

(No Model.)

2 Sheets—Sheet 1.

C. E. ANGELL.

GATE LATCH.

No. 377,543.

Patented Feb. 7, 1888.

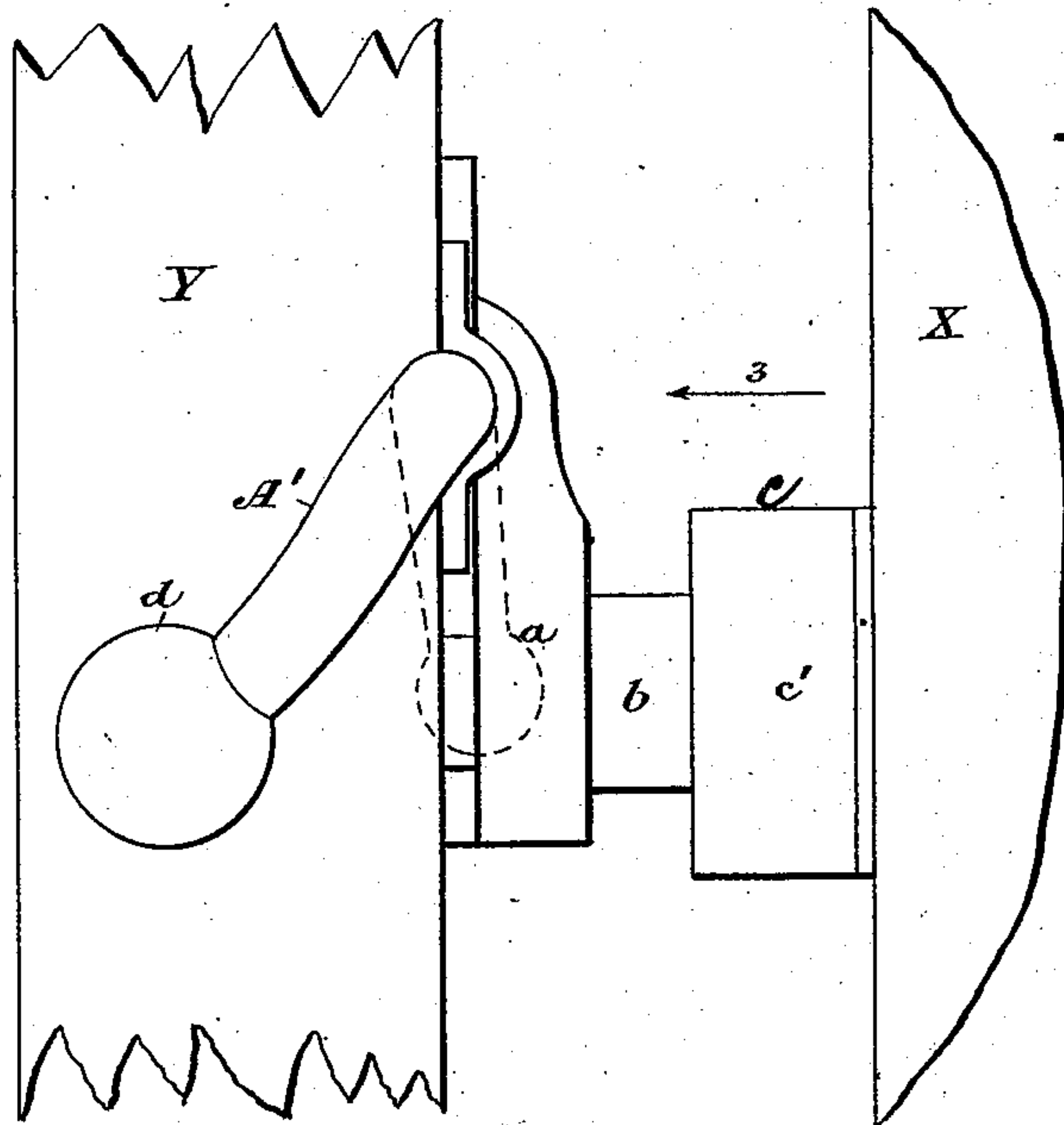


Fig. 1.

