

F. G. MARBACH.
 ENGAGING MECHANISM FOR DOORS, GATES, AND THE LIKE.
 APPLICATION FILED MAR 31, 1908.

913,410.

Patented Feb. 23, 1909.
 2 SHEETS—SHEET 1.

Fig. 1.

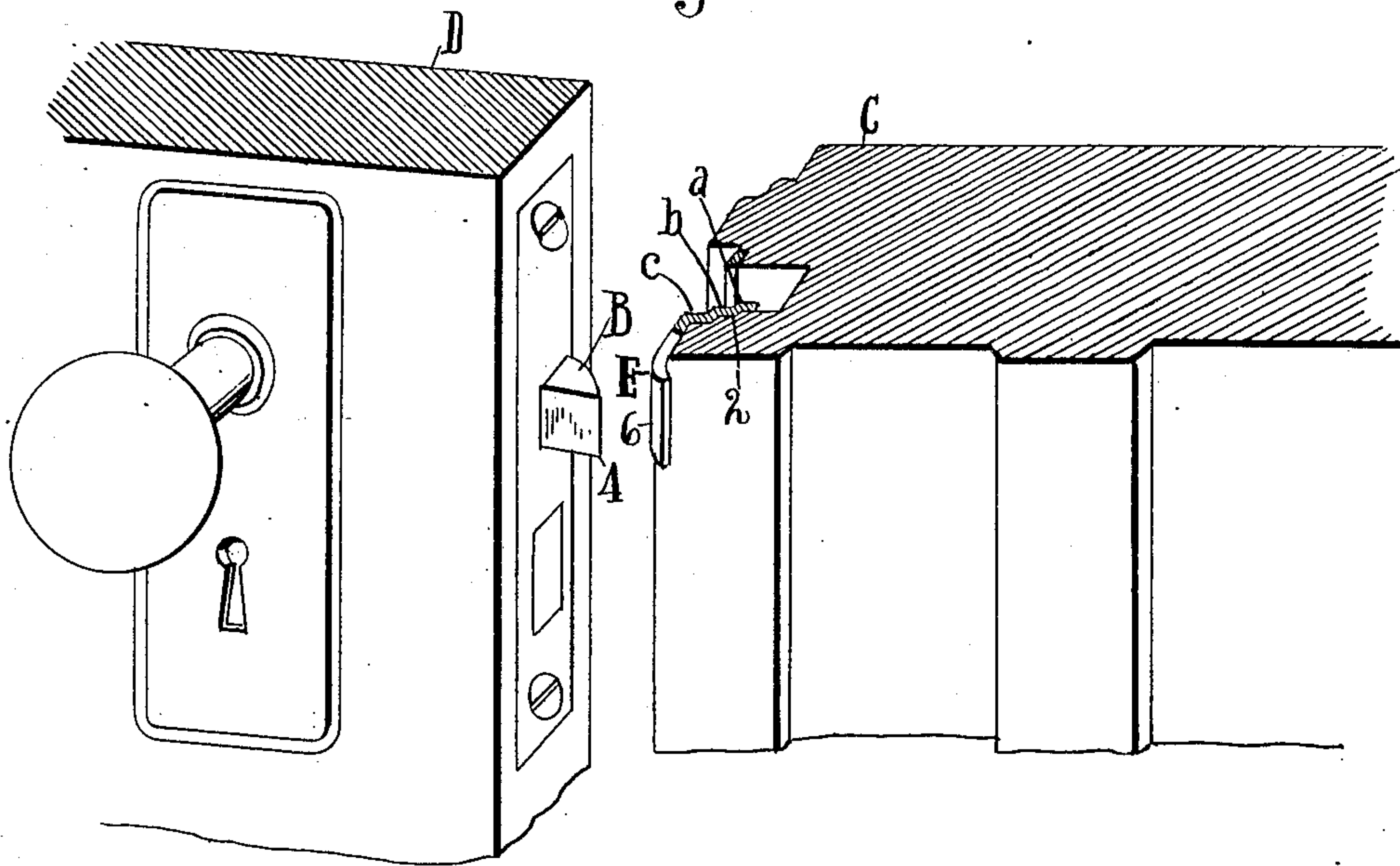


Fig. 2.

