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WILLIAM HAAS.

Improvement in Stop Valves.

No. 118,715. Patented Sep. 5, 1871.

Fig: 1.

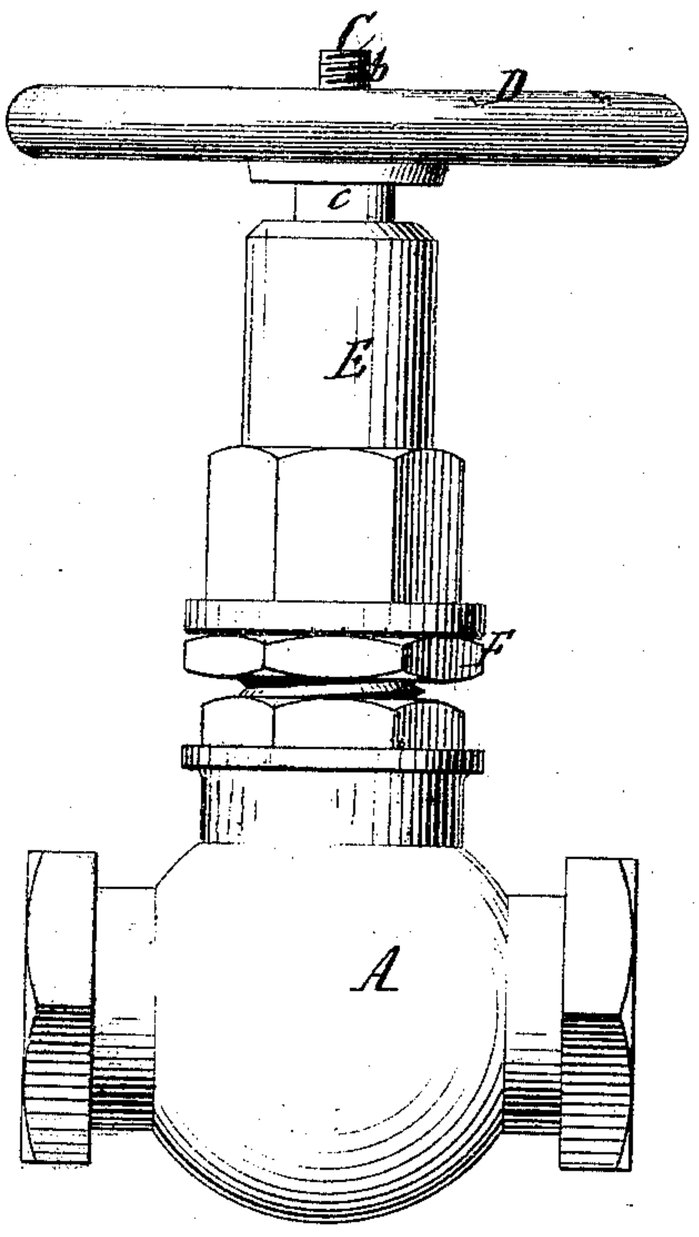


Fig: 2.

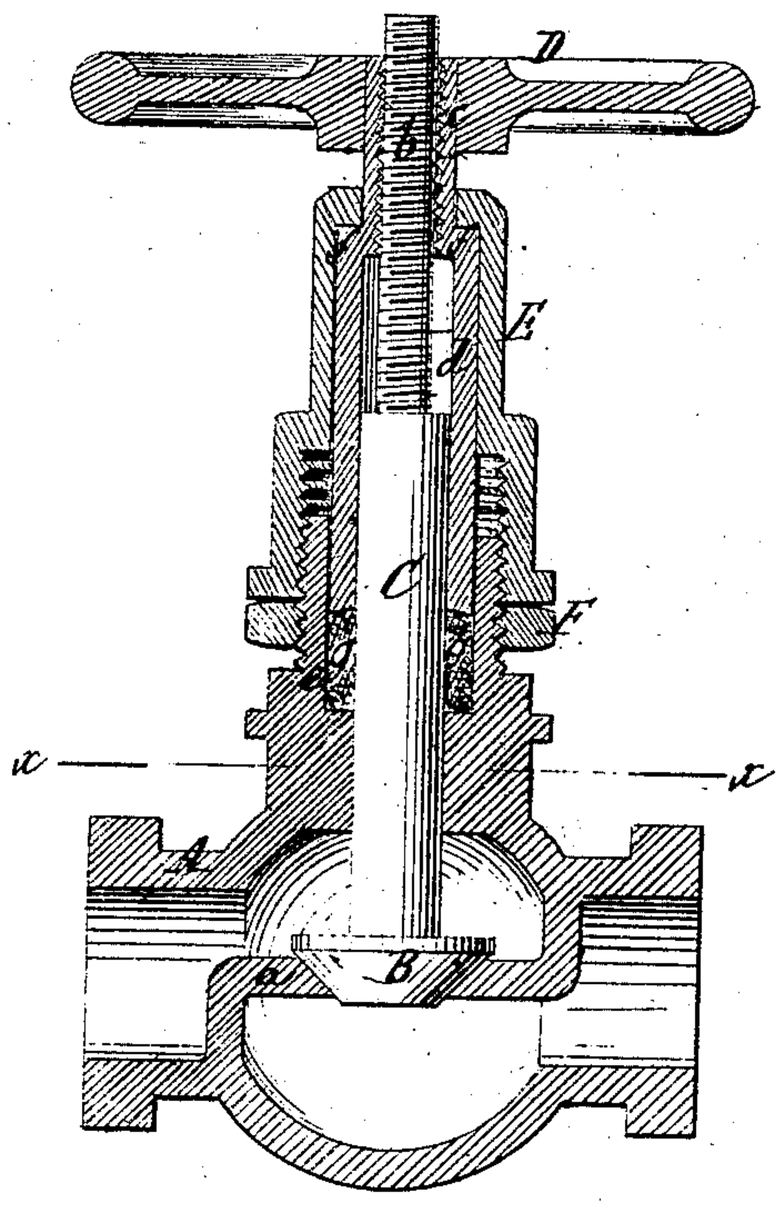
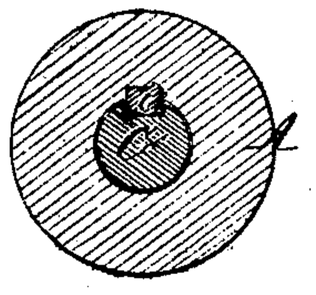


