

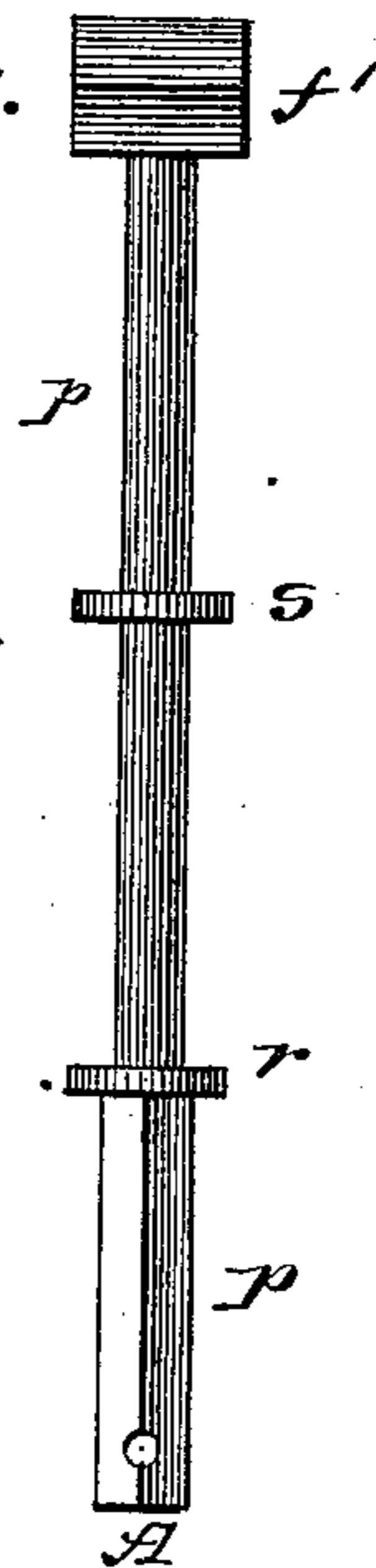
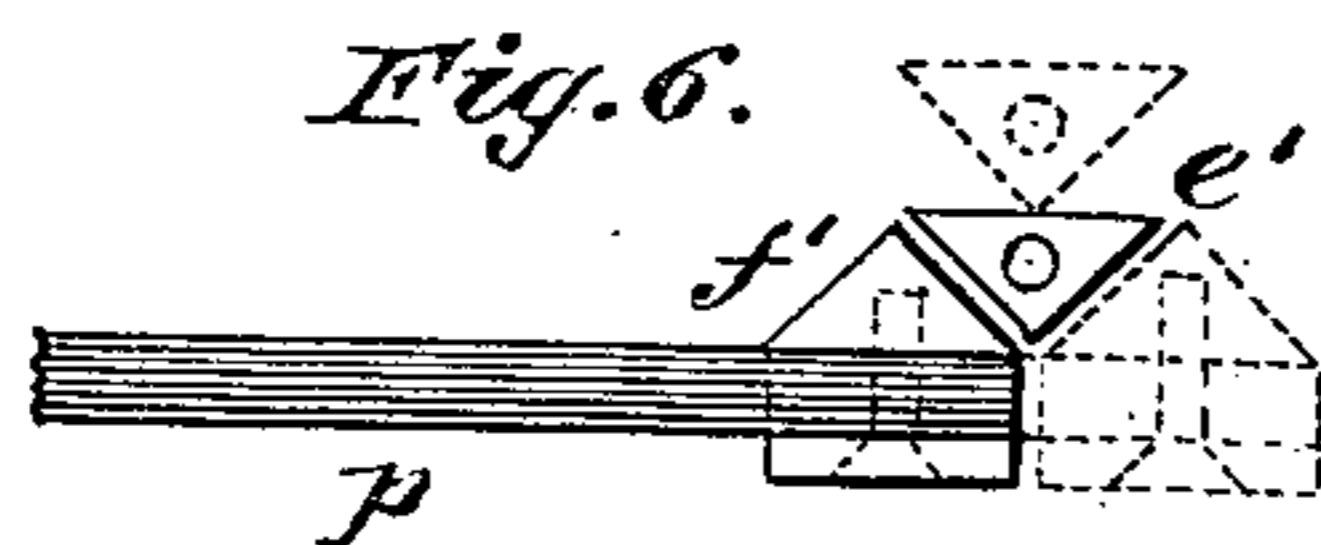
