

(No Model.)

C. A. GLOEKLER.

LATCH.

No. 444,826.

Patented Jan. 20, 1891.

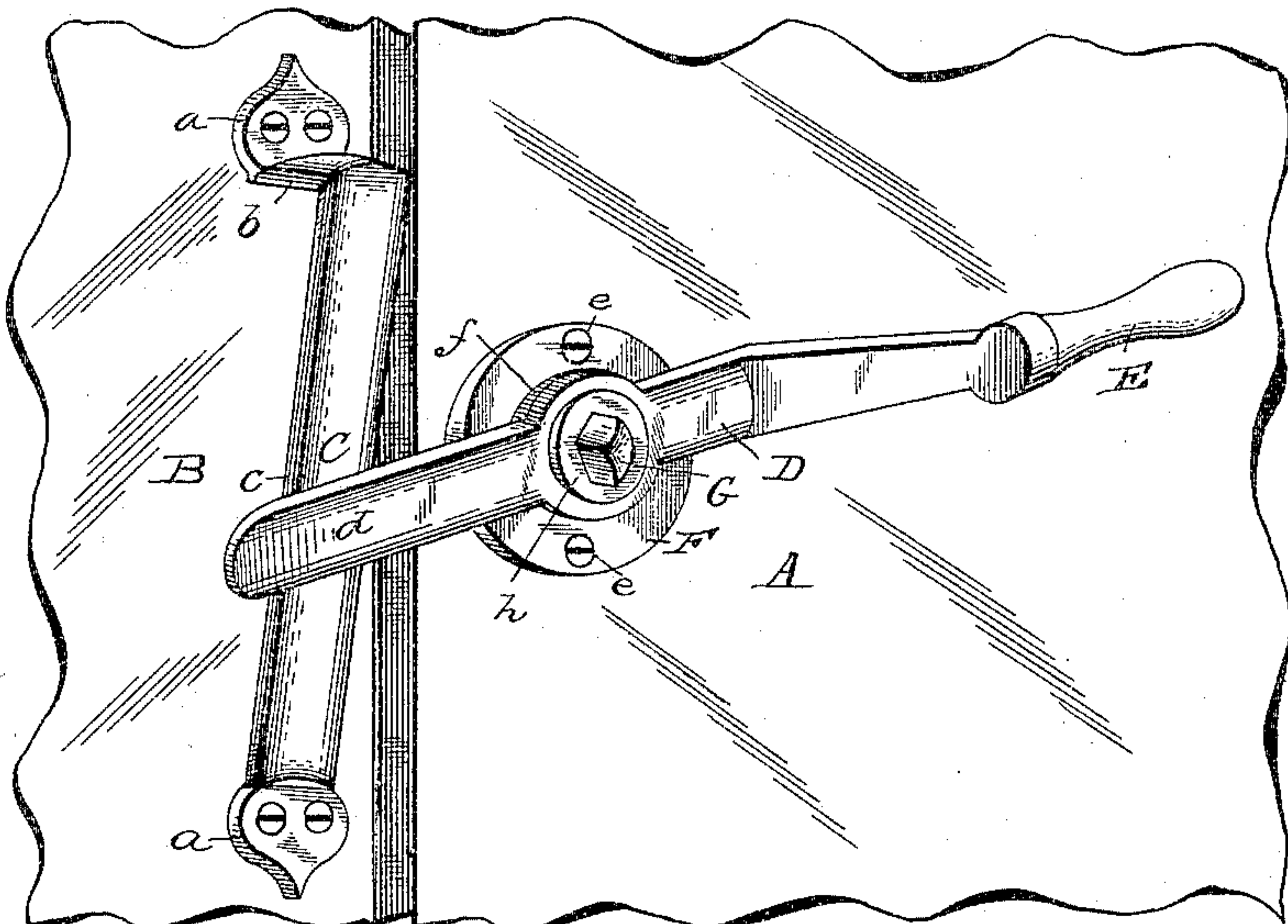


Fig. 1.

