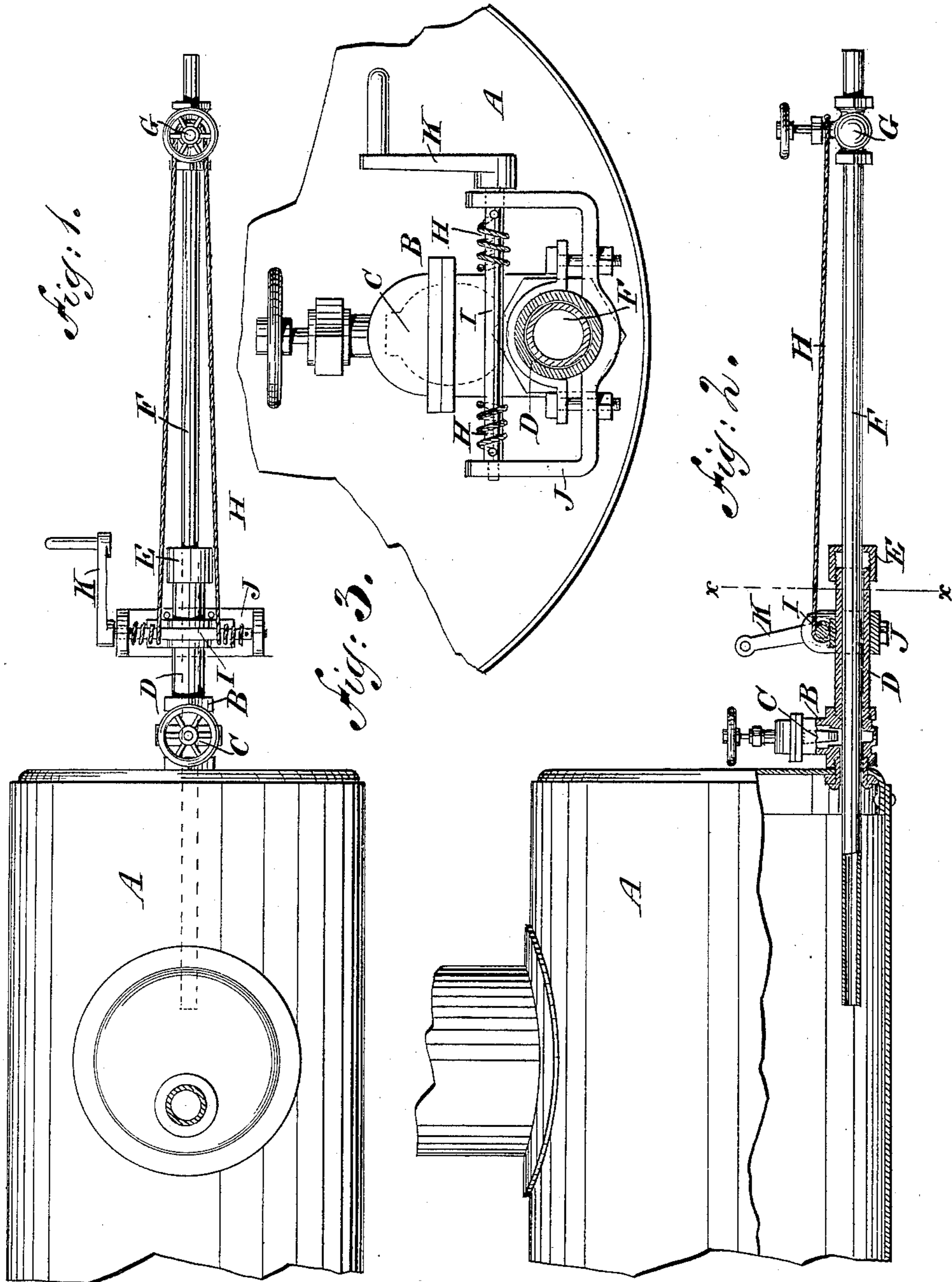


(No Model.)

J. L. & W. E. ALEXANDER.
BOILER CLEANER.

No. 462,522.

Patented Nov. 3, 1891.



WITNESSES:

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JOHN L. ALEXANDER AND WILLIAM E. ALEXANDER, OF HAZLERIGG,
INDIANA.

BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 462,522, dated November 3, 1891.

Application filed April 11, 1891. Serial No. 388,491. (No model.)

To all whom it may concern:

Be it known that we, JOHN L. ALEXANDER and WILLIAM E. ALEXANDER, both of Hazlerigg, in the county of Boone and State of Indiana, have invented a new and Improved Boiler-Cleaner, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved boiler-cleaner which is simple and durable in construction, very effective in operation, and arranged to draw off all the impurities settling along the bottom of the boiler.

