

No. 680,594.

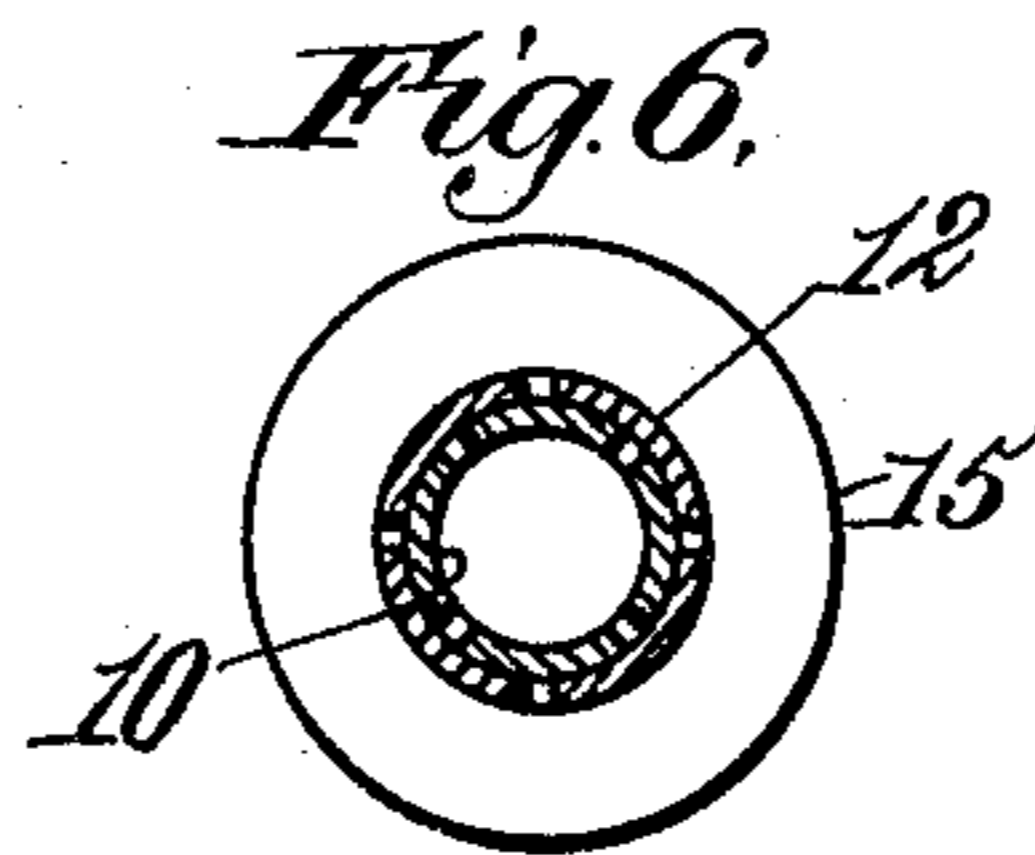
