

No. 725,017.

PATENTED APR. 14, 1903.

F. I. ACKERMAN.
LATCH.

APPLICATION FILED OCT. 16, 1902.

NO MODEL.

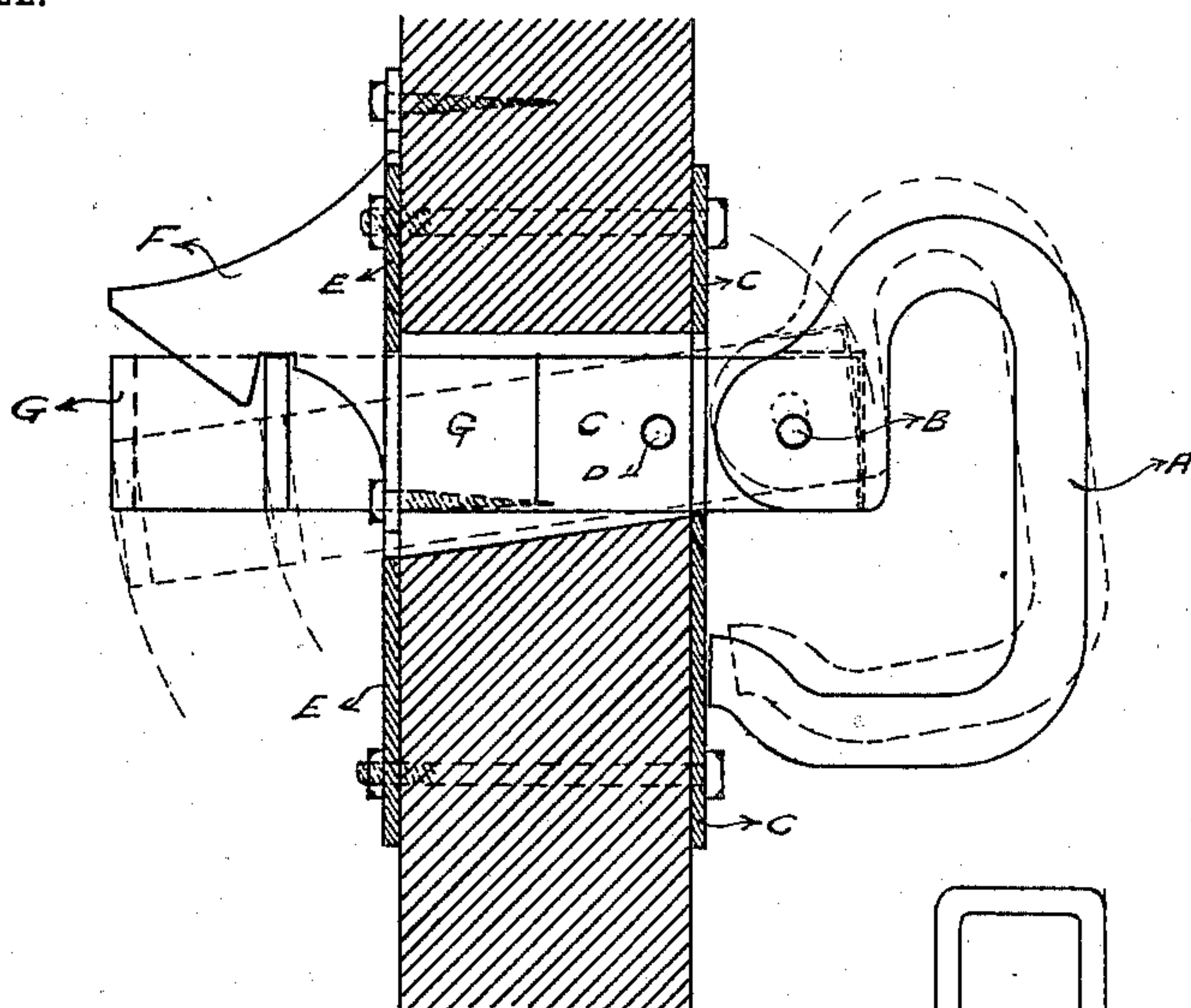


FIG. 1

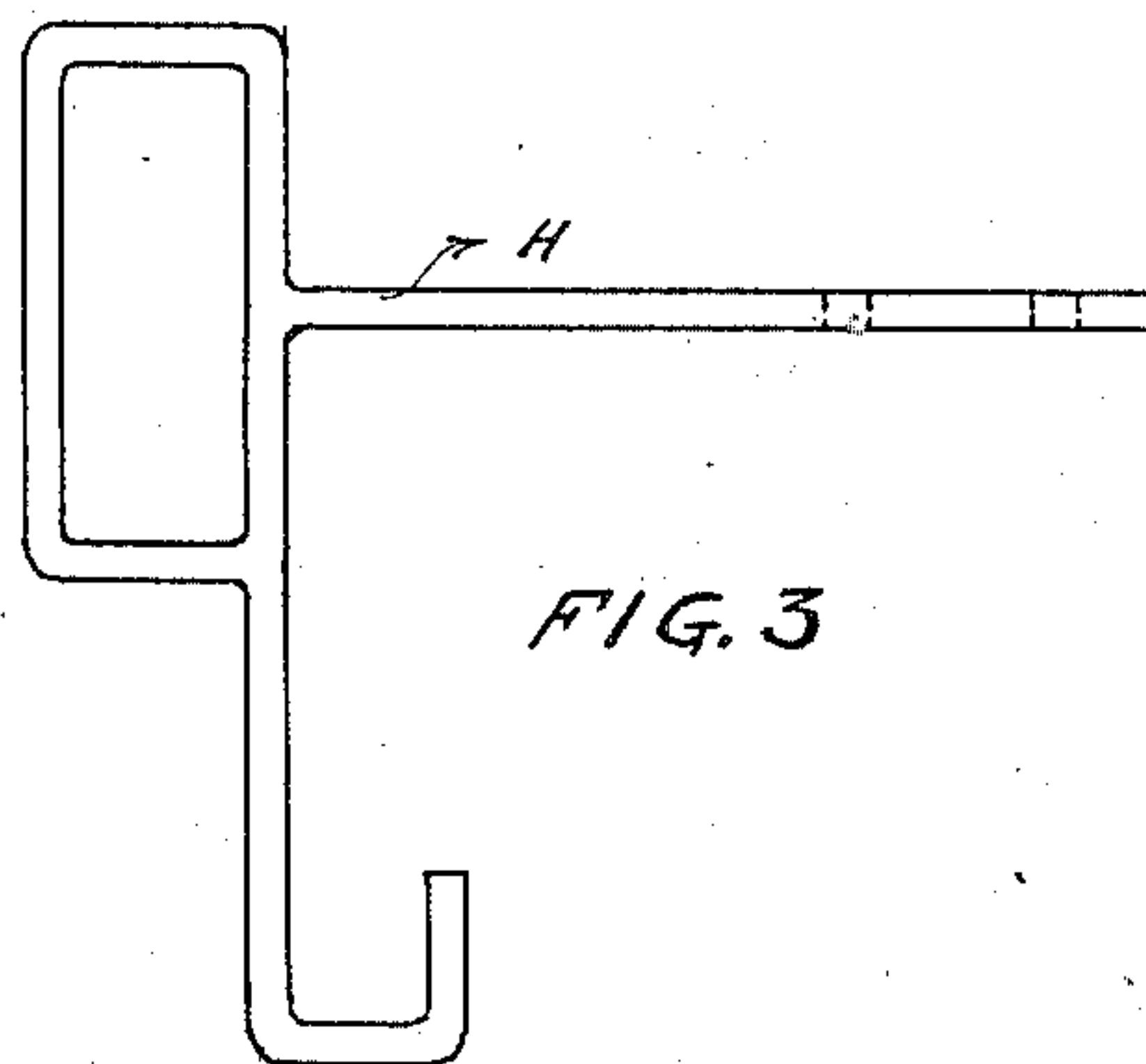


