

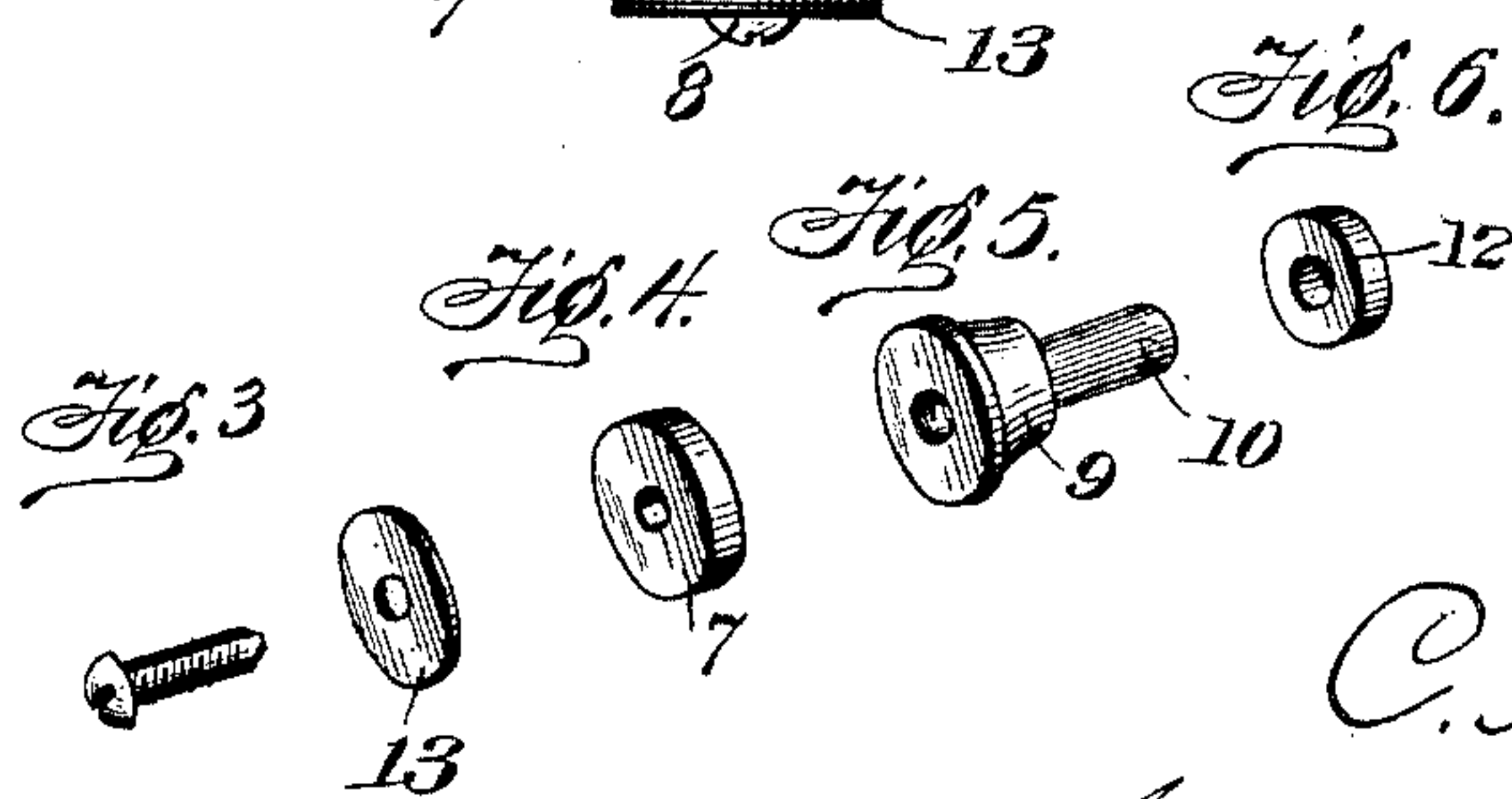