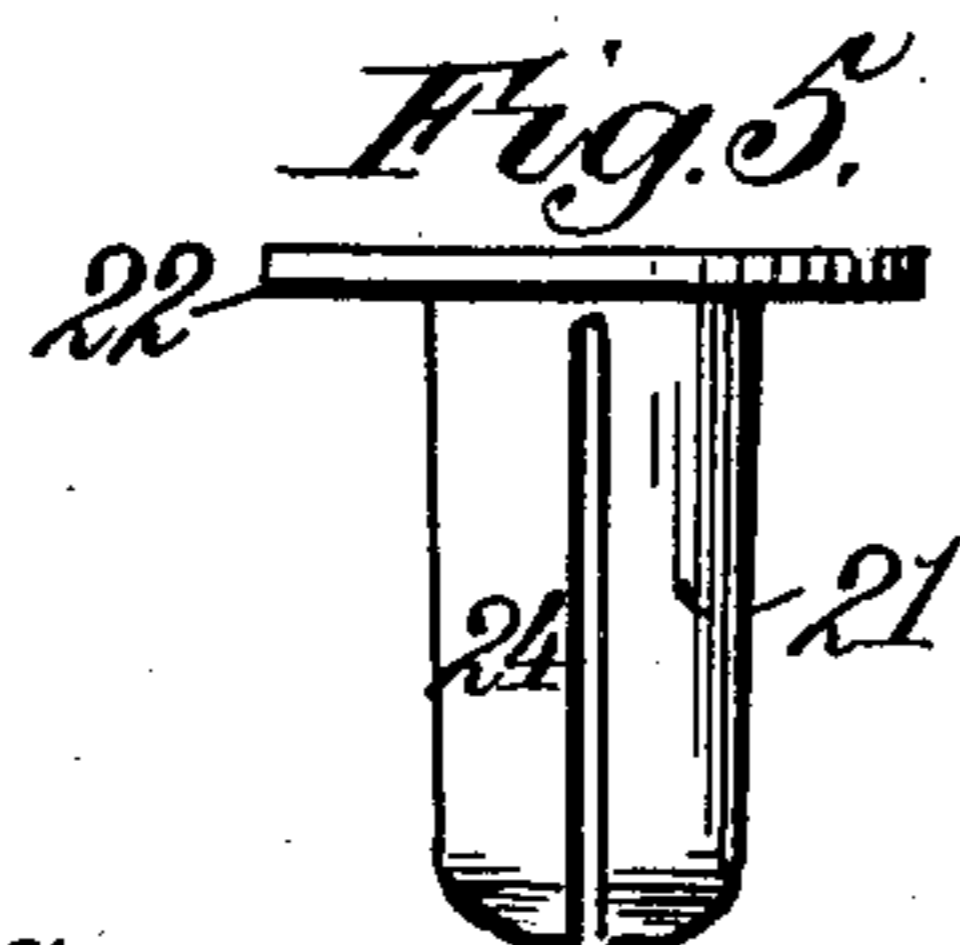