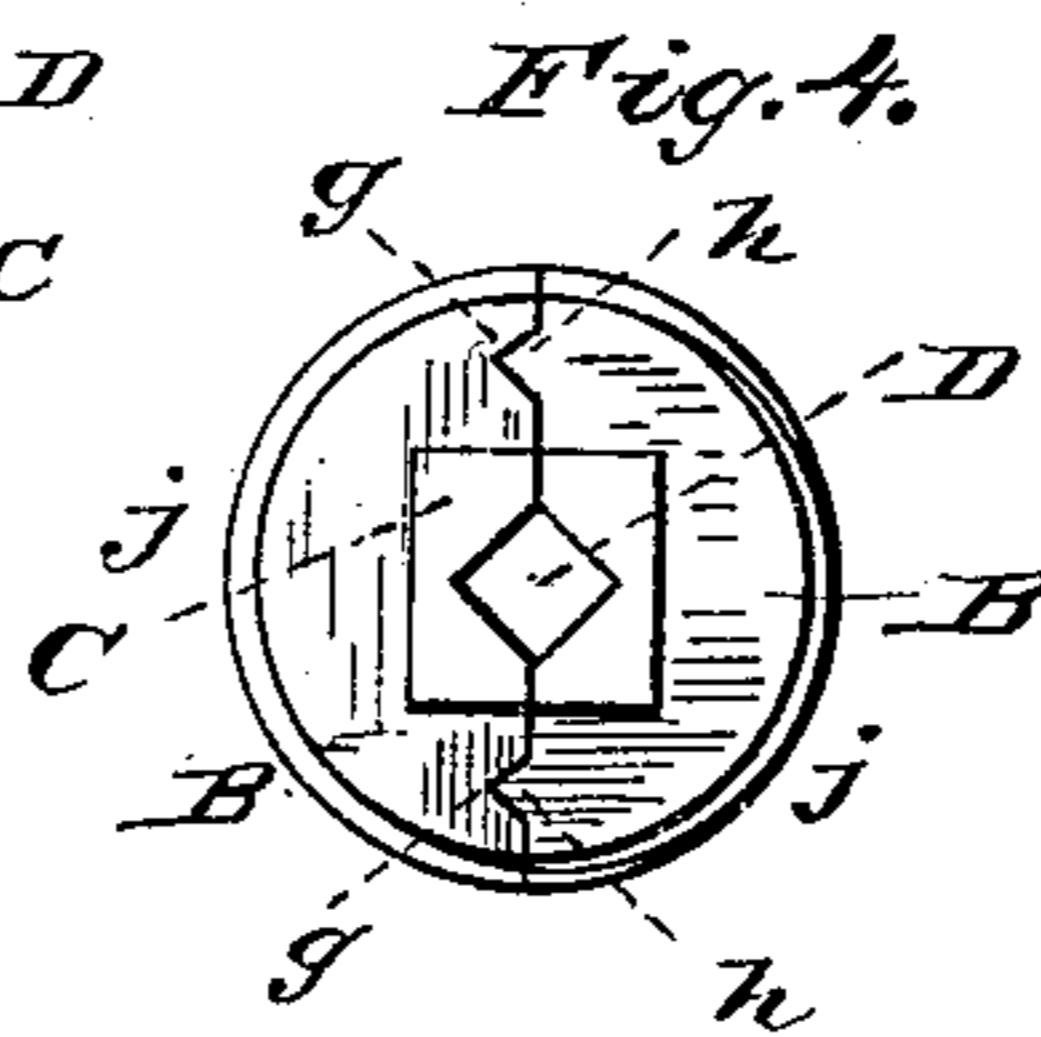
