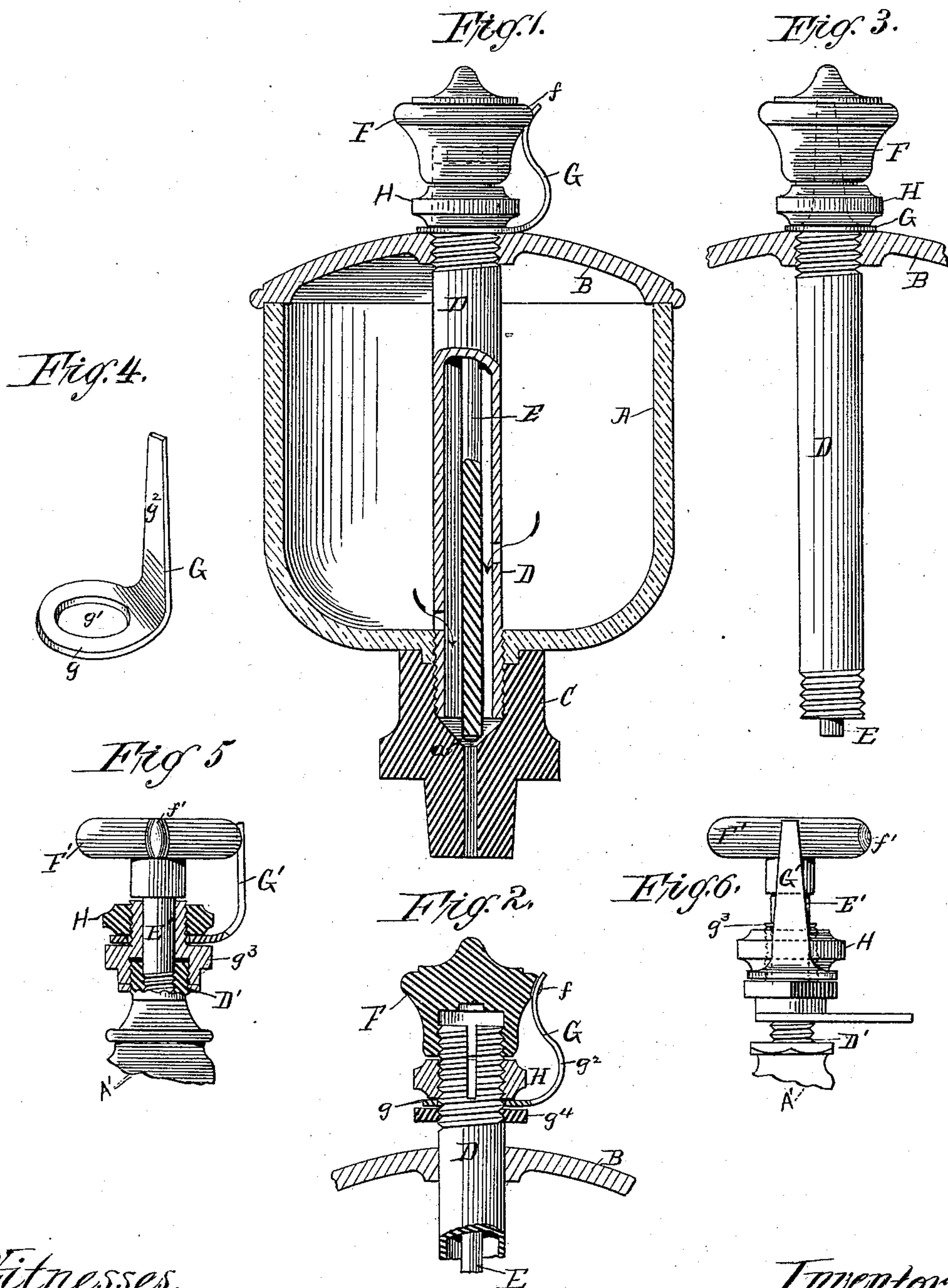


(No Model.)

