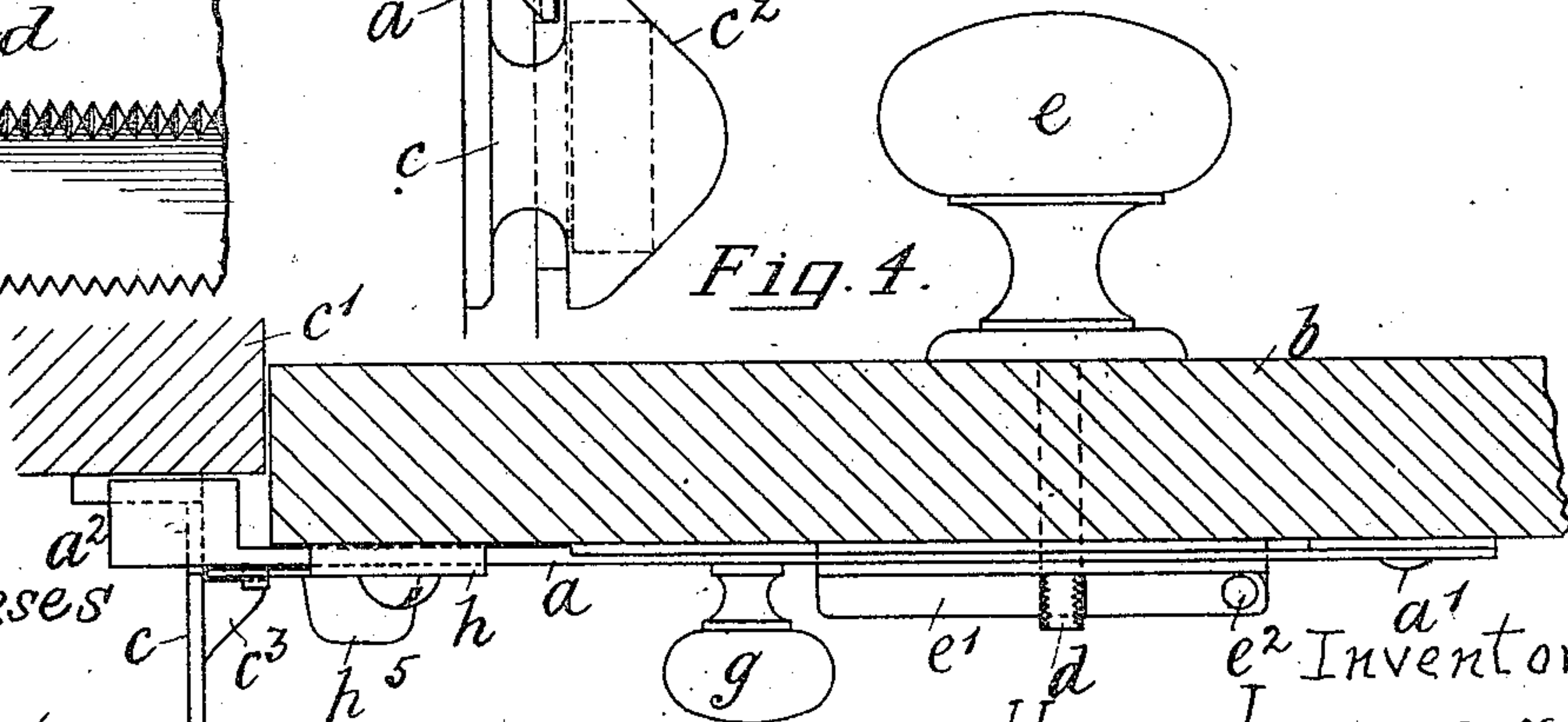