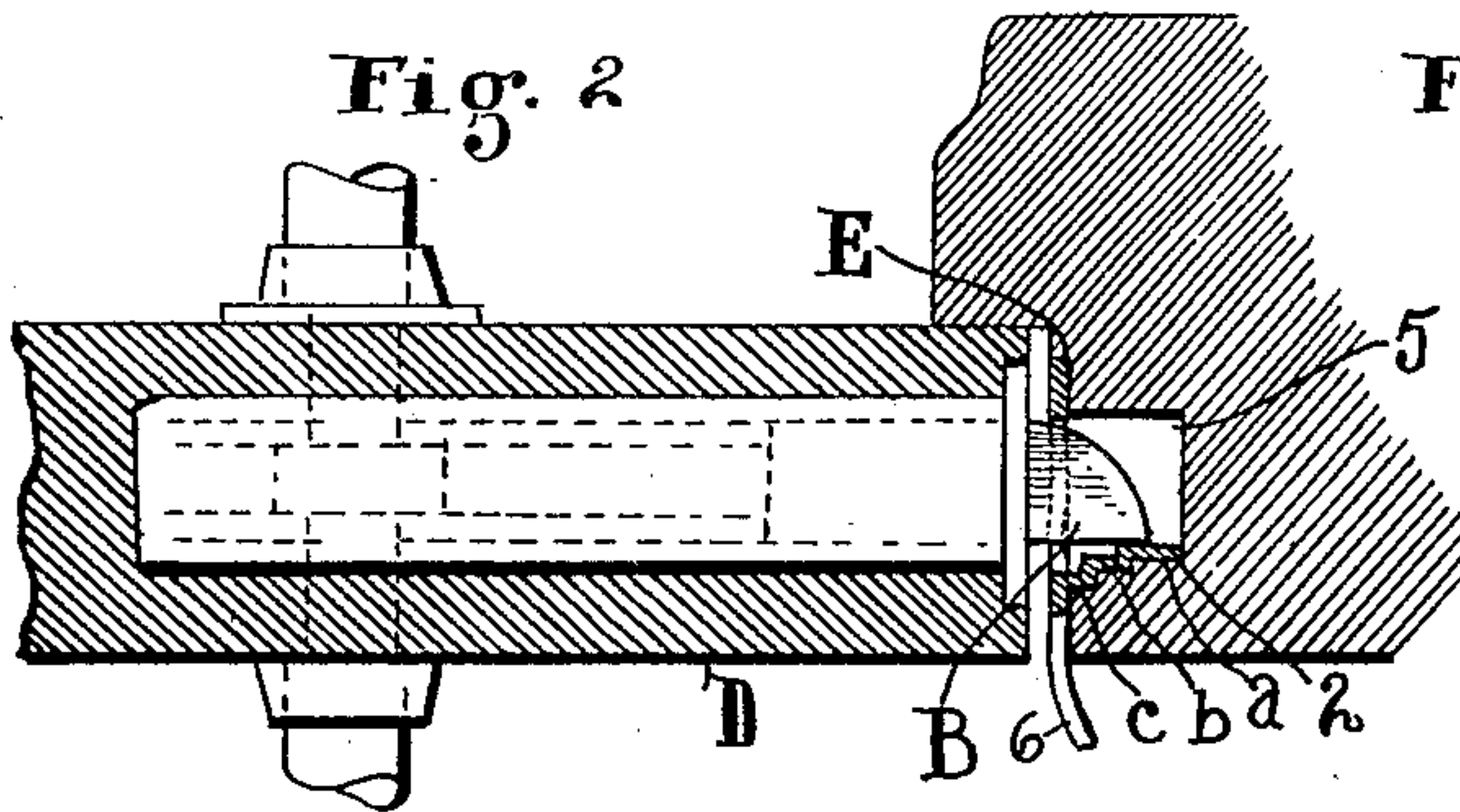


Fig. 3.