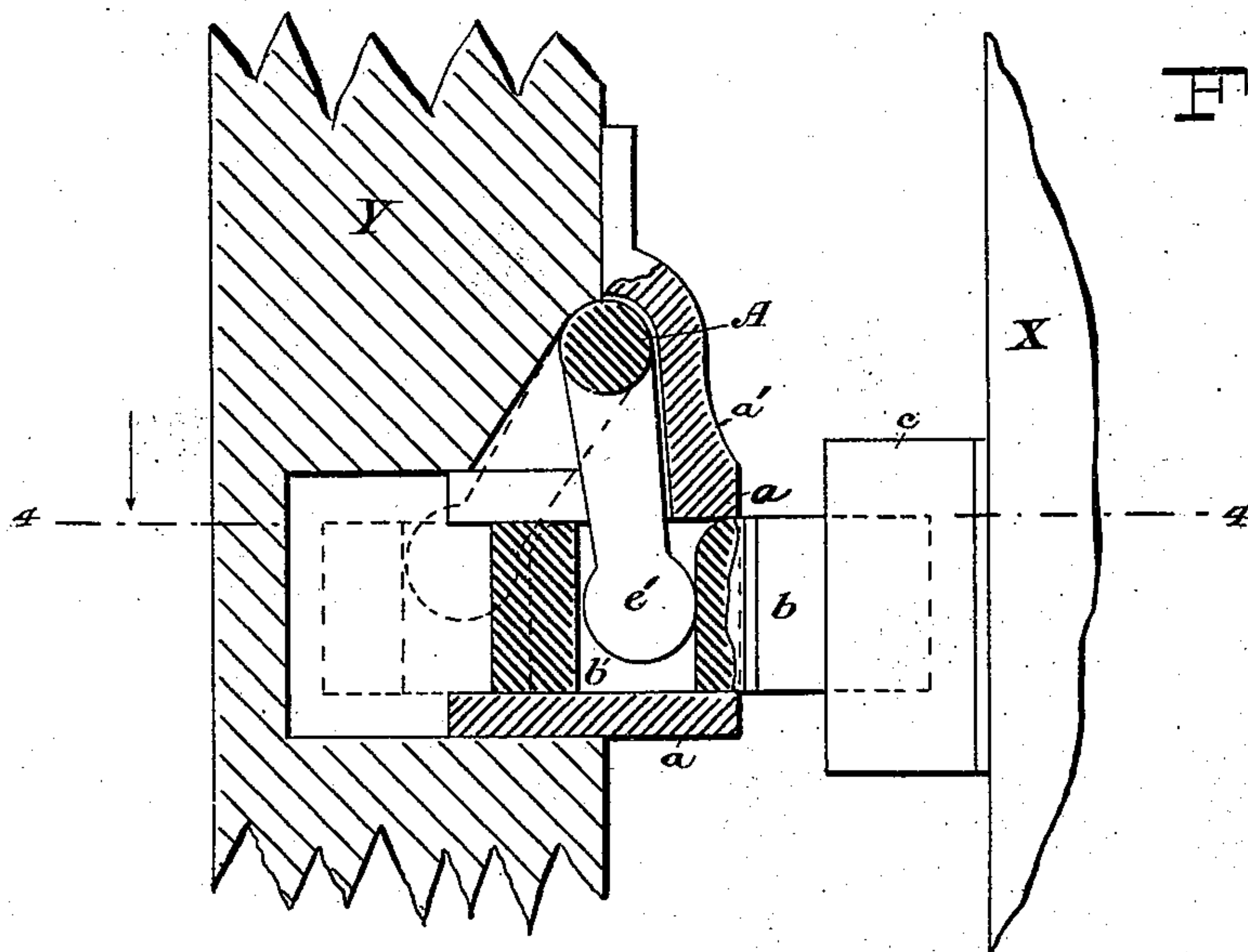


Fig. 2.

