

A. CHARLES.

LATCH.

(Application filed Jan. 28, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

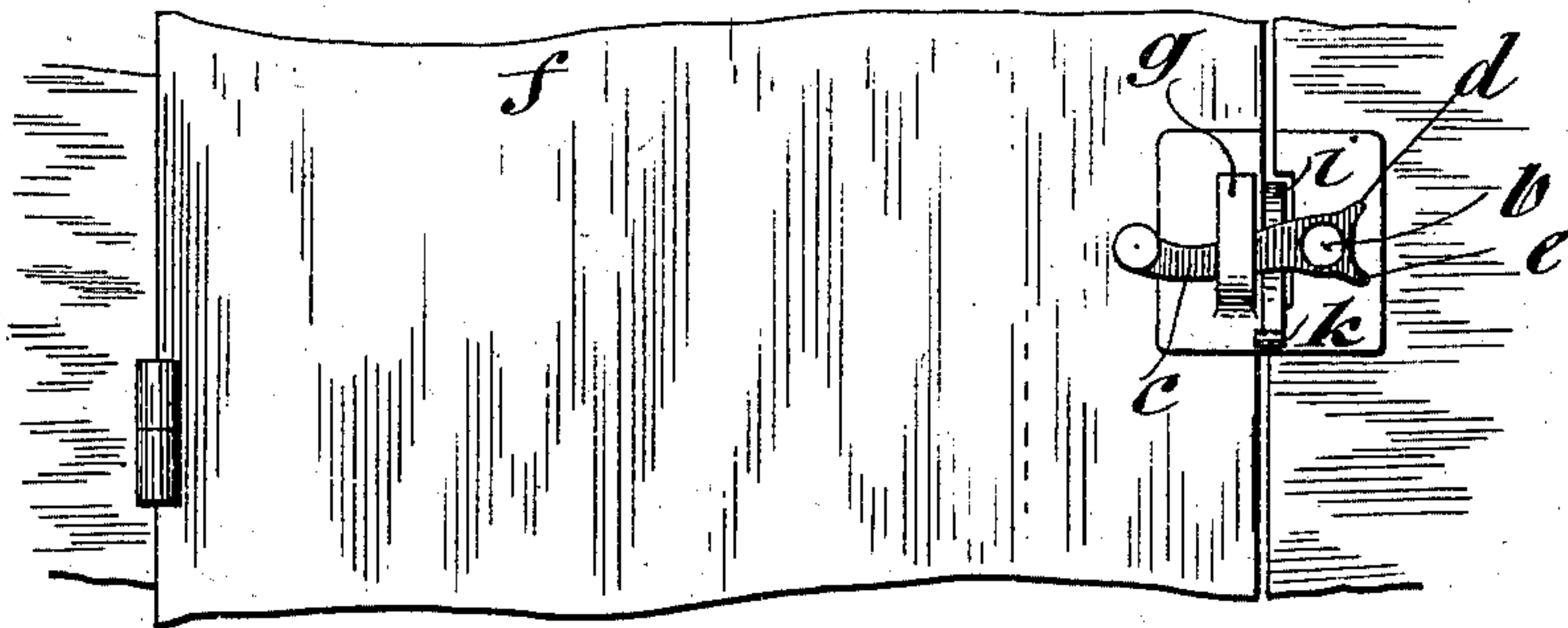


Fig. 2.