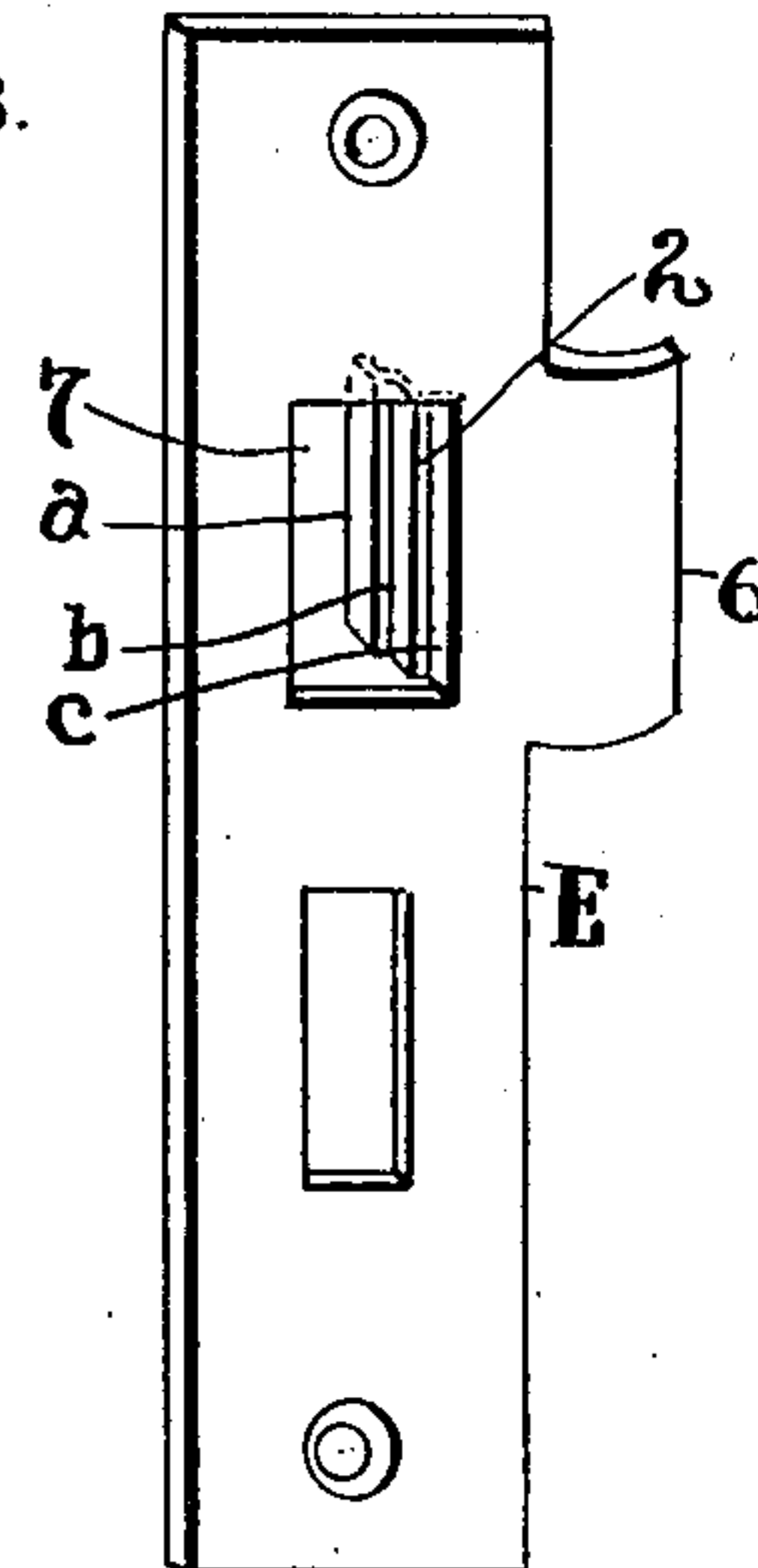