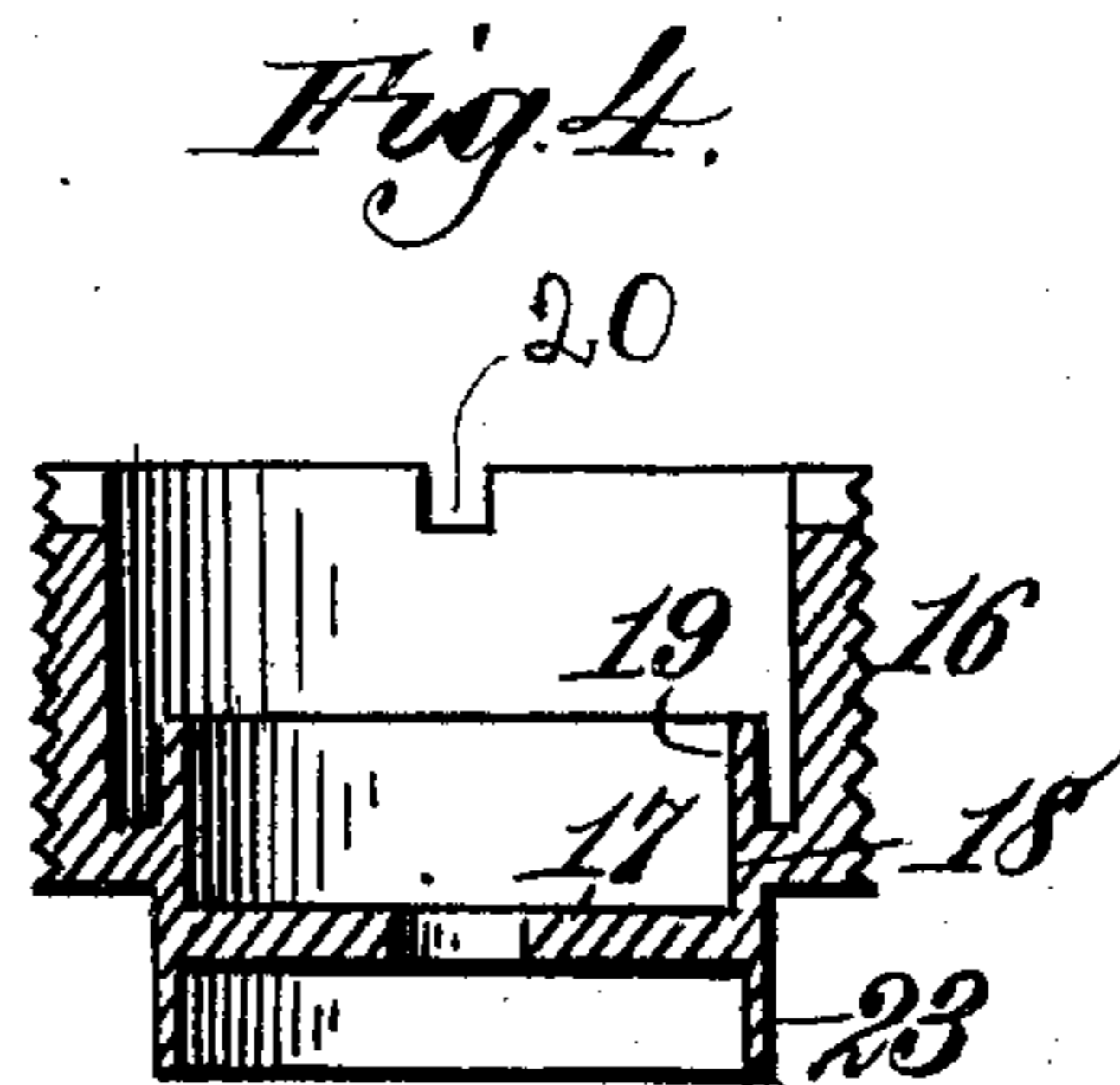
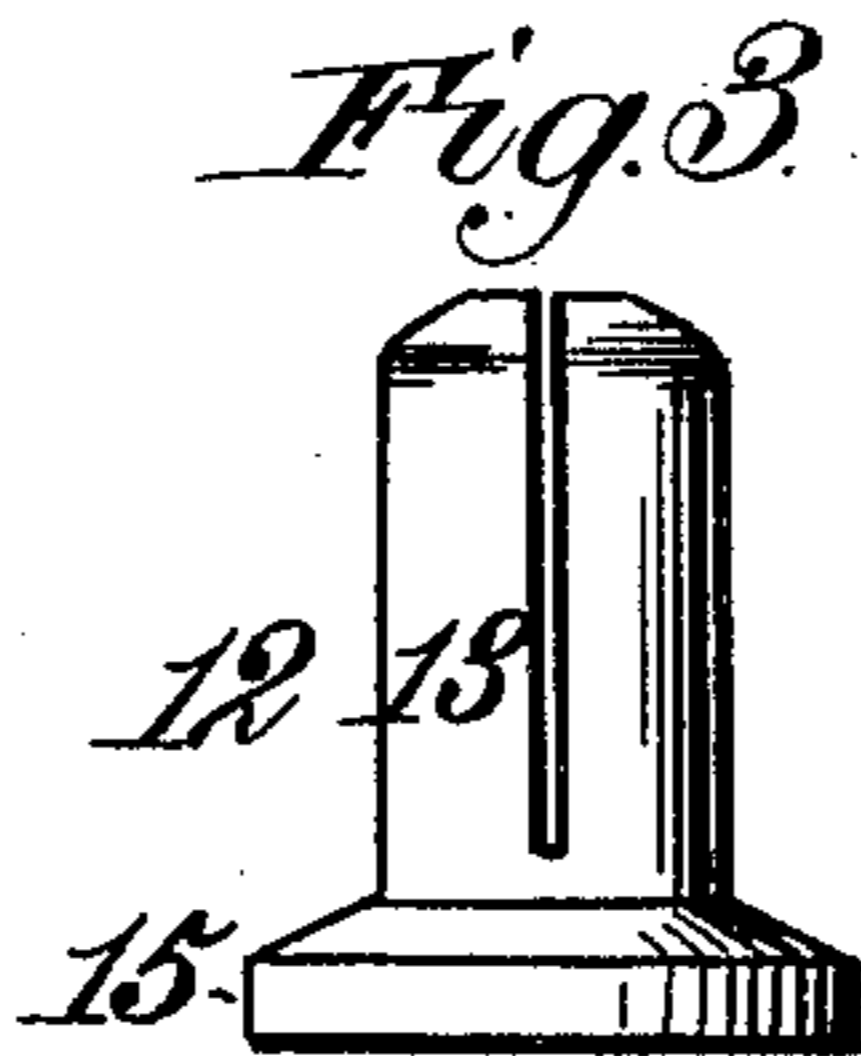