J. S. HALL.
VALVE LOCKING DEVICE.

No. 387,161.

Patented July 31, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

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VALVE-LOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 387,161, dated July 31, 1888.

Application filed September 15, 1886. Serial No. 213,589. (No model.) Patented in France January 6, 1887, No. 181,137; in Belgium January 26, 1887, No. 76,098; in England January 28, 1887, No. 1,391; in Austria-Hungary February 24, 1887, and in Germany March 5, 1887, No. 41,167.

To all whom it may concern:

Be it known that I, JOHN S. HALL, of the city, county, and State of New York, a citizen of the United States, have invented an Improved Valve-Locking Device, (for which I have obtained a patent in Great Britain, No. 1,391, bearing date January 28, 1887,) of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to valves which are operated by means of a screw-seated valve-stem—such, for example, as in steam or water globe-valves, or in lubricant-cups for the lubrication of journals in machinery; and my invention consists in the combination, with the screw-seated valve-stem, of a threaded tube on the exterior of the valve-chamber, and through which said stem extends a locking-key journaled loosely on said tube and adapted to extend to and detachably engage the valve-stem, and a lock-nut working on said tube and serving to lock said key in any position radially thereon relatively to the valve-stem, as hereinafter at length described, and more particularly recited in the claims.

The drawings illustrate my present invention applied to both globe-valves and lubricant-cups.

Figure 1 is a vertical central sectional view, partly in elevation, of a lubricant-cup and its valve and valve-stem with my valve-locking device combined therewith. Fig. 2 illustrates a portion of a modified form of lubricant-cup, a movable lid or cover being shown in section, and the oil-feed devices being shown in elevation, in combination with my valve-locking device. Fig. 3 is a vertical elevation of the oil-feed devices of the cup shown in Fig. 1, but in a view at right angles to that shown in Fig. 1. Fig. 4 is an elevation in perspective of my locking-key. Fig. 5 is a side elevation, partly in section, of a globe-valve, showing my locking device combined with the valve-stem thereof; and Fig. 6 is a similar view of the same, taken at right angles to the view shown in Fig. 5.

My valve-locking device is adapted for use in combination with the screw-seated valve-

stem of all valves in which the flow of the fluid is controlled by a valve operated by such said stem, which extends outside the valve-chamber.

The lubricant-cup shown in the drawings has a chamber, A, adapted to hold the oil or other lubricant, and in which chamber is a valve permitting the oil to flow out of the chamber. The chamber A is closed at the top by a cover, B. This chamber is usually of glass and has an opening in its bottom, to which is attached a tube, C, through which the oil flows to the journal to which the cup is attached.

E is the valve-stem, the lower end of which usually constitutes the valve, working to a seat, *a*, formed in the tube C. The stem E extends outside of the chamber A through the top, and at its exposed end it is provided with an enlargement or nut, F, for conveniently operating it, usually in the form of a thumb-nut, as shown, which is rigid on the stem.

D is a tube extending exteriorly from the chamber A, usually through the cover or top, in which it may be screw-seated, as shown. This tube is exteriorly threaded, as shown, and the nut F is provided on its under side with an annular interiorly-threaded flange adapted to fit upon the threaded tube, thus furnishing a screw-seat for the valve-stem E, which extends through the tube. The tube D is in some lubricant-cups extended vertically through the chamber A, with its lower end screwed into the tube C, as shown. The portion of the tube D which is within the glass chamber A then serves as an air-inlet and "sight-feed" for the cup, and also to hold the top B and tube C to the chamber A with tight joints. In some cups it is desired to have the cover B removable, and then the tube D is made longer above the cover, as shown in Fig. 2, is rigidly seated in the tube C, and the cover is arranged to slide on the tube D, a nut, *g*, thereon limiting the movement of the cover.

