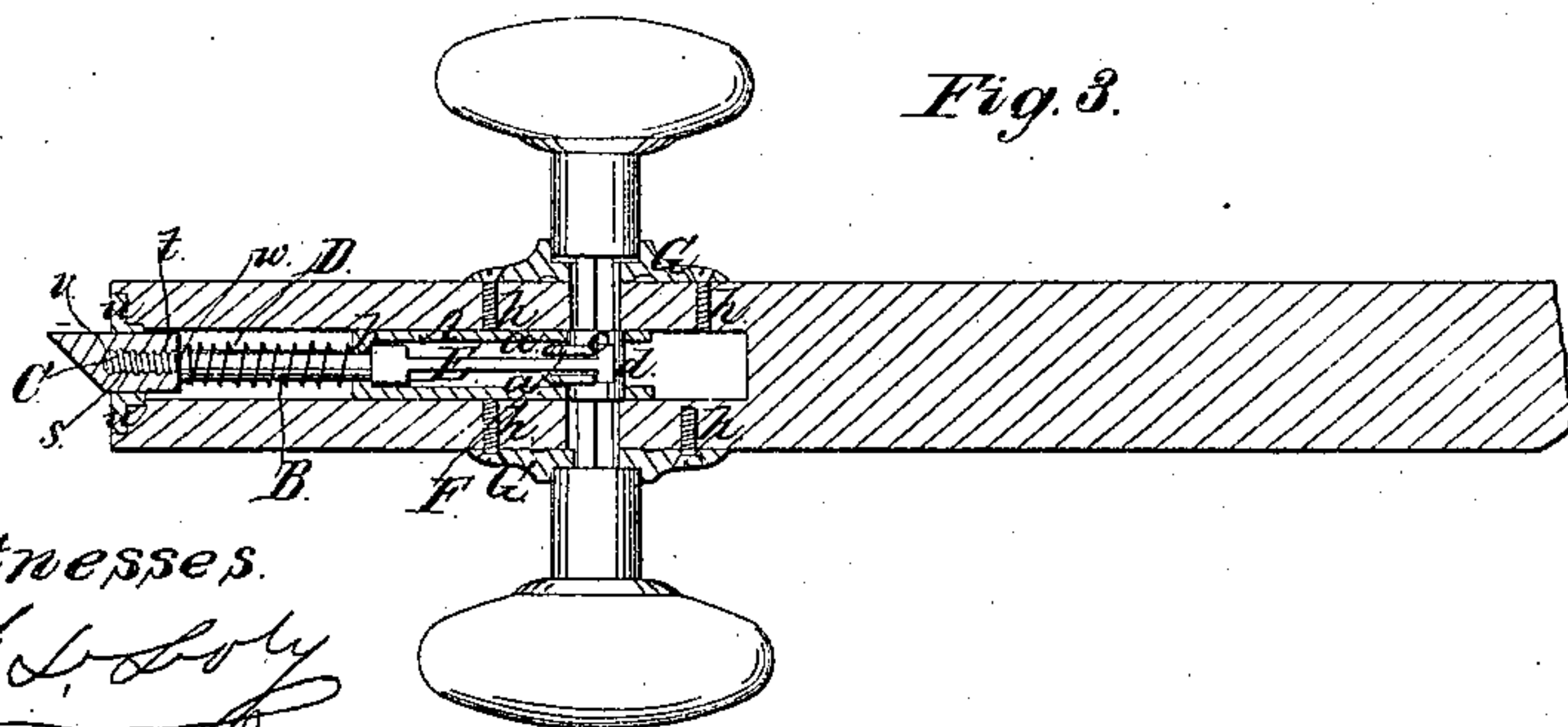
