E. H. REITER.

FLUE CLEANER.

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966,051. Patented Aug. 2, 1910.

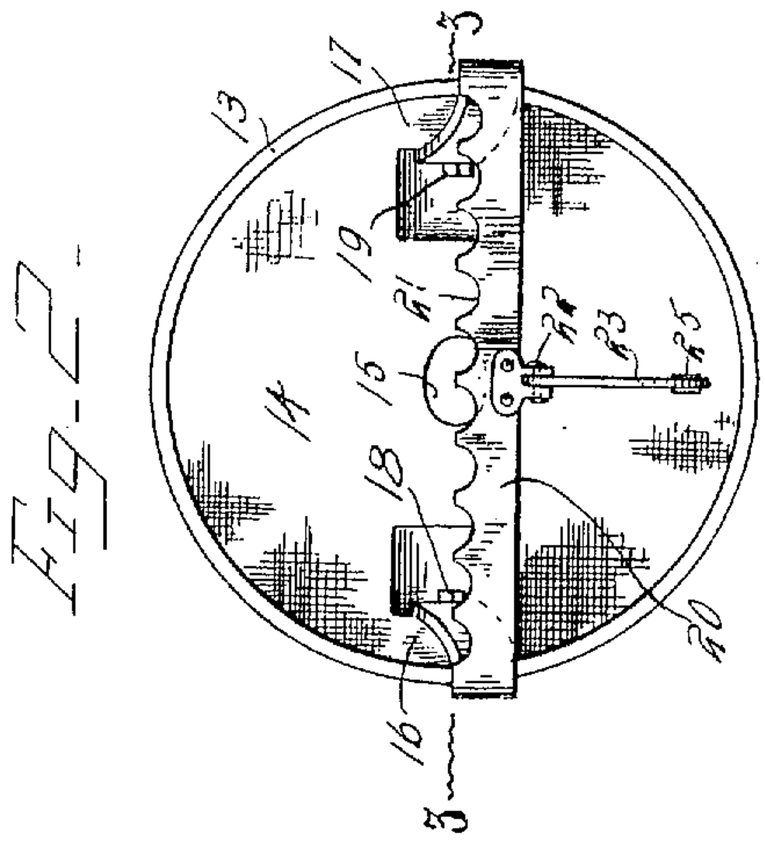

Fig. 2.