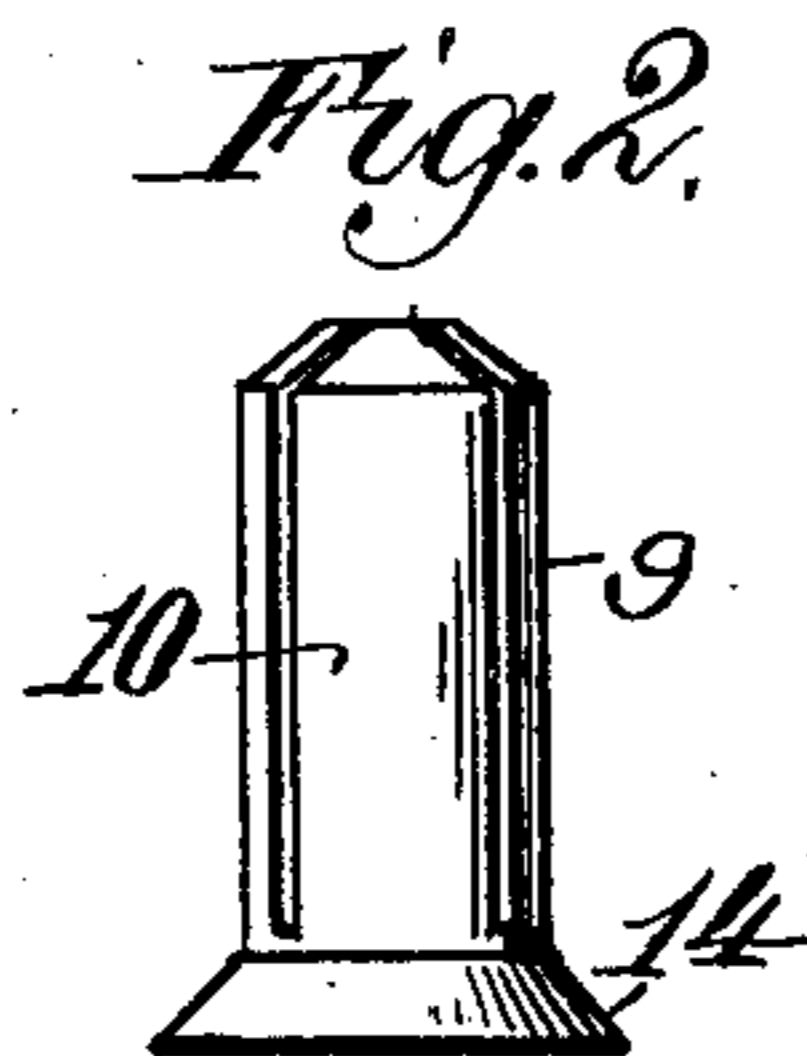