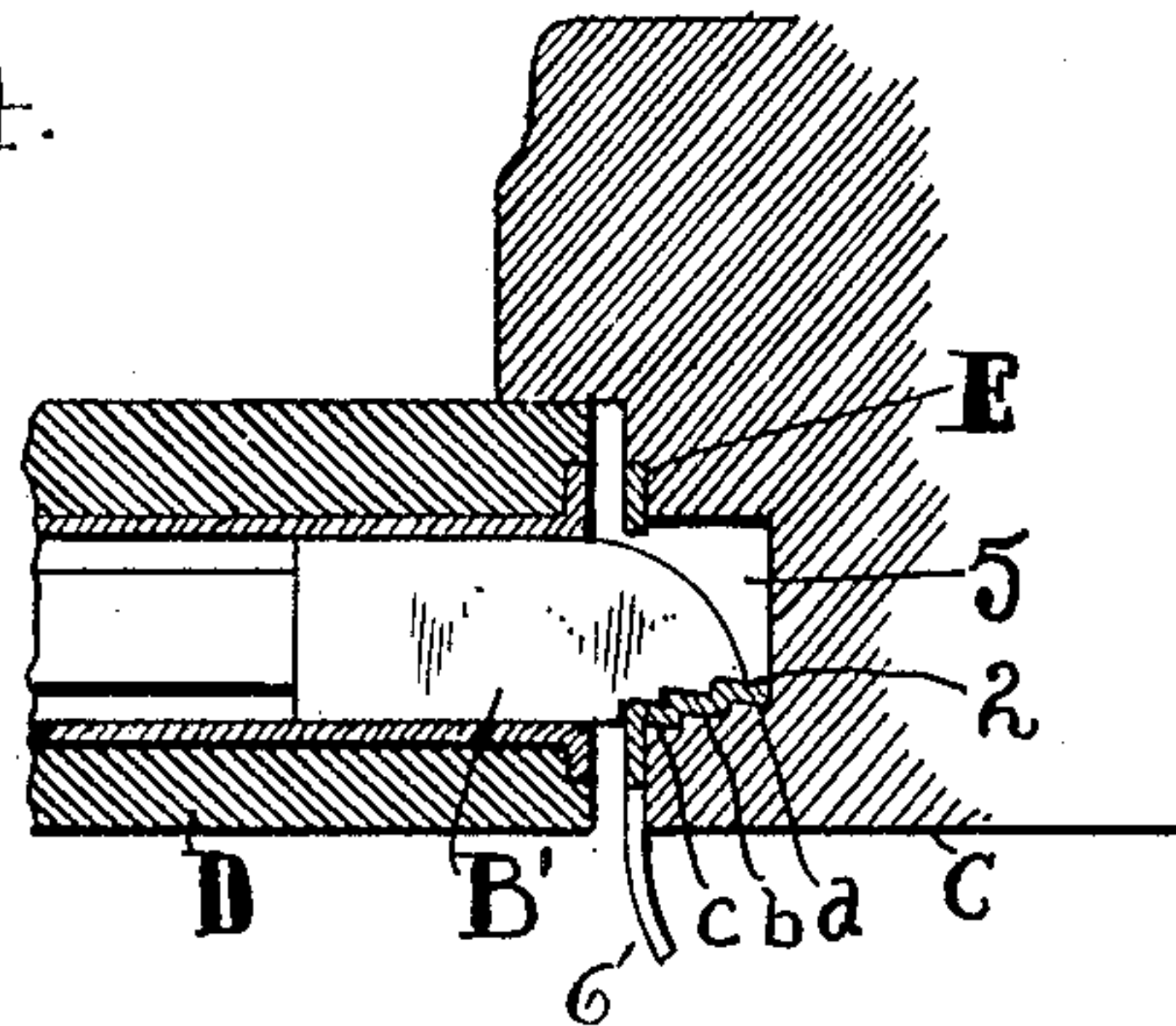


