

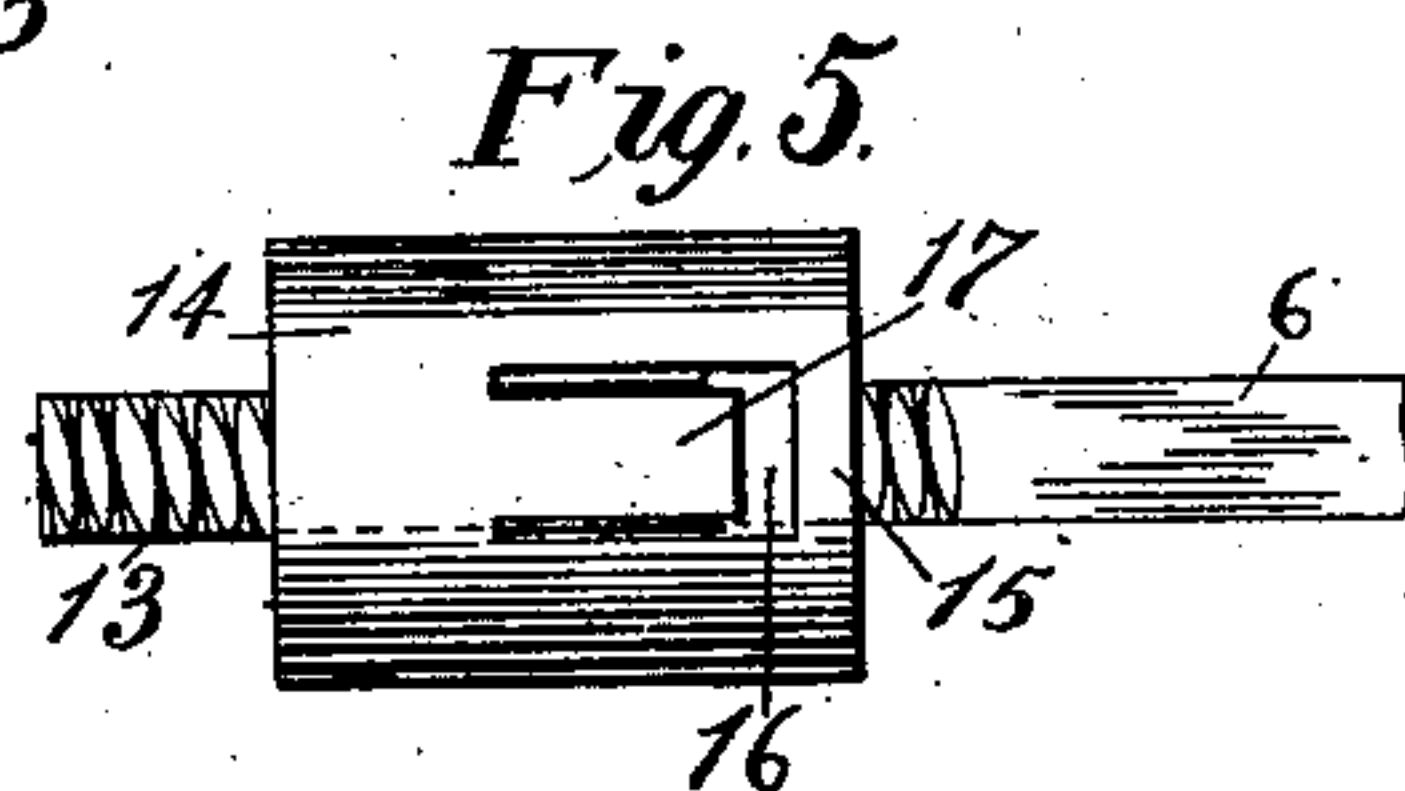
