

F. G. MARBACH.  
LATCH AND LOCK FOR DOORS AND THE LIKE.  
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913,409.

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Fig. 1.

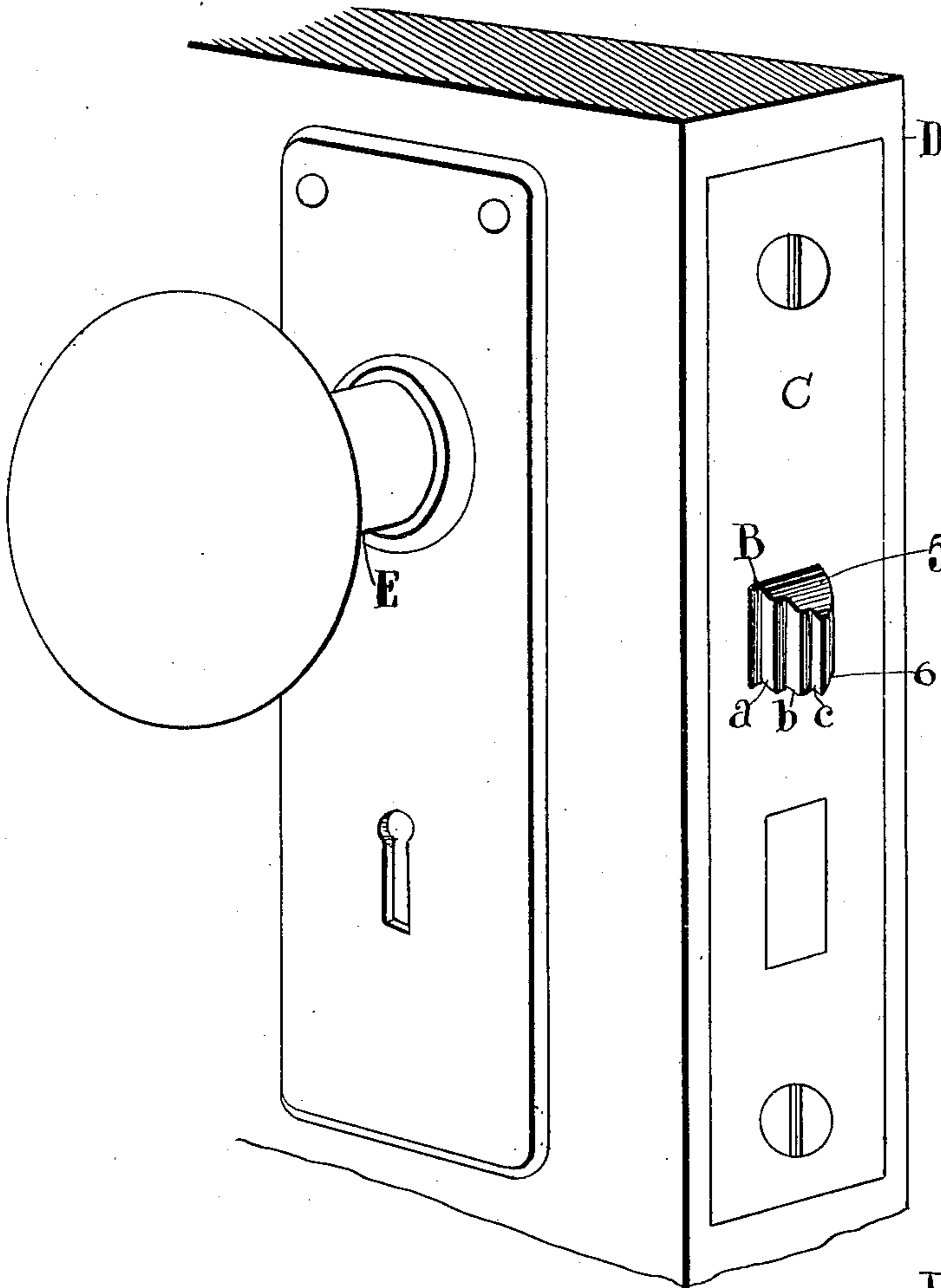


Fig. 2.