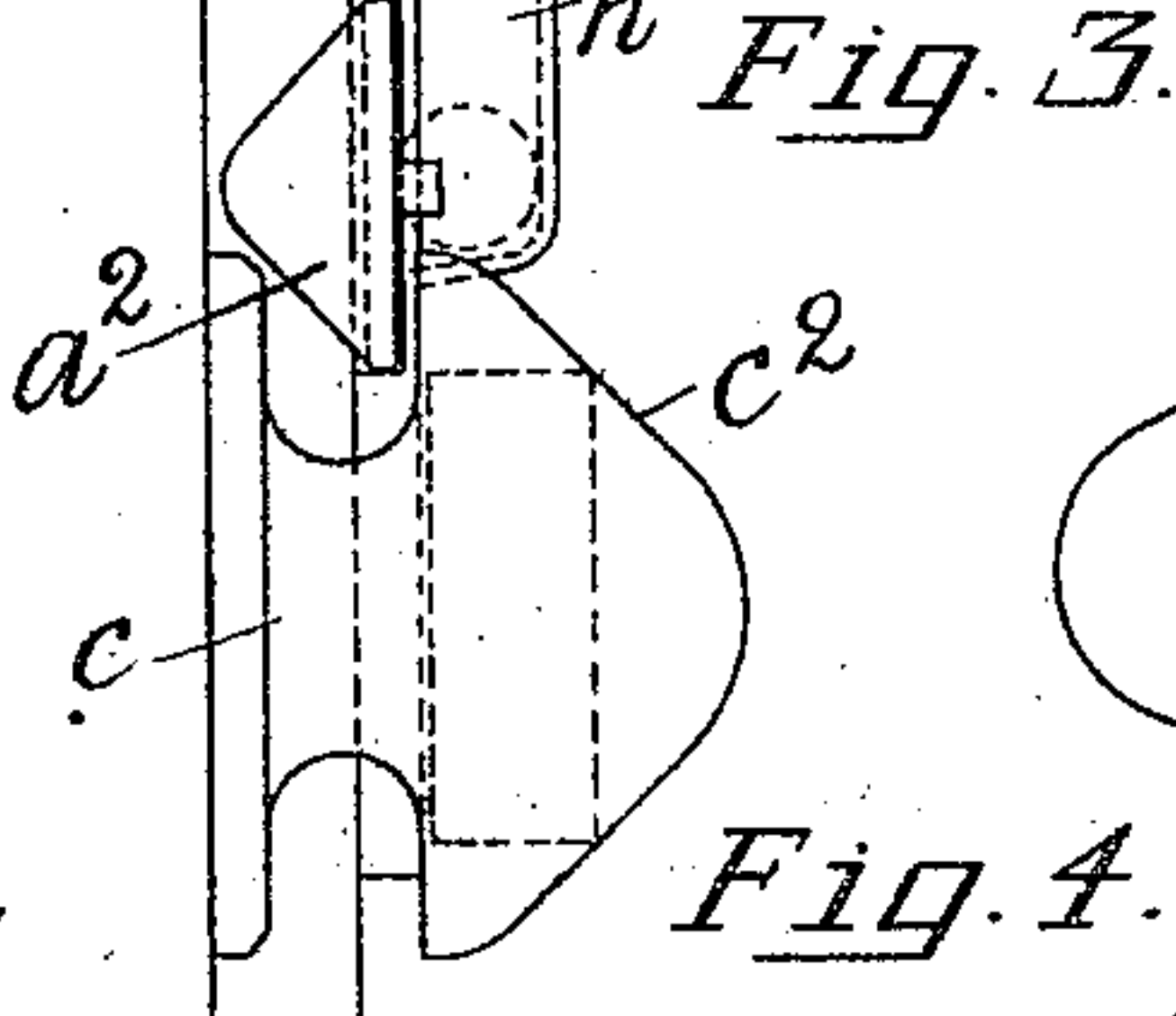
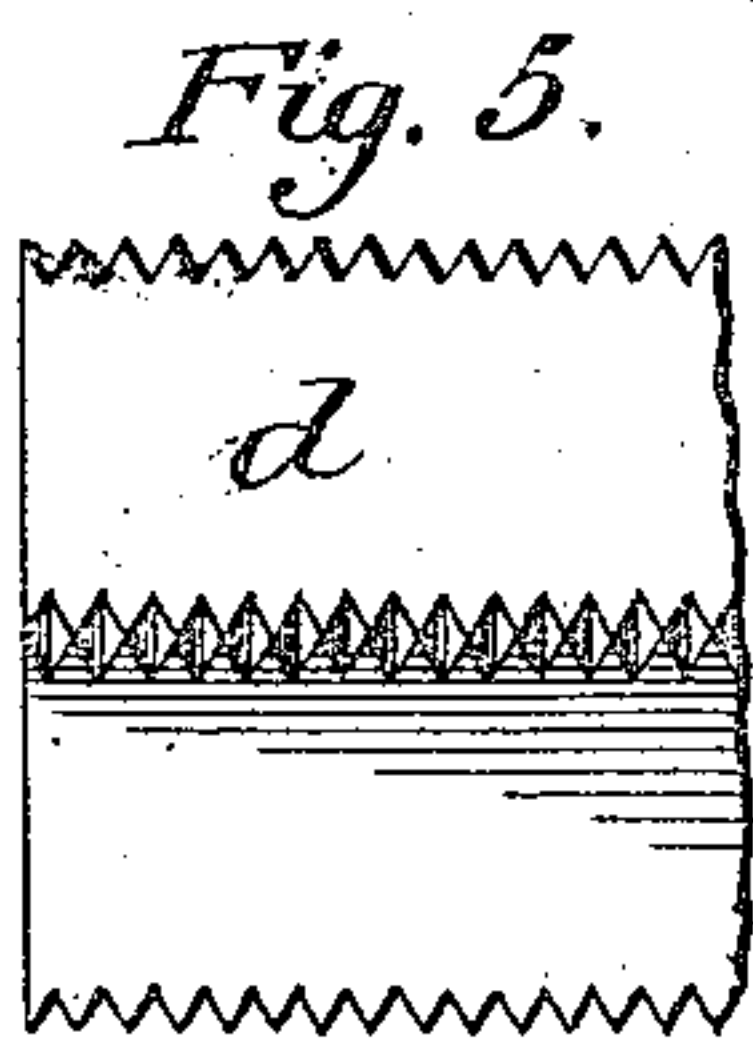