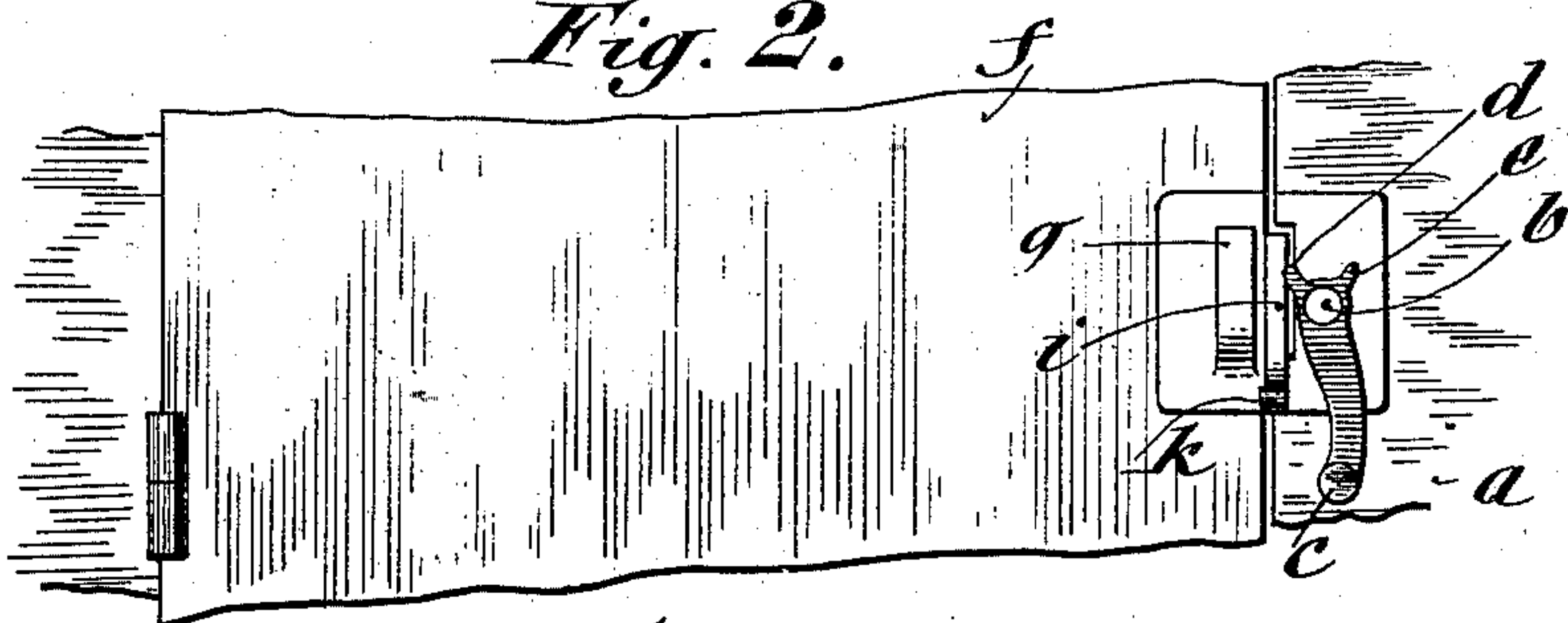


Fig. 3.