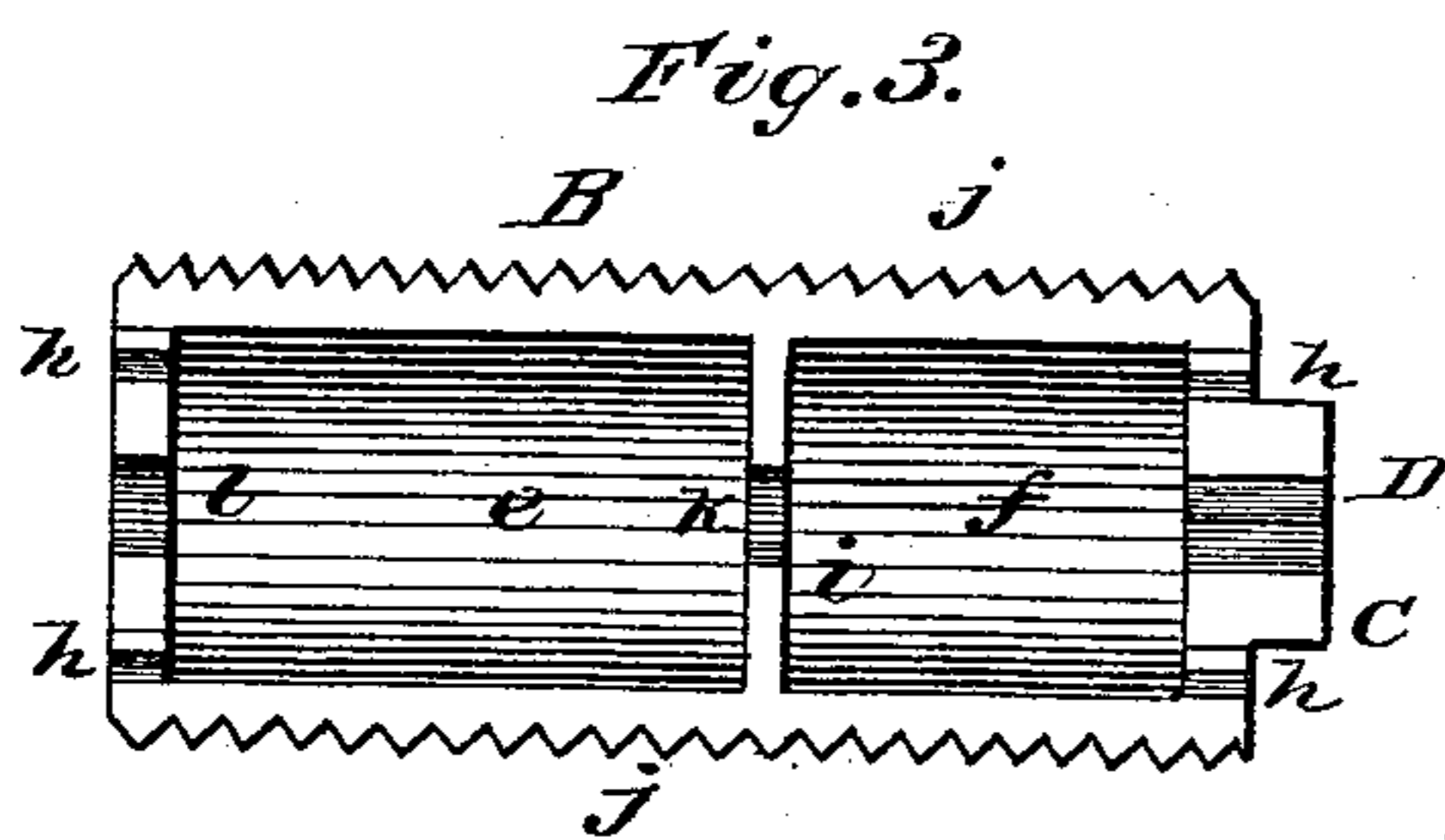
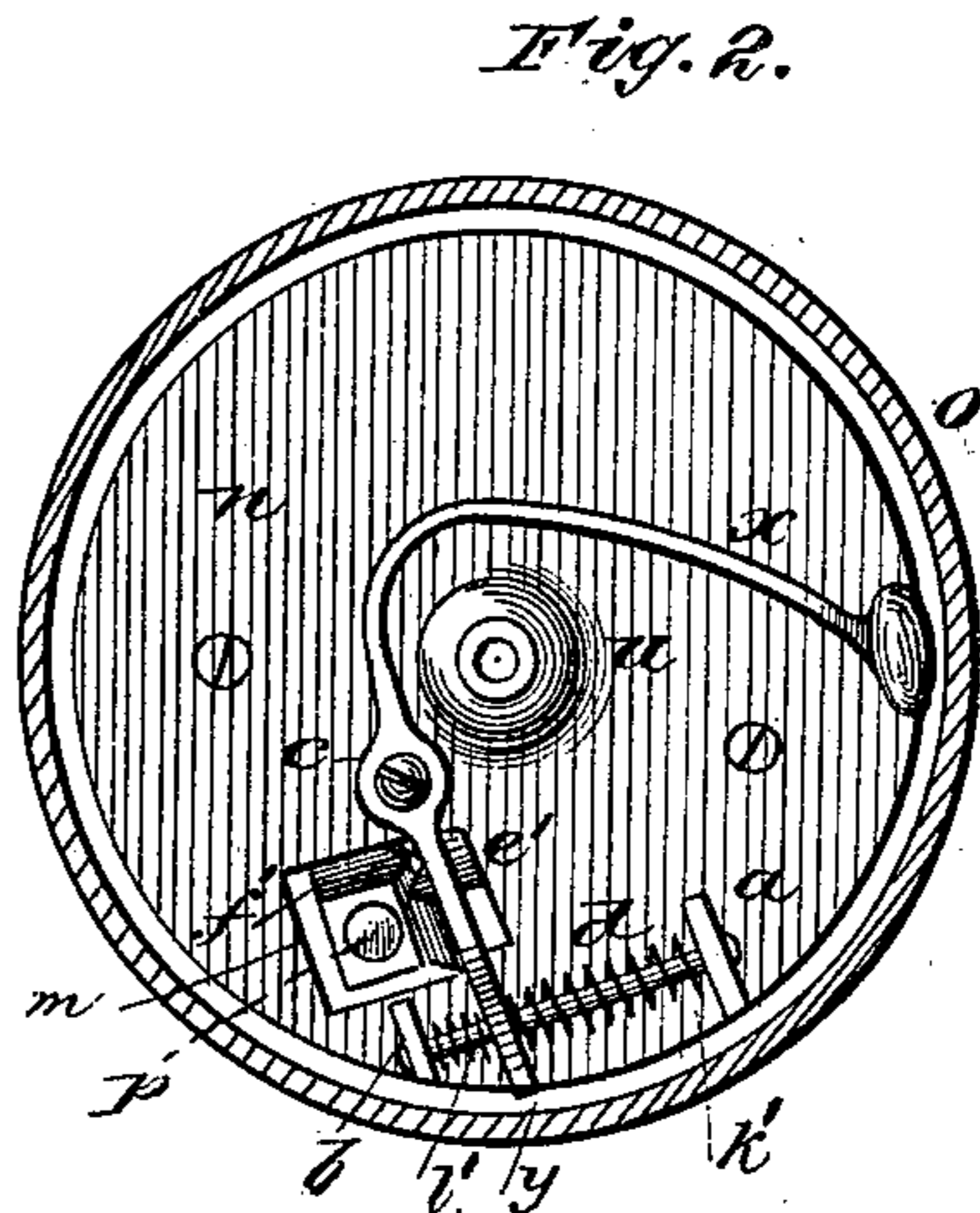