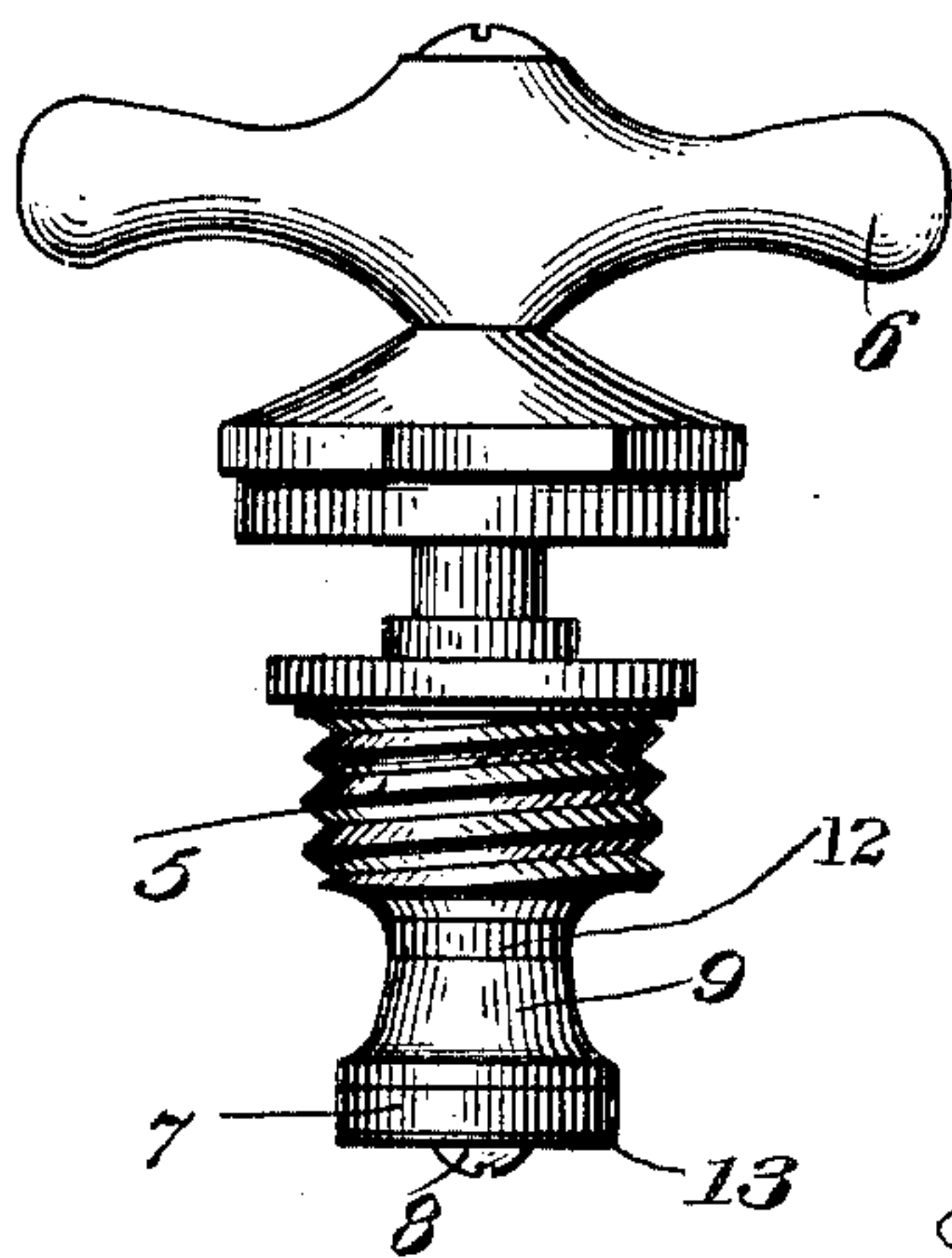