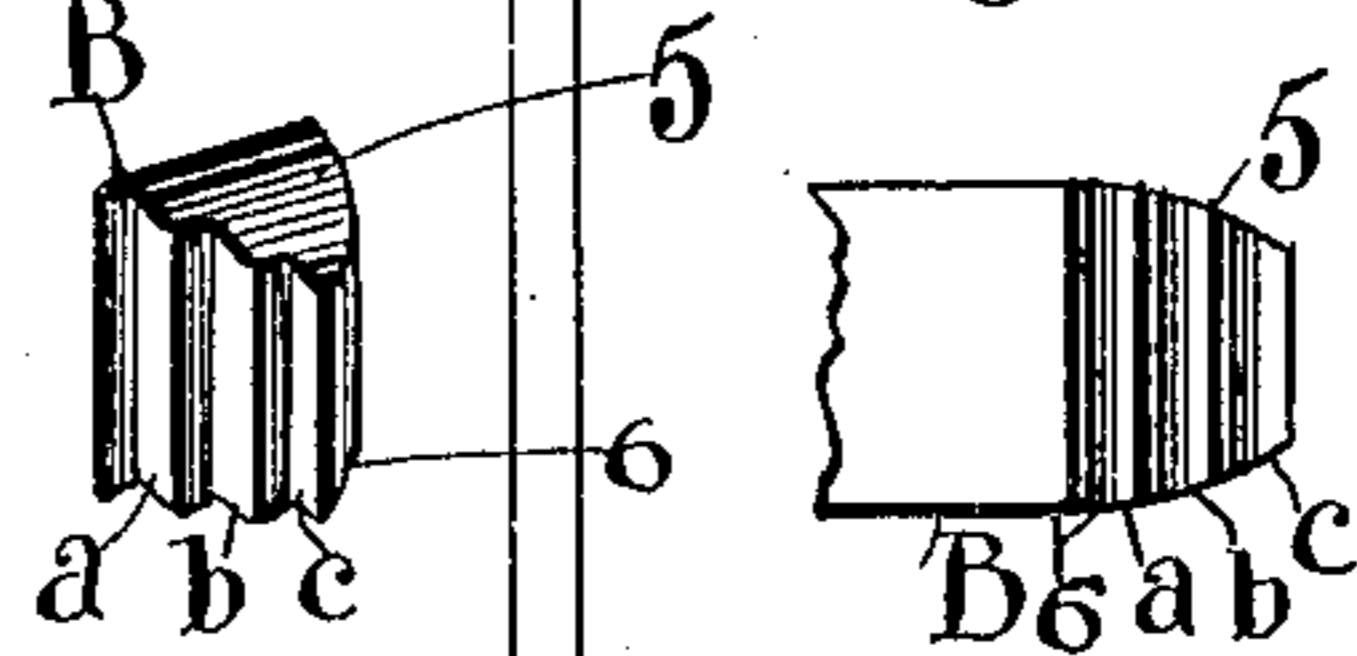
