

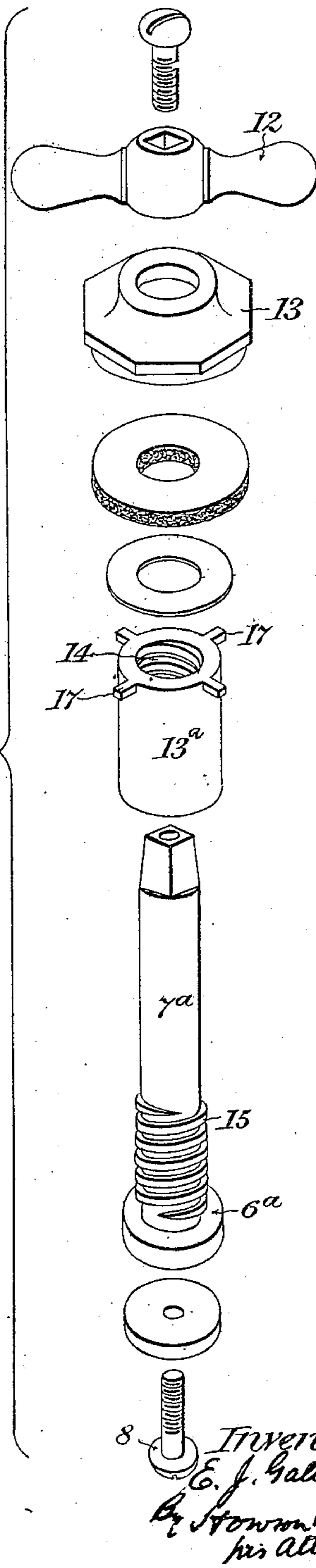
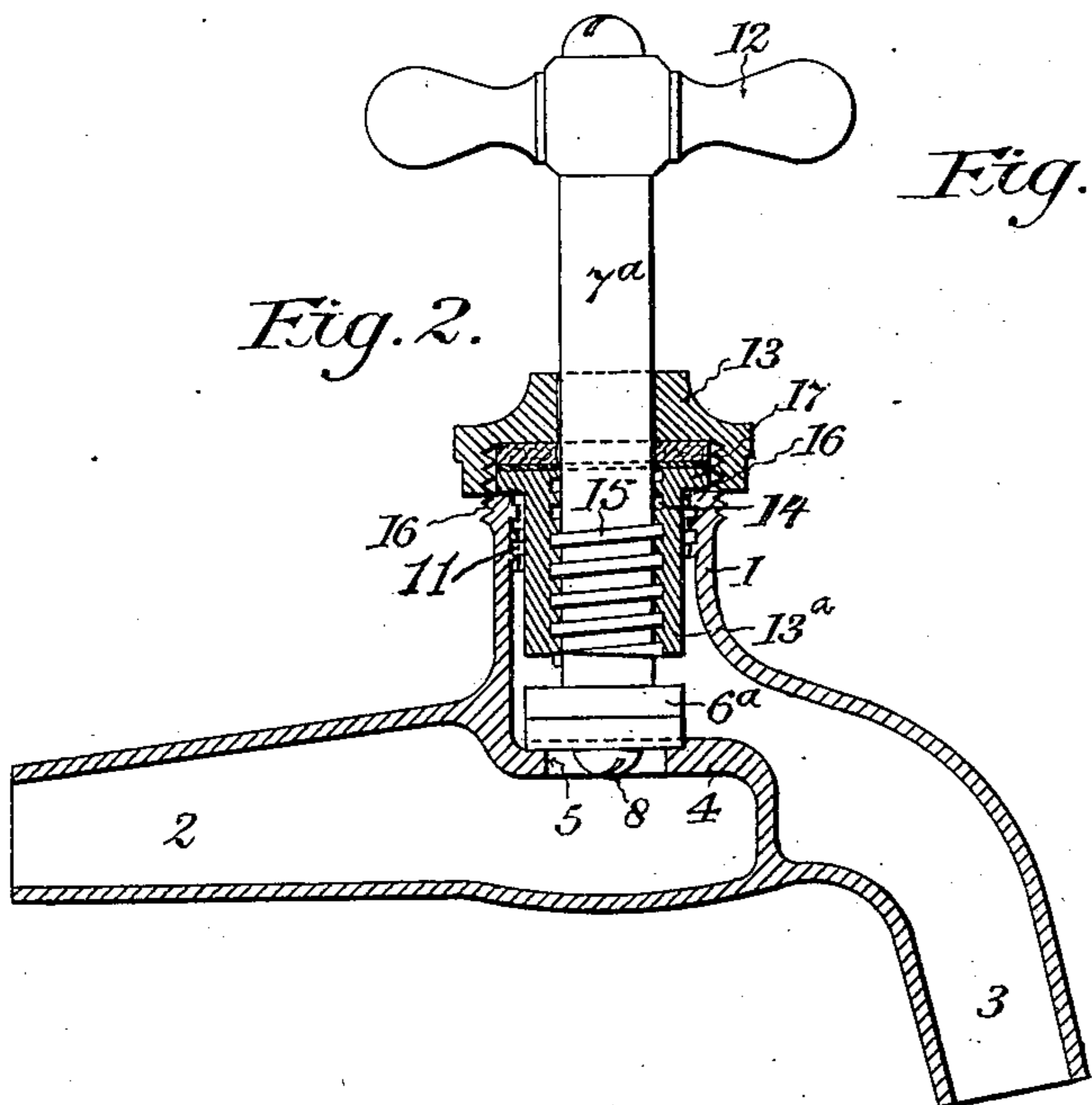