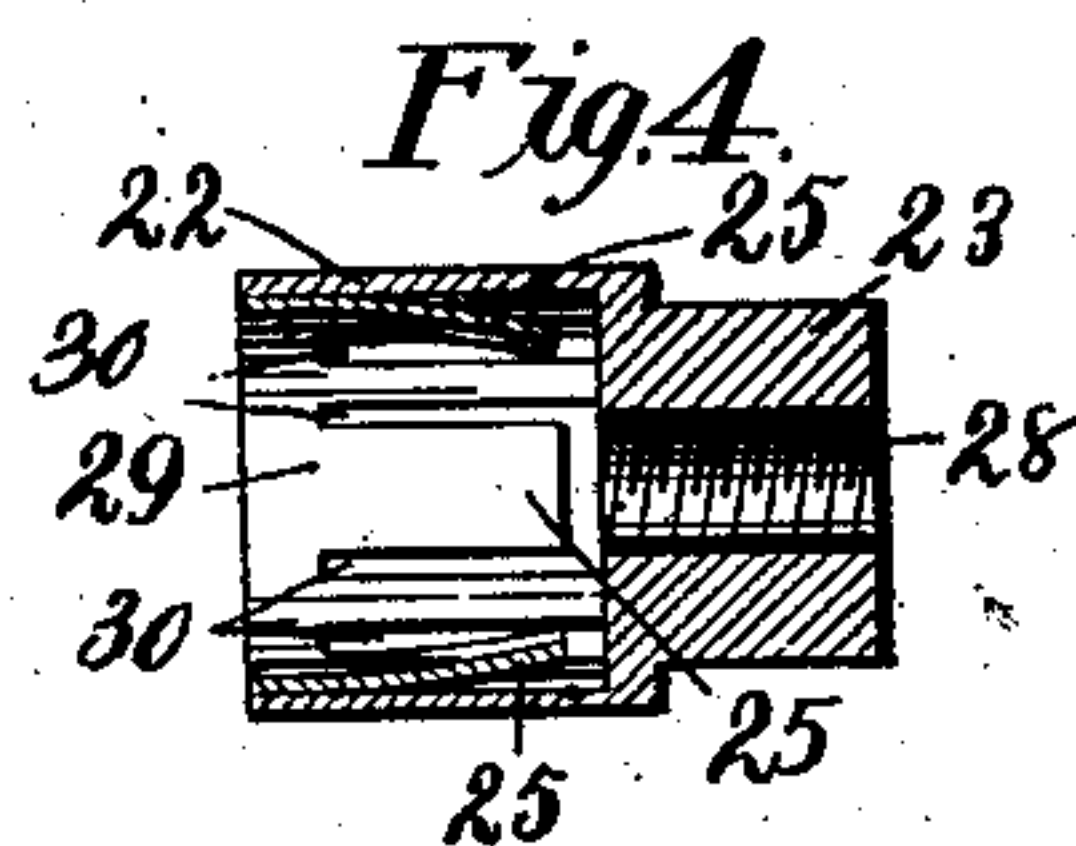
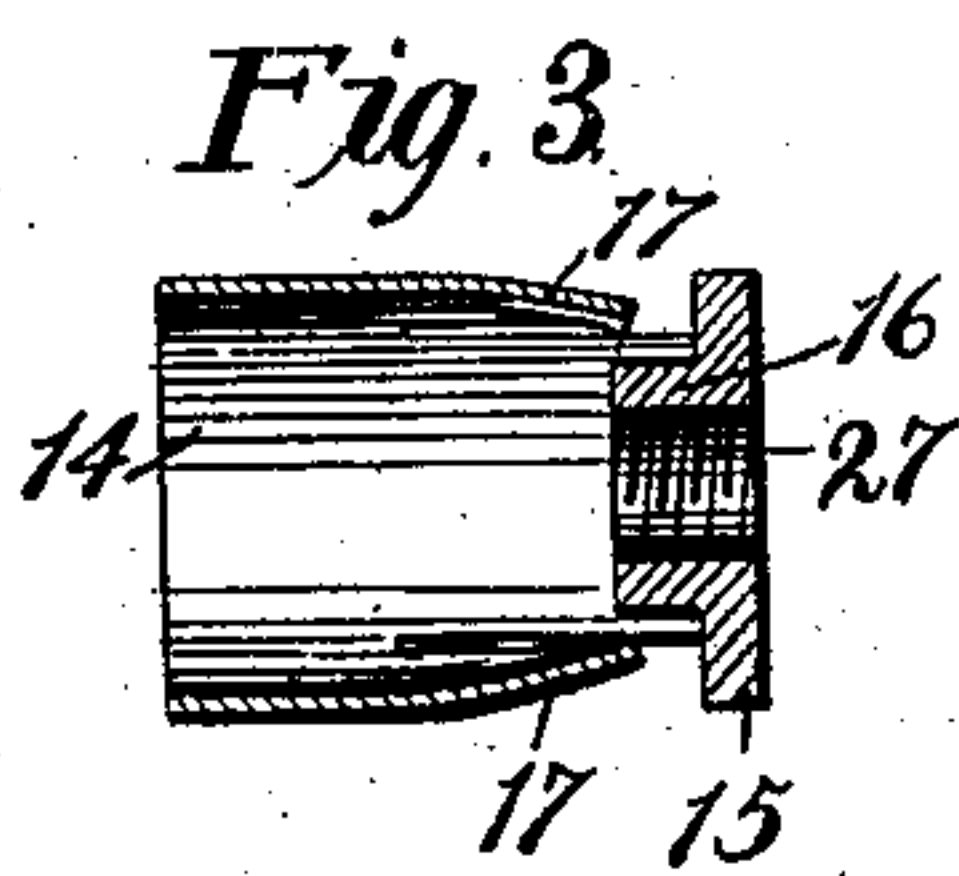