The foregoing describes a well-known form of lubricant-cup, to which I make no claim herein. I have illustrated and described the same, so that the application thereto of my valve-locking device, as hereinafter specified, may be readily and completely understood.

G is a locking-key, preferably a leaf-spring, an end or arm, g , of which is provided with an aperture, g' , Fig. 4, to adapt the key to be journaled loosely on the tube D above the chamber A, and resting on the cover or top B when the same is fixed, as in Fig. 1, or on the nut g' , when the same is employed and the cover is movable, as in Fig. 2. The free end g^2 of the key is formed and extended to reach to and engage the valve-stem E, preferably at the rim of the enlargement or thumb-nut F, as shown, the said rim being notched, as at f , to effect a detachable engagement of the key therewith. I do not limit myself, however, to any particular place of engagement of the free end of the key with the valve stem, as it may engage the enlargement or nut F thereof on the rim, as shown, or on the top or under side thereof, and its function be performed. H is a lock-nut, Figs. 1, 2, and 3, turning on the threaded tube D immediately above and adapted to bear upon the journaled arm of the key, and to serve to clamp the key firmly to its seat in any desired position on the tube relatively to the valve-stem and to permit its easy adjustment.

In Figs. 5 and 6, A' is the valve-chamber of the globe-valve.

E' is the valve-stem, extending outside the valve-chamber and provided at its upper end with an enlargement, F', in the form of the usual hand-wheel for convenience in operating the valve.

D' is a tube extending exteriorly of the chamber and provided with an extension, g^3 , like a hollow nut, constituting the stuffing-box, as generally provided in globe-valves. The exterior of tube D' is threaded to receive the extension or nut g^3 , and the valve-stem E' passes through the tube and nut and is screw-seated in the former, as shown. The apparatus thus described constitutes a well-known form of globe-valve. The upper end of the extension g^3 of the tube D' is externally threaded, as shown, and the arm g of my described key G is journaled loosely on this threaded end, resting upon a shoulder formed on g^3 , as shown plainly in Fig. 5. The free end of the key reaches to and engages the enlargement or wheel F' of the valve-stem, which is notched similarly and for the same purpose as the nut of the valve-stem of the lubricant-cup hereinbefore described. The lock-nut H, Figs. 5 and

6, works on the threaded end of the extension g^3 , immediately above the journaled arm of the key, and serves to permit the adjustment thereof relatively to the valve-stem E' and to clamp the key firmly to its seat in the desired position.

It is evident that in either the globe-valve or lubricant-cup, when it is desired to open the valve and set it to permit a certain regular flow of fluid, the valve-stem may be turned in its threaded seat on the valve-chamber until the valve is opened the desired extent, and then the nut H may be loosened and the locking-key adjusted with its free arm engaging the valve-stem, as described. Then, when the nut H is turned down and clamps the key in this position relatively to the valve stem, the key will hold the stem locked in such position; and when the valve is thereafter closed the key will readily disengage from the valve-stem, and the stem may be freely turned down, closing the valve. When the valve is again opened, the valve-stem will turn freely upward until the key, which has meanwhile remained fixed in its adjusted position, engages the notch on the stem, when a flow of fluid uniform with that previously permitted will be secured and maintained.

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

1. In a valve mechanism, the combination, with the valve-stem, of a threaded tube on the valve chamber, through which said stem extends, a locking-key journaled loosely on said tube and adapted to reach to and detachably engage said stem, and a lock-nut working on said tube and serving to lock the key in any desired position relatively to said stem, substantially as and for the purpose specified.

2. In a valve mechanism, the combination, with the valve-stem, of a threaded tube on the valve-chamber, through which said valve-stem extends, a leaf-spring locking-key journaled loosely on said tube and adapted to reach to and detachably engage said stem, and a lock-nut working on said tube and serving to lock the key in any desired position relatively to said stem, substantially as and for the purpose set forth.

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Witnesses:

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