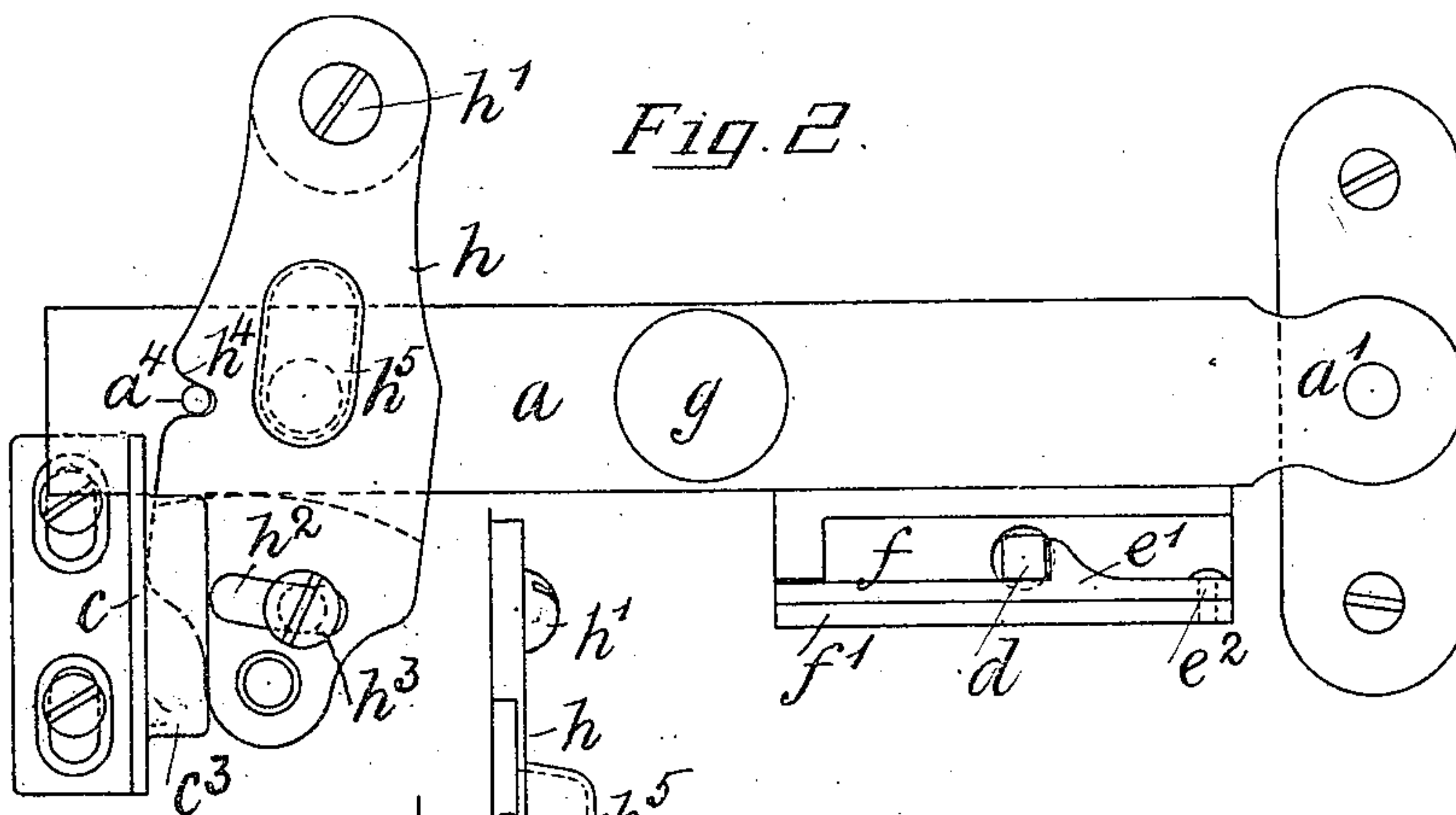