Fig: 3.



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UNITED STATES PATENT OFFICE.

WILLIAM HAAS, OF NEW YORK, N. Y.

IMPROVEMENT IN STOP-VALVES.

Specification forming part of Letters Patent No. 118,715, dated September 5, 1871.

To all whom it may concern:

Be it known that I, WILLIAM HAAS, of the city, county, and State of New York, have invented a new and useful Improvement in Stop-Valves; and I do hereby declare the following to be 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 drawing forming part of this specification, in which drawing—

Figure 1 represents a side view of this invention. Fig. 2 is a vertical central section of the same. Fig. 3 is a horizontal section of the neck and valve-stem. the line *x x*, Fig. 2, indicating the plane of section.

Similar letters indicate corresponding parts.

This invention relates to a stop-valve, the hand-wheel of which is provided with an internal screw-thread to receive the end of the valve-stem, and with a guide-tube extending over the smooth portion of the valve-stem and down into a cavity in the neck of the shell of the valve, in combination with a cap which catches over a shoulder formed on the outer end of the guide-tube, and which screws on the neck of the valve-shell, the stem of the valve being provided with a feather-key, which prevents it from turning round in such a manner that by means of the cap the guide-tube can be adjusted to turn freely without an end motion, and that by turning the hand-wheel the valve is made to move away from or to close up to its seat without turning round, whereby the durability of the valve is materially improved.

In the drawing, A designates the shell of my valve, the inlet and outlet-passages of which are separated from each other by a partition, *a*, that is bored out to receive the valve B. From this valve extends a stem, C, the outer end of which is provided with a screw-thread, *b*, fitting into a nut, *c*, formed in or firmly secured to the hub of the hand-wheel D. From the nut *c* extends a tube, *d*, which forms a guide for the inner smooth part of the valve-stem C, and which projects into a cavity, *e*, in the neck of the shell A. The outer end of guide-tube *d* forms a shoulder, *f*, over which catches a cap, E, that screws on the neck of the shell A, as shown in Figs. 1 and 2. By turning the cap E in the proper direction, the guide-tube *d* can be pressed down upon a packing, *g*, which is introduced into the cavity *e*, and by these means leakage past the valve-stem is prevented, while said valve-stem is free to move in the direction of its axis, and at the same time the guide-tube *d*, unless depressed upon the packing *g* with unreasonable force, is free to revolve.

In order to adjust the guide-tube in the correct position the cap E is screwed down with the proper force, and a jam-nut, F, is turned up against it so as to retain it securely in the required position and prevent it from being turned by the friction of the guide-tube whenever the latter is turned either to open or to close the valve. The valve itself is prevented from turning round by means of a feather-key, *i*, (see Fig. 3,) which, however, allows the valve and its stem to move in the direction of the axis of said stem. By this arrangement the valve is moved toward or from its seat without being turned round, and as it approaches its seat or is raised therefrom, it does not produce a grinding action, which is inevitable if the valve is turned while being closed or opened. In ordinary stop-valves, where this grinding motion is not avoided, the valve soon becomes leaky, while my valve can be used for a long time without requiring to be refitted. But if it becomes necessary to refit my valve I remove the feather-key *i*, and the valve can be ground down on its seat without difficulty.

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

The nut *c* and guide-tube *d* secured to the hand-wheel D, in combination with the cap E, valve-stem C, cavity *e*, valve B, and shell A, all constructed and operating substantially in the manner herein shown and described.

Witnesses: WILLIAM HAAS.

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