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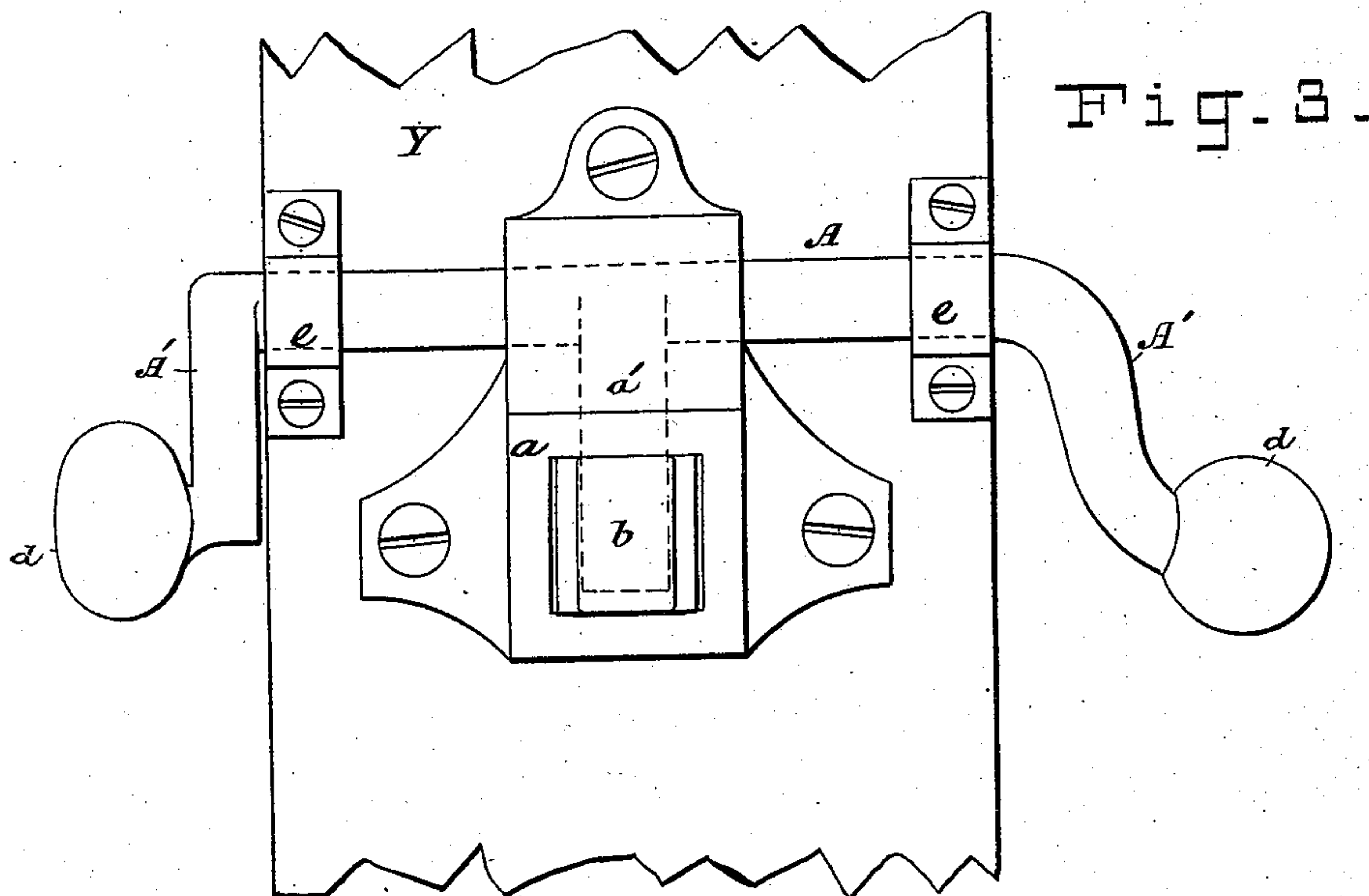
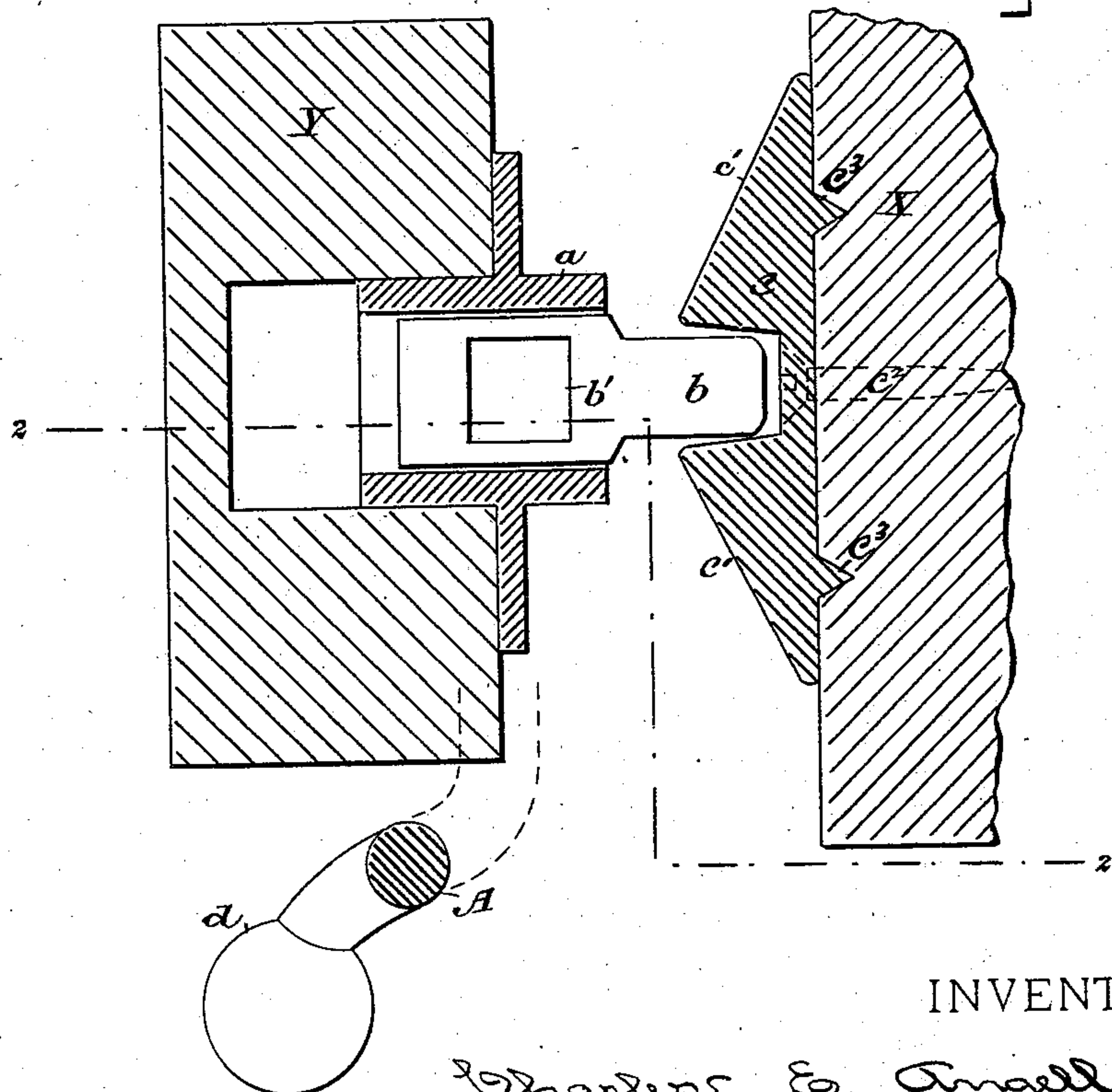