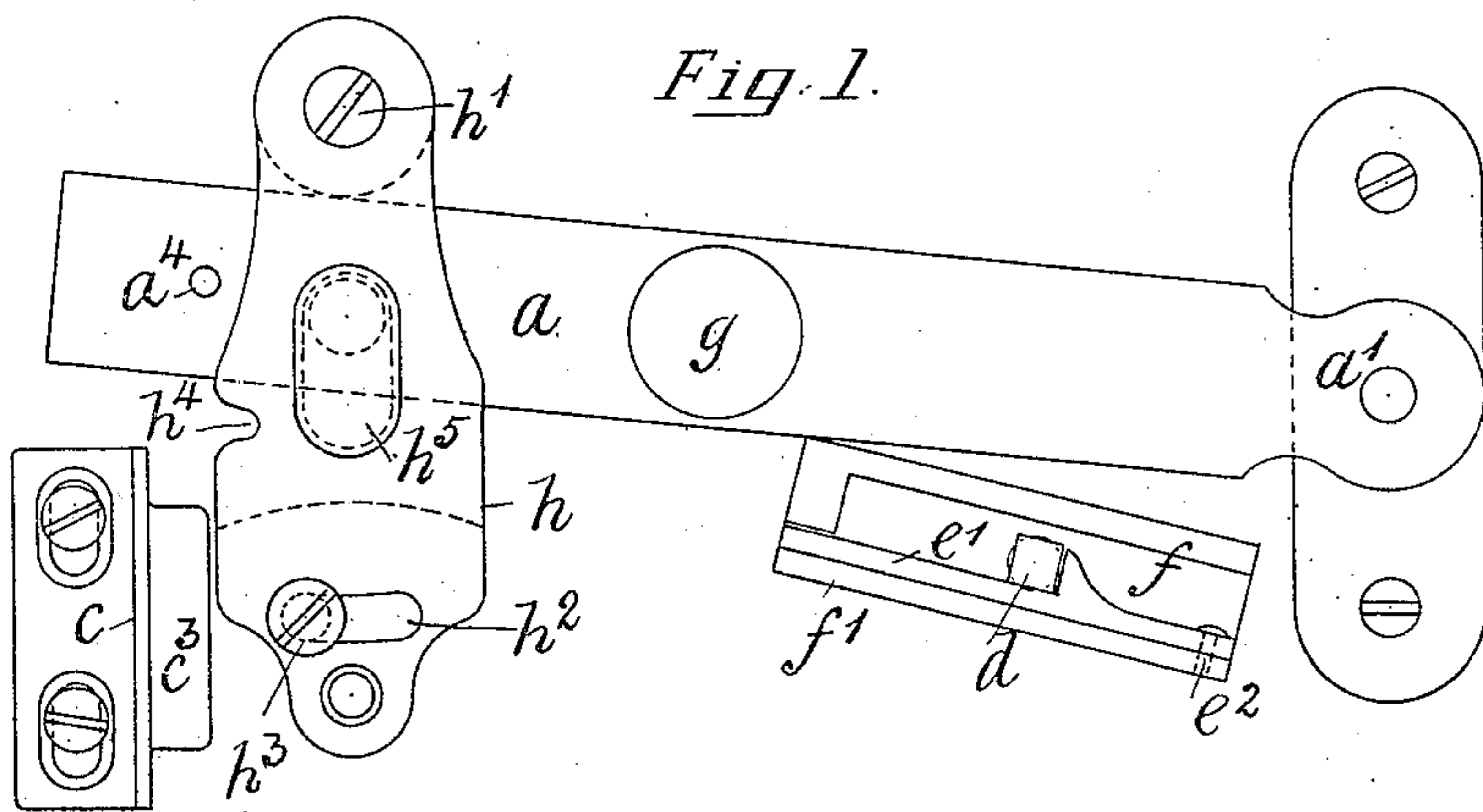