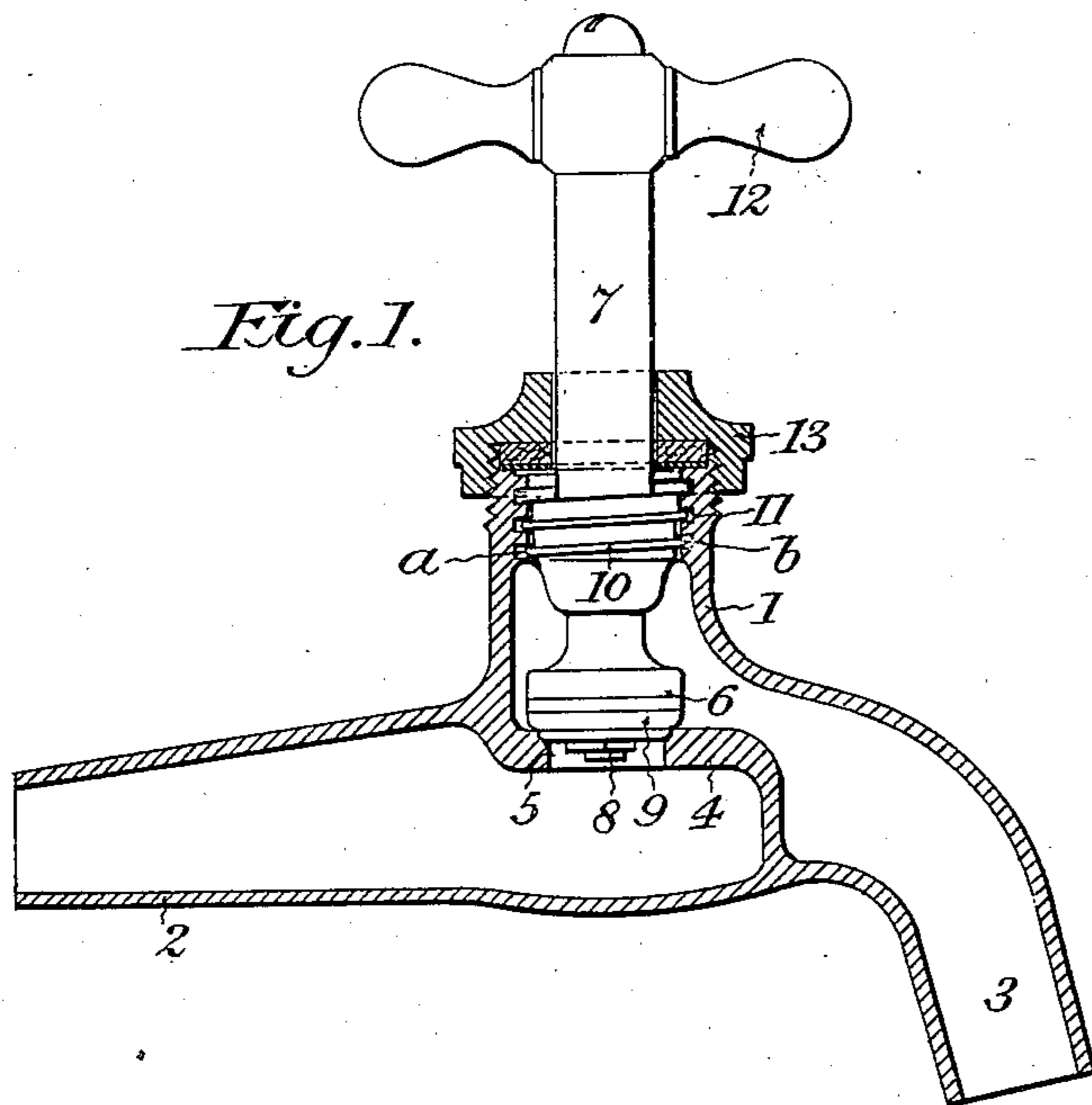
No. 728,699.

