

(No Model.)

A. H. SCARLES.
MACHINE FOR CLEANING COILS OF WIRE.

No. 434,891.

Patented Aug. 19, 1890.

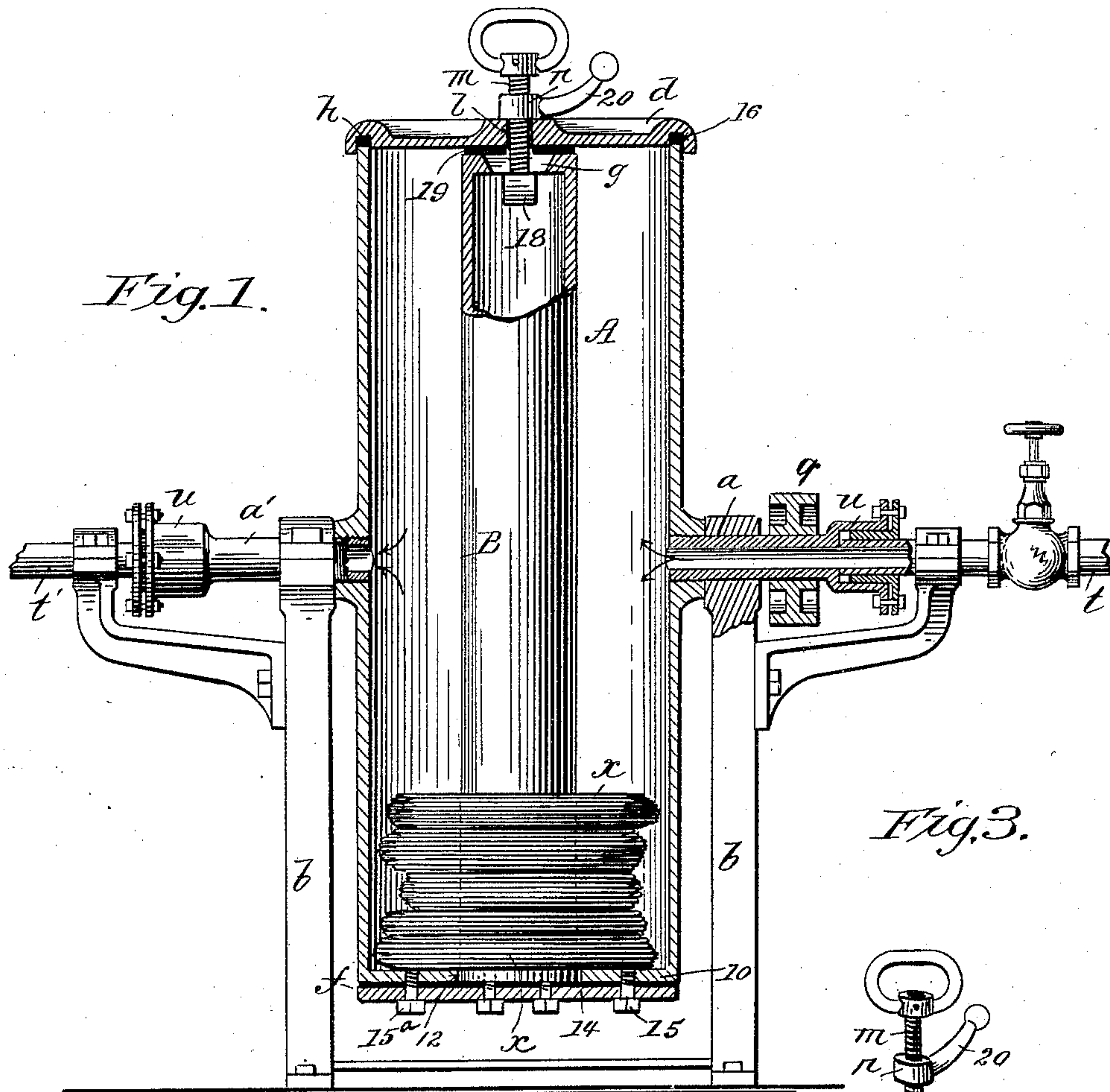
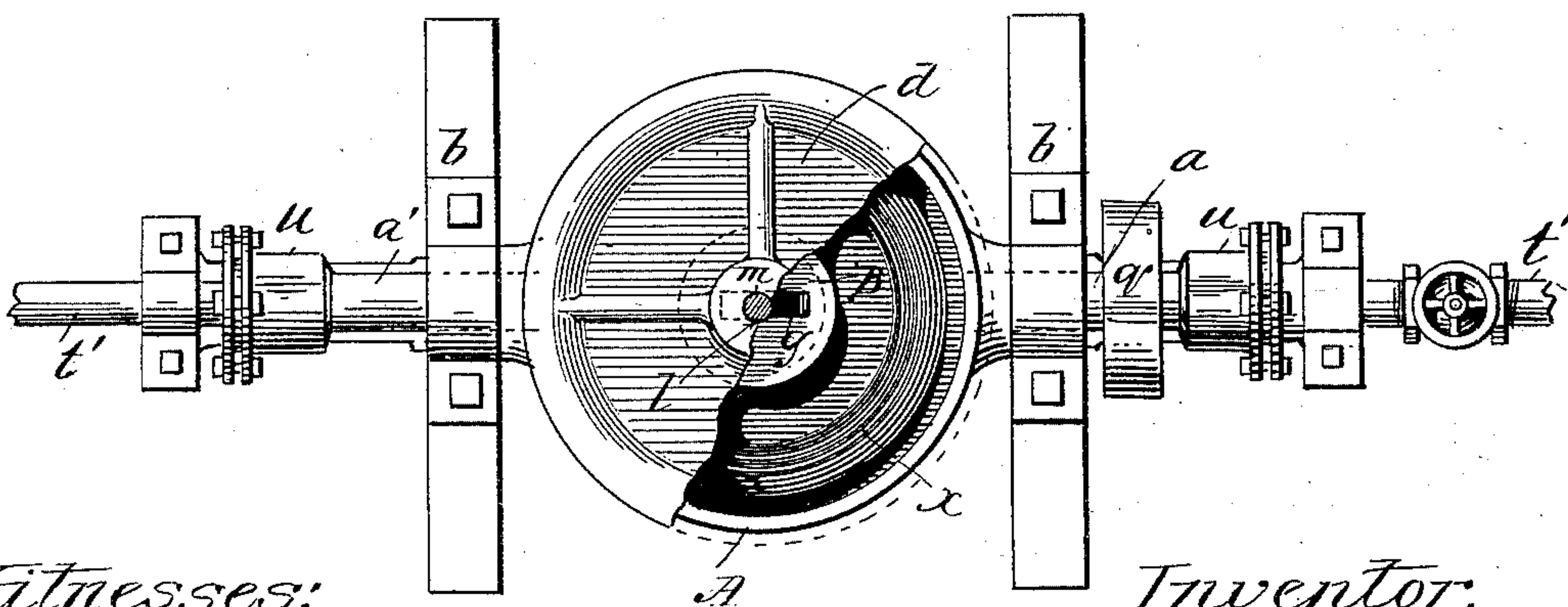


