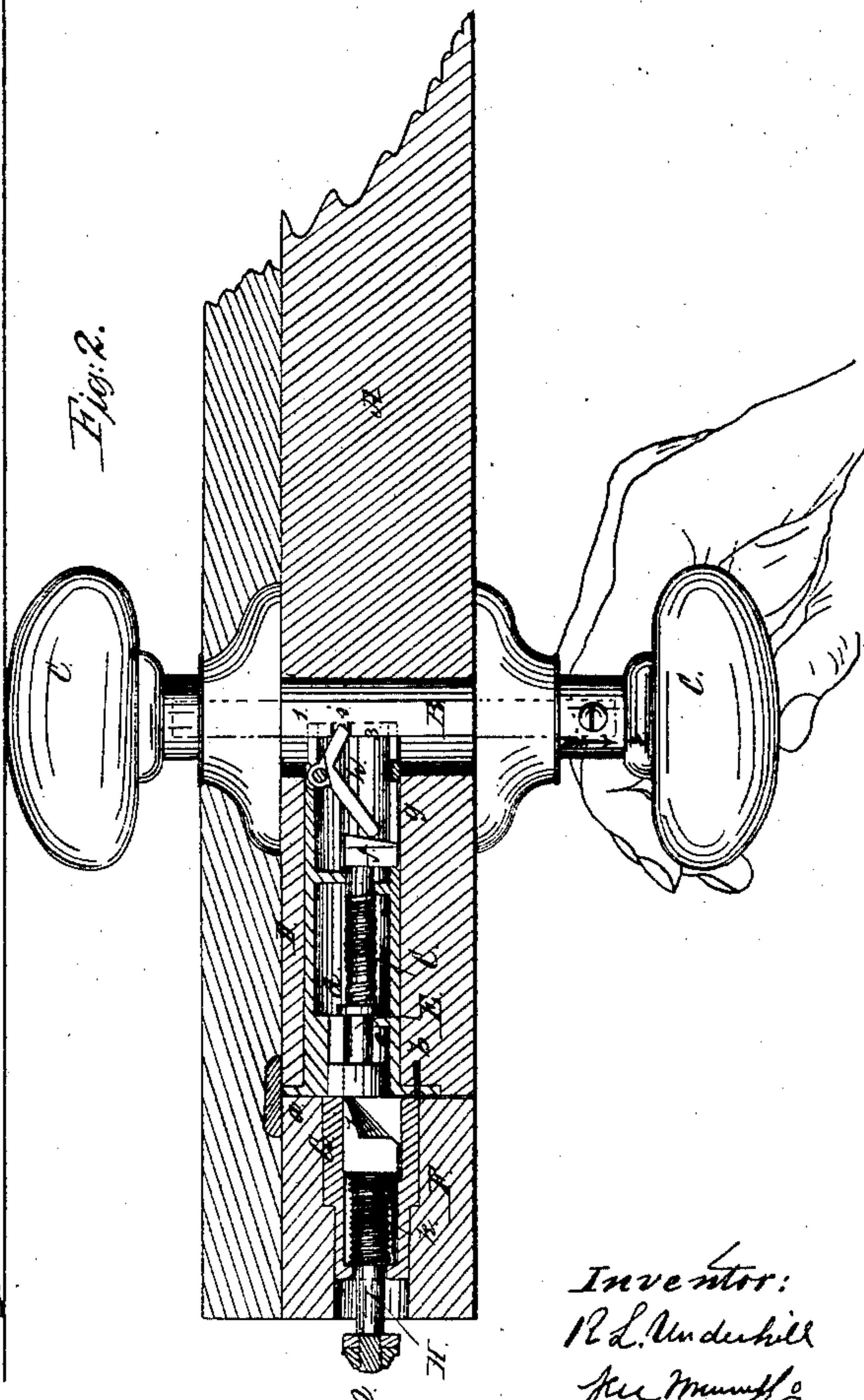
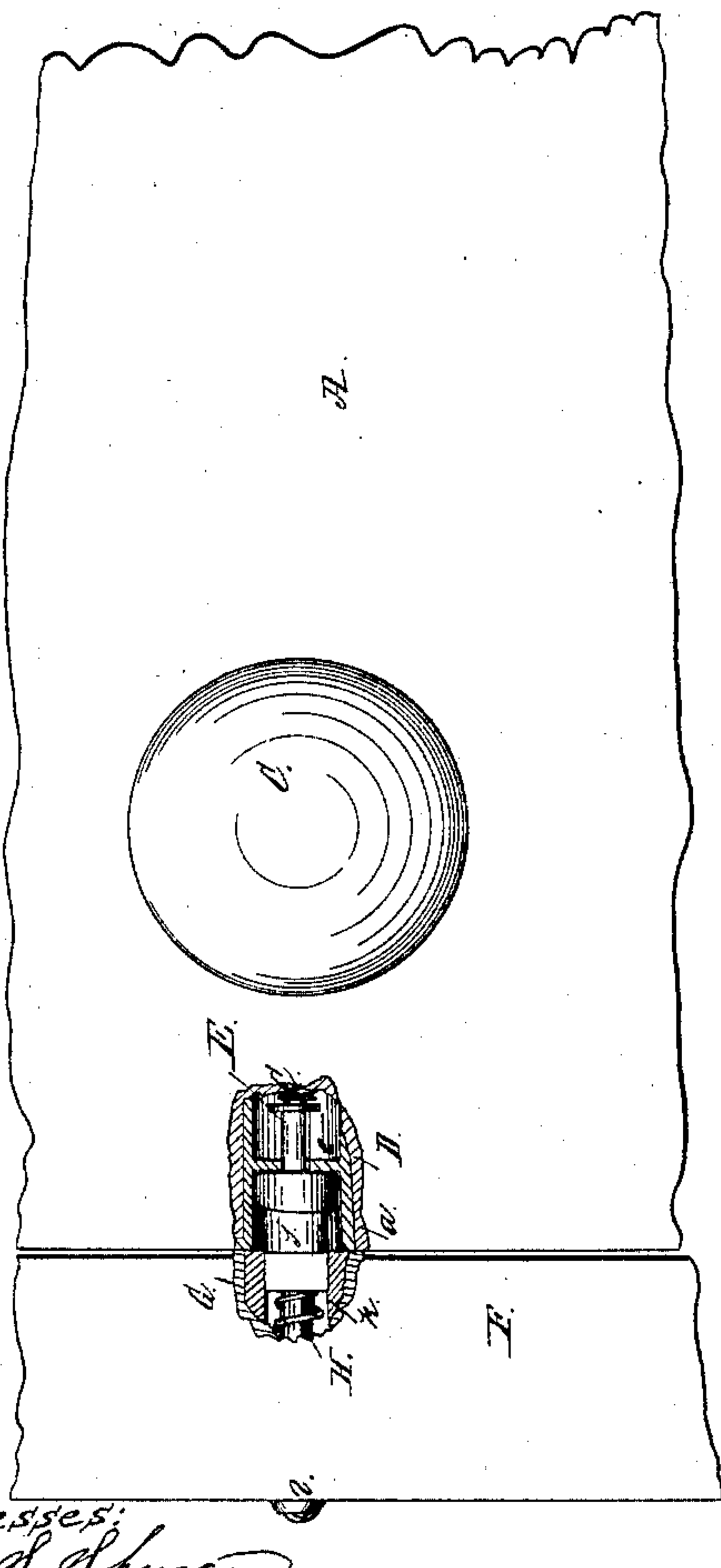
