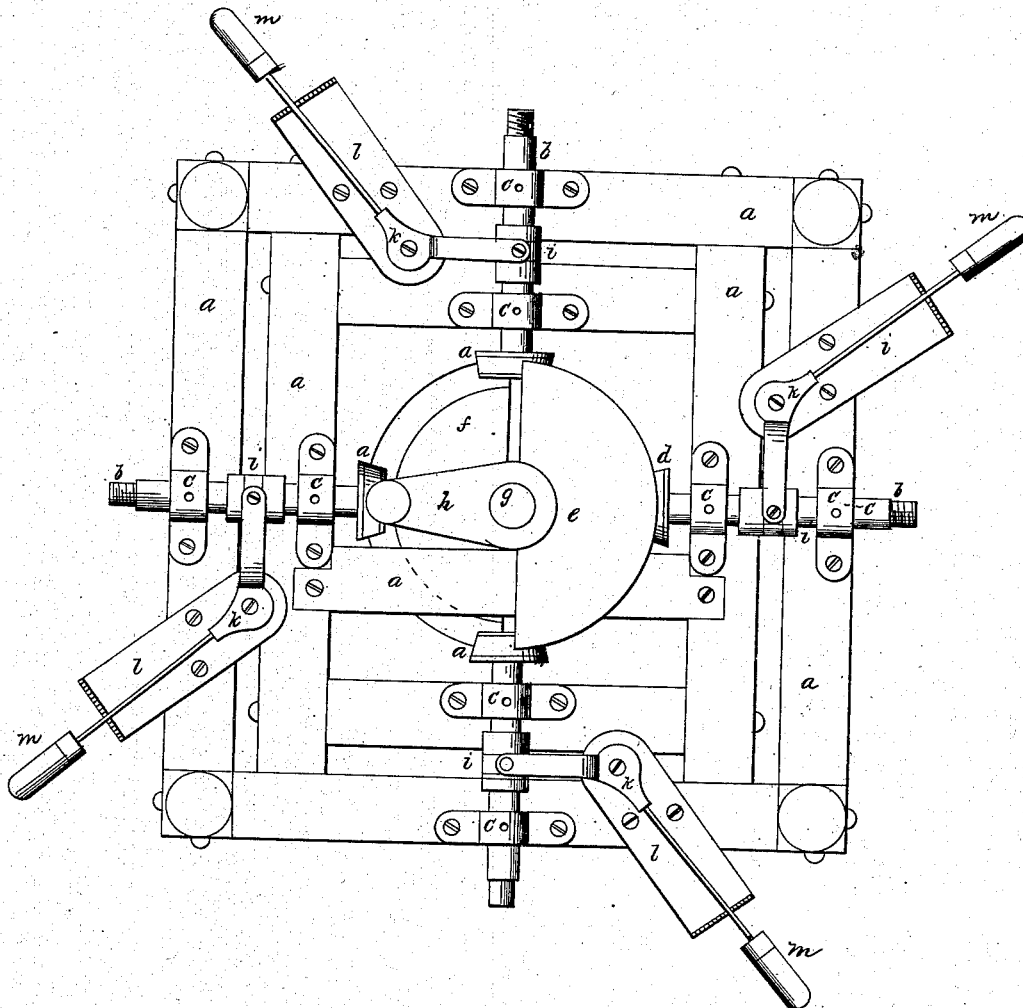


T. SHAW.
GRINDING FAUCETS AND VALVES.



Witnesses
E. Cobb
William Myers

Inventor
Thomas Shaw

UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN GRINDING FAUCETS AND VALVES.

Specification forming part of Letters Patent No. 48,216, dated June 13, 1865.

To all whom it may concern:

Be it known that I, T. SHAW, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Mode of Grinding Faucets and Valves; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists in the employment of vibrating mandrels, together with the mode of vibrating the same.

In order to enable others to use and practice my invention, I will proceed to describe its construction and operation.

On reference to the accompanying drawing, which forms a part of the specification, and to the letters of reference marked thereon, the view represents a top view of the machine, which is constructed of a wooden frame, *a*, on the top of which is located four mandrels, *b*, situated horizontally at right angles with each other, and are free to revolve in boxes *c*, said boxes being secured to the frame *a* by screws. Said mandrels have on their inner end a friction-wheel, *d*, made of leather, which is caused to revolve by coming in contact alternately with semicircular wheels *e* and *f*. Said wheels *e* and *f* are secured to the vertical shaft *g*, and are so arranged that the top one, *e*, strikes the top of the friction-wheels *d*, and causes said friction-wheels to revolve in one direction, after which the lower wheel, *f*, strikes the bottom of said friction-wheels *d*, and are vibrated in an opposite direction, whereby a vibratory movement is imparted to mandrels

b. The vertical shaft *g* revolves in boxes secured to the frame, and is operated by the crank *h*. The mandrels *b* are provided on their outer end with a screw for the purpose of attaching chucks for grasping the different kinds of work to be operated upon. Said mandrels *b* are also provided with a collar, *i*, to which is secured a clutch, *k*, which is secured to the plate *l* at *k*, and is operated by the handle *m*, all for the purpose as hereinafter described.

The apparatus is used for and put in operation in this wise: The grinding of cocks and valves requires a vibrating movement in order to avoid the forming of rings, and to this end the mandrels are provided. It is also desirable that the mandrels be not started and arrested too suddenly, for the prevention of which the friction-wheels are provided. It is also important and necessary to stop the mandrels often to examine the work, for which object the friction-clutches are provided.

In operation the shaft *g* is caused to revolve, and any one or all of the mandrels are caused to vibrate by throwing into gear with wheels *e* and *f* by means of clutches *k*, and can be thrown out of gear in the same manner.

What I claim, and desire to secure by Letters Patent, is—

The employment of a series of mandrels rotating alternately in opposite directions, when constructed, arranged, and operated substantially as and for the purpose set forth.

THOMAS SHAW. [L. S.]

Witnesses:

E. COBB,
WILLIAM MYERS.