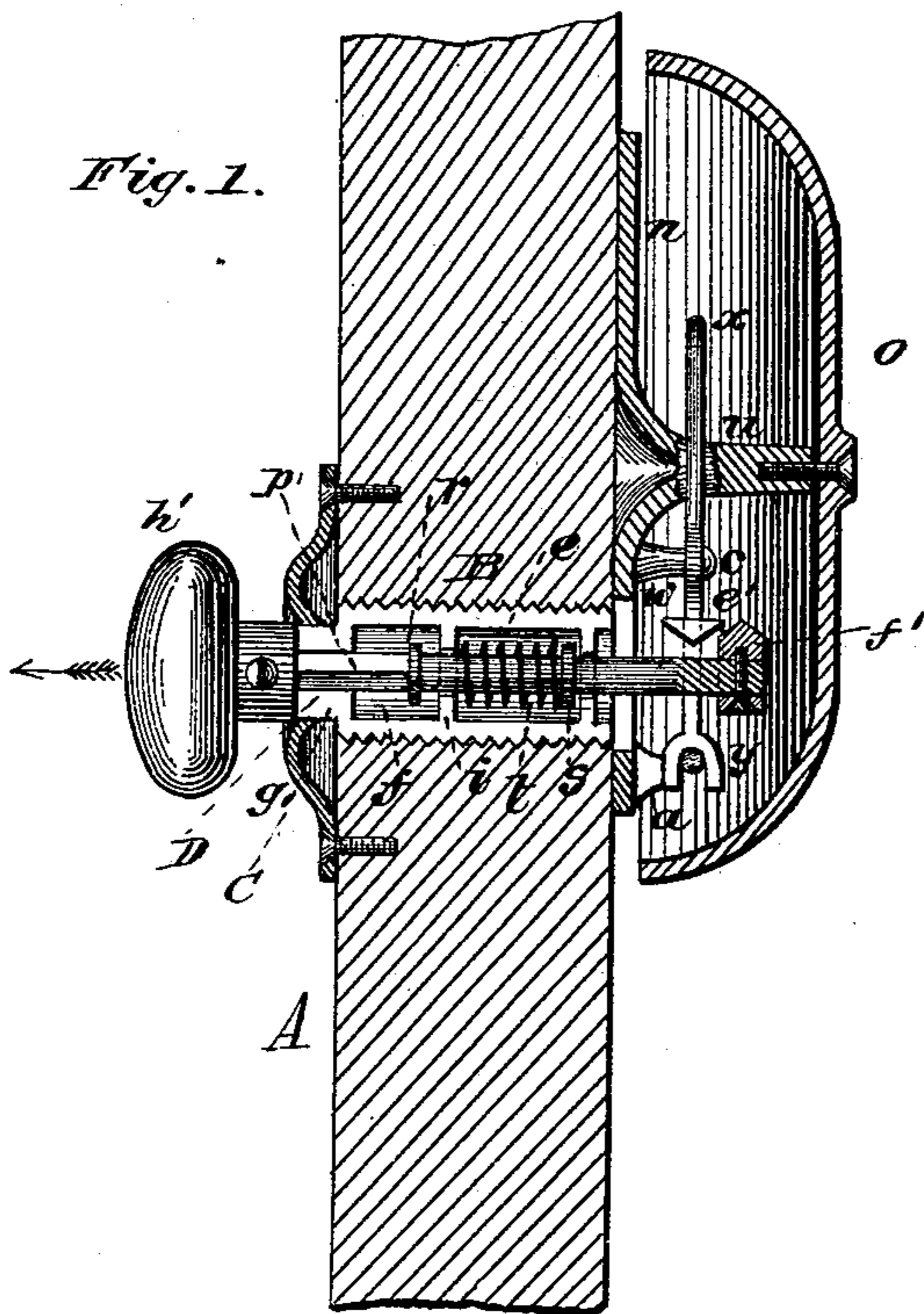
(No Model.)