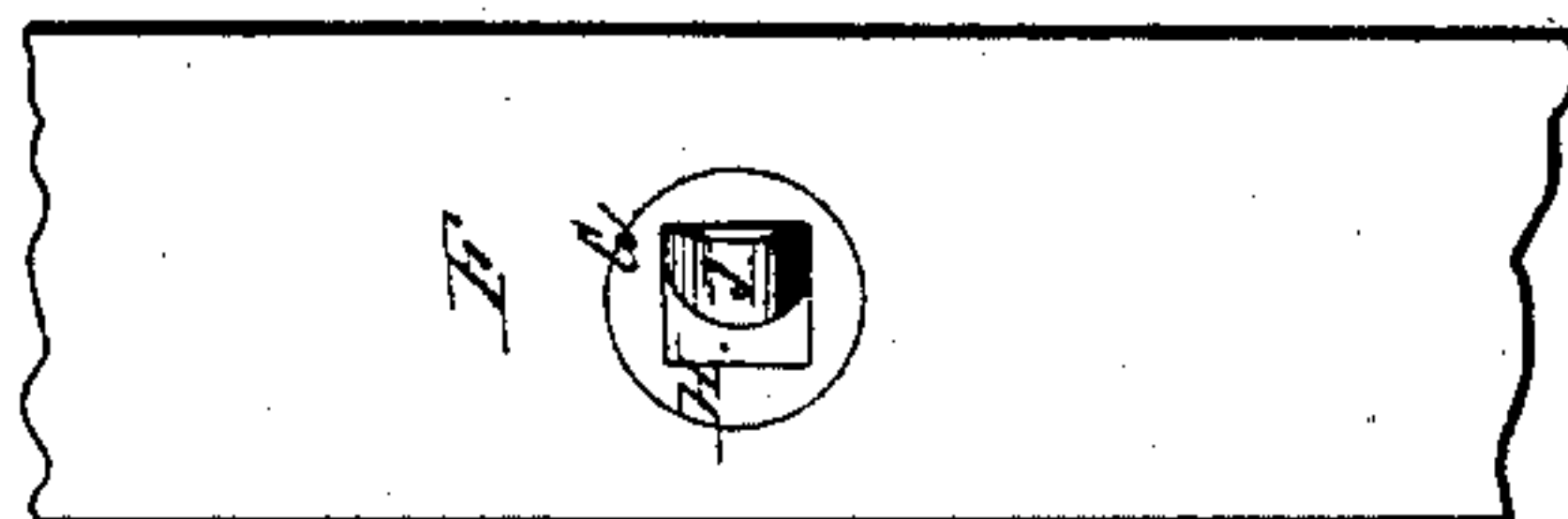