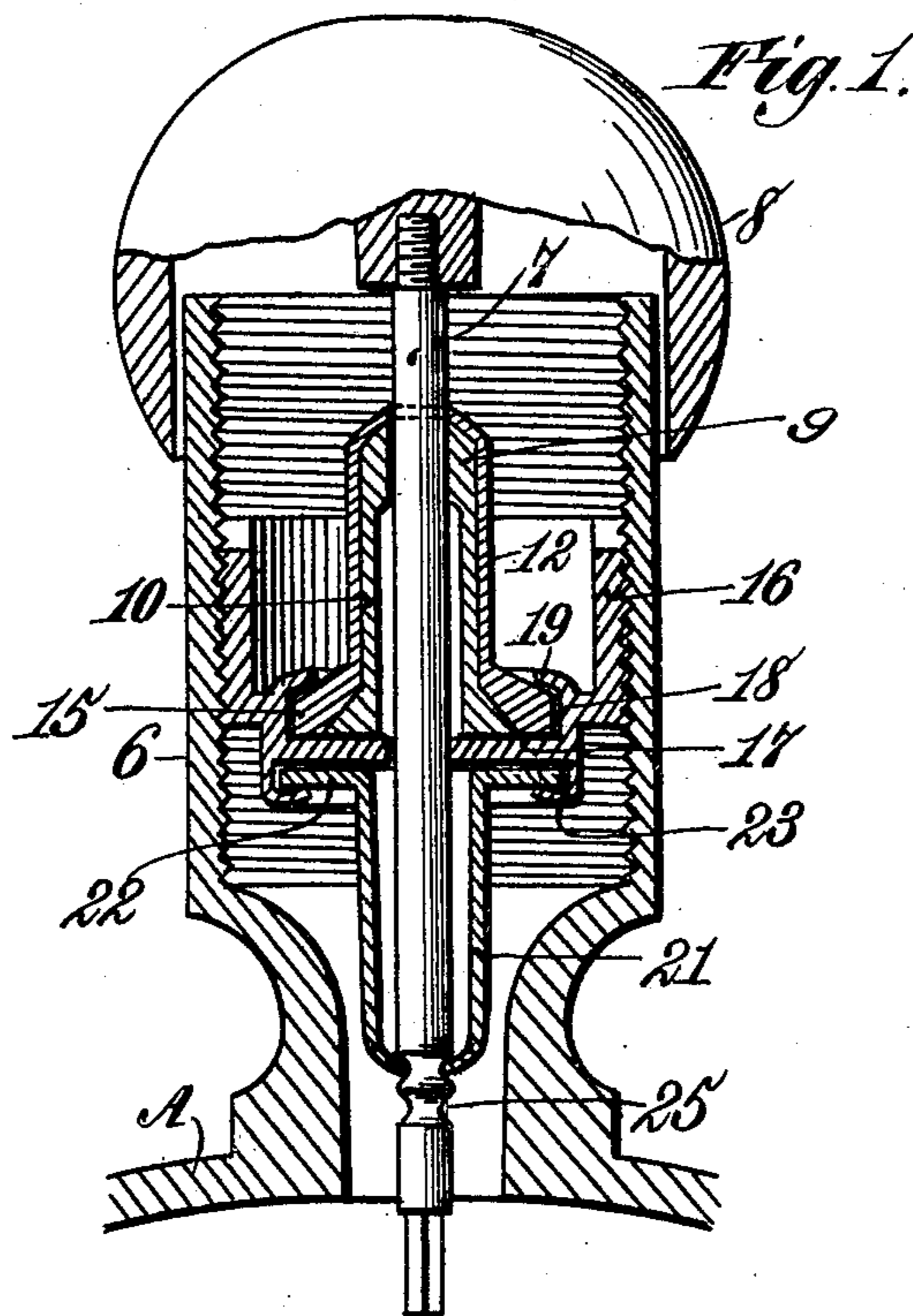
Patented Aug. 13, 1901.