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES EDGAR ANGELL, OF SALT LAKE CITY, UTAH TERRITORY.

GATE-LATCH.

SPECIFICATION forming part of Letters Patent No. 377,543, dated February 7, 1888.

Application filed September 13, 1887. Serial No. 249,546. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EDGAR ANGELL, a citizen of the United States, and a resident of Salt Lake City, in the county of Salt Lake and Territory of Utah, have invented certain new and useful Improvements in Gate-Latches, of which the following is a specification.

My invention relates to that class of latches for gates and the like wherein the bolt is held up to the keeper by gravity, and wherein the gate may, if desired, be swung open in either direction, the latch engaging the keeper properly in whichever way the gate swings.

My object is to produce a simple, cheap, and effective latch that may be applied to any ordinary gate and one which will adapt itself to varying conditions—as, for example, to the varying width of the gate in wet and dry weather, due to expansion and contraction.

My invention will be fully described hereinafter, and its novel features carefully defined in the claim.

In the drawings which serve to illustrate my invention, Figure 1 is a side view of the latch and keeper in their places on the gate stile and post and showing the latch-bolt engaging the keeper. Fig. 2 is a sectional elevation taken in the plane indicated by line 2 2 in Fig. 4. Fig. 3 is a face view of the latch as seen from arrow 3 in Fig. 1. Fig. 4 is a horizontal section substantially in the plane indicated by line 4 4 in Fig. 2.

Y represents the gate stile or upright at the free or swinging edge of the gate. On this stile the latch is mounted.

X is the gate-post on which the keeper of the latch is mounted.

a is the socket-plate of the latch, in which plays horizontally the latch-bolt b. The projecting end of this bolt is slightly rounded, and when the gate is latched this end engages the recess in the keeper c, which has a bevel or inclined face, c', at each side of the recess (see Fig. 4) when the gate is designed to swing both ways. This keeper I usually secure to the gate-post by a screw, c², (indicated by dotted lines in Fig. 4.) To prevent it from turning on the screw, I provide it with spurs c³ to sink into the wood of the post.

A is an operating-shaft provided at its ends with crank-like handles A', usually formed in-

tegrally with shaft A. These handles are furnished with balls d, partly to serve as hand-knobs to grasp in disengaging the bolt from the keeper and partly to serve as weights to shoot out bolt b. The shaft A is provided with a rocking bearing in the gate-stile, a part, a', of the socket-piece a forming a bearing-cap for said shaft. Where the gate-stile is quite broad I also prefer to provide additional bearing-caps, e e, as seen in Fig. 3, to steady the shaft in its rocking movement.

The shaft A is furnished at the proper point with a projecting arm or branch, e', the rounded end of which engages a mortise or recesses, b', in the bolt b.

In Fig. 3 I have shown the handles A' as having slightly different forms. This is merely to illustrate two forms or shapes. Both handles may have the same form, and it is not material what the form is. However, the handles A' should stand at such an angle with the arm e' that the weight of said handles will tend to keep the bolt driven outward and to keep arm e' pressed up against the inner face of the socket-piece a, as seen in Fig. 2. For example, when the handle A' stands as seen in Fig. 1 the arm e' may stand as in Fig. 2. When the handle is raised in unlatching the gate, the arm e' will be turned to the position seen in dotted lines in Fig. 2, thereby drawing back the bolt. When the handle is let go, it will fall of its own weight, and, acting through arm e', again shoot or drive the bolt out.

In Fig. 4 the arm e' is not shown. This is in order to show the bolt b and recess b' the more clearly.

It will be seen that my latch device is very simple in its construction and very easily applied. It comprises only four essential parts—namely, the keeper, the bolt, the operating-shaft with its handles, and the socket-plate. This latter completely houses the arm e' and the recess b' in the bolt, so that the operation of the latch cannot be readily interfered with by dirt or debris collecting in said recess. I also avoid the employment of springs, which are liable to deterioration and disarrangement, especially when exposed to the elements.

The operating-arm e' on the rock-shaft A is limited in its movement by the housing part a' of the socket-piece on the one side and by the back of the recess cut in stile Y on the

other side. This is best seen in Fig. 2. The movement or swing of the handle or handles. A' is thus limited to about forty-five degrees, or even less. The angle that I prefer between
5 handle A' and arm e' may be seen by inspection of Fig. 1, where arm e' is indicated in dotted lines.

The shaft A is placed above bolt b, in order to throw the crank-like handle A' back or
10 within the line of the gate, as seen in Fig. 1. If the arrangement of the parts were reversed, (as illustrated by inverting Fig. 2,) the handle would project outward beyond the gate-stile.

I make the recess in the keeper c quite deep
15 and give the bolt b considerable play, in order to compensate for shrinkage and expansion of the gate under varying conditions of climate, &c.

Having thus described my invention, I claim—

The combination, with the shaft A, having the weighted crank-like handles A' and an operating-arm, e', and the bolt b, having a recess, b', engaged by said arm, of the socket-piece a, having a socket to receive and form
25 a guide for the bolt, and a part, a', which houses in the arm e' and forms a bearing-cap for shaft A.

In witness whereof I have hereunto signed my name in the presence of two subscribing
30 witnesses.

CHARLES EDGAR ANGELL.

Witnesses:

HERBERT PEMBROKE,
JOSEPH L. BARROW.