FIG. 3

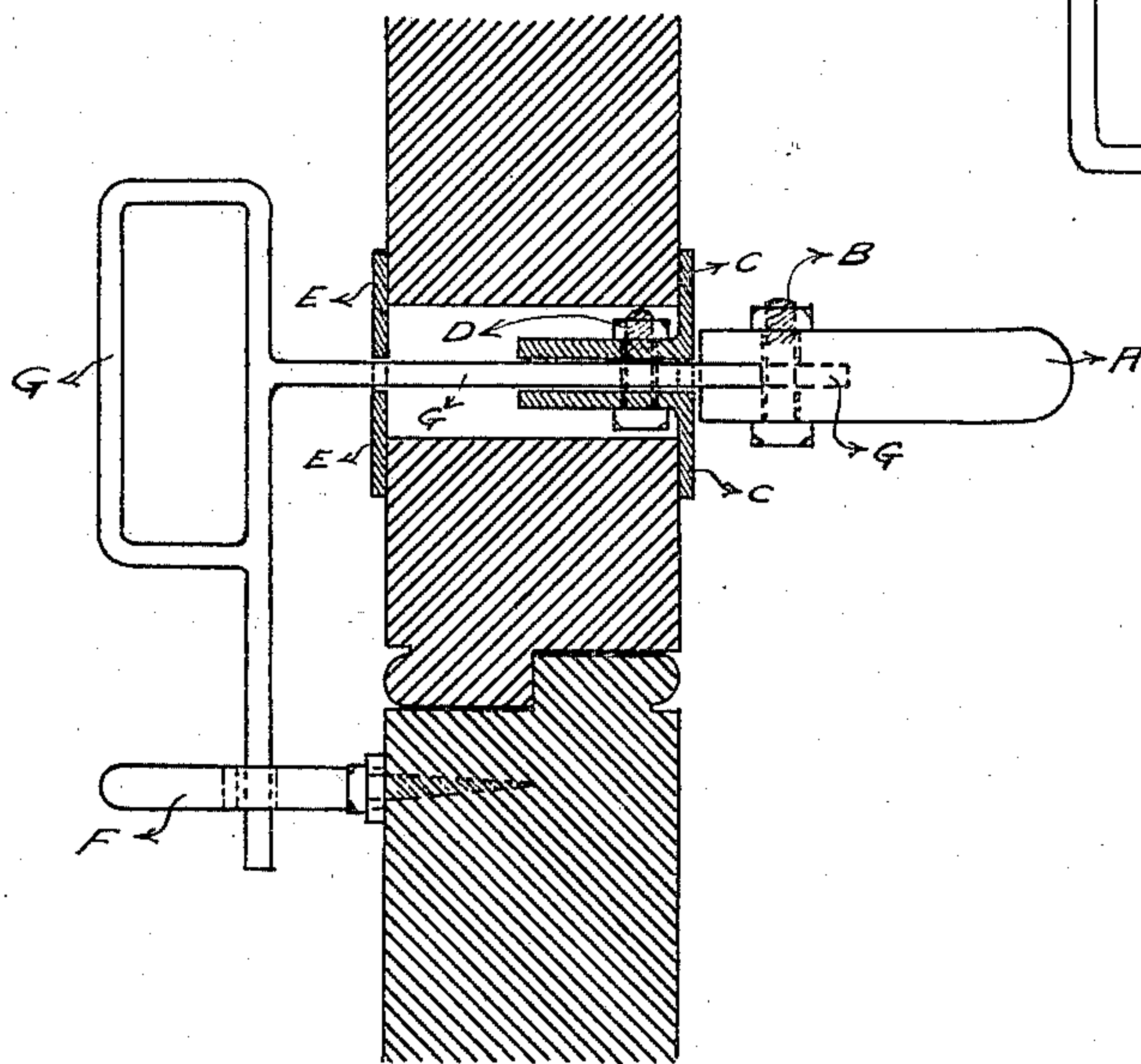


FIG. 2

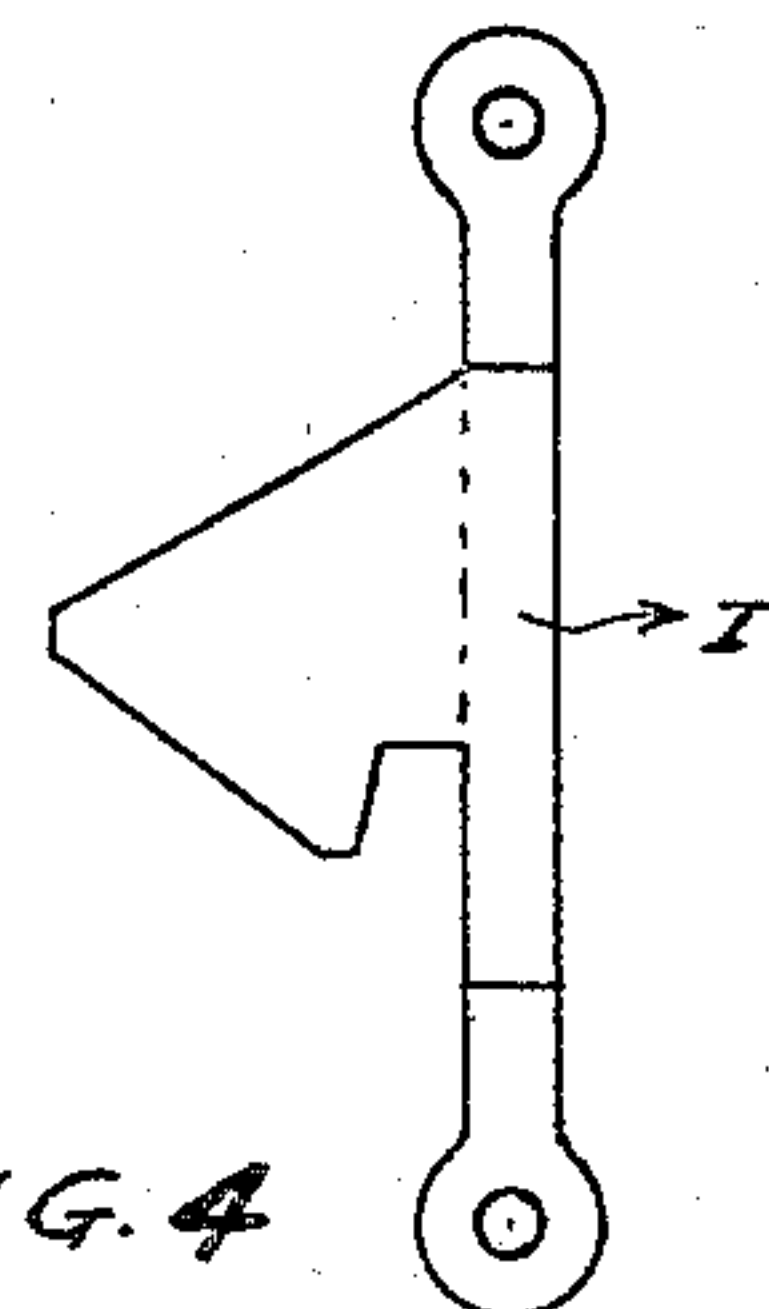


FIG. 4

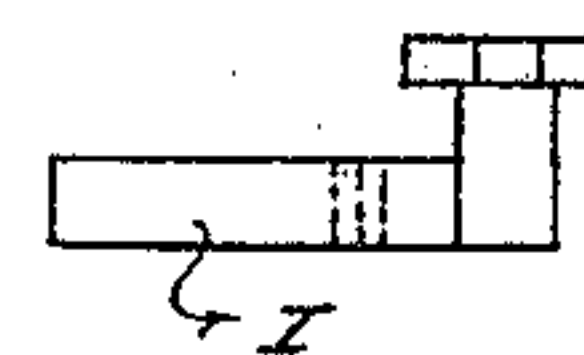


FIG. 5

WITNESSES:

Gus. Lang.
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INVENTOR.

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UNITED STATES PATENT OFFICE.

FRANK I. ACKERMAN, OF PATERSON, NEW JERSEY.

LATCH.

SPECIFICATION forming part of Letters Patent No. 725,017, dated April 14, 1903.

Application filed October 16, 1902. Serial No. 127,450. (No model.)