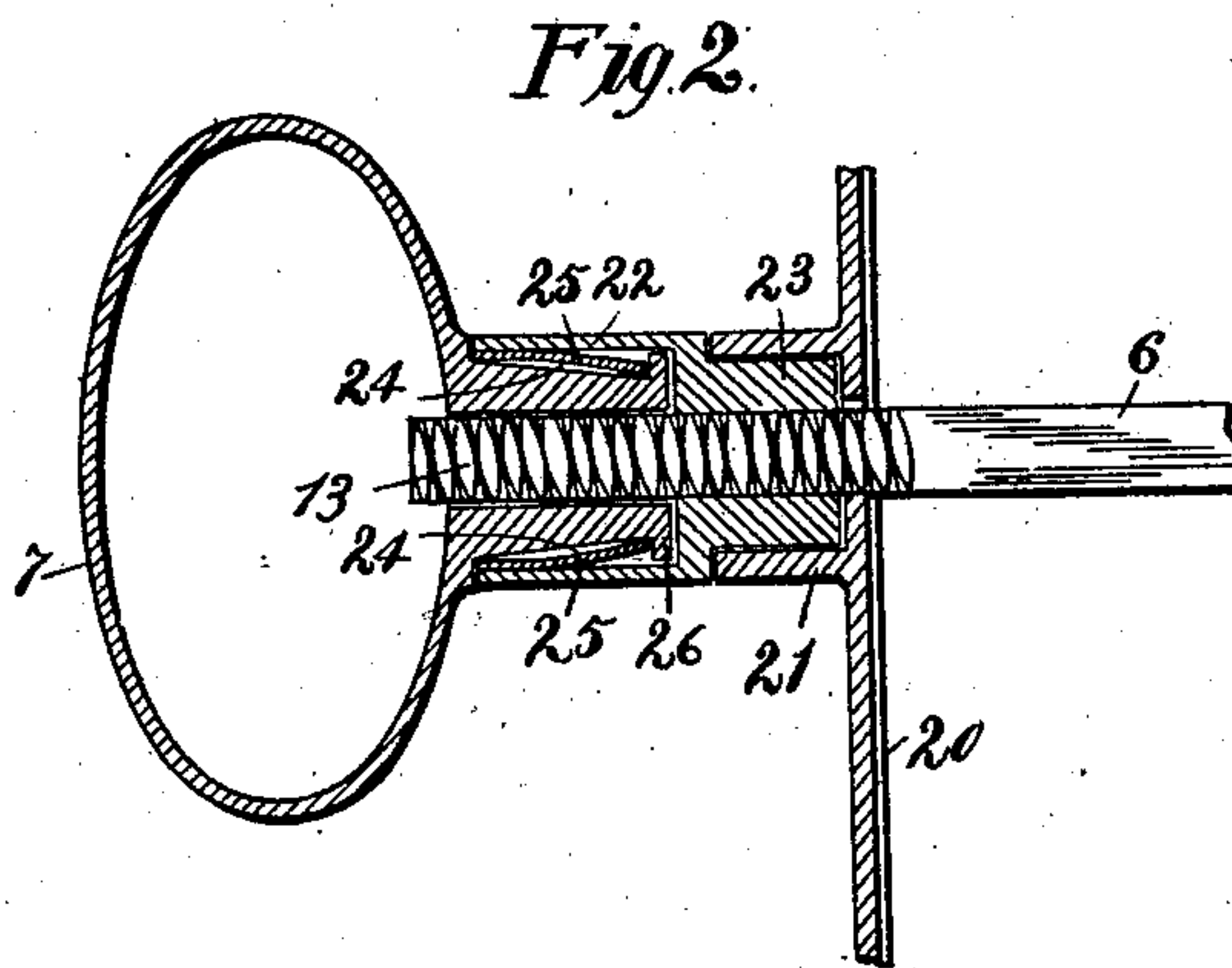