J. J. JOHNSTON.

DOOR BELL.

No. 253,610.

Patented Feb. 14, 1882.



WITNESSES

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DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 253,610, dated February 14, 1882.

Application filed January 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. JOHNSTON, of Columbiana, in the county of Columbiana and State of Ohio, have invented a certain new and useful Improvement in Door-Bells; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in door-bells; and it consists in making the chamber for the operating-lever cylindrical and in two parts, with its outer wall furnished with screw-threads and its outer end with a square projection for turning the cylindrical chamber in the bore made in the door-jamb for its reception; and in the combination, with the said cylindrical chamber, of an operating-lever furnished with adjustable inclines, a hammer pivoted to a disk having corresponding inclines, an operating-spring, and a detachable bell secured to a projection on said disk, the whole combined and arranged to cover said hammer, spring, and inner end of the operating-lever.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a vertical section of a door-jamb furnished with my improved door-bell, representing the bell, disk, inner end of the operating-lever and its adjustable inclines, and the washer on the outer end of the door-jamb. Fig. 2 represents a transverse section of the bell and a face view of the disk and hammer to which said bell and hammer are attached. Fig. 3 represents one-half of the cylindrical chamber for the operating-lever. Fig. 4 represents an end view of the cylindrical chamber when the two halves of said chamber are placed together. Fig. 5 is a side view of the operating-lever. Fig. 6 is a detail view.

In the accompanying drawings, A represents the door-jamb.

B and B' represent the cylindrical chamber for the operating-lever A', which chamber is constructed in two parts. The part B' is furnished at each end with projections *h*, which fit into recesses *g* in the ends of the part B of

said chamber, which chamber is divided into two compartments, *e* and *f*, by means of a partition, *i*. The outer walls of the parts B and B' of said chamber are furnished with screw-threads *j*, which, when the parts B and B' are united, form one continuous screw-thread around said chamber. The outer end of the chamber is furnished with a square projection, C, which has a square opening, D, through it for the reception of the square part *p'* of the operating-lever. The partition *i* and inner end of the parts B and B' are furnished with semi-circular recesses *k* and *l*, which, when the parts B and B' are placed together, form a circular opening corresponding to the round portion *p* of the operating-lever A'.