Patented Oct. 9, 1900.

DOOR LATCH.

(Application filed Aug. 12, 1899.)

(No More)



Witnesses

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Edward P. Thompson

UNITED STATES PATENT OFFICE.

HENRY LOMAX AND JOHN TOMLINSON, OF DARWEN, ENGLAND.

DOOR-LATCH.

SPECIFICATION forming part of Letters Patent No. 659,633, dated October 9, 1900.

Application filed August 12, 1899. Serial No. 727,002. (No model.)

To all whom it may concern:

Be it known that we, HENRY LOMAX and JOHN TOMLINSON, subjects of the Queen of Great Britain, residing at Darwen, in the county of Lancaster, England, have invented certain new and useful Improvements in Door-Latches, (application for patent having been filed in Great Britain on February 13, 1899, and numbered 3,145,) of which the following is a specification.

This invention relates to latches for doors and the like; and it consists in an improved construction and combination of the parts thereof, the object of the improvements being chiefly to secure the latch in its closing position in a simple and inexpensive manner and obtain a more secure fastening of the door or the like.

On the drawings annexed hereunto, Figure 1 shows an elevation of the latch in its opened position, and Fig. 2 a similar view of the closed latch; Fig. 3, an end view of the catch and latch, and Fig. 4 a plan of Fig. 2. Fig. 5 is a view, on an enlarged scale, of the spindle shown more or less in most of the figures.

The latch-bolt or hinge-bolt *a*, hereinafter called the "bolt," is hinged at *a'* to the door *b*, as usual, and at the other free end is preferably formed with an inclined striking-face *a''*, which upon the closing of the door comes into contact with the catch *c*, fixed to the door-frame *c'*, which catch, as usual, is formed with an inclined striking edge *c''*. When closing the door, the incline *a''* strikes against the edge *c''* and the bolt is easily lifted.

Instead of a thumb-plate for lifting the latch-bolt we employ a spindle *d*, having a knob *e* fixed upon the spindle *d* on the outside of the door, the latch being, as is customary and for obvious reasons, fixed upon the inside of the door. On the inside of the door a bar *f* is fixed upon the spindle for the purpose of lifting the bolt, and is hereinafter called the "lifter." This lifter is preferably tapped and screwed upon the end of the spindle *d*, which is round in the part passing through the door. The end of the spindle *d* is made square and screw-threaded to receive the lifter *f*. In view of the smallness of the scale of Figs. 1, 2, and 4 this construction is not clear, but will become apparent by reference

to Fig. 5, which shows the spindle with the squared end, which end is threaded, whereby the threads occur on the corners of a four-sided spindle. The lifter *f* is of channel-section or with a projecting flange *f'* as the bottom, upon which a locking-link *e'* is hinged at *e''*. When this is pulled outward, the spindle *d* can be turned by means of the knob *e* and the knob *e* and lifter *f* drawn together as close to the door *b* as may be desired, and then by turning the locking-link *e'* back into the position shown on the drawings the spindle *d* and lifter *f* are locked together, so that the bolt *a* is lifted when the knob *e* is turned. On the inside the bolt can be lifted by means of the knob *g*, fixed thereto.