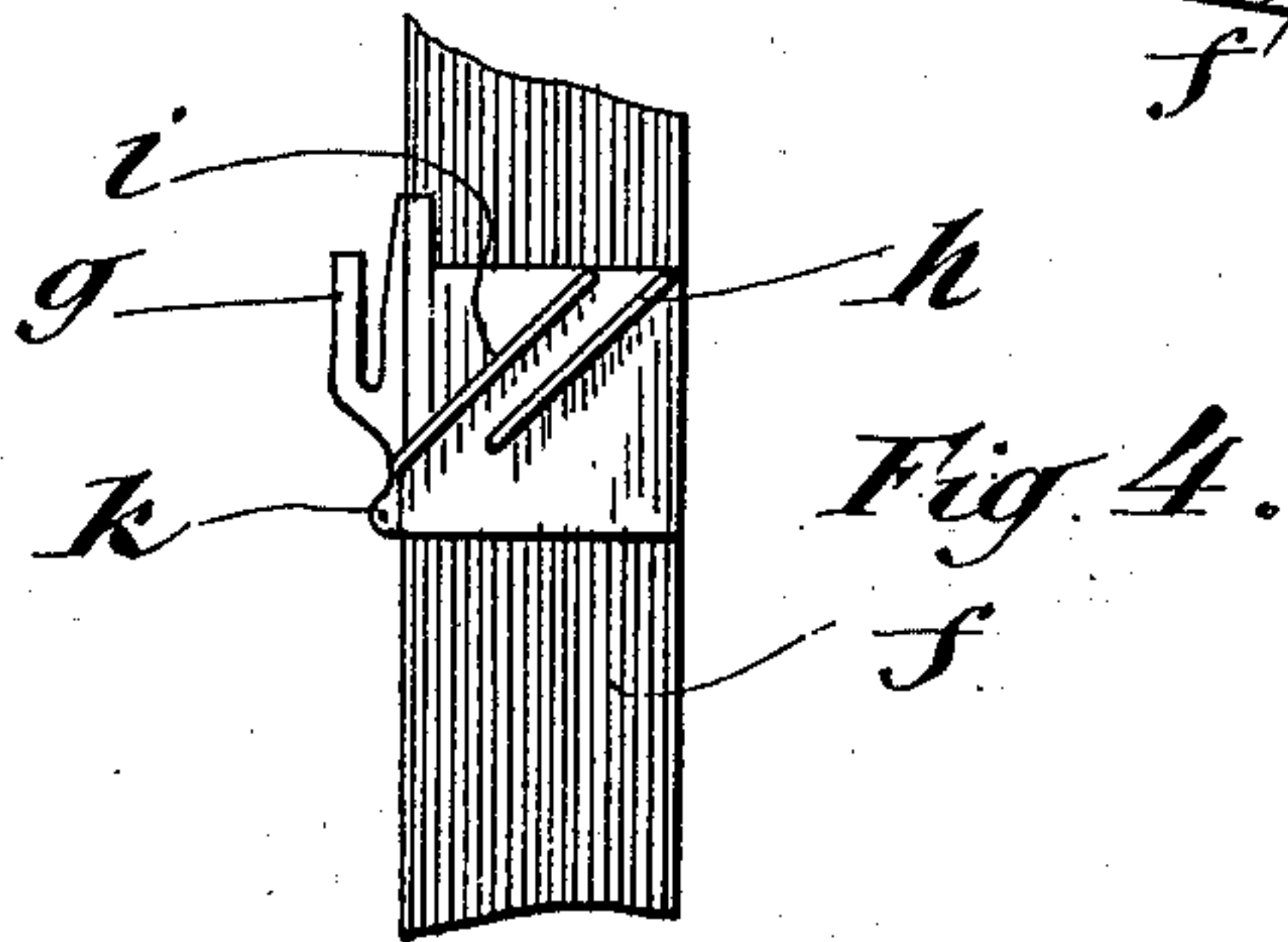
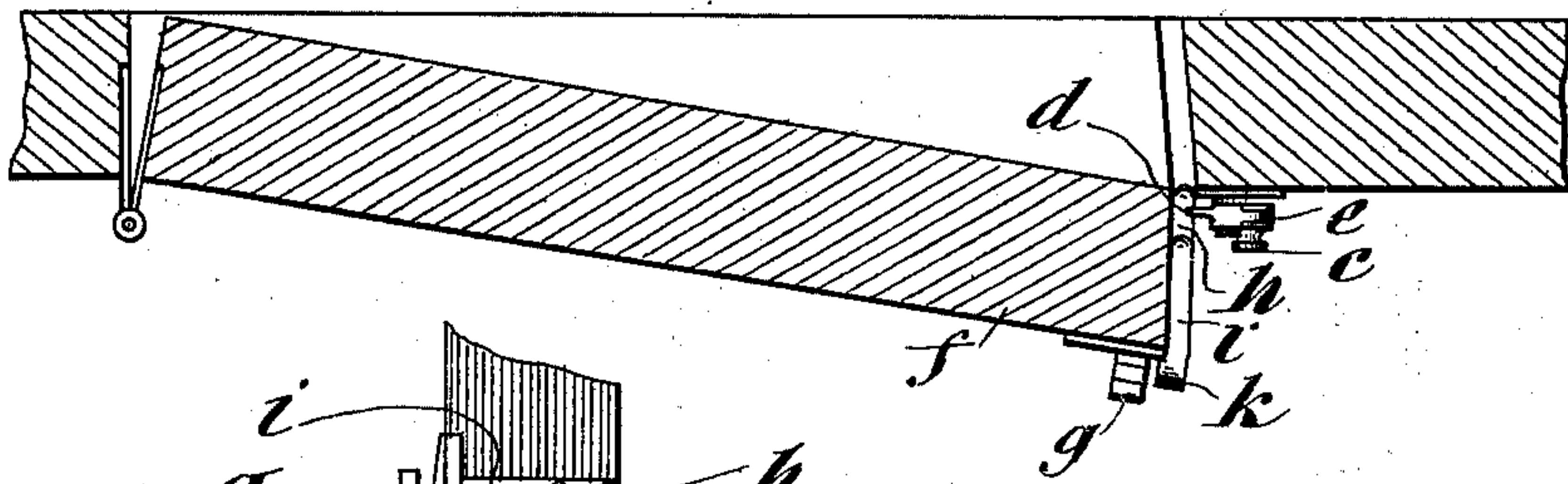


Fig. 4.