Patented May 22, 1860.



Inventor:
R. L. Underhill
per Mumf &
Attorneys

Witnesses:
R. S. Spencer
J. W. Cornely

UNITED STATES PATENT OFFICE.

R. L. UNDERHILL, OF BATH, NEW YORK.

DOOR-LATCH.

Specification of Letters Patent No. 28,425, dated May 22, 1860.

To all whom it may concern:

Be it known that I, R. L. UNDERHILL, of Bath, in the county of Steuben and State of New York, 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 side view of a portion of a door and its framing with my invention applied to it. Fig. 2 a horizontal section of ditto the plane of section passing centrally through the latch. Fig. 3 is an end view of the bolt which is fitted in the door. Fig. 4 an end view of the bolt which is fitted in the stile of the door frame.

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

The object of this invention is to obtain a latch of simple construction that may be readily applied to a door and operated with greater facility than those of usual construction, so that a child or a person with the hands occupied in holding articles, can readily actuate the latch and open the door, as the turning of the knob is not required as hitherto to effect the result; the invention at the same time obviating the exposure of the latch when the door is open, and thereby preventing the tearing of ladies' dresses a contingency which frequently occurs in the use of the ordinary door latches.

The invention consists in having the knob-arbor so arranged that it may slide longitudinally in the door and transversely therewith, said arbor being connected with a slide bolt through the medium of a lever or an equivalent device and using in connection with the above a spring bolt fitted in the stile of the door frame and operating in relation therewith as hereinafter shown and described to effect the desired end.

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

A, represents a portion of a door to which my invention is applied, and B, is a knob-arbor which passes transversely through the door A, and is provided with a knob C, at each end. The arbor B, is allowed to slide a certain distance in the door A. Into the edge of the door A, a metal tubular case D, is fitted said tube having a face plate a, at its outer end, through which screws b,

pass into the door and secure the case D, in the door.

Within the case D, a bolt E, is fitted longitudinally with a spiral spring c, around it, said spring having a tendency to keep a collar d, on the bolt in contact with a stop e, in the case D, in which position the outer end of the bolt is flush with the edge of the door as shown clearly in Fig. 2. The inner end of the bolt E, is provided with a head f, one end of which projects through a slot g, in the inner part of the case. In the inner part of the case D, a bent lever h, is secured, the inner end of said lever being fitted in a notch i, in the arbor B.

In the edge of the stile F, of the door frame there is fitted a tubular case G. This case G, is in line with the case D, and within the former there is placed a bolt H, the outer end of which is beveled as shown at j, said beveled end being precisely similar to the ends of the ordinary door-latch bolts. On the bolt H, a spiral spring k, is placed said spring being much stiffer than the spring c, on the bolt E. The outer end of bolt H, works through the back of the case G, said end having a nut l, on its end to serve as a stop.

The operation is as follows: When the door A, is closed, the arbor B, is shoved inward and the lever h, will be turned or moved in the direction indicated by the arrow 1, Fig. 2, and as the spring k, is stiffer than the spring c, on bolt E, the latter will be placed back within its case D, and the bolt H, will retain or hold the door in a closed state see Fig. 1. In order to open the door the arbor B, is drawn outward as indicated by arrow 2, and the lever h, is moved in the direction of arrow 3, forcing the bolt E, outward which presses the bolt H, fully within its case G, as shown in Fig. 2, thereby permitting the door to open by continuing the pull or draw on the arbor in the direction of arrow 2. It will be seen therefore that the door may be opened by simply drawing the knob-arbor no turning of the knob being required and consequently the door may be readily opened. It will also be seen that the bolt H, in consequence of being fitted in the edge of the stile F, is not exposed and will therefore not serve as a means to catch dresses as is the case with the usual latches.

I am aware that locks or latches have been

devised with knob-arbors so arranged as to move at right angles with the latches or bolts, but none, so far as I am aware, have been arranged as herein shown so as to obviate the exposure of the bolts when the doors are opened.

I do not claim therefore broadly the employment or use of a sliding arbor separately or in itself considered, but

10 I do claim as new and desire to secure by Letters Patent—

The employment or use, in connection with a sliding knob-arbor B, of bolts E, H, fitted respectively in the door A, and stile F, and arranged in relation with each other 15 and the knob arbor to operate as and for the purpose set forth.

R. L. UNDERHILL.

Witnesses:

T. P. PURDY,
R. UNDERHILL.