The operating-lever A' is furnished with collars *r* and *s* and a detachable and adjustable piece, *f'*, having inclines. The operating-lever A' on its outer end is furnished with an ordinary knob, *h'*, for operating it. The disk *n* is secured by means of screws to the inner edge of the door-jamb, as indicated in Fig. 1. Said disk has two projections, *u* and *w*. Upon the projection *u* is secured, by a screw, the bell *o*, which is of ordinary construction. The hammer *x* is pivoted at *c* on the end of the projection *w*, and is furnished with inclines *e'*, which correspond to the inclines *f'* on the inner end of the operating-lever A', which is clearly indicated in Fig. 6. The disk *n* has two projections, *a* *b*, for supporting a rod, *k'*, upon which are springs *d* and *l'*. The forked end *y* of the hammer *x* straddles the rod *k'*, the spring *d* being on one side of said fork *y* and the spring *l'* on the other side. The spring *a'*, being strongest, is employed for imparting the desired stroke of the hammer *x* against the bell, the spring *l'* being used for holding the hammer *x* back from the bell, as shown in Fig. 2. The disk *n* is furnished with an opening, *m*, for the passage of the inner end of the operating-lever A' and the adjustable and detachable piece *f'*.

In hanging the bell the lever A' is furnished with a spiral spring, *t*, as shown in Fig. 1. The lever is then placed in one half of the cylindrical chamber, with the collar *s* and spiral spring *t* in the compartment *e* of said chamber and the collar *r* in the compartment *f*, as shown in Fig. 1. Then the two parts B and B' are placed

together, as shown in Fig. 4. The operator then bores a suitable hole of proper diameter in the door-jamb for receiving the cylindrical chamber, which, being entered, is, by means of
 5 a wrench, placed upon the projecting square C, secured in the door-jamb. A washer, *g'*, is then placed on the projecting square C, which is secured to the door-jamb by screws, as shown in Fig. 1. The operating-lever A' is then fur-
 10 nished with the operating-knob *h'*. The disk *n*, furnished with the hammer *x*, rod *k'*, and springs *d* and *l*, is then secured to the inner edge of the door-jamb. The inner end of the operating-lever A' is then furnished with the detach-
 15 able and adjustable piece *f'*, as shown in Figs. 1, 5, and 6. The bell *o* is then secured on the projection *u* of the disk *n*.

The operation of the bell is as follows: By pulling on the knob *h'*, as indicated by the ar-
 20 row in Fig. 1, one of the inclines of the piece *f'* will act against one of the inclines of the piece *e'*, which will throw back the hammer *x*, and the spring *d*, acting upon the forked end *y* of the hammer, will cause it to strike a sud-
 25 den blow on the side of the bell *o*. The operator, releasing his pull upon the knob *h'*, the spring *t*, acting against the collar *s*, will throw back the operating-lever A', causing the other incline of the piece *f'* to operate against the

other incline of the piece *e'* on the hammer *x*, 30 thereby causing a second stroke of the hammer *x* upon the bell *o*.

Having thus described my improvement, what I claim as of my invention is—

1. In a door-bell, the cylindrical chamber B 35 and B', made in two parts, having compartments *e* and *f*, partition *i*, square projection C, projections *h*, and recesses *g*, with openings D, *k*, and *l*, the outer walls of said parts B and B' furnished with screw-threads *j*, in combina- 40 tion with the operating-lever A', having a square portion, *p'*, round portion *p*, with collars *r s*, and spiral spring *t*, substantially as herein described, and for the purpose set forth.

2. In a door-bell, the combination of the cy- 45 lindrical chamber, constructed in two parts, B and B', operating-lever A', having detachable and adjustable piece *f'*, disk *n*, having projec- tions *w* and *u*, hammer *x*, having projections *e'*, and springs *d* and *l*, and the bell *o*, secured 50 to the projection *u* of said disk, substantially as herein described, and for the purpose set forth.

JAMES J. JOHNSTON.

Witnesses:

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