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Fig. 5.

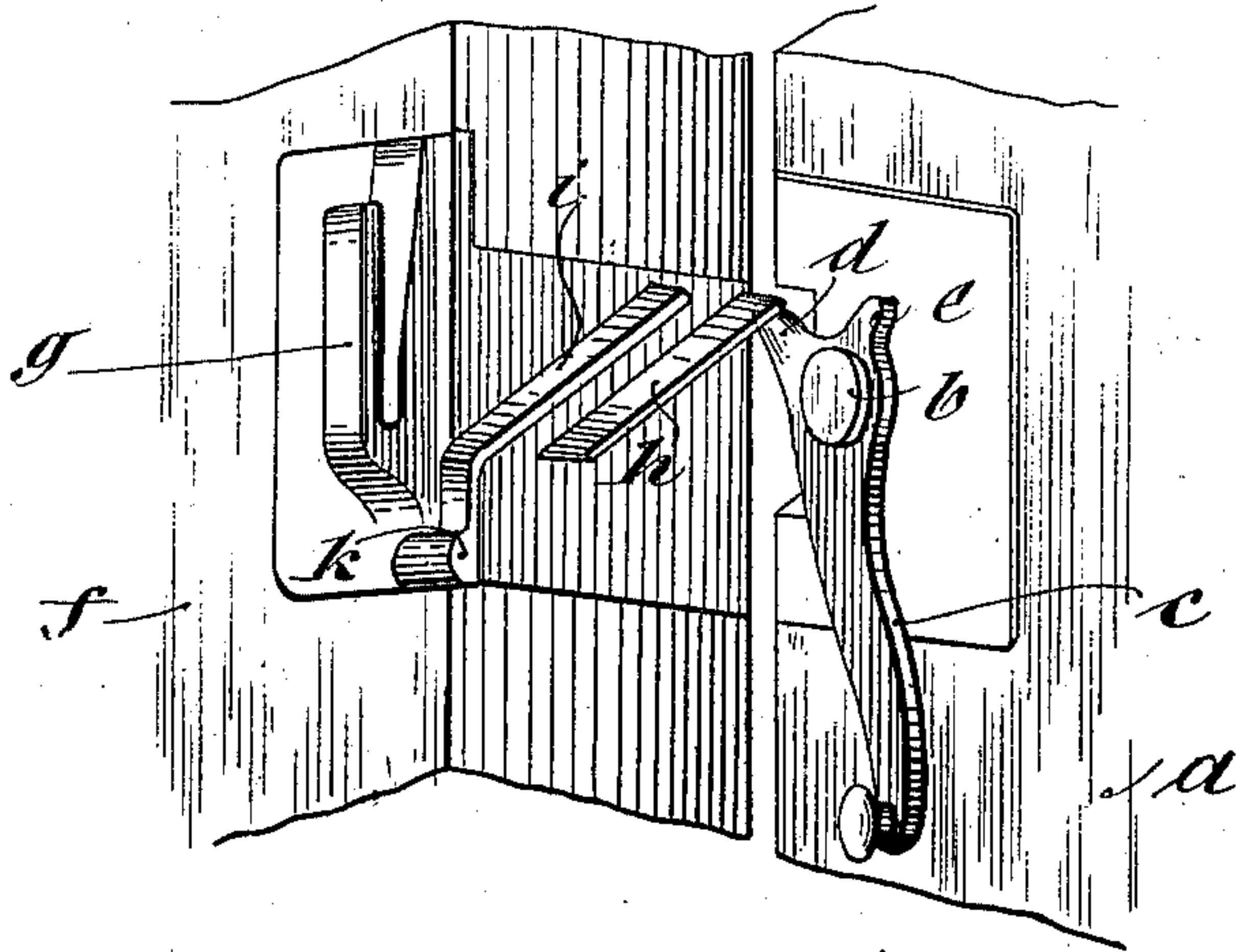


Fig. 6.

