

**Patented Jan. 16, 1900.**

**J. I. FLINT.**

**BELL DOOR KNOB.**

(Application filed May 17, 1899.)

(No Model.)

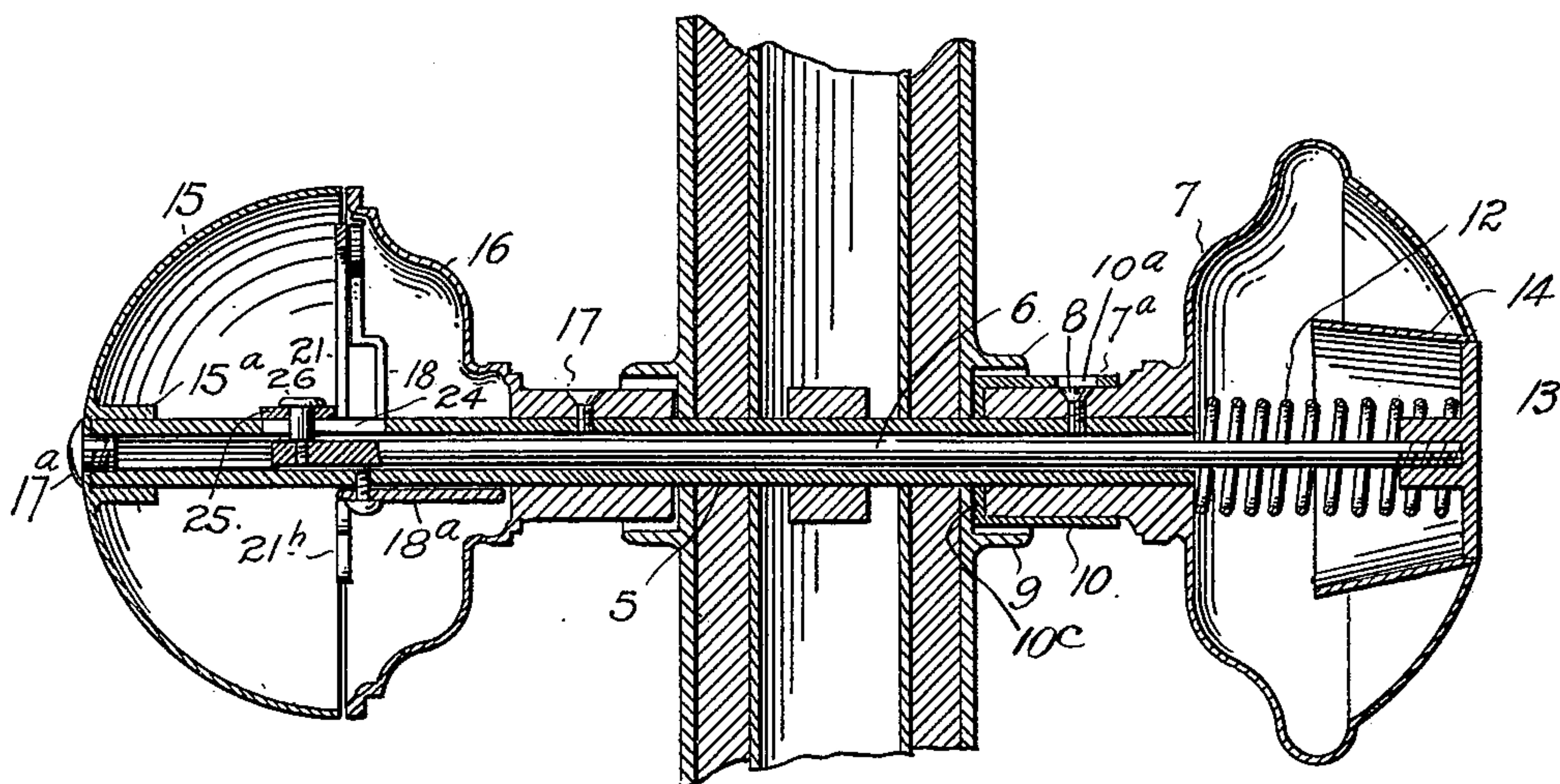


FIG. 1

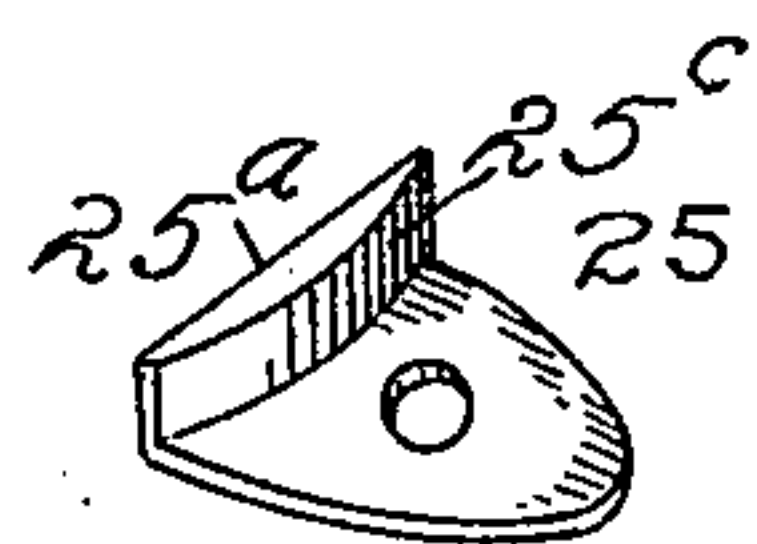


FIG. 4

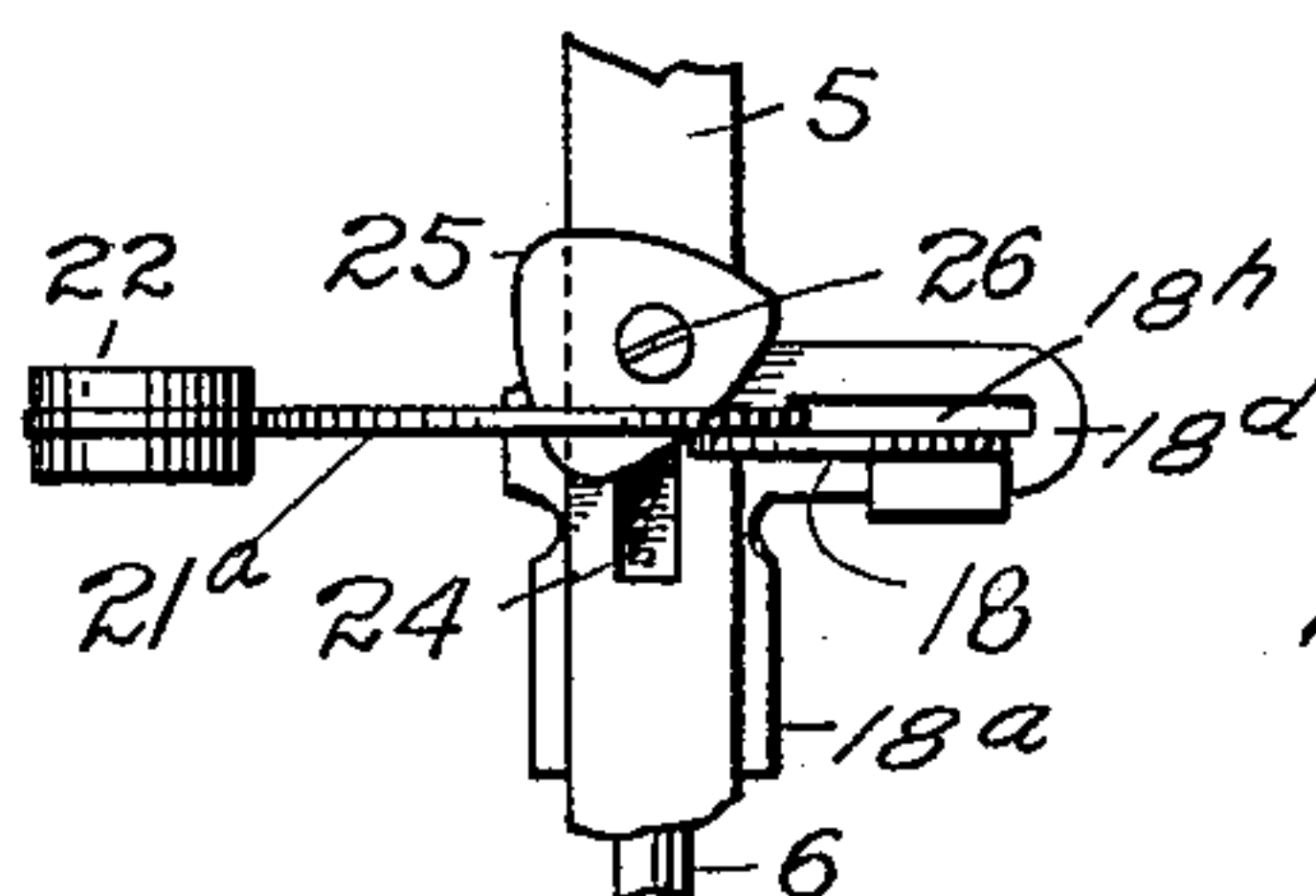


FIG. 2

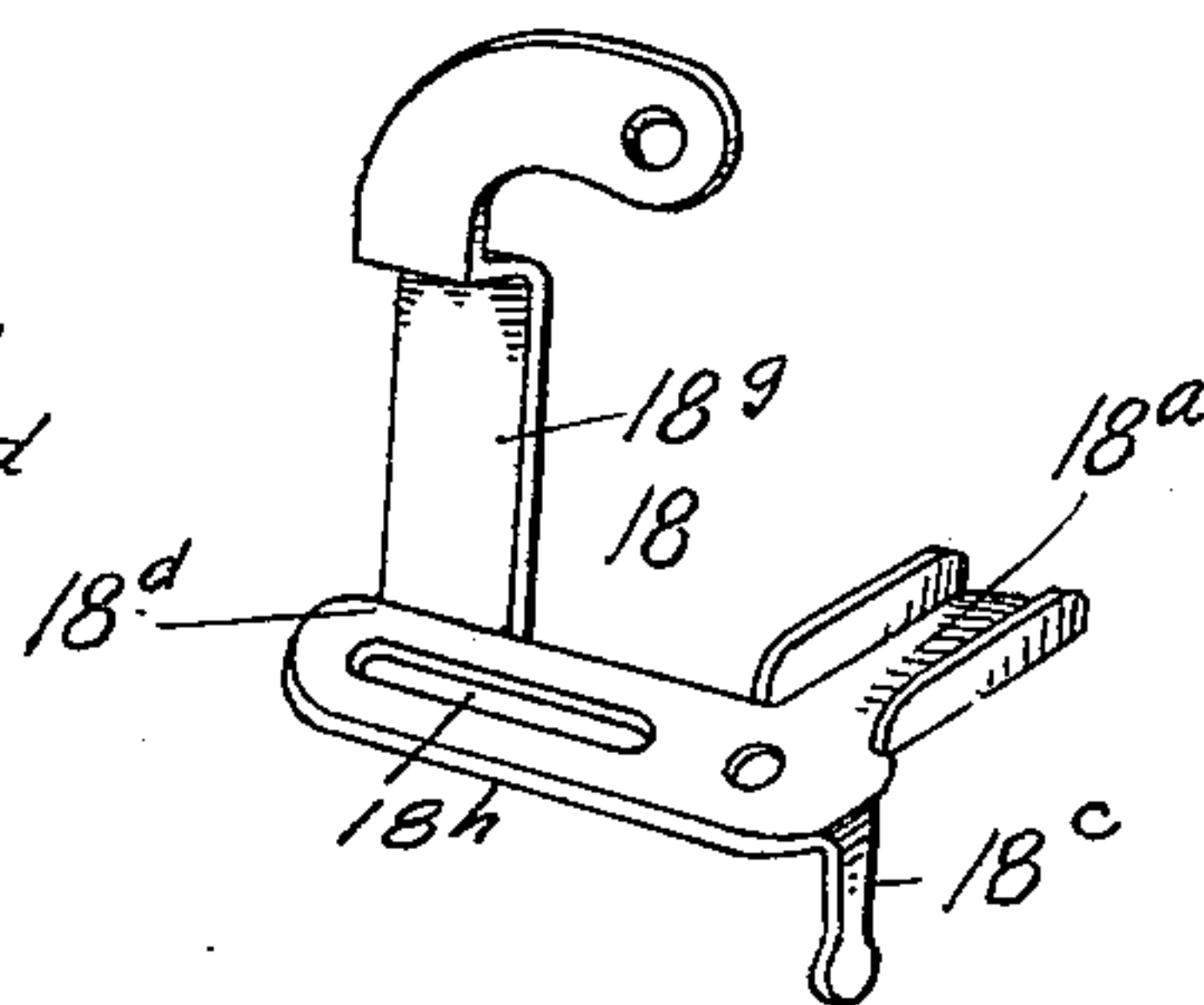


FIG. 5

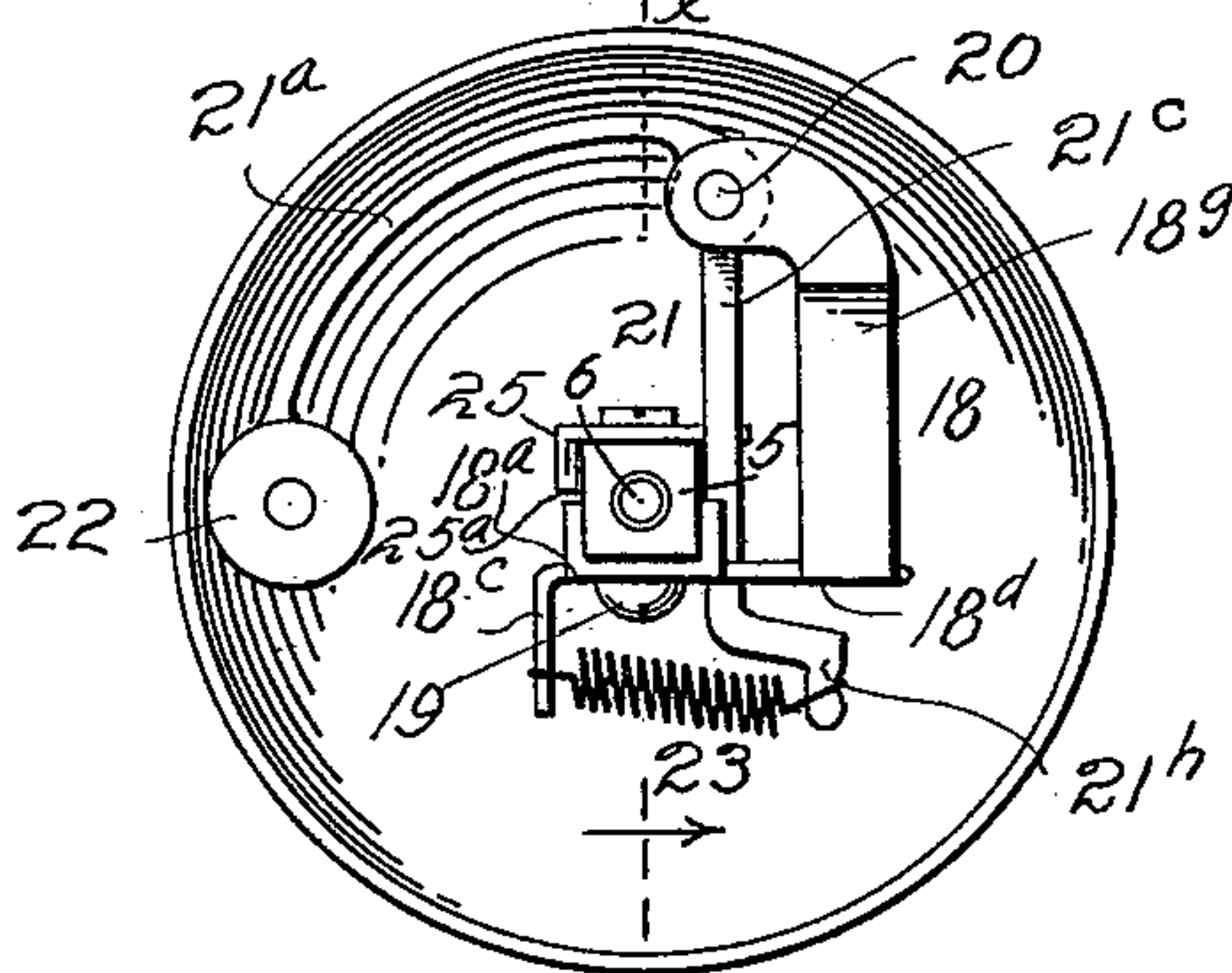



FIG. 3

Witnesses  
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# UNITED STATES PATENT OFFICE.

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## BELL DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 641,640, dated January 16, 1900.