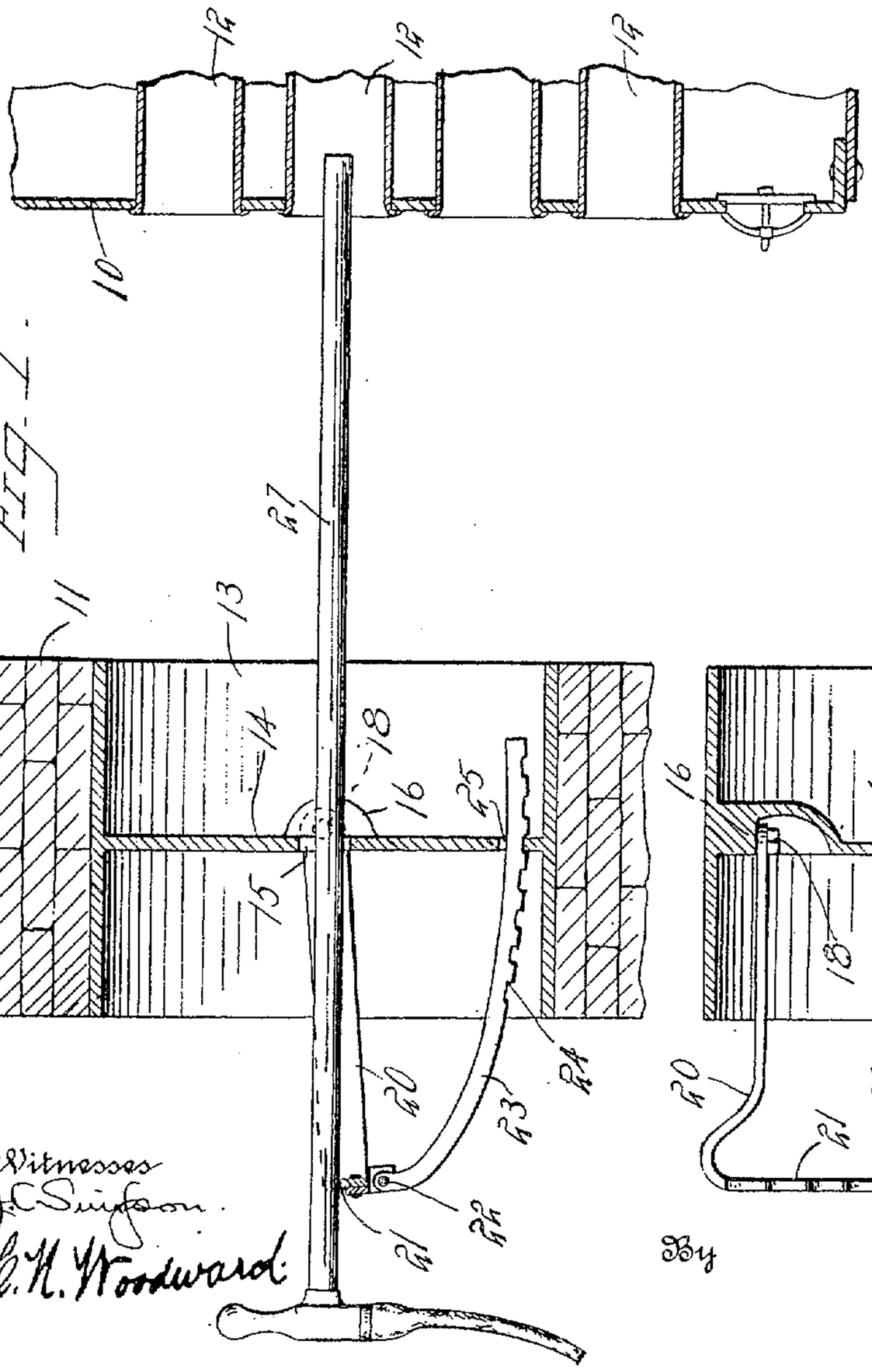

Fig. 1.

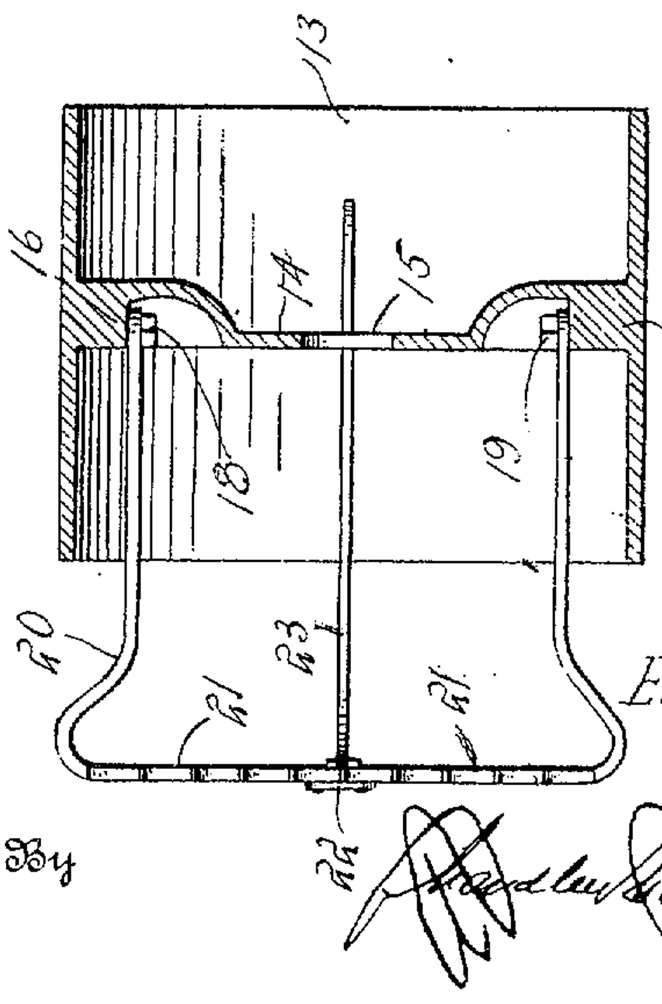

Fig. 3.

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ELZA H. REITER, OF ELGIN, ILLINOIS.

FLUE-CLEANER.

966,051. Specification of Letters Patent. **Patented Aug. 2, 1910.**

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To all whom it may concern:

Be it known that I, ELZA H. REITER, a citizen of the United States, residing at Elgin, in the county of Kane, State of Illinois, have invented certain new and useful Improvements in 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 devices for cleaning boiler flues, and has for one of its objects to simplify and improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a simply constructed attachment whereby each individual flue of the boiler may be reached from one central point, and the cleaning device supported in position while being operated.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims; and, in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a sectional side elevation of a portion of a boiler and a portion of the smoke arch, with the improved device applied and in side elevation. Fig. 2 is a front elevation of the improved device, detached. Fig. 3 is a section of the device on the line 3—3 of Fig. 2.

The improved device may be applied without material structural changes to flue boilers of various sizes, and is preferably arranged for application at the rear end, or in the direction of the draft, and is generally arranged for operation through the rear furnace wall, but may be operated from either end or the side of the boiler, if preferred.

For the purpose of illustration a portion of the rear end of a conventional boiler is shown at 10 and a portion of the rear furnace wall is shown at 11 with the flues of the boiler indicated at 12. The improved device comprises a supporting frame 13, preferably circular in outline and located in an opening formed therefor through the wall 11, the frame being preferably permanently connected in the wall. While the frame 13 is shown circular, it will be understood that this part of the device may be of any other desired shape.

