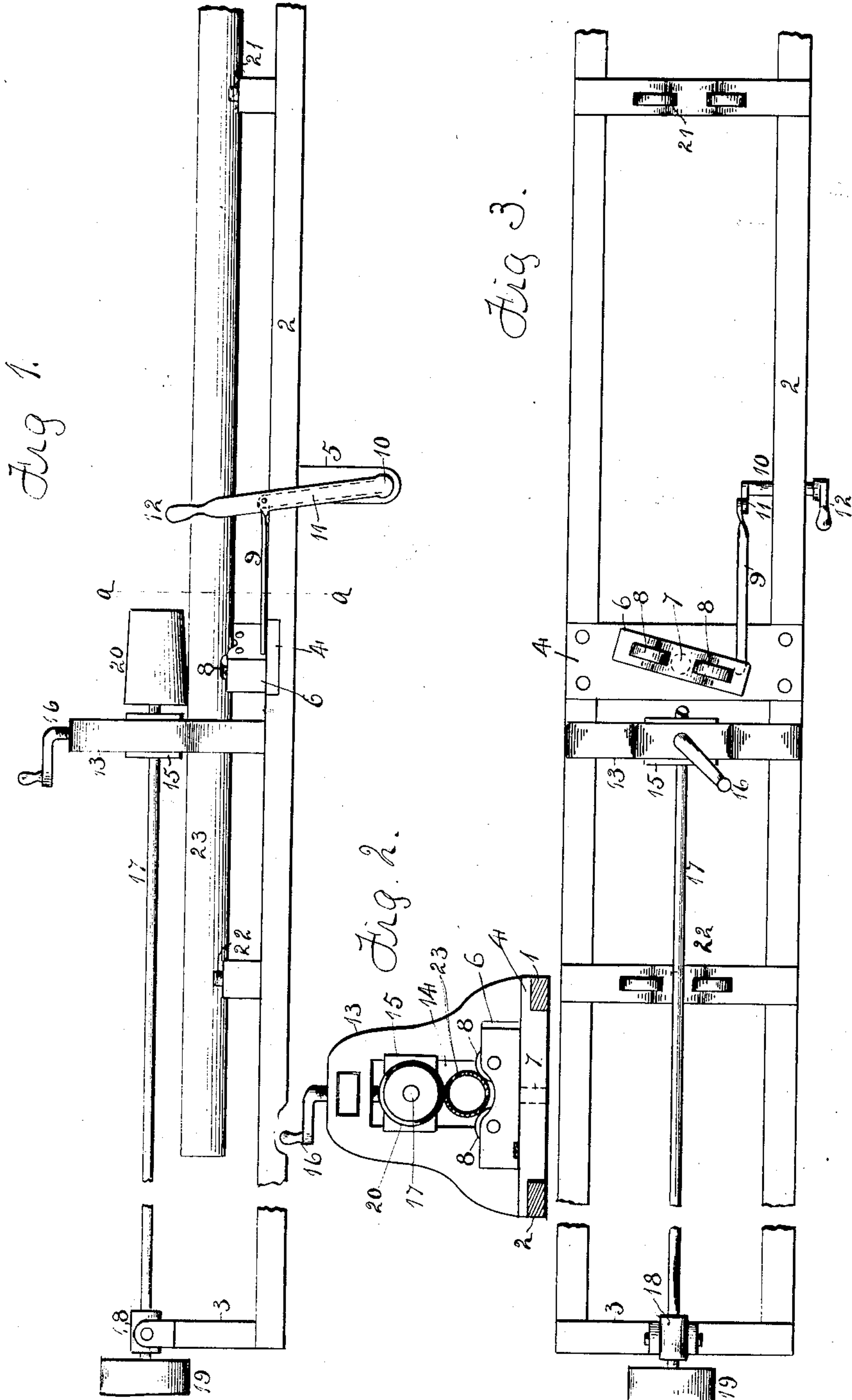


No. 896,851.

PATENTED AUG. 25, 1908.

J. G. McCARREN.
TUBE CLEANER.

APPLICATION FILED SEPT. 9, 1907.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH G. McCARREN, OF ROCKFORD, ILLINOIS.

