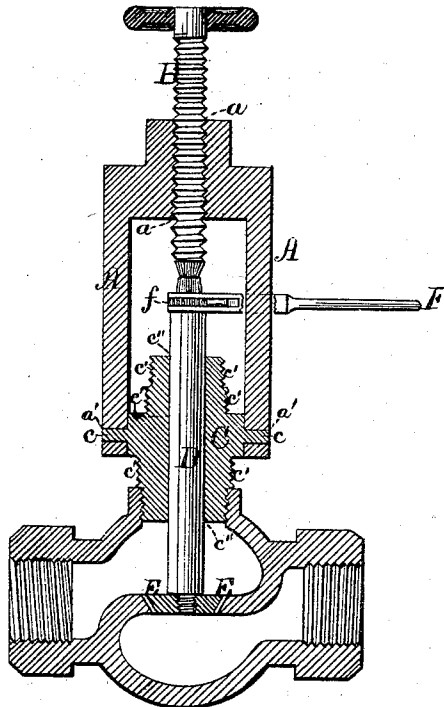
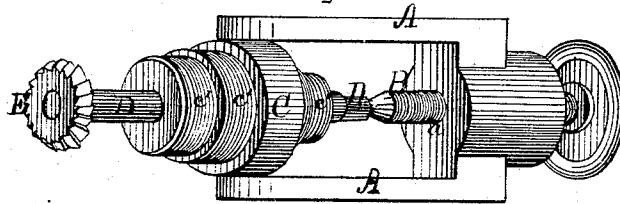


## Machines for Refitting Valve-Seats.

Patented Feb. 17, 1874.



INVENTOR.

Jas E Hutchinson  
 John R. Young

Wm. H. Allmand, by  
Orindle and Beane, his Attys

# UNITED STATES PATENT OFFICE.

WILLIAM W. ALLMAND, OF EAST BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN MACHINES FOR REFITTING VALVE-SEATS.

Specification forming part of Letters Patent No. 147,586, dated February 17, 1874; application filed January 30, 1874.

*To all whom it may concern:*

Be it known that I, WILLIAM W. ALLMAND, of East Boston, in the county of Suffolk and in the State of Massachusetts, have invented certain new and useful Improvements in Machines for Refitting Valve-Seats; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my apparatus as arranged for use, and Fig. 2 is a central longitudinal section of the same in position within and upon the body or casing of a valve.

Letters of like name or kind refer to like parts in each of the figures.

The object of my invention is to enable the seats of globe-valves to be dressed or restored to their original shape without removing the casings of said valves from position; and it consists, principally, in the combination of the swiveled many-sized head or mandrel-bearing with the yoke or frame for containing the feed-screw, substantially as and for the purpose hereinafter specified. It consists, further, in the combination of the mandrel head, frame, or yoke, feed-screw, and mandrel, substantially as and for the purpose hereinafter shown. It consists, finally, in the apparatus as a whole, its several parts being constructed and combined to operate in the manner and for the purpose substantially as hereinafter set forth.

In the annexed drawing, A represents the frame of my machine, consisting of two parallel bars, connected together at one end, and provided in and through said end with a threaded opening, *a*, which receives a correspondingly-threaded feed-screw, B. Within the opposite open end of the frame A is placed a cylindrical head, C, which, by means of two trunnions, *c* and *c'*, is pivoted within corresponding openings, *a'*, formed in said frame, and is capable of being turned so as to bring either end below or outside of said frame. Upon the periphery of the pivoted head C, upon each side of its longitudinal center, are formed a series of steps, *c'*, each of which is threaded exteriorly, and corresponds in diame-

ter to one of the sizes of the openings in the cases of globe-valves, through which the valves are inserted, the number of said threaded steps being such as to enable said head to be inserted within and caused to fill any such opening within a valve-casing of usual size and construction. A circular opening, *c''*, passing through the longitudinal axis of the head C, receives a mandrel, D, upon one end of which is secured a cutter, E, that corresponds in size and shape to the like features of the valve-seat to be dressed, while at its opposite end said mandrel is squared, so as to receive the toothed disk *f* of a ratchet-lever, F.

The machine is now ready for use as follows: The mandrel is placed in position within its head, with its cutter end outward and its squared end, containing the ratchet-lever, against the pointed end of the feed-screw, after which said head is inserted within the opening of a valve-casing, and screwed to place. The feed-screw is now turned inward until the cutter is brought into contact with the valve-seat, and said cutter then caused to revolve by means of the ratchet-lever, the contact between said cutter and seat being rendered sufficiently close to cause the surface of the latter to be cut away as much as may be required in order to render it true.

It will be seen that the feed-screw not only moves the mandrel and cutter inward, but also holds the latter firmly against the seat being operated upon, and prevents chattering or other faulty operation, in consequence of which said seat receives the required surface, instead, as would otherwise be the case, of being uneven and incapable of forming a close joint with the valve.

By use of the ratchet-lever, the machine can be operated in positions where it would be impracticable to employ the usual brace.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In combination with the frame A, the swiveled or pivoted head C, provided with the threaded steps *c'* and central opening *c''*, substantially as and for the purpose specified.

2. The frame A, feed-screw B, head C, *c*, *c'*, and *c''*, and the mandrel D, constructed and combined to operate substantially as and for the purpose shown.

3. The frame A, feed-screw B, head C, *c*, *c'*, and *c''*, mandrel D, cutter E, and ratchet-lever F, said parts being constructed as shown, and combined to operate in the manner and for the purpose substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 31st day of December, 1873.

WILLIAM W. ALLMAND.

Witnesses:

W. J. MOORE,  
WILLIAM MILLER.