Extending transversely of the frame 13 is an intermediate partition 14 having a central aperture 15, the latter being preferably elliptical in outline. The partition 14 is formed with bearings 16—17 at its sides, and mounted to swing at 18—19 upon these bearings by its side members is a U-shaped frame, represented as a whole at 20, the outer portion of the swinging frame being provided with a plurality of notches 21. Mounted to swing at 22 on the frame 20 is a curved bar 23, the bar being provided with a plurality of spaced notches 24 and operating through an aperture 25 in the partition 14 at its lower part, the notches engaging the edge of the aperture and thus serving as stops to enable the bar 23 to be adjusted to any required extent within the range of the notches, and thus correspondingly adjustably supporting the member 20. By this means it will be obvious that the free or notched end portion of the member 20 may be adjusted vertically, the object to be hereinafter explained.

The frame 13 is preferably located with its opening 15 opposite the center of the flue area, as shown. A stem 27 is adapted to be passed through the opening 15 and is supported externally of the frame 13 by the notched member 20, with the terminal of the pipe insertible into the flues one at a time.

When the improved device is to be used the member 23 is first adjusted to locate the member 20 in proper position to hold the pipe 27 pointed toward the row of flues in which it is desired to operate and the pipe 27 passed through the aperture 15 in the partition 14 and the inner end inserted into one of the flues. The pipe 27 may then be moved to any flue in the row for which the member 20 is adjusted without changing the members 20 or 23. The members 20—23 may then be adjusted to support the pipe 27 in position for operation upon any other row of the flues. The notches 21 assist in holding the pipe and prevent lateral movement thereof. The aperture 15 will be sufficiently large to permit the pipe 27 to be adjusted in all directions, so that the inner end may be inserted into any one of the flues, and the members 20—23 adjusted to support the pipe in any desired position so

that when the pipe is located for operation in the required flue the pipe may be supported in that position as long as required by adjusting the members 20—23, and retained in the desired position for any length of time. By this means the operator can adjust the pipe and its nozzle into any flue required and it will remain in that position without further attention from the operator. By this simple means the operator is enabled to clean every flue from one central point by changing the pipe and adjustments as previously described. It will be noted that by arranging the member 13 in the rear furnace wall that the cleaning operations are applied in the direction of the draft thereby blowing the soot and other deleterious matter with the draft. The force of the draft is thus utilized in addition to the force of the steam to produce the desired results.

It will thus be noted that a simply constructed and convenient device is produced, whereby the labor of cleaning the flues is materially reduced, and can be adjusted to any desired flue. Thus the cleaning of the flues can be accomplished without interfering with the operation of the boiler, but on the contrary produces an acceleration of the draft during the cleaning operations.

What is claimed is:—

1. In a boiler flue cleaner a stationary supporting wash-member provided with a transverse aperture, a pipe extending through said aperture, a supporting frame mounted to swing from said supporting member and extending outwardly therefrom and in position to be engaged by said pipe, and means for adjusting said swinging member vertically.

2. In a boiler flue cleaner a stationary supporting member, a transverse member carried by said supporting member and provided with a transverse aperture, a pipe extending through said aperture, a supporting frame mounted to swing from said stationary supporting member in position to be engaged by said pipe, and means for adjusting said swinging frame vertically.

3. In a boiler flue cleaner a supporting frame, a member carried by said frame and provided with a transverse aperture, a pipe extending through said aperture and having a terminal nozzle, a U-shaped member mounted to swing from said frame in position to be engaged by said pipe, a notched bar swinging at one end from said supporting member and engaging said apertured member by its notches.

4. In a boiler flue cleaner a supporting member provided with a transverse aperture, a pipe extending through said aperture and having a terminal nozzle, a supporting frame mounted to swing from said supporting member in position to be engaged by said pipe, and a notched bar swinging at one end from said supporting frame and consecutively engaging said supporting member by its notches.

5. In a boiler flue cleaner the combination with a boiler, including the flues thereof, of a supporting member provided with a transverse aperture, a pipe extending through said aperture and having a terminal nozzle and adapted to be inserted consecutively in said flues, a supporting frame mounted to swing from said frame in position to be engaged by said pipe, and means for adjusting said swinging frame vertically.

6. The combination with a boiler including the flues thereof and the boiler setting including the rear wall thereof, of a supporting member located within said rear wall and provided with a transverse aperture, a supporting frame swinging from said supporting member, a notched arm mounted to swing from said swinging frame and engaging said supporting member by its notches, said aperture adapted to receive a pipe and said swinging frame adapted to support said pipe.

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

ELZA H. REITER.

Witnesses:

CORA M. TIDMARSH,

MARGUERITE K. SYLLA.