To all whom it may concern:

Be it known that I, FRANK I. ACKERMAN, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Door-Latches, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in door-latches in which the latch is kept engaged or locked by gravity whether the door be a swinging door or a sliding one; and the objects of my improvements are to provide a latch that will be kept locked by gravity, that will be equally effective in swinging or sliding doors, and that will be simple in construction, durable, inexpensive, and easily operated. I attain these objects by the latch illustrated in the accompanying drawings, in which similar letters of reference in the different figures indicate like parts, and in which—

Figure 1 is a vertical section through a swinging door, showing in solid lines the position of the latch when the door is closed and in dotted lines its position when the door is to be opened. Fig. 2 is a horizontal section through a swinging door, showing top view of latch. Fig. 3 is top view of latch and handle to be applied to sliding doors. Fig. 4 is a front view of keeper as applied to sliding doors, and Fig. 5 is a plan view of the keeper.

My invention consists of the latch and keeper inside the door and the outside handle operatively connected to the end of the combined latch and handle, which is fulcrumed on a pivot passing through the lugs of a plate that is inserted in an opening in the door-body, adjacent to the outer edge thereof, the handle on the outside being heavier than the handle and latch on the inside and causing the latch to rise into engagement with the keeper.

In the drawings, A indicates the handle on the outside of the door, and B the bolt which secures it to the end of the lever H, on the other end of which is the combined latch and handle G.

A plate C, provided with a slot and two lugs, is secured to the outside of the door,

and the lever portion H of the combined latch and handle extends through said slot and is pivotally secured to the said lugs, between which it passes, by the bolt D in the slot in the door and adjacent to the outer edge of the door.

On the inside of the door is a plate E, provided with an opening or slot to guide and limit the operation of the lever portion H of the combined latch and handle. The movement of the lever portion H of the combined latch and handle is vertical whether the door be a swinging or a sliding door. The keeper F is secured suitably to the other half of the door if the door be a double door, and if it be a single door then it is secured to the door-frame or some fixed support. The handle A is made sufficiently heavy to counterbalance and raise the inner end of the lever H and the combined latch and handle G and cause the latch to engage the keeper F and to remain engaged no matter what kind of a door it is applied to. The slot or opening in the plate C is considerably shorter than the slot in the plate E, as the point of fulcrum is quite near to the handle A, which is secured to the shorter end of the lever portion H. That being the case, but a very slight movement upward of the handle A is sufficient to release the latch from engagement with the keeper F, and when the handle A is dropped its weight causes the latch to resume its normal position of engagement with the keeper.

It is obvious that when the latch is operated by a person on the inside of the door the operation is reversed so far as to the manipulation of the combined handle and latch, which is depressed to release the latch from the keeper while on the outside the handle A is slightly elevated; but in both cases the latch is automatically locked by gravity when the door is closed.

I is a slightly-modified form of keeper, as shown in Figs. 4 and 5, to be used for sliding doors, the position of the tooth of the keeper being at right angles to the door if it is a swinging door and parallel to it if it is a sliding door.

With this description of my invention, what I claim is—

1. The combination with an inner and an outer plate, each having a vertical slot, said

slots differing in length and an inwardly-extending lug on each side of the slot in the outer plate, of a lever extending through said slots and pivotally secured to, and between, 5 said lugs, a combination handle and latch on one end of said lever, a weighted detachable handle on the other end thereof to cause said latch to raise into engagement with a keeper, and a keeper, substantially as set forth. 10

2. A lever, having on one end thereof a handle and latch formed integral therewith, and adapted to pass through a door to the outer side thereof, means for pivotally securing said lever and permitting a vertical movement thereof, and means to limit said vertical movement, in combination with a keeper 15 provided underneath with an engaging slot, and a detachable weighted handle secured to the other extremity of said lever to cause the 20 said latch to rise and be engaged in the slot

in said keeper by gravity, substantially as set forth.

3. The combination with a keeper having beveled edges and an engaging slot, of a vertically-operating lever, a plate having a slot 25 and lugs, means for pivotally securing and fulcruming said lever in said slot and between said lugs, another plate having a longer vertical slot means connecting said plates, a handle having a latch formed integral therewith, 30 secured to one end of said lever and means secured to the other extremity of said lever to automatically lock said latch and keeper by gravity, substantially as set forth.

In testimony whereof I affix my signature 35 in presence of two witnesses.

FRANK I. ACKERMAN.

Witnesses:

JOHN HAY,
GUS. LANG.