Fig. 4.



ATTEST

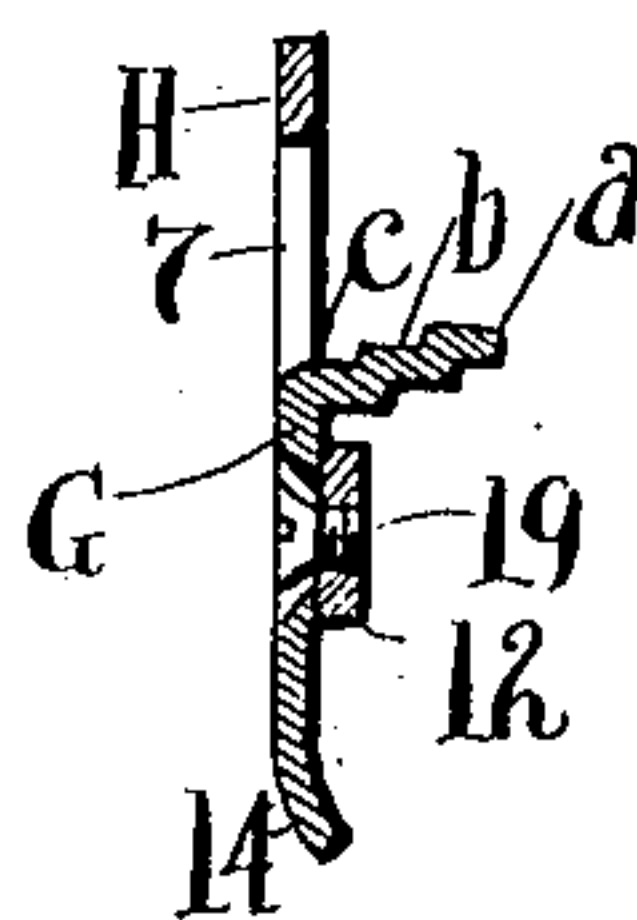
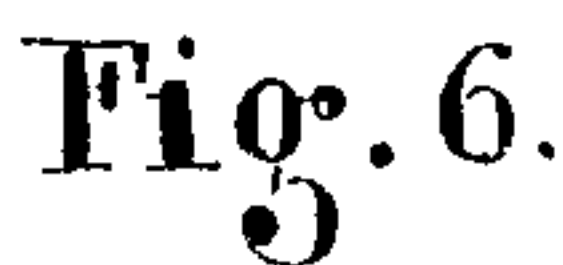
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRANK G. MARBACH, OF MEDINA, OHIO.

ENGAGING MECHANISM FOR DOORS, GATES, AND THE LIKE.

No. 913,410.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed March 31, 1908. Serial No. 424,437.

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 Engaging Mechanism for Doors, Gates, 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 engaging mechanism for doors, gates and the like, and the invention consists in the construction and combination of parts, substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a door and a portion of a door casing in which my invention is comprised, with the door open, and Fig. 2 is a cross section of said parts with the door closed. Fig. 3 is a face view of the latching plate for the door casing. Fig. 4 is a modification of the invention showing both a latch-bolt and a latch plate especially constructed as hereinafter fully described. Figs. 5, and 6 also are modifications.

In these several views, B represents the latch member and D the door carrying the same.

C is the door casing having the latch plate E affixed thereto as usual but constructed otherwise as will presently appear.

A modification of the latch member is shown in Fig. 4, but otherwise the parts in said figure correspond to those shown in Figs. 1, 2 and 3, and the invention as a whole is a modification of the construction shown in my concurrent application, Ser. No. 422,593. In said application the latch-member is set forth as having a series of transverse steps gradually retired or set back one from the other toward the extremity of the bolt, as shown at B', Fig. 4.