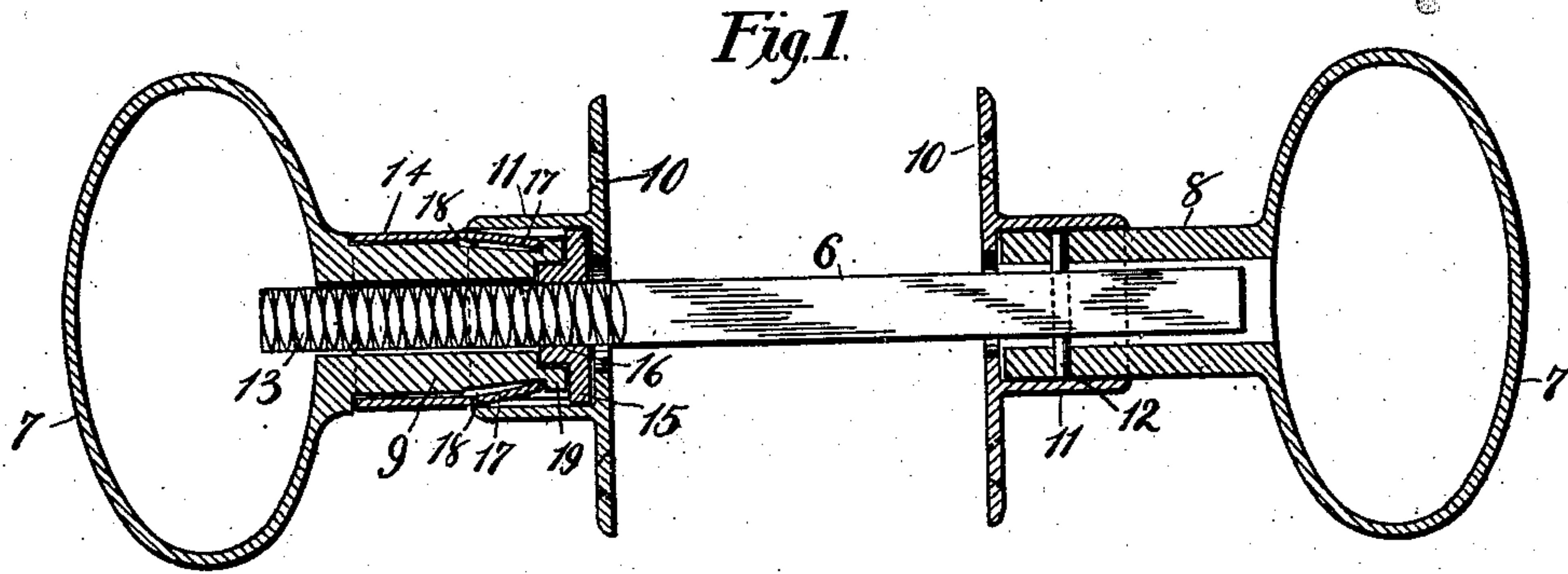
No. 860,171.