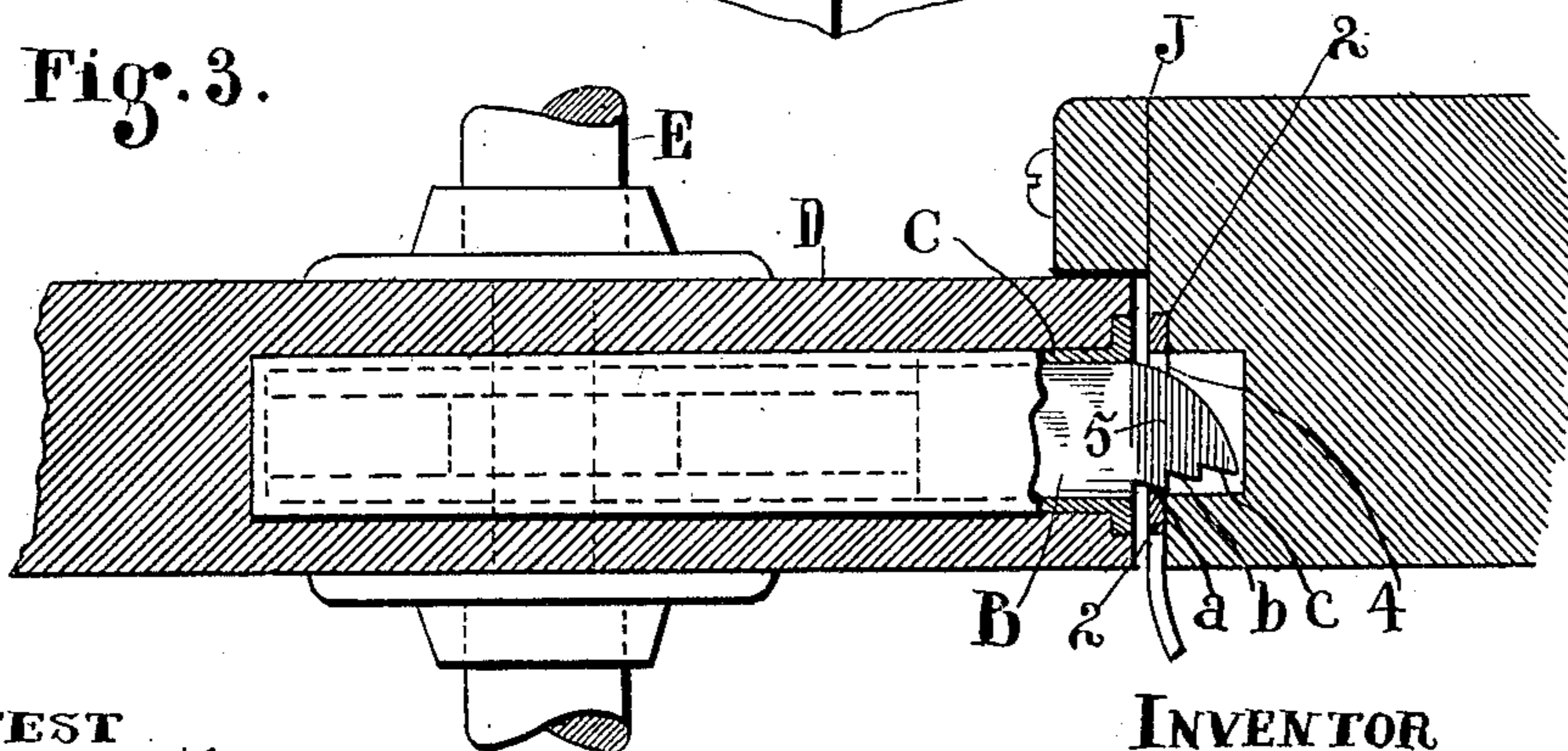