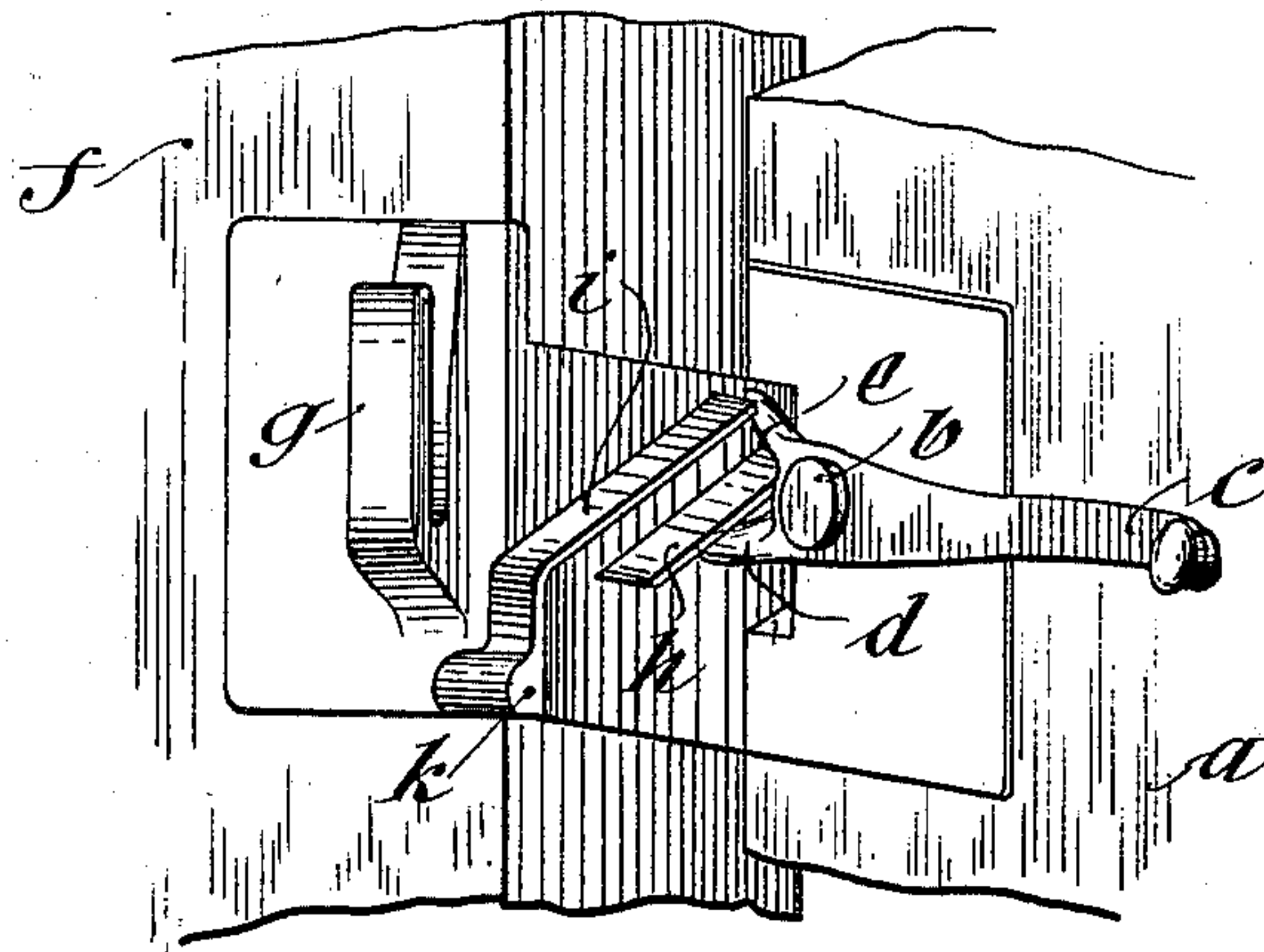