TUBE-CLEANER.

No. 896,851.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed September 9, 1907. Serial No. 392,054.

To all whom it may concern:

Be it known that I, JOSEPH G. McCARREN, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Tube-Cleaners, of which the following is a specification.

The object of this invention is to remove the scale adhering to the outer surface of a boiler tube, and this result is accomplished by imparting a rotary movement and a lengthwise movement to the tube between a set of rollers to which pressure is applied, and means for changing the lengthwise movement imparted to the tube.

In the accompanying drawings, Figure 1 is a side elevation of my improved cleaner with a tube in position for cleaning. Fig. 2 is a transverse section on dotted line *a a* Fig. 1, the tube being omitted. Fig. 3 is a plan view in which the pressure roller is broken away.

The frame supporting the operative parts, in this instance, comprises the two lengthwise beams 1 and 2 which are held separated by the end cross-bar 3, and a center cross-bar 4. From the beam 2 depends a bearing 5. To the center cross-bar 4 is pivotally connected a head 6 by the shank 7 extending from the head and located in a hole in the cross-bar. This head supports two rollers 8 in a pivotal manner. To the head 6 is pivotally connected a link 9.

The bearing 5 supports a short shaft 10 to the inner end of which is fixedly connected an arm 11, to the upper end of which the link 9 is connected. A hand lever 12 has a fixed connection with the shaft 10. By means of the hand lever the head 6 can be rocked on its pivotal support for a purpose to appear hereinafter.

Near the center cross-bar 4 is located a support 13 provided with a central rectangular opening 14. A block 15 has a slidable connection with the support 13 and is moved vertically by the screw-threaded lever 16.

This block is provided with a central opening within which is located the driving shaft 17.

The end cross-bar 3 supports a bearing 18 in a pivotal manner, and the bearing supports

the driving shaft 17. To one end of the driving shaft is fixedly connected a driving pulley 19, and to the other end of the driving shaft is fixedly connected a pressure roller 20. By means of the lever 6 the pressure roller 20 can be raised and lowered so as to accommodate different sizes of tubes. On cross-bars on the beams 1 and 2 of the frame are located two sets of rollers 21 and 22, one set located each side of the head 6. The tube 23 to be cleaned is located on the rollers 21 and 22, and is supported by the rollers 8 of the head 6. Pressure is applied to the roller 20 by means of the block 15 and screw-threaded lever 16 so that it is in contact with the tube, and the roller is rotated by a belt connection with the pulley 19 on the driving shaft 17.

As the pressure roller rotates it will impart a rotary movement to the tube, and by reason of the head 6 being located diagonally across the tube 23, the tube will be moved bodily in the direction of its length which will enable the pressure roller to traverse the surface of the tube. The pressure applied by the roller 20 on the exterior surface of the tube 23 will loosen the scale which will fall off. By means of the hand lever 12, the head 6 may be shifted so as to move the tube lengthwise in the reverse direction.

I claim as my invention.

1. A tube cleaner comprising a frame, a head pivotally supported by the frame, two rollers supported by the head one located each side of the pivot of the head, means for moving the head on its pivot to reverse the lengthwise movement of a tube supported by the rollers, and a pressure roller located over the rollers of the head.

2. A tube cleaner comprising a frame, a head pivotally supported by the frame, two rollers supported by the head, one located each side of the pivot of the head, a hand lever for moving the head on its pivot to reverse the lengthwise movement of a tube supported by the rollers, and a pressure roller located over the rollers of the head.

3. A tube cleaner comprising a frame, a driving shaft pivotally supported at one end and bodily adjustable at its other end, a pressure roller supported by the adjustable

end of the shaft, a head pivotally supported
by the frame, two rollers supported by the
head, one located each side of the pivot of
the head, and means for moving the head on
5 its pivot to reverse the lengthwise movement
of a tube supported by the rollers.

In testimony whereof I have hereunto set

my hand in presence of two subscribing wit-
nesses.

JOSEPH G. McCARREN.

Witnesses:

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E. D. E. N. BEHEL.