S. Wing.

Water and Gas Fittings.

No. 49,203. Patented Aug. 1, 1865.

Fig: 1.

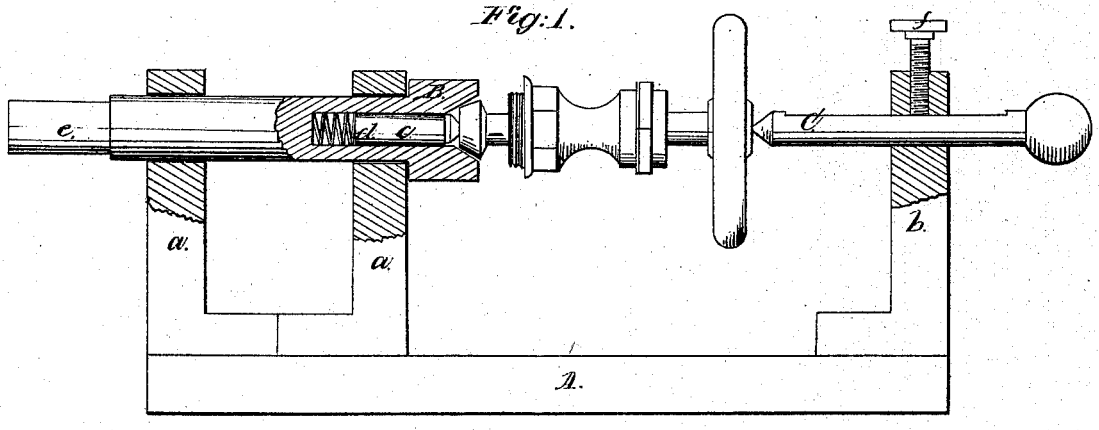


Fig: 2.

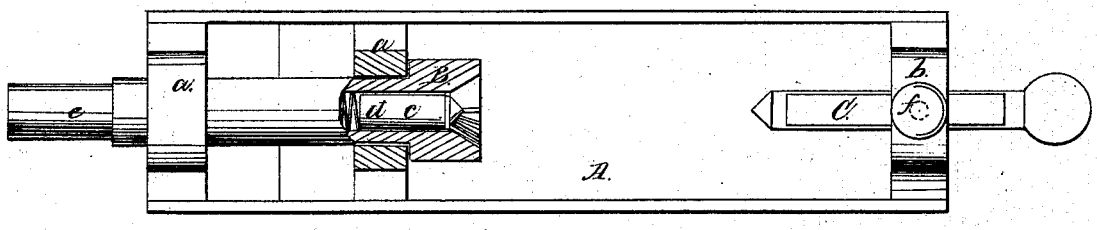
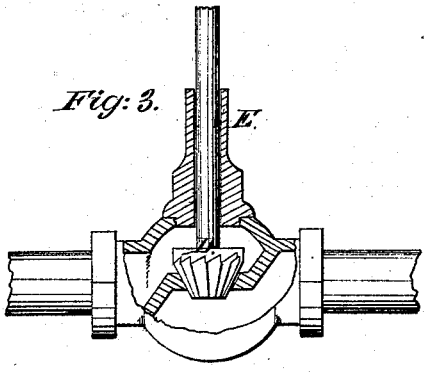


Fig: 3.



Witnesses;
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UNITED STATES PATENT OFFICE.

SAMUEL WING, OF MONSON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND GEO. R. TOPLIFF, OF BROOKLYN, NEW YORK.

IMPROVED MACHINE FOR REFITTING STOP-VALVES.

Specification forming part of Letters Patent No. **49,203**, dated August 1, 1865.

To all whom it may concern:

Be it known that I, SAMUEL WING, of Monson, in the county of Hampden and State of Massachusetts, have invented a new and Improved Machine for Refitting Stop-Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of the part used for refitting the valves, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a plan or top view of the same, partly in section. Fig. 3 is a side elevation of the part used for refitting the valve-seats, showing its operation.

Similar letters of reference indicate corresponding parts.

Stop-valves of that class commonly known under the term of "globe" valves are usually made with conical valves secured to a screw-spindle and fitting into a conical seat. If a valve of this class becomes leaky, the only way to refit the same heretofore has been by regrinding, or, if that operation was insufficient or too slow, by unscrewing the stop-valve from its connecting-pipes and sending it to the shop, where it would be refitted on the turning-lathe or with the proper tools. Either of these operations causes much loss of time and of money. A simple and effective device by which the operation of refitting said stop-valves would be carried out in a short time and without disconnecting the valve from the pipes has been a desideratum which will be hailed with delight by everybody who is troubled with leaky valves.

The device which forms the subject-matter of this present invention, and which is intended to fill the want above pointed out, consists of two parts, one for refitting the valves and the other for refitting the seats. The former consists of a conical concave mill made in the precise form which the valve is to have, and provided with a yielding internal center, in combination with suitable bearings, two for said concave mill and one or more for an adjustable center, in such a manner that by removing the valve from the seat and placing it between the adjustable and the yielding center it is at once in the proper position to be acted upon by the concave mill, and a few revolutions of said concave mill, imparted to it by an ordinary ratchet-brace, or any other suitable means, produce the desired effect on the valve and bring it in the requisite shape to fit into its seat. The part for refitting the seats consists of a conical mill or reamer with a cylindrical stem, to be used, in combination with a guide which is made to take the place of the stuffing-box and nut through which the valve-spindle passes, in such a manner that by removing said box, with the valve and valve spindle, and inserting therefor the conical mill and its guide, a few revolutions given to said mill will bring the seat in the proper shape, the whole operation being performed without removing the stop-valve from its connecting-pipes.

A represents a bed-plate, cast or otherwise produced of iron or other suitable material, and provided with two heads, *a*, which form the bearings for the stem of the concave mill B, and with another head, *b*, which forms the bearing for the adjustable center C. The concave mill B is formed to correspond to the desired form of the valve, and it is provided with an internal center, *c*, made yielding by the action of a spring, *d*, which is placed against its inner end, as clearly shown in Fig. 1 of the drawings. A square, *e*, at the end of the stem of said concave mill, serves to impart to the same the desired rotary motion by a ratchet-brace or any other suitable means. The adjustable center C is retained in the desired position by the set-screw *f*.

The valve to be refitted is taken out of its seat and placed between the centers C *c*, and by imparting to the conical mill a few revolutions, pressing it at the same time toward the center C, the desired effect on the valve is produced. The seat is refitted by the aid of a conical mill, D, and guide E. When the valve, with its stuffing, has been removed from its seat the mill D, with its guide E, is inserted in its place, and by turning said mill round a few times the seat resumes the desired shape.

The mills B and D are necessarily made of steel, and for different sizes of valves different mills must be provided.

The guide E is made of iron or brass, and provided with a screw-thread to screw into the shell of the valve in place of the box which forms the guide of the valve-spindle, said guide

being required because the box cannot be removed from the valve spindle, which bears the valve at one and a hand-wheel at the other end.

The entire machine is very simple, and by its aid the stop-valves can be refitted with little loss of time and without removing said valves from their connecting-pipes.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The concave mill B, provided with an internal yielding center, *c*, and arranged in suitable bearings, *a*, in combination with the adjustable center C, constructed and operating substantially as and for the purpose set forth.

2. The guide E and conical mill B, applied in combination with each other, substantially as and for the purpose described.

SAMUEL WING.

Witnesses:

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CARLOS S. PECK.