For the purpose of locking the latch from the inside of the door we make the latch-guard *h* act as a locking device for preventing the bolt *a* from lifting. This we do by pivoting the latch-guard *h* upon a screw *h'* at the top and governing its movement by means of a slot *h''* in the lower end, through which a headed pin or screw *h'''* passes into the door or a fixture thereto. A notch *h'''* is formed in the side of the latch-guard, which notch engages with a pin *a''*, fixed in the bolt *a*, when the latch-guard *h* is shifted sideways into the position shown on Fig. 2, while the bolt is engaged in the catch *c*. For the purpose of reducing the friction of the bolt on the guard when the door is pulled to a covered recess *h''''* may be formed on the guard, containing a ball or its equivalent bearing against the end of the recess and the latch-bolt.

In order to further secure the door, a projection *e'''* is preferably formed on the inside face of the catch *c*, behind which the latch-guard *h* slips when pushed sideways to lock the bolt *a*, the guard-plate thus acting as another latch-bolt and the door being doubly secured.

What we claim as our invention is—

1. The combination with a hinged latch-bolt and a catch for the same of a latch-guard pivoted at one end, a pin fixed in the free end of said bolt and a notch in the edge of said latch-guard engaging with the pin when the free end of the guard is pushed sideways while the bolt is engaged in the catch.

2. The combination with a hinged latch-

bolt and a catch for the same, of a latch-guard pivoted at one end a pin fixed in the free end of said bolt, a notch in the edge of said latch-guard engaging with the pin when the free end of the guard is pushed sidewise while the bolt is engaged in the catch, and a lateral projection on said catch behind which the latch-guard fits when pushed, as aforesaid.

3. The combination with a hinged latch-bolt and a catch for the same, of a spindle capable of turning in the door, having a knob fixed to one end and screw-threaded at its other end, said latter end being formed with flat sides, a tapped oblong lifter flanged at one side and screwed upon said spindle, and a swivel-bar pivoted on the flange of the lifter, and fitting between the same and one of the flat sides on said spindle.

4. The combination with a hinged latch-bolt and a catch for the same, of a spindle which is capable of turning in the door, and has a knob fixed to one end and is screw-threaded at its other end, said latter end being formed with flat sides, a tapped oblong lifter flanged at one side and screwed upon said spindle, a swivel-bar pivoted on the flange of the lifter and fitting between the same and one of the flat sides on said spindle, a latch-guard pivoted at one end, a pin fixed in the free end of said latch-bolt, and a notch in the edge of said latch-guard engaging with the pin when the free end of the guard is pushed sidewise while the bolt is engaged in the catch.

5. The combination of a hinged latch-bolt having an inclined striking-face at its free end a catch for the same with an inclined striking edge, a latch-guard pivoted at one end and formed with a recess opposite to the latch-bolt, a ball inserted into said recess, a pin in the free end of the latch-bolt and a notch in the edge of the latch-guard engaging therewith when the free end of the latch-guard is pushed sidewise while the bolt is engaged in the catch, a lateral projection on said catch behind which the latch-guard fits when pushed as aforesaid, a spindle capable of turning in the door having a knob fixed to one end and a tapped oblong lifter screwed upon the other end, a flange on said lifter and a swivel-bar pivoted thereon, and flat sides on the end of the spindle fitting on said swivel-bar when it rests upon the flange of the lifter.

6. The combination with a hinged latch-bolt and a catch for the same, of a swinging latch-guard pivoted at one end and having a notch in its edge, means for holding the other end stationary within predetermined limits, and a pin fixed in the free end of said bolt and adapted to become engaged in the said notch when the free end of the guard is pushed sidewise while the bolt is engaged in the catch.

In testimony whereof we have hereunto set our hands in the presence of two witnesses.

HENRY LOMAX.
JOHN TOMLINSON.

Witnesses:

CARL BOLLÉ,
R. J. URQUHART.