C. B. HOWARD.

DUST PROOF SLEEVE FOR WATCH PENDANTS.

(Application filed Feb. 4, 1901.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES B. HOWARD, OF GREENRIVER, WYOMING.

DUST-PROOF SLEEVE FOR WATCH-PENDANTS.

SPECIFICATION forming part of Letters Patent No. 680,594, dated August 13, 1901.

Application filed February 4, 1901. Serial No. 45,936. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. HOWARD, a citizen of the United States, residing at Greenriver, in the county of Sweetwater and State of Wyoming, have invented new and useful Improvements in Dust-Proof Sleeves for Watch-Pendants, of which the following is a specification.

This invention relates to what may be conveniently termed a "dust-proof" sleeve for watch-pendants, the improvements being especially intended for incorporation in what are known as "stem-winding" watches, and the construction is such that dust and other like particles are absolutely prevented from entering the works of the watch through the pendant, thereby minimizing repairs and obviating constant cleanings.

The improvements involve as one of the more important points a pendant, a stem passing therethrough, and dust-excluding means surrounding the stem and connected with the pendant, such means being separate from the stem, and these several elements may be of any suitable character. In the present case the stem is surrounded by a tubular shoe, frictionally engaging the same, and a cuff surrounding the shoe, also frictionally engaging the stem, the two parts when in a watch being held against movement with the stem as the latter is rotated or moved in or out for winding or setting, whereby the action of the stem is in no wise interfered with. These two parts are preferably tubular and have longitudinal slots open at one end, which construction produces resilient or yieldable arms on them, and the arms on the cuff are adapted to cover the slots in the shoe, so as to prevent foreign substances passing through such last-mentioned slots.

I have briefly described certain of the more important features of the invention and will hereinafter amplify the same, and I wish at this point to state that the invention is not limited to the construction shown in the drawings and described herein, for many changes may be adopted within the scope of the appended claims.

In the drawings forming a part of this specification, Figure 1 is a longitudinal section of a portion of a watchcase and a pendant thereon, and the invention in one simple embodiment thereof is shown embodied in said

pendant. Fig. 2 is a detached view of the stem-engaging shoe. Fig. 3 is a similar view of the cuff that surrounds said shoe. Fig. 4 is a cross-sectional view of the sleeve, showing the lip thereon before being swaged. Fig. 5 is a detached view of a second stem-engaging cuff. Fig. 6 is a cross-section of the shoe and cuff in place thereon.

Like characters refer to like parts in all the figures of the drawings.

The dust-excluding means constituting the subject-matter hereof are intended for application to stem-winding watches, the purpose thereof being to prevent the entrance through the pendant and into the works of the watch of any foreign matter, and therefore said means are located in said pendant, and while they efficiently perform the duty for which they are intended they do not affect the ready operation of the stem.

I have shown in Fig. 1 a fragment of a watchcase, the same being denoted by A, and it has the projecting tubular or chambered pendant 6, which incloses the dust-excluding means. The stem is designated by 7, and it extends centrally through the pendant and into the case, the outer end thereof having secured thereto the crown 8. The stem 7 is surrounded by a tubular shoe 9 in frictional or pinching engagement therewith, said shoe having on its inner face, near the outer end thereof when it comes in contact with the stem, the reinforced or thickened wear portion, which prevents too rapid wearing or rubbing away of the shoe by the stem. The outer end of the shoe has a plurality of slots or kerfs open at their outer ends, and the formation of which produces a series of yieldable or spring-like arms 10, which are adapted to tightly hug or embrace the stem near its outer end. The tubular shoe is surrounded by a cuff, as 12, frictionally embracing the same, the cuff, like the shoe, having a plurality of slots or kerfs, which form a plurality of yieldable arms, as 13, which are sprung over the outer end of the shoe into engagement with the stem, and the solid part of the cuff is adapted to cover the slots or kerfs in the shoe. One of these slots extends the entire length of the cuff. As the shoe tightly embraces the stem, and as the cuff is likewise in firm frictional engagement with the shoe and stem, and as the slots in the latter are covered by the arms 13, no dust can pass be-

tween the cuff and shoe, and the same with respect to the shoe and stem; but the engagement between the shoe and stem is such that the latter may be easily pulled out or forced
 5 in. The shoe has on its inner end the annular shoulder 14, tapered or beveled on its outer face to be snugly engaged by the correspondingly beveled or tapered inner face of the annular shoulder 15 at the inner end of the cuff
 10 12. The shoe and sleeve are held in rigid engagement by a means now to be described, whereby they constitute, in effect, a single or integral structure.