Application filed May 17, 1899. Serial No. 717,224. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES I. FLINT, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Bell Door-Knobs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in bell door-knobs of the class set forth in Re-issued Letters Patent No. 11,436, dated March 7, 1899, and Letters Patent No. 624,436, dated May 2, 1899; and it consists of certain details of construction and combinations of parts, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a longitudinal section taken through the complete device on the line X X, Fig. 3. Fig. 2 is a fragmentary view of the operating parts. Fig. 3 is an end elevation of the device with the outer knob and the inner portion of the bell-knob removed. Fig. 4 is a perspective detail view of the cam. Fig. 5 is a similar view of the bracket upon which the hammer is fulcrumed.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the spindle, which is formed hollow to receive the rod 6. The outer knob 7 is fastened to the spindle by means of a screw 8 in the usual manner. In order to make the hub 7<sup>a</sup> of this knob fit the thimble or collar 9 of any escutcheon-plate and at the same time lock the fastening-screw 8 in place, I provide a sleeve 10, adapted to be slipped over the hub of the knob, said sleeve being provided with an opening 10<sup>a</sup>, through which the fastening-screw 8 is inserted, the screw-head being made flush with the outer surface of the hub. After the screw is in place the sleeve is turned on the hub to conceal the head of the screw, whereby the latter is locked in place, the sleeve being made to fit the hub so closely that when turned for the purpose stated it will maintain its position and pre-

vent the screw from working loose. The thickness of the sleeve 10 may be regulated to correspond with the size of the thimble or collar 9 of different escutcheon-plates. This sleeve is also provided with an interior collar or flange 10<sup>c</sup>, adapted to engage the inner extremity of the hub of the knob, whereby the sleeve is locked against longitudinal movement when the device is applied.

The rod 6 protrudes through the spindle into the knob 7, which is surrounded by a spring 12. The inner extremity of the spring engages a shoulder formed in the knob around the spindle-opening, while its outer extremity bears against a push-button 13, screwed upon the threaded extremity of the spindle. The knob 7 is provided with an interior sleeve 14, surrounding the spring. This sleeve increases in size as it extends inwardly, whereby the push-button is allowed perfect freedom of movement.

The inner knob of the device is composed of two parts—namely, the gong 15, forming the outer portion of the knob, and the knob part 16, which is attached to the spindle by a screw 17 in the usual manner. The gong 15 is provided with an interior sleeve 15<sup>a</sup>, which is fitted to the end of the spindle, a screw 17<sup>a</sup> being employed to hold the gong in place.