PATENTED MAY 19, 1903.

E. J. GALLAGHER.  
REPAIR SPINDLE FOR COCKS.

APPLICATION FILED NOV. 26, 1901.

NO MODEL.



*Witnesses:*

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# UNITED STATES PATENT OFFICE.

EDWARD J. GALLAGHER, OF PHILADELPHIA, PENNSYLVANIA.

## REPAIR-SPINDLE FOR COCKS.

SPECIFICATION forming part of Letters Patent No. 728,699, dated May 19, 1903.

Application filed November 26, 1901. Serial No. 83,763. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD J. GALLAGHER, a citizen of the United States, residing at Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Repair-Spindles for Cocks, of which the following is a specification.

My invention relates to cocks and faucets, such as bib-cocks, and more particularly to means for repairing the said cocks without necessitating the entire renewal of the cock.

In cocks and faucets of that character in which a screw-threaded stem or spindle is employed for giving the valve a reciprocating movement for opening and closing the spindle is usually screw-threaded to engage with screw-threads on the inside of the body of the cock or with a permanently-fixed sleeve therein, and in the constant use of the same the screw-threads on both the spindle and the body of the cock become in time so worn that it is no longer possible to maintain a fluid-tight joint between the valve-seat and the valve or between the stem and the body. Prior to my invention when this condition occurred it has always been necessary to remove the entire cock and replace it by a new one, which operation required the services of a skilled plumber, and in such operation the most difficult and tedious part is the formation of the wipe-joint between the body of the cock and service-pipe, which in most cases is of lead.

My object is to dispense with the necessity of removing the cock from its service-pipe, thereby avoiding the necessity of making the wipe-joint by providing a repair-spindle for such cocks which can be easily substituted for the worn-out spindle by any unskilled person at a low cost and in a very short time and by means of which the necessary repair can be effected at a much less cost than heretofore.

With this object in view my invention consists in a repair-spindle carried by a threaded sleeve adapted to be inserted inside of the screw-threaded body of the cock, with means on the sleeve for holding and locking the same in place on the body of the cock, such means extending in a radial direction sufficiently beyond the exterior of the sleeve to admit of

support upon screw-threaded bodies of cocks of various sizes, as hereinafter claimed.

In the drawings, Figure 1 is a vertical sectional view of a cock, showing the worn-out thread on spindle and body. Fig. 2 is a similar view showing my repair-spindle substituted for the worn-out spindle, and Fig. 3 is a perspective view of the parts of my spindle ready for assembling.

Referring now to the drawings, in which the same reference characters relate to the same parts in all the views, the numeral 1 indicates the body of a bib-cock, the inlet-pipe 2 of which is adapted to be joined to the service-pipe and the discharge-nozzle 3 of which is adapted, as usual, to discharge the fluid or liquid downwardly. In the partition 4 is the usual valve-seat 5, against which the valve-head 6, carried by the spindle 7, seats to cut off the flow of liquid. This valve-head 6 is formed on the spindle, in the lower end of which is the usual screw-threaded hole for the reception of the screw 8, the head of which holds the washer 9 against the valve-head.