The invention consists of a pipe fitted to slide into the boiler through a blow-off valve held on the boiler.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement as applied. Fig. 2 is a sectional side elevation of the same, and Fig. 3 is an enlarged transverse section of the same on the line *xx* of Fig. 2.

The boiler A, on which the improvement is applied, is provided near its bottom and at one end with a blow-off valve B, the valve C of which is preferably in the shape of a gate, as is plainly illustrated in the drawings. From the outlet of the valve B extends a pipe D, carrying at its outer end a stuffing-box E, through which and the pipe D passes a pipe F, adapted to pass through the valve B when the gate C is drawn into an outermost position, as is plainly illustrated in Figs. 2 and 3. The pipe F fits snugly into the pipe D as well as the valve B, all leakage being prevented by the stuffing-box E. The outer end of the pipe F is provided with a suitable valve G, the valve-body of which is engaged by a rope H, the ends of which are fastened to and adapted to be wound upon a drum I, arranged transversely and mounted to turn in suitable bearings formed in a frame J, adapted to be clipped to the pipe D, as is plainly illustrated in Fig. 3. On one outer end of the drum I is

secured a crank-arm K for conveniently turning the said drum I to wind up the ends of the rope H, so that a pull is exerted on the valve G to move the pipe F inwardly through the valve B along the bottom of the boiler.

The operation is as follows: When the device is in the ordinary position, the pipe F is disconnected from the valve B and the latter is closed by its gate-valve C. Now when it is desired to clean the boiler the pipe F is inserted into the pipe D, the rope H is passed around the valve G, and the frame J, carrying the drum I, is clipped or otherwise secured on the pipe D. The valve G is held closed, and then the gate-valve C is drawn outward, so that the interior of the boiler is connected with the pipe F. The operator now turns the crank-arm K so that the pipe F is caused to slide inward through the valve B into the interior of the boiler. The inner end of the pipe F comes in contact with the impurities collecting in the bottom of the boiler, the said impurities being instantly drawn off by the operator opening the valve G. By further turning of the crank K the pipe F is slowly drawn into the boiler, so that all the impurities in the bottom of the boiler are disturbed by the inwardly-moving pipe, the impurities flowing into the said pipe and out of the same past the valve G. The pipe F is of sufficient length so as to pass throughout the length of the boiler, whereby all the impurities in the bottom of the boiler are drawn from the latter. When this has been accomplished, the valve G is closed, the pipe F is pulled outward, and when the inner end of the pipe F has passed the valve B then the gate C is again closed. The pipe F can then be readily taken off the valve B and stored away until the device is again required for another cleaning of the boiler.

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

1. The combination, with a boiler provided with a valve, of a valve-pipe attachably secured to and fitted to slide through the valve into the boiler, substantially as and for the purpose set forth.

2. In a boiler-cleaner, the combination, with a blow-off valve attached to the boiler, of a

pipe fitted to slide through the said blow-off valve and a valve held on the outer end of the said pipe, substantially as shown and described.

5 3. In a boiler-cleaner, the combination, with a blow-off valve attached to the boiler, of a pipe fitted to slide through the said blow-off valve, a valve held on the outer end of the said pipe, and means, substantially as described, for forcing the said pipe through the
10 said blow-off valve into the boiler, substantially as shown and described.

4. A boiler-cleaner constructed and arranged to be detached from the boiler when
15 not in use, whereby provision is made for preserving a smooth surface on the movable pipe of the cleaner, substantially as described.

5. A boiler-cleaner comprising a blow-off valve held on the boiler, a pipe fitted to slide
20 in the said blow-off valve and provided with a valve, a rope adapted to be connected with the body of the pipe-valve, and a drum held on the said blow-off valve and adapted to wind up or unwind the said rope, substantially as
25 shown and described.

6. A boiler-cleaner comprising a pipe adapt-

ed to be passed through a blow-off valve held on the boiler, a valve held at or near one end of the said pipe, a rope adapted to be connected with the body of the said valve, a drum
30 adapted to wind up or unwind the said rope, and a frame carrying the said drum and adapted to be clipped on the said blow-off valve, substantially as shown and described.

7. In a boiler-cleaner, the combination, with
35 a valve-body and a gate-valve arranged therein, of a pipe extending from the said valve-body and provided with a stuffing-box, a discharge-pipe fitted to slide in the said stuffing-box and valve-body pipe and adapted to pass
40 through the said valve-body, a valve held on the said discharge-pipe, and means, substantially as described, for moving the said discharge-pipe through the said stuffing-box, pipe, and valve-body, substantially as set
45 forth.

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Witnesses:

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