The inner wall of the pendant 6 is threaded
 15 to be engaged by the circumferential threads on the sleeve 16. This sleeve has a central opening of less diameter than that of the bore thereof, which receives the inner shouldered ends of the shoe 9 and cuff 12, these shoulders fitting against the annular shoulder 17
 20 at the extreme inner end of the sleeve, and through the central opening of which the stem 7 passes. This annular shoulder is in a plane at right angles to the body of the sleeve. The
 25 formation of the reduced opening in the sleeve 16 produces a second annular, but narrow, shoulder 18, and on the outer face thereof I form a circular lip 19, which, when the shoulders of the shoe and cuff are in firm contact
 30 and bear against the shoulders 17, may be swaged by a suitable tool over the adjacent portion of the shoulder 15, whereby the sleeve 16, shoe 10, and cuff 12 are rigidly united. The parts thus connected may be introduced
 35 as a unitary structure in the pendant, and the stem may be freely rotated and moved in and out; but by the construction specified it cannot turn any of the tubular devices in the pendant except the pendant-setting cuff,
 40 which is allowed to move and rotate with the stem.

The outer edge of the sleeve 16 has notches, as 20, to receive a screw-driver or like tool, by which it may be readily turned into or out of
 45 its seat, and said sleeve, in combination with the cuff and shoe, provides an absolute dust-closure in the pendant surrounding the stem.

The inner portion of the stem 7 is frictionally embraced by a cuff, as 21, the outer end of
 50 which has an annular flange 22 fitting flatwise against the inner face of the shoulder 17, and this relation is maintained by swaging over the flange 22 a lip 23 on the shoulder 17. This cuff has a plurality of elongated
 55 slots open at their inner ends to form yieldable arms 24, slightly bent at their inner ends to be sprung into one of the grooves 25 in the stem. When the stem is in for the purpose of winding the watch, the ends of these
 60 yieldable arms are in the outer groove, while when the stem is pulled out for setting said ends will enter the inner groove, thereby properly holding the stem in its respective positions.

65 Having described the invention, what I claim is—

1. In a dust-proof sleeve for watch-pendants, a pendant, a stem extending through the pendant, a shoe surrounding the stem having a resilient portion and a cuff surrounding the
 70 shoe also having a resilient portion, said shoe and cuff having engaging shoulders and a sleeve in threaded engagement with the pendant and partially inclosing the shoe and cuff and having an internal shoulder against
 75 which the shoulders of the cuff and shoe abut and provided with means to hold the cuff and shoe in place.

2. In a dust-proof sleeve for watch-pendants, a pendant, a stem extending through the
 80 pendant, a shoe surrounding the stem having a resilient portion and a cuff surrounding the shoe also having a resilient portion, said shoe and cuff having engaging shoulders and a sleeve in threaded engagement with the
 85 pendant and partially inclosing the shoe and cuff and having an internal shoulder against which the shoulders of the cuff and shoe abut and having a lip swaged over the shoulder of the cuff.

3. In a dust-proof sleeve for watch-pendants, a tubular stem-engaging shoe having a resilient portion and a tubular cuff surrounding the shoe having engaging shoulders and the cuff having a resilient portion and a sleeve
 90 surrounding the shoe and cuff and having a part swaged over one of the shoulders.

4. A tubular stem-engaging shoe, a cuff surrounding the shoe, and having a resilient portion, a sleeve to which the shoe and cuff
 100 are rigidly connected, and a second cuff having a resilient stem-engaging portion.

5. A stem-engaging shoe, a cuff surrounding the shoe and engaging the same, said parts having engaging shoulders, a sleeve having a
 105 shoulder to support both the shoe and cuff, and a lip on the sleeve swaged over the shoulder of the cuff.

6. A stem-engaging shoe, a cuff surrounding the shoe, said parts having engaging tapered beveled engaging shoulders, a sleeve having shoulders in different planes, one of which supports the shoe and cuff and the other having a lip swaged over the shoulder
 110 of the cuff.

7. A pendant, a stem passing through said pendant, a shoe surrounding and frictionally engaging the stem, a cuff surrounding the shoe and frictionally engaging the stem, said shoe and cuff having engaging shoulders, a
 115 sleeve in the pendant having two shoulders one of which supports the shoe and cuff and the other having a lip swaged over the cuff, and a second stem-engaging cuff rigidly connected with the sleeve.

125 In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES B. HOWARD.

Witnesses:

P. E. DU SAULT,
 D. L. McMAMARA.