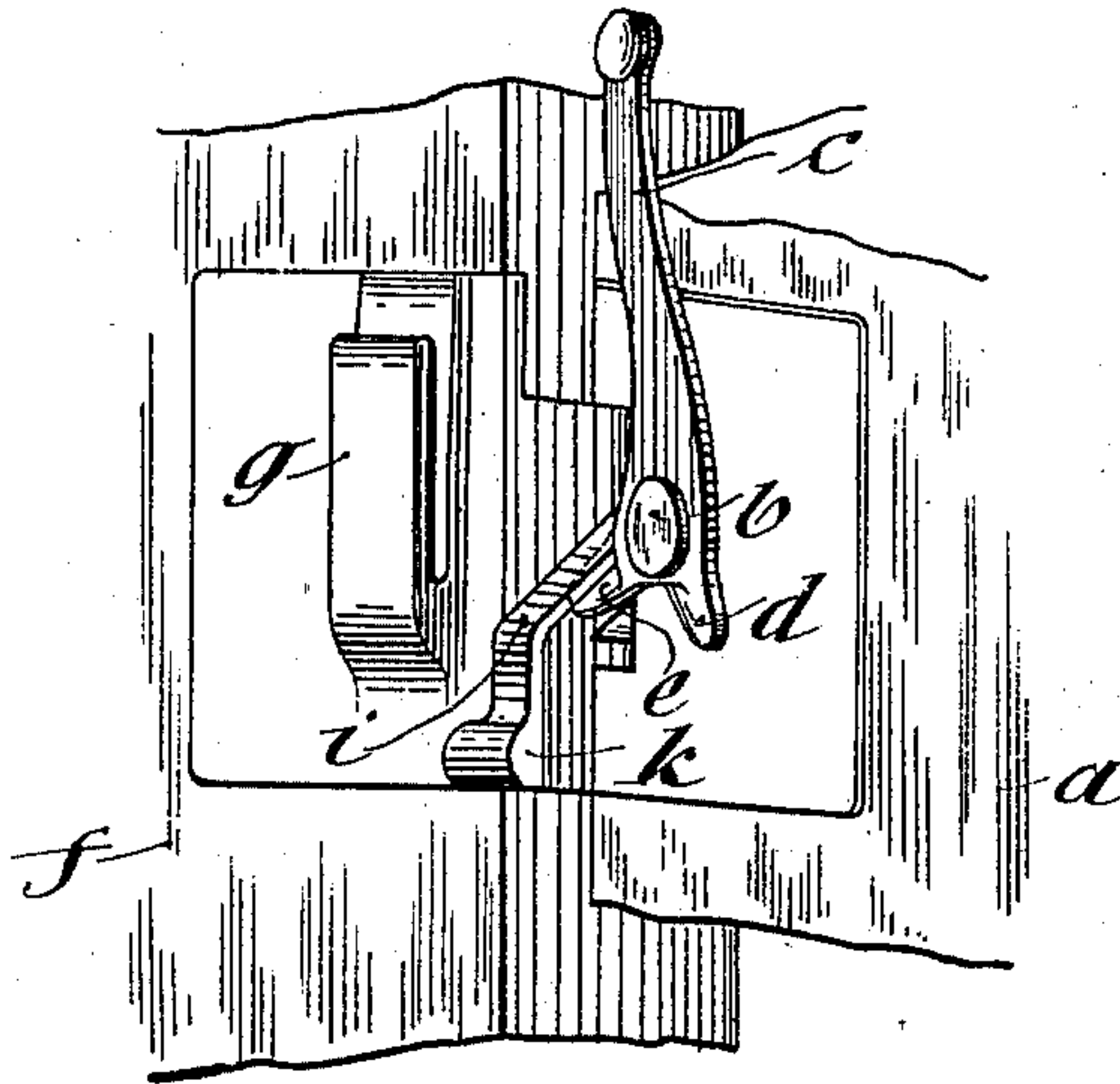