In the present application the essential novelty of the invention lies more particularly in the construction of the latch-plate, which is designed to accommodate the parts to any shrinkage, settling or other vital disturbance of either door or door casing which will throw the two out of latching or locking relations as said parts are ordinarily constructed and brought into operating relations. To this end in Figs. 1 to 4 I provide a latch-plate with a flange or portion 2 having

a series of steps *a*, *b* and *c* formed transversely therein, and gradually rising from one to the other inward, thus making *a* the higher and so-called normal step or surface and with which the engaging face or surface 4 of latch member B comes normally into contact. That is, when the parts are originally set in place and in the desired working relation the latch member will be thrust forward into socket—5—of the door casing designed to accommodate the extremity or end thereof and take its bearing against the step *a*, but in the event that either the door or the casing, or both, become disturbed in their relations by warping or otherwise and the bolt cannot reach the surface *a*, the difference in the elevation of the steps is such that, ordinarily, the bolt will be able to reach the next lower surface, *b*, and hold the door as effectually as it would if it were in engagement with surface or step *a*. Or in the event that the disturbance between the parts is more aggravated and the latch member cannot reach step *b*, it can, presumably, reach step *c*, and while the said member in either these two latter cases does not get the extreme throw or thrust it gets sufficient to make effective engagement with the latch, and more than this is not needed. Hence the construction of the latch-plate is such in itself as to make provision for any inequalities in operation that may arise from one cause or another between the parts, and which enables the latch members to always reach a seat notwithstanding the distorted condition it may hold as compared with its original position.

In Figs. 1 to 4, the step portion of the latch plate is formed by bending back the portion of material removed for making the opening 7 in said plate for bolt B, but a separate plate may be used for this purpose as shown in Figs. 5 and 6. The plate E furthermore is shown as having a striking portion 6 at its edge, but this may or may not be used.

In Figs. 5 and 6 I show a modification of the latch-plate in which the immediate latching portion constitutes a separate member G having steps *a*, *b* and *c* thereon as in the foregoing views and provided with slots 8 adapted to be engaged with the latch-plate H by screws 19 engaging holes 10 in the depressed or offset portion 12 of the said plate H. The face or striking portion 14 of member G is made flush with the surface of said plate and the said member is also rendered adjustable by reason of its slots 8, thus en-

abling it to be set further in or further out as the case may require. Of course, it is understood in this case that the socket or cavity in the casing of the door will be made large
5 enough laterally to afford such lateral adjustment of the member G within limits.

The invention herein is adapted especially to be used with doors and gates and like objects which swing on hinges or pivots, but is
10 not necessarily limited thereto, and hence the generic term closure or closures is employed in the claims to indicate the object with which the invention is employed.

What I claim is:—

15 1. In engaging mechanism for closures, a latch-plate having an opening therein and a right angled portion at one side of said opening behind said plate provided with a series of steps rising gradually from the face of said
20 plate inward to a higher plane by each step.

2. In engaging mechanism for closures, a latching plate and a series of steps at right angles to the face of the plate and rising gradually from step to step, in combination with a
25 latch member adapted to engage with said steps.

3. In latch mechanism, a latch plate hav-

ing an opening for a bolt and a stepped latch engaging portion projecting inward from the edge of said opening and having the steps in
30 rising relation from said plate inward.

4. In latch mechanism, a latch-plate and a series of engaging steps behind the face thereof, said steps rising successively from the face of the plate inward. 35

5. In latch mechanism, a right angled striking member for a bolt having a series of steps on its inner portion and a plain outer portion, in combination with a strike plate having a recess in which said strike member
40 is secured.

6. In latch mechanism, a striking plate having a central opening, in combination with a substantially right angled striking member having a stepped inner portion and
45 a plain outer portion provided with slots, and fixed to said striking plate through said slots.

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

FRANK G. MARBACH.

Witnesses:

FRANK SPELLMAN,
JULIUS E. GAYER.