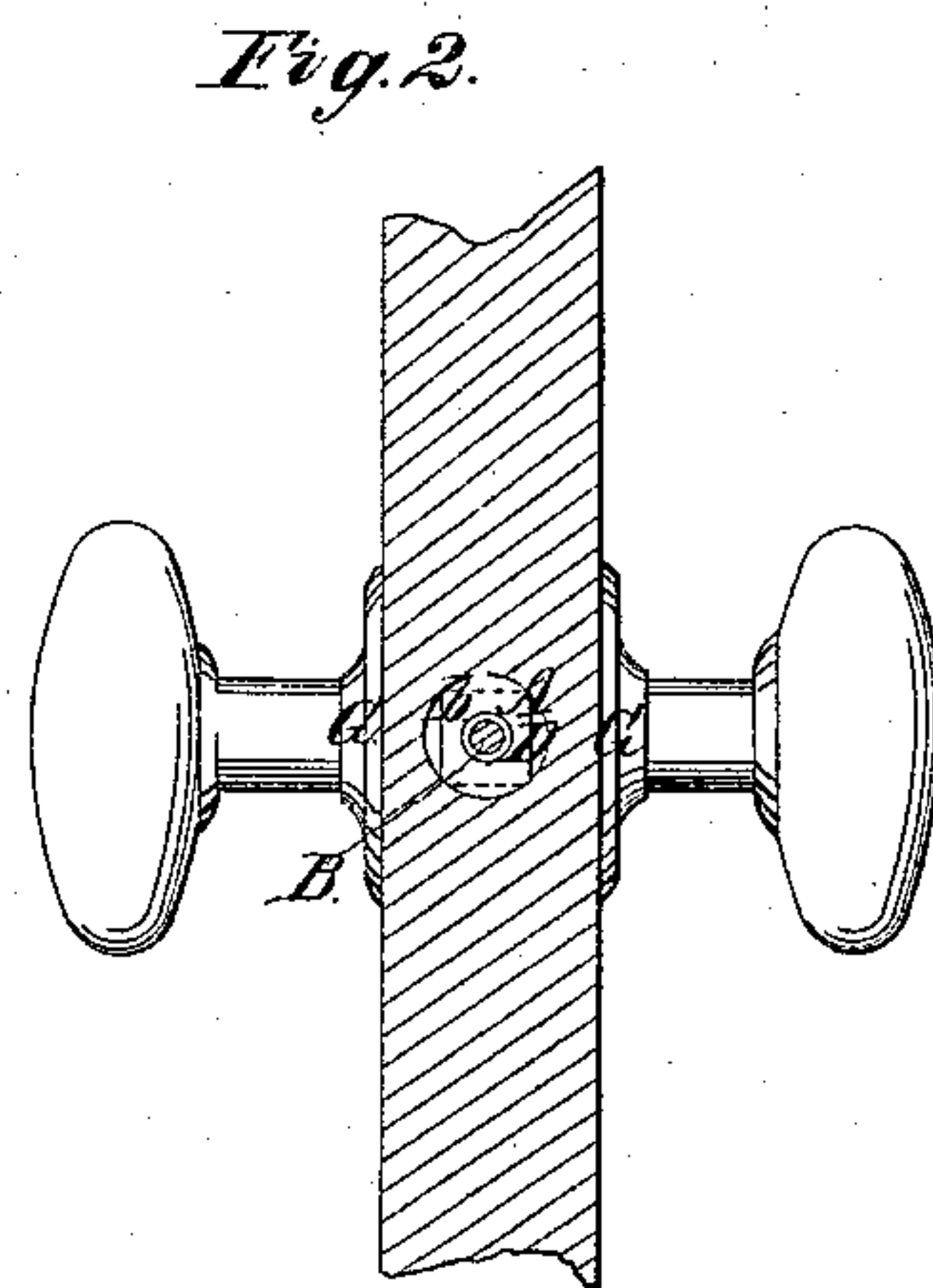