Fig. 3.



ATTEST  
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# UNITED STATES PATENT OFFICE.

FRANK G. MARBACH, OF MEDINA, OHIO.

## LATCH AND LOCK FOR DOORS AND THE LIKE.

No. 913,409.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed March 23, 1908. Serial No. 422,593.

*To all whom it may concern:*

Be it known that I, FRANK G. MARBACH, a citizen of the United States, residing at Medina, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Latches and Locks for Doors and the Like, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in latches and locks for doors and the like, all substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a section of a door having my invention in one of its forms in working position therein. Fig. 2 is a side elevation of the engaging end of the latch-bolt shown in Fig. 1. Fig. 3 is a plan view of the parts shown in Fig. 1 and of the jamb or casing of the door on a sectional line immediately over the latch mechanism.

The object of the invention can easily be interpreted from the foregoing views, and the invention as shown herein consists in a construction of latch-bolt adapting the same to accommodate itself to changed conditions in a door or door casing resulting from settling, warping or other like causes, which bring the door-latch and the latch socket or plate in the door casing out of engaging relation.

It is well known that as door latches and bolts have heretofore been made, there is constant trouble arising from the fact that the parts get out of harmony and the bolt cannot enter the socket in the jamb or casing but strikes against the face plate and stops. The difference between the bolt and the face plate may be very slight, but if it be sufficient to prevent latching it is as serious as if it were much greater, and very generally the services of a carpenter are required to reset the parts and restore them to right working relations. Now, I have devised a construction of latch-bolt or bolt member B, which wholly overcomes these objections and makes such accommodation in itself to the conditions, whatever they may be, as will meet practically all the trouble heretofore arising from doors on account of warping or settling or the like as above described. To this end the said latch-bolt is provided with an engaging surface having a series of transversely disposed

steps *a*, *b* and *c*, beginning say with the point or place where the bolt makes engagement with strike plate 2 on the door casing about socket 4 therein when it is in normal closing relation thereof, Fig. 2. In this position the bolt has full and unobstructed throw into the socket as when the door is originally hung, and engagement is on step or shoulder *a*, which we may say is its first or normal portion. But suppose that in some way the relative positions of bolt and socket have become deranged so that the bolt cannot enter to engage on step *a*. Obviously, if there were no other step retired or set back from the plane of step *a* to make engagement upon the entire latch would be kept out of working position and the trouble would be complete. Now, it is just such a common experience as this that my new and original latch-bolt is designed to meet and remedy, and hence I have provided the same with a second step, *b*, retired from the plane of the first step a sufficient depth to make accommodation for an ordinary case of shrinkage, settling or the like, and if this be not sufficient the bolt has the further accommodation of a still more retired seat or step *c*. Usually, however, it is found that the second step or seat suffices because it is sufficiently far back to make a relatively large accommodation in a place where generally only a small difference causes all the trouble. Of course, it is obvious that it is not really a matter as to how far bolt B projects into the socket but rather the fact that it projects far enough to get an effective hold on the latch-plate to keep the door closed. Hence, for all practical purposes, engagement at *c* is just as good as engagement at *a*. The said steps *a*, *b* and *c* are slightly inclined from outer edge inward to make their engagement with face plate 2 more effective. Other features of construction of the point or end of the said bolt are the rounding or beveling of the same top and bottom as indicated at 5 and 6 respectively, thus providing for possible conflict in or by the said bolt with the upper or the lower edge of the usual slot in strike plate 2.

Of course, this construction of latch-bolt, that is with a series of two or more steps on its engaging surface or portion, may be employed more or less generally on locking bolts also, especially in connection with doors in dwelling and other buildings, and the invention herein is understood to comprehend all bolts locks or latches in or upon

which the invention may be found available. As shown in this instance the bolt B is mounted in the usual casing C in door D and presumably with the usual means for opening the same through knob and spindle E, and the door casing or jamb J likewise is of the ordinary kind.

What I claim is:—

1. A sliding bolt provided with a series of steps at its outer end and upon its outer side in substantially parallel planes, said steps located one behind the other successively and having flat engaging surfaces.

2. A straight bolt adapted to slide lengthwise provided with a series of flat steps successively at its engaging end and upon its outer side, and the most retired step located at the extremity of the bolt.

3. A sliding bolt having a series of transverse steps on its engaging end and side relatively retired as compared one with the other successively and extending across the entire engaging portion of the bolt in parallel

planes, said steps having flat surfaces, in combination with a strike-plate adapted to be engaged by one of said steps at a time.

4. A door and a sliding bolt therein provided with a series of transverse steps on its side with flat engaging surfaces slightly inclined inward from their outer edge to make effective engagement.

5. A bolt having a transversely stepped engaging surface and tapered at its end top and bottom across the ends of said steps.

6. A sliding bolt having a series of engaging steps at one end and side, in combination with a part adapted to be engaged by said bolt having a single engaging portion for all said steps.

In testimony whereof I sign this specification in the presence of two witnesses.

FRANK G. MARBACH.

Witnesses:

FRANK SPELLMAN,  
JULIUS E. GAYER.