To the gong extremity of the spindle is attached a bracket 18 by means of a screw 19. This bracket comprises a flanged part 18<sup>a</sup>, embracing the spindle, a lug 18<sup>c</sup>, a slotted arm 18<sup>d</sup>, and an arm 18<sup>e</sup>, extending at right angles to the slotted arm. On the outer extremity of the arm 18<sup>e</sup> is fulcrumed, as shown at 20, a lever 21, composed of two arms 21<sup>a</sup> and 21<sup>c</sup>. The arm 21<sup>a</sup> terminates in a hammer or clapper 22, adapted to engage the gong. The lever-arm 21<sup>c</sup> passes through the slot 18<sup>h</sup>, formed in the bracket-arm 18<sup>d</sup>, its extremity being bent outwardly, as shown at 21<sup>h</sup>, and terminating in a lug to which is attached one extremity of a coil-spring 23, whose opposite extremity is connected with the lug 18<sup>c</sup> of the bracket 18. The spindle is slotted adjacent the bracket, as shown at 24. A cam 25 is attached to the inner extremity of the rod 6 by passing a screw 26 through an opening in the cam and through the slot in the extremity of the spindle, the inner extremity of the screw entering a threaded opening in the rod. The



length of the slot 24 is such as to allow the rod the necessary reciprocating movement to operate the cam 25, whose movement actuates the lever 21 and causes the hammer 22 to strike the bell or gong twice for each reciprocation of the rod. This rod is actuated in one direction by pressing inwardly on the push-button 13, its opposite or backward movement being imparted by the spring 12.

10 The cam 25 is provided with a flange 25<sup>a</sup>, having a curved surface 25<sup>c</sup>, adapted to engage the spindle and rock thereon. The cam is mounted to turn on its screw to a limited extent as soon as it passes the lever-arm 21<sup>c</sup>, which by virtue of the movement of the cam is allowed to return directly to its normal position under the influence of the spring 23. The flange 25<sup>a</sup> limits the turning movement of the cam on its pivoted screw. The flanged

15 part 18<sup>a</sup> of the bracket forms a stop to prevent the knob part 16 from moving too close to the gong.

From the foregoing description the operation of the device will be readily understood without further explanation.

Having thus described my invention, what I claim is—

1. The combination of a spindle having a longitudinal opening, knobs attached to the respective extremities of said spindle, a push-rod located in the spindle-opening and protruding therefrom into one of the knobs, which is open to permit access to the rod, a cam attached to the push-rod by a screw passing through a slot formed in the spindle, the cam having a movement on its fastening-screw, and formed with a flange, projecting at right angles to the body portion of the cam, and a hammer-lever suitably fulcrumed and

arranged to be operated by the cam as the push-rod is actuated.

2. The combination of the spindle having a longitudinal opening, knobs attached to the respective extremities of the spindle, a push-rod located in the spindle-opening and arranged to be operated through an opening formed in one of the knobs, a cam attached to the push-rod, the spindle being slotted to permit the movement of the cam, a bracket made fast to the spindle and comprising a part 18<sup>a</sup>, embracing the spindle, a slotted arm 18<sup>d</sup>, a lug 18<sup>c</sup>, and an arm 18<sup>e</sup>, extending at right angles to the slotted arm, a hammer-lever fulcrumed on the arm 18<sup>e</sup> of the bracket, one arm of the lever passing through the slot in the bracket-arm 18<sup>e</sup>, and a spring connecting the extremity of said lever-arm with the lug 18<sup>c</sup> of the bracket, the said lever-arm lying in the path of the cam as the push-rod is operated.

3. The combination with a spindle, a door-knob attached thereto, and a screw or other suitable fastening device, of a sleeve surrounding the hub of the knob and having an opening to permit the insertion of the said fastening device, the sleeve being arranged to turn on the hub of the knob to lock the fastening device in place, the sleeve being also provided with an interior collar or flange, adapted to engage the inner extremity of the hub of the knob.

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

JAMES I. FLINT.

Witnesses:

A. J. O'BRIEN,  
NELLIE G. DANIELS.