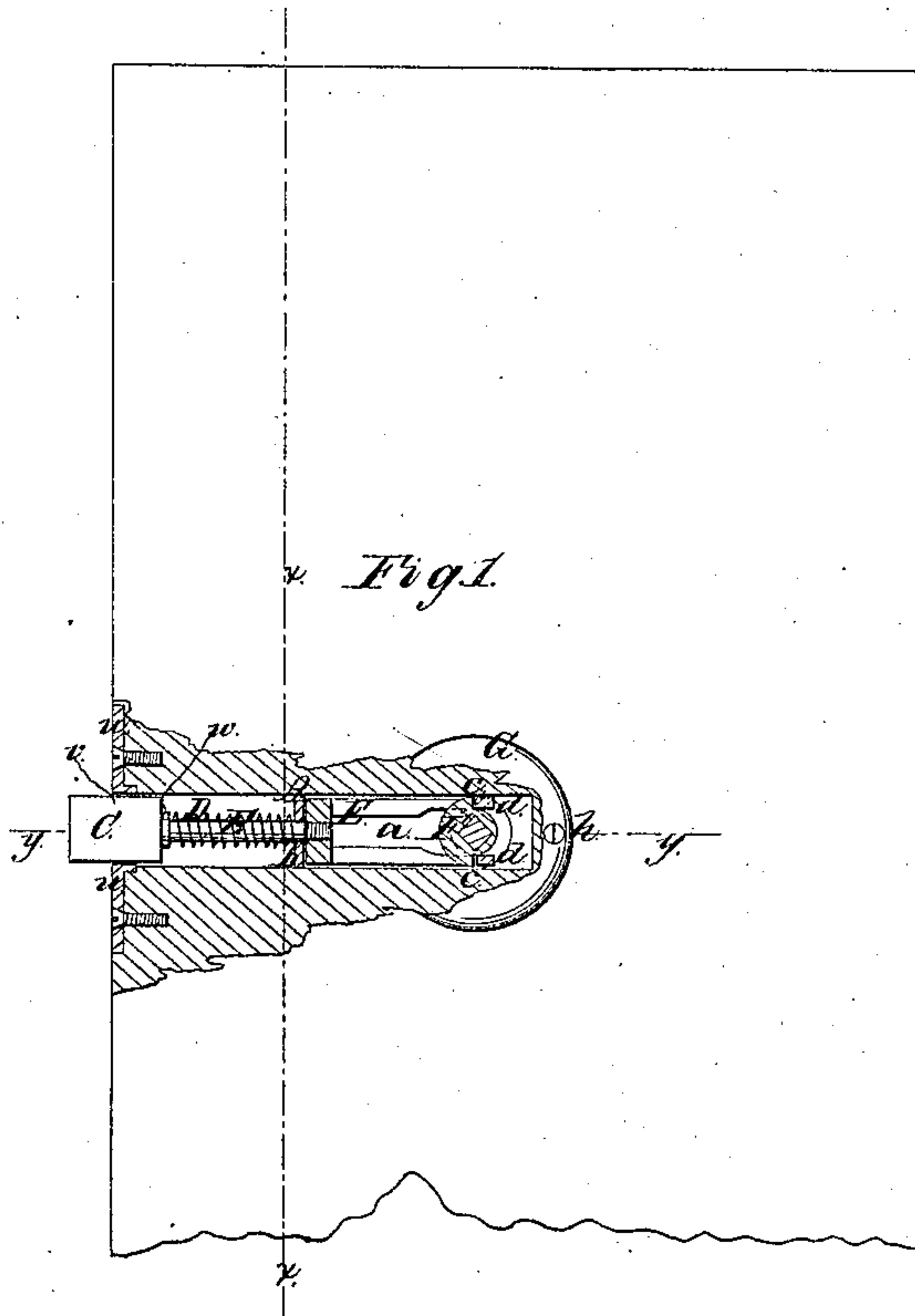