Fig. 7.



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UNITED STATES PATENT OFFICE.

ANTOINE CHARLES, OF LIEGE, BELGIUM.

LATCH.

SPECIFICATION forming part of Letters Patent No. 702,185, dated June 10, 1902.

Application filed January 28, 1901. Serial No. 45,043. (No model.)

To all whom it may concern:

Be it known that I, ANTOINE CHARLES, engineer, a citizen of Belgium, residing at Rue Lairesse No. 117, Liege, in the Kingdom of Belgium, have invented a certain new and useful Latch; and I do hereby 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, forming part of this specification.

The present invention relates to automatic safety-latches, and is designed especially for the doors of railway-carriages.

The object of the invention is to provide a safety-latch supported on the door-jamb co-operating with guides on the door itself, which guides are arranged to coact with projections on the latch, so that in the closing movement of the door the latch is automatically operated in a sort of screw movement and automatically engages the latch-catch on the door.

The invention consists, in brief, of a pivoted latch provided with projections engaging inclined guides on the door, the projections on the latch coming successively in contact with said inclined guides in such a manner that a rotating action is given to the pivoted latch by the successive contact of said inclined guides with the respective projections on the latch.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a front view of a portion of a door and its supporting-casing, showing the latch in closed position. Fig. 2 is a similar view showing the latch in open position. Fig. 3 is a horizontal section showing the door partially open. Fig. 4 is a detail view of the guiding-plate and latch-catch attached to the door; and Figs. 5, 6, and 7 represent in perspective the parts in various positions during the course of operation.

In the drawings, *a* represents the door-jamb, to which is attached a suitable supporting-plate, upon which is pivoted on the pin or pivot *b* the locking-latch *c*, provided with a thumb-piece, as shown. This latch has preferably arranged at one end shoulders or offsets *d e*. The door is shown at *f* and is provided on the front side with an upwardly-

opening latch-catch *g*, while to the edge of the door are attached inclined guides *h* and *i*, which parts, together with the latch-catch, are preferably arranged upon a common angle-iron. A stop *k* is also provided on said door to prevent the pivoted latch *c* when in its lowest position, as shown in Figs. 2 and 5, from throwing back against the door, thus preventing the opening of the same. When the door is closed, the pivoted latch lies in the usual manner in the latch-catch *g*; but when it is desired to open the door the latch is thrown by hand about its pivot *b* to the position shown in Figs. 2 and 5 and in which the stop *k* prevents too great a swing of the pivoted latch. The position of the shoulders *d* and *e* on the latch *c* is so chosen that the shoulder *d* on opening the door (see Fig. 3) impinges on the guides *h* and *i*, and therefore with its point projects somewhat over these guides. On closing the door, therefore, the shoulder *d* will pass under the guide *h*, which position is shown in Fig. 5, and in the further closing of the door the shoulder *d* slides on the inclined guide *h*, and because of the inclination thereof the latch *c* turns on its pivot *b* until the latch finally comes into the position shown in Fig. 6. Then the shoulder *d* passes under the guide-strip *i* and, sliding on this, continues the rotation of the latch *c*, when the shoulder *d* passes out of engagement with the guide *h*, the latch finally reaching the position shown in Fig. 7, and a very small further movement of the door suffices to allow the latch *c* to fall by gravity into the latch-catch *g*.

While, therefore, the opening of the door is performed manually in the ordinary manner when the door is shut, there takes place an automatic locking by means of the above-described device.

It will be noticed that the action of the guides *h* and *i* upon the respective offsets *d* and *e* is generally like that of two screw-threads with crossed axes.

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

1. An automatic safety-catch for doors, comprising a pivoted latch, a latch-catch carried by the door, and means carried by said door for successively engaging and rotating said

latch and causing it to engage the catch; substantially as described.

2. An automatic safety-latch for doors, comprising a pivoted latch having a plurality of
5 offsets, inclined guides carried by the door with which the offsets successively respectively engage, and a latch-catch on the door; substantially as described.

3. An automatic catch for doors comprising
10 the pivoted latch *c*, having the offsets or lugs *d*, *e*, in combination with a door provided with

inclined guides *h* and *i*, with which the offsets *d*, *e*, respectively successively engage, and a latch-catch *g*; substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

A. CHARLES.

Witnesses:

J. ERWINIE,
JEN. RUSTING.

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