PATENTED JULY 16, 1907.

M. E. WELCH & M. THORSEN.

KNOB ATTACHMENT.

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Witnesses:

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UNITED STATES PATENT OFFICE.

MICHAEL E. WELCH, OF NORTH CHICAGO, AND MARTIN THORSEN, OF WAUKEGAN,
ILLINOIS.

KNOB ATTACHMENT.

No. 860,171.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, MICHAEL E. WELCH and MARTIN THORSEN, citizens of the United States, residing, respectively, at North Chicago and Waukegan, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Knob Attachments, of which the following is a specification.

This invention relates to improvements in door knob attachments of the type that is removably secured on a spindle without the use of screws, rivets, keys or similar securing devices.

The especial object of the improvements which form the subject matter of this application is to provide a screwless knob and attachments that can be cheaply manufactured, readily applied, and in which perfect adjustment can be had to doors and locks of different thicknesses.

A further object is to provide a knob that will remain in place on its spindle under the normal conditions of use, and yet can be easily removed if desired, and replaced, without requiring tools or mechanical skill.

A still further object is to provide a door knob and mounting that conforms in appearance to the styles or patterns of the standard goods in this line now on the market.

Having the foregoing special objects, and others of general utility in view, we have invented the knob attachment shown in a preferred and modified form in the accompanying drawings, in which:—

Figure 1 shows in longitudinal section a set of knobs and mountings made according to our invention; Fig. 2 is a longitudinal section of a single knob of modified form and a portion of a combined escutcheon and rose, and a part of a knob-spindle which forms a part of our invention; Fig. 3 is a longitudinal section of two of the elements of our invention; Fig. 4 is a longitudinal section of a modified construction of the elements shown in Fig. 3, and Fig. 5 is a plan view of the parts shown in Fig. 3 with a section of the spindle applied thereto.

Referring to the details of the drawing, 6 represents a spindle which is square in cross-section and threaded from one end for a portion of its length, as at 13.

7, 7, represent two hollow metal knobs, one of which is formed with an ordinary plain shank 8, which is secured on the spindle by a rivet 12 in the usual manner; and the other knob, has a shank 9 (Fig. 1) of peculiar construction which will be particularly described.

10, 10, are roses formed with flanges 11 surrounding their central openings in the usual manner.

The shank 9 of the left-hand knob shown in Fig. 1 has a central opening extending longitudinally there-through which is square and adapted to receive with

a sliding fit the threaded portion of the spindle. The outer surface of the shank is cut away at opposite points to form two flat and slightly inclined surfaces 18, 18, which terminate before reaching the end of the shank thus leaving shoulders 19, 19, at the end of the spindle adjacent to said flattened portions. Slidably fitting over the spindle is the locking member of the knob, which consists of a sleeve 14 made of spring metal, in which tongues 17, 17, are cut at opposite points, and a nut 16 which is rigidly secured in one end of the sleeve and is internally threaded as at 27 to engage the threaded portion of the spindle. The tongues 17 are bent inwardly as shown in Fig. 3, and serve as springs, the resiliency of which depends upon the character of the metal from which the sleeve is made.

In assembling the parts above described, the rose 10 is placed over the spindle and secured to the door in the usual manner, the sleeve with its nut 16 is then screwed on the spindle until the outer face of the nut fits closely against the rose but so as to permit the spindle to be turned by the knob; the knob shank with its flattened faces corresponding to the spring tongues 17, is then pushed into the sleeve until the ends of the tongues drop behind the shoulders 19, when the knob will be in position for use. The tension of the spring tongues will normally permit the turning of the knob-shank independently of the sleeve, but if it be desired to remove the knob, by grasping the sleeve with the fingers so it cannot turn, and then turning the knob, the tongues will be pushed from behind the shoulders 19 and thus permit the knob shank to be pulled from the sleeve. The rose flange 11 covers the joint between the shank and sleeve and also conceals the tongues.

In the form shown in Figs. 2 and 4, there are four flattened places 24, on the knob-shank instead of two as in the other form, but in other respects the shank is substantially the same in form and operation. The sleeve 22 is made from cast metal and formed with a barrel or extension 23 which is internally threaded as at 28 to engage the spindle. To the inner walls of the sleeve is secured in any suitable manner cylindrical spring-metal member 29 which is cut longitudinally as at 30 to form four tongues 25 which are bent inwardly as shown in Fig. 4. These spring tongues correspond in width to the flattened faces 24 of the shank, and are adapted to engage the shoulders 26 when the shank is pushed into the sleeve the full distance. The flange 21 of the escutcheon plate 20, receives the extension 23 when the knob is applied and the sleeve screwed on the spindle. The operation of this form of knob is the same as above described, and the only differences in construction are, that in one case there are

only two spring-tongues and they are integral with the sleeve and the nut is secured to the latter and in the other form there are four spring-tongues and they are secured to the sleeve and the nut is integral with the latter.

Having thus described our invention what we claim as new, is:—

1. In combination with a threaded spindle, a door knob having a shank adapted to be slidably and non-rotatably mounted on said spindle, said shank having seats and shouldered portions formed thereon, a sleeve having spring-tongues adapted to engage the seats and shouldered portions of the shank, and means threadably engaging said spindle and rigid on said sleeve.
2. In combination with a threaded spindle rectangular in cross section, a door-knob having a shank provided with

a longitudinal opening to slidably and non-rotatably receive said spindle, said shank also formed with seats and shoulders substantially as described, a nut threadably engaging said spindle, and springs secured to said nut and adapted to engage the seats and shoulders on said shank.

3. In combination, a spindle, a knob slidably mounted on said spindle, and having a recessed spindle, a sleeve adjustably mounted on said spindle, said sleeve having integral spring tongues adapted to engage the recessed portions of said shank for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

MICHAEL E. WELCH.
MARTIN THORSEN.

Witnesses:

GEORGE COLBERG,
JAMES G. WELCH.