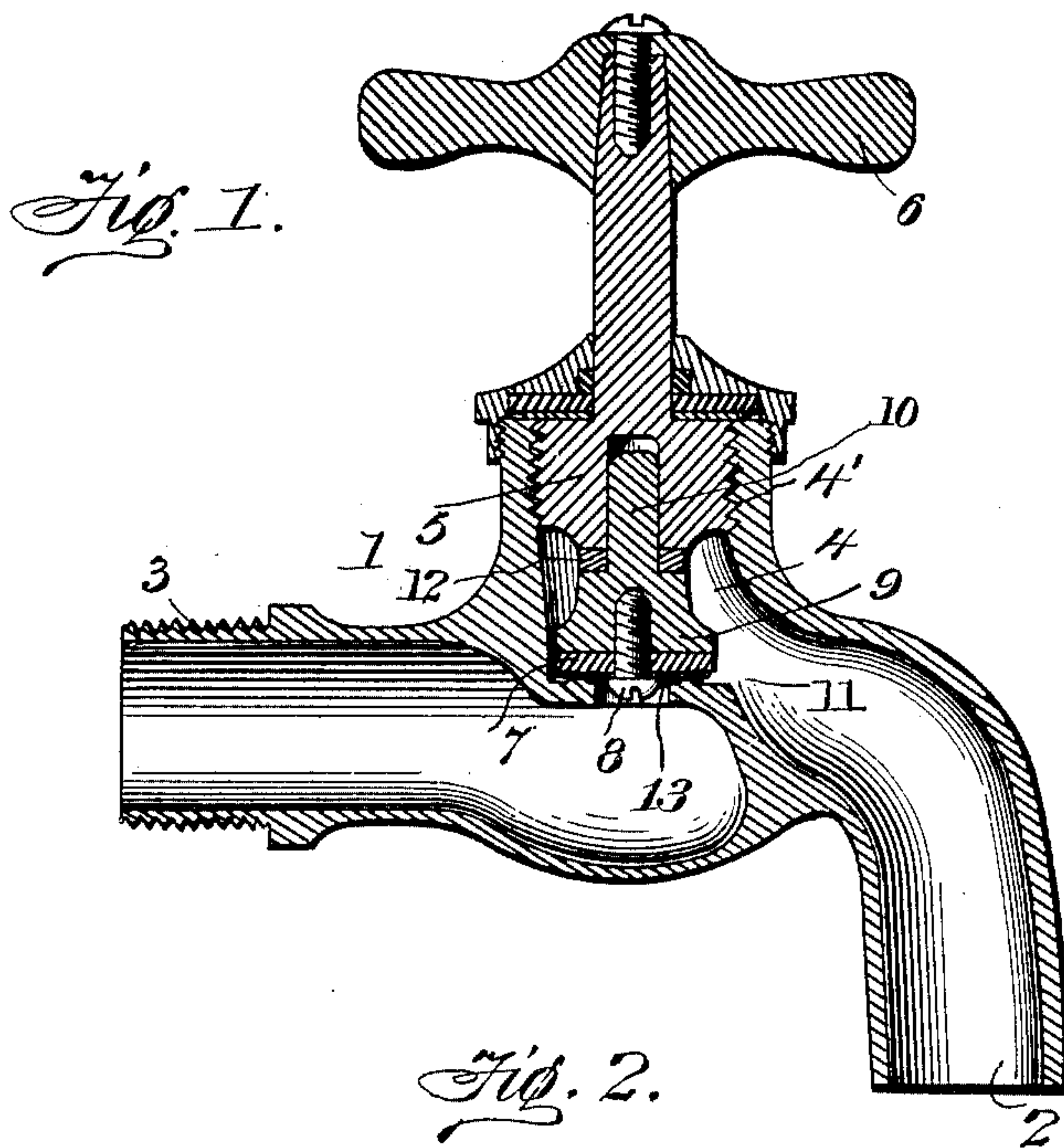
No. 675,426.