*M. Howland,*

*Door Latch.*

*N<sup>o</sup> 24,214.*

*Patented May 31, 1859.*



*Witnesses.*

*J. L. Soly*  
*Jonathan Highmore*

*Inventor.*

*Mark Howland*



# UNITED STATES PATENT OFFICE.

MARK HOWLAND, OF WATERBURY, CONNECTICUT.

## DOOR-LATCH.

Specification of Letters Patent No. 24,214, dated May 31, 1859.

*To all whom it may concern:*

Be it known that I, MARK HOWLAND, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new and Improved Door-Latch; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical and central section of my invention applied to a door. Fig. 2, a transverse vertical section of the same, taken in the line *x, x*, Fig. 1. Fig. 3, a horizontal section of the same, taken in the line *y, y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of my invention consists in the within specified relative arrangement for united operation, of the latch with female adjusting screw thread socket, latch guide plate with square opening, latch shank with male screw thread on its front end, stationary-slotted guide case, shoulder on the latch shank, spiral spring, sliding connecting link or plate with cross heads, of the latch shank and the knob double acting tumbler, for the purpose herein described. By this arrangement of the parts relatively to one another it is believed that the well known and very desirable character of door latch which can be fitted to the door by merely making an auger hole is simplified and rendered more compact, and consequently can be introduced into a smaller auger hole and can also be conveniently adjusted to compensate for swellage or allow for shrinkage of the door, without increasing or lessening the tension of the spring which controls the action of the latch.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents what may be termed the case of the latch, said case being formed of two parallel parts *a, a*, connected at their front ends only, by a cross piece *b*, which serves as a guide for a rod B, at the end of which the latch C, is attached. The attachment of the latch to the shank or rod B, is effected by means of a female screw socket *s*, formed in the latch and a male screw thread *b*, formed on the shank or rod B. The latch C, is of the usual form, beveled at one side as shown clearly in Fig. 3, and is arranged to slide back and forth through a

guide plate *u*, which has a square opening *v*, cut through it corresponding to the latch. The shank or rod B, has a shoulder *w*, formed on it, as shown between the shoulder *w*, and guide or cross piece *b*, of the case A, and on the rod B, a spiral spring D, is placed, said spring having a tendency to keep the latch forced to its fullest extent from the end of the case A.

The inner end of the rod B, screws into the end of a plate E, which is slotted longitudinally and is allowed to slide freely in the case A. The inner end of the plate E, fits over a tumbler F, through which the spindle of the knob passes, said tumbler having two shoulders *c, c*, on it which shoulders catch against cross heads *d*, on the sliding plate E as shown clearly in Figs. 1 and 3. The tumbler F, is fitted in the inner part of the case A, and is allowed to turn freely therein, and the shoulders *c*, on the tumbler when said tumbler is turned, actuate or force back the plate E, and consequently the rod B, and latch C. The case A, is fitted in the door by simply boring an auger hole therein, as the case A, does not require to be any wider than the latch. No mortising or trimming up with the chisel is required. A hole is made transversely through the door to allow the spindle of the knob to pass through the tumbler F.

The shrinkage or swellage of the door is compensated or allowed for, by screwing the latch farther on or off of the shank or rod B. This is effected by withdrawing the knob that passes through the tumbler F, and pulling out the latch until its rear end extends forward of the front of the guide plate *u*, and then turning the latch free of its shank or rod B, so as to cause it to extend a shorter or greater distance from the guide plate *u*, or in proper position with the edge of the door and the nosing of the jamb to readily enter and remain in the nosing of the jamb however much the door may be shrunk or swelled. It should be particularly observed that the foregoing adjustments are effected without affecting the tension of the spring for the reason that the spring is arranged between the shoulders *w*, and the crosspiece *b*, of the stationary case A. It is very important not to affect the spring, in accomplishing the adjustment, for when the spring is affected, as in other cases, it either becomes too elastic or remains nearly unelastic, according as the adjustment is made.



The plate E, working in the case A, forms a perfect guide for the rod B, and as but a small auger hole is required to receive the case A, the screws *h*, of the knob plates G, 5 may be screwed into solid wood and be firmly secured.

I am aware that it is quite common to have tumblers fitted in cases on a knob spindle and arranged so as to act directly 10 on a slide or bolt, and I do not claim broadly or separately such device; but,

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

15 The within specified relative arrangement

for united operation of the latch C, with female screw threaded socket *s*, latch guide plate *u*, with square opening *v*, latch shank or rod B, with male screw thread *f*, on its front end, stationary slotted guide case A, 20 *b*, *a*, *a*, shoulder *w*, on the latch shank or rod B, spiral spring D, sliding connecting link or plate E, with cross heads *d*, *d*, and double acting knob tumbler F, *c*, *c*, all for the purpose herein set forth.

MARK HOWLAND.

Witnesses:

J. D. Doty,  
JONATHAN HIGHMORE.