Fig. 1.

Fig. 3.

Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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MACHINE FOR CLEANING COILS OF WIRE.

SPECIFICATION forming part of Letters Patent No. 434,891, dated August 19, 1890.

Application filed November 7, 1889. Serial No. 329,513. (No model.)

To all whom it may concern:

Be it known that I, ALFRED H. SCARLES, a subject of the Queen of Great Britain, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Machines for Cleaning Coils of Wire, of which the following is a specification.

This invention relates to improvements in machines for cleaning wire, particularly copper or brass wire, when in coiled form, the object of the invention being to provide a machine which is simple in itself and which is also easy and simple in operation, and entirely efficient for the purpose set forth; and the invention consists in the construction and combination of parts, all substantially as will hereinafter more fully appear and be set forth in the claims.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the wire-cleaning machine. Fig. 2 is a plan view of the same, a part being broken away for clearer illustration; and Fig. 3 is a perspective view in detail, to be hereinafter referred to.

In the drawings, A represents a hollow cylindrical tumbling-box having trunnion-bearings $a a'$ in a line midway of its length in vertical standards $b b$, whereby said cylindrical tumbling-box is adapted for a rotation on a horizontal axis centrally intersecting the axis of said box A. Said box A is provided with closed heads, normally an upper and a lower one d and f , respectively, the former being removable from the said box.

A post or shaft B extends axially of the tumbling-box from end to end thereof, being confined in place by and between the heads. The lower head f of the box is preferably constituted by the fixed or integrally-formed end wall 10, having the central aperture 12, under which wall is another plate 14, placed against a disk of rubber 15, interposed between the said wall 10 and the said plate 14, and the said wall and plate are held together, confining the rubber disk between them, by the screws or bolts 15^a. The lower end of the said post lies within the aperture of the inner wall of the lower head and rests upon said disk, being held firmly in place by the

screws or bolts 15^a. Said post is preferably formed hollow, with closed ends, whereby too great weight may not be imparted to the tumbling-box, and a slot g is formed through the closed upper end of the post. The upper head d has formed on its under side near or at its edge an annular groove 16 or a rabbet to overlie the end of the cylindrical box A, and a gasket h , of rubber or equivalent compressible material, is placed in said groove or rabbet. A screw-threaded spindle m is passed through said upper head, having by its threads no engagement within the central opening l in the head, and on the lower end of said spindle is fixed a rectangular or elongated block 18, the width of which is such that it may, when properly aligned, pass through the said slot in the end of the post, and then when the spindle is turned by the disposition of its block across said slot under the end wall of the post establish an engagement between the post and the said upper head d . A disk of rubber 19 is also preferably provided between the upper head and the upper end of the post. Upon the part of the said screw-threaded spindle which lies, in the use of the spindle, above the head is placed a nut n , preferably provided with a lever-arm 20 for conveniently turning it, and the upper extremity of said threaded spindle is provided with a ring-head or other equivalent means, whereby the said spindle may be held against rotation when the nut is properly turned to force the head to a close bearing on the end of the cylindrical box and upon the end of the said post.

The trunnion-bearings $a a'$ are constituted by tubular shafts opening from end to end and communicating by their passages with the interior of the box A, and on one thereof is a pulley q , by which to cause the rotation of the said box from a running belt. A liquid-conduit $t t'$ is connected to the outer end of each tubular shaft $a a'$, suitable stuffing-boxes u being provided to constitute the watertight couplings and permit of the free rotation of the said tubular trunnion-shafts on and independently of the said conduits, which are stationary.

In the use of this machine the upper head d is removed and coils x of the wire are placed

in the box A, encircling the post, such a number of said coils being placed therein as desired, although in any event preferably no more than enough to occupy three-quarters of the height of the box A are entered therein. A quantity of bran or other material is placed in the box with the coils and the head secured in place, and then by and through the driving of the belt the box is rotated, turning end over end, and the coils are tumbled back and forth along the post, and by the bran and the contact and vibration of the separate convolutions of the wire the one upon and with relation to the other all the scale and foreign matter are cleansed from the wire. After the tumbling has been continued for a while water from any suitable source is introduced through the pipe and the one tubular bearing into the box under suitable pressure and expelled from the box through the other tubular bearing to waste, carrying therewith all bran and foreign matter, after the continuation of which for a suitable time the water-ingress is shut off and the coils removed from the box, appearing bright and clean. The provision of the rubber gasket *h* and disk 19 between the upper end of the cylindrical box and of the

post and the upper head and the provision of the lower head formed of and by two plates secured together upon an interposed cushion of rubber overcomes in a very material degree the effects of vibration between the parts which constitute the tumbling-box.

What I claim as my invention is—

1. In a machine for cleaning coils of wire, a rotatable box provided with two heads, one of which is removable, the axial post B, and the tubular trunnions, combined with the water inlet and outlet conduits connected to said trunnion-bearings, substantially as and for the purpose set forth.

2. In a machine for cleaning coils of wire, a rotatable box provided with the closed head and the longitudinal chambered post having a closed end, provided with a slot leading to said chamber, combined with the removable head provided with the screw-spindle movable therethrough, having on its lower end an elongated enlargement, and also provided with the nut, substantially as and for the purpose set forth.

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