The spindle 7 has screw-threads 10 on an enlargement just above the valve, which screw-threads engage with the screw-threads 11 on the inside of the body of the cock, whereby the spindle may be raised and lowered by turning the handle 12 thereof in the usual way.

A flanged cap 13 screws down upon the top of the body of the cock and is provided with the usual washers or packing to make a tight joint.

In time the constant raising and lowering of the valve through the medium of its spindle causes the screw-threads 10 and 11 to become so worn as to be useless for the purpose intended, as indicated at *a* and *b*, Fig. 1, and further renewals of the washer 9 become ineffective, so that it is necessary to renew the entire cock unless a means be provided which will avoid this necessity. I provide such means by the construction shown in Figs. 2 and 3, wherein 7<sup>a</sup> is a new spindle, having at its lower end the valve-head 6<sup>a</sup>, to which the washer 9 is secured by the usual screw. Mounted upon this spindle 7<sup>a</sup> is a sleeve 13<sup>a</sup>, provided with screw-threads 14, engaging threads 15 on the spindle 7<sup>a</sup>. The diameter of the sleeve is sufficiently less than the screw-

threaded portion of the body of the cock so as to permit the said sleeve to slide freely within the same. At the top of said sleeve is a plurality of laterally-projecting lugs 17, 5 which are adapted to be seated in corresponding notches 16, that are cut in the top of the old body 1 of the cock. These lugs confine the sleeve to the body of the cock and prevent the said sleeve from turning therein.

10 The old cap 13, handle 12, body 1, and screws may be used, so that in repairing a cock all that is requisite for the purpose is the filing of notches 16 in the body of the cock after the removal of the old spindle and 15 valve, and with the parts assembled in the order indicated in Fig. 3, the sleeve being at the lower end of the spindle, resting on the valve-head 6<sup>a</sup>, the spindle and sleeve are simply inserted in the body until the washer 20 rests on its valve-seat, the lugs 17 dropping into the notches 16. Then the cap 13 is screwed home, thereby confining the sleeve against longitudinal movement, so that the 25 movement of the spindle operates the valve, as in the old structure.

The operation of repairing a worn-out cock is thus rendered very simple and inexpensive as compared to the prior practice, which necessitated the renewal of the entire structure 30 and involved almost always the making of a difficult wipe-joint, which required the services of a skilled plumber.

My repair-spindle can be manufactured at a low cost and kept in stock ready for immediate application, the only tools required being a screw-driver and an appropriate file for 35 making the notches in the body of the old cock.

I claim as my invention—

1. As a new article of manufacture, the 40 herein-described repair-spindle for bib-cocks consisting of a spindle having screw-threads thereon, a screw-threaded sleeve mounted on said spindle and of a diameter sufficiently less than the internal diameter of the screw- 45 threaded body of the cock to be repaired to permit it to slide freely within the screw-threaded body of said cock, said sleeve having supporting means extending sufficiently far in a radial direction from the exterior of 50 the sleeve to admit of support upon screw-threaded bodies of cocks of various sizes, substantially as described.

2. As a new article of manufacture, the 55 herein-described repair-spindle for cocks having screw-threaded bodies consisting of an internally-screw-threaded sleeve of a diameter sufficiently less than the internal diameter of the screw-threaded body of the cock to be repaired to permit the said sleeve to slide 60 freely within the screw-threaded body of said cock and having an integral extension or extensions at its top projecting radially beyond the exterior of the sleeve a sufficient distance to overlap and engage the screw-threaded 65 bodies of cocks of various sizes, whereby the sleeve may be clamped to the same, and a spindle having screw-threaded engagement with said sleeve, substantially as described.

In testimony whereof I have signed my 70 name to this specification in the presence of two subscribing witnesses.

EDWARD J. GALLAGHER.

Witnesses:

ROBERT W. SMITH,  
ROBERT P. BLACK.