Patented June 4, 1901.

C. H. SULTNER.
FAUCET.

(Application filed Dec. 7, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

CHARLES H. SULTNER, OF YORK, PENNSYLVANIA.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 675,426, dated June 4, 1901.

Application filed December 7, 1900. Serial No. 39,072. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. SULTNER, a citizen of the United States, residing at York, in the county of York, State of Pennsylvania, have invented certain new and useful Improvements in Faucets, of which the following is a specification.

This invention relates to improvements in cocks and faucets, and more particularly to the construction of the valves thereof. With valves of the construction commonly employed it is found that after a relatively short period of use the valve becomes so worn as not to properly fit against its seat, thus permitting the faucet to leak.

The object of the present invention is to provide a valve in which the pressure required to seat the same will be so transmitted to or taken by the yielding or flexible portion thereof as not to wear or reduce the same in thickness.

In the accompanying drawings, Figure 1 is a longitudinal sectional view through a faucet having my improved valve applied thereto. Fig. 2 is a view of the valve-stem and valve removed from the faucet, and Figs. 3 to 6 are detail views of portions of the valve.

The present invention is adapted for use in any of several styles of faucets, that shown being a common type consisting of the tubular body 1, provided with an intermediate valve-seat, a depending outlet 2, an externally-threaded inner end 3, and a valve-chamber 4, extending upwardly about the valve-seat.

A series of threads 4' are formed in the inner face of the vertical wall of the valve-chamber, and with said threads engage a series of threads formed on the lower enlarged portion 5 of the valve-stem. This valve-stem is provided at its outer end with a suitable cross-bar or handpiece 6. The valve proper includes in its structure a flexible or yielding disk 7, which is suitably secured, as by means of a screw 8, to the lower face of the valve-body 9, said body having an upwardly-extending pin 10, which fits loosely within a socket formed in the lower end of the enlarged portion 5 of the valve-stem. It will be seen that by turning the valve-stem in one direction the valve will be forced downwardly against the seat 11 provided therefor within the fau-

cet, and when the valve-stem is turned in a reverse direction or caused to move upwardly within the valve-chamber and away from the valve and the seat therefor the valve will be lifted from said seat by the pressure of the water against its lower side. The disk 7 is commonly made of a non-metallic composition, being slightly compressible, so that it can be forced into close contact with a valve-seat and effectually prevent the passage of water through the opening therein. Said disk commonly forms the lower face of the valve, and if the rotary movement of the valve-stem is transmitted to the body 9 of the valve, as is the case where the valve is secured rigidly to the valve-stem or where the adjacent ends of said stem and body are in direct contact, it will be seen that said disk 7 will be rotated or turned more or less while in contact with its seat and its lower face thereby be rapidly worn away. To avoid this objectionable result, I connect the valve-body loosely to the stem, as hereinbefore described, and also interpose between the lower enlarged end of the valve-stem and the upper end of the valve-body 9 a hard metal washer 12. This washer prevents the rotary movement of the stem from affecting the valve after the latter has been seated. It receives the rotary movement of the main valve-stem and transmits the pressure exerted thereon to the valve in such manner that the latter moves toward and from its seat on straight lines only, so that no wearing of the yielding or compressible disk of the valve takes place even if it forms the lower face of the valve and contacts directly with the valve-seat. As a further guard or protection to the disk 7 I preferably arrange a metallic washer 13 against the lower face thereof. This washer, which is preferably made of zinc or equivalent material, is secured and held in position by the same screw 8 that is employed to attach the disk 7 to the body 9 of the valve. I have found that such a zinc washer is of great service in protecting the yielding disk 7 when the valve is exposed to the action of hot water or steam.

The valve-seat 11 within the faucet is preferably made in the form shown in Fig. 1—that is, is slightly convex in cross-section—and, as above pointed out, the valve is normally

held thereon by pressure applied through the medium of the valve-stem. When such pressure is removed, by elevating the valve-stem the pressure below the valve readily and instantly lifts it, the pin 10 serving to guide such movement.

From the above description and the drawings it will be seen that the two moving parts of the valve are separated from each other by a washer of harder material than that of which said parts are formed, which reduces the friction on both said parts, and that by my construction no rotary movement is transmitted to the yielding or relatively softer portions of the valve, which will therefore not become worn, as do the corresponding faces of the valves commonly employed which are connected directly to a part of the valve that is positively rotated when the valve-stem is turned.

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

1. The combination with a faucet, of a valve-stem having a threaded connection with the valve-chamber of the faucet, whereby it can

be adjusted toward and from the valve-seat in said chamber, a valve independent of and formed separate from the valve-stem and having a pin extending loosely into a socket in the inner end of the stem, and a hard metallic washer, disconnected from and independent of both the aforesaid parts, and loosely surrounding the pin on the valve between the inner end of the valve-stem and adjacent face of the valve.

2. The combination with a faucet, of a valve-stem having its inner end threaded and engaging with suitable threads on the faucet, a valve consisting of a flexible disk held between two metallic sections, the upper of said sections having a pin extending loosely into a socket in the valve-stem, and a hard metal washer surrounding said pin and receiving the thrust of the valve-stem and valve.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. SULTNER.

Witnesses:

NOAH C. MAY,
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