section through a baffle and supporting plate.

In the construction of cleaners for flues of boilers various means have been arranged either for cleaning the flues in groups or all at once, but in such devices there is more or less reduction of steam pressure in the boiler during the operation of the cleaning device, either by reason of the dying down of the fire or by reason of the opening of the fire chamber for the insertion of the cleaning device. In some instances the cleaning devices are arranged at the front end of the boiler and when the cleaning blast is forced into the flues the same must act against the fire draft which injures the effect of the pipe

upon the boiler, and consequently greatly reduces the steam.

In the present invention the above objectionable features are aimed to be overcome and yet to thoroughly clean the various flues of the boiler, which may be of any desired construction, and without appreciably diminishing the steam pressure or appreciably affecting the burning of the fire.

In the accompanying drawings is shown one embodiment of the invention in which—

1 indicates a steam boiler of any desired type, either locomotive or stationary type. Formed in the boiler at the end in which the fire chamber 2 is located is an opening 3 into which is fitted a baffling and supporting plate 4 which is formed with an aperture 5 that is constructed of a conical shape on each side tapering to the center. A tube 6 is fitted into the baffling or supporting plate 4 which, together with the plate 4, substantially fills opening 3, but by the construction of opening 5 tube 6 may be moved longitudinally or pivoted in any desired direction in order to have the end thereof engage flues 7 of the boiler 1. Secured to the outer end of tube 6 is a flexible pipe 8 that in turn is connected with a steam carrying pipe 9 having a regulating valve 10 which regulates the steam pressure that is admitted to tube or blast pipe 6. Pipe 9 is preferably connected to a steam dome 11 in order to secure substantially dry steam.

In operation when it is desired to clean the flues of a boiler all that is necessary is to apply the flexible tube 8 to pipe 9 and insert tube 6 into one of the flues 7, and then turn the steam on at valve 10, valve 12 having previously been turned on. The steam will then be forced through one of the flues 7 until the same has been sufficiently cleaned and then the operator will move tube 6 until the end engages another flue 7 and holds the same in that position until the second flue has been cleaned. The tube 6 is then moved from the second flue to the remaining flues in succession until all of the flues have been thoroughly cleaned, the opening 5 permitting sufficient movement of tube 6 for this purpose, and yet, by reason of the construction of the opening in plate 4, substantially no heat is lost through opening 3. By cleaning the flues in this manner it will be observed that only one flue is cleaned at a time and the remaining flues may act in the usual manner for the passage of the products of combus-

tion and flame from fire box 2 for heating the water in the boiler. When it is not desired to use the cleaner the flexible pipe or hose 8 may be removed, together with pipe 6 and plate 4 and another plate similar to plate 4 inserted into opening 3 without an aperture as 5, or a door may be applied for closing the opening.

The flexible hose or pipe 6 is usually desirable as the same permits a free movement of pipe 6 and may be readily renewed at small expense, though if desirable a system of pipes could be used in place thereof. When the system of pipes is used the same must be arranged with proper pivotal joints for permitting any desired reciprocatory or pivotal or other movement of pipe 6 as might be desired, and in addition usually there is applied a ball and socket joint where the pipe 6 engages the system of pipes.

The device has been shown in connection with an ordinary boiler of the locomotive type, but it will be evident that the same may be used with any other kind of boiler to equal advantage. Also if desired the plate 4 could be made sufficiently large to fit into door-way 3' in order to obviate the necessity of constructing an auxiliary opening 3. When the plate 4 is made sufficiently large for fitting into door-way 3 the door of door-way 3 is simply opened and the plate inserted, together with pipe 6, and the operation is performed in the usual manner as above set forth.

What I claim is:

1. In a boiler flue cleaner, the combination with a boiler having an opening formed in one end thereof, a tube adapted to be projected through the opening and to engage successively the flues in said boiler, a baffle plate formed with means for permitting a univer-

sal movement of said tube, and flexible means connected with a supply of gaseous pressure.

2. In a boiler flue cleaner, the combination with a boiler having an opening formed in the end in which the fire chamber is located, a baffling plate arranged with a double beveled aperture passing therethrough, a tube passing through said aperture in said plate and by the construction of said aperture being permitted a free movement thereof for permitting the insertion of the end of the tube into the flues of the boiler, and flexible means connected with said tube and with said boiler for conveying steam to said tube whereby a steam blast is admitted to said flues when the end of said tube is placed therein.

3. In a boiler flue cleaner, the combination with a boiler formed with a passage way in the end in which the fire chamber is located, a baffle and supporting plate positioned in said passage way and formed with an aperture passing therethrough, said aperture being formed with conical shaped walls merging in the center of the plate, a tube passing through said aperture and engaging the flues of said boiler, said aperture permitting sufficient movement of said tube for permitting the insertion of the end of the tube into the ends of any of said flues, a flexible hose connected to said tube and to said boiler, and means for regulating the amount of steam passing through said flexible hose and said tube.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. FLYNN.

Witnesses:

H. P. LATTA,

H. S. ROSSER.