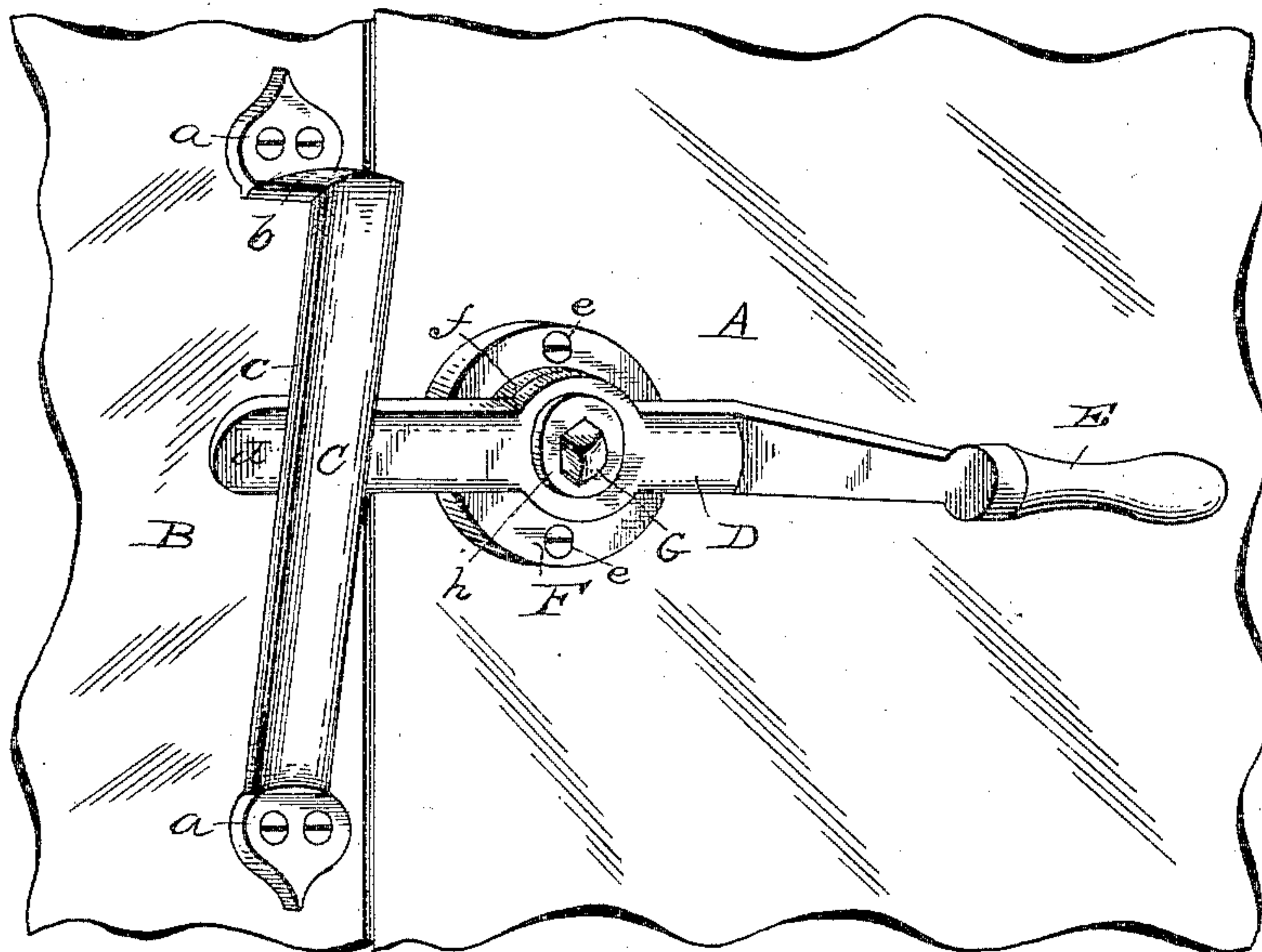


Fig. 2.

Fig. 3.

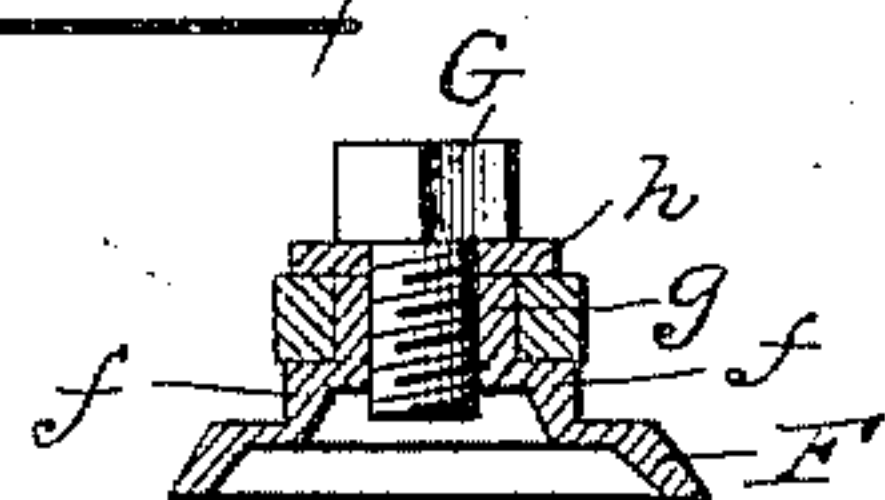
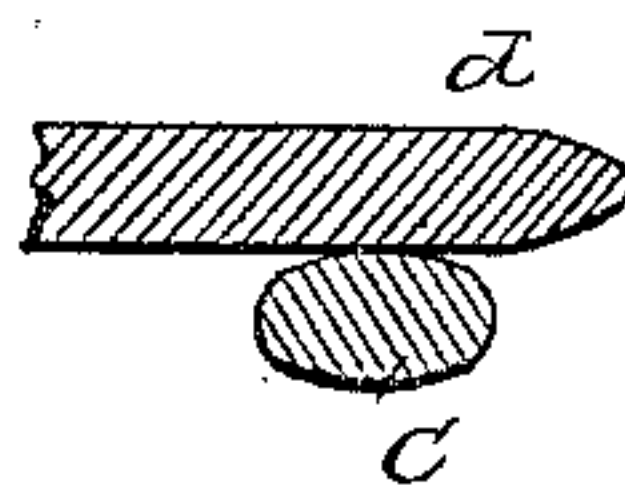


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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LATCH.

SPECIFICATION forming part of Letters Patent No. 444,826, dated January 20, 1891.

Application filed June 13, 1890. Serial No. 355,376. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. GLOEKLER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain
5 new and useful Improvements in a Combined Door Fastener and Opener, of which the following is a specification.

This invention consists in certain improvements in construction upon that class of combined door fasteners and openers wherein is
10 employed an incline or cam-bar fixed to the door-jamb and a rotary lever mounted on the door which rides on the outer face of the cam-bar to force the door open and on the inner
15 face of the cam-bar to tightly shut the door.

The present improvements consist in the means for mounting the rotary lever and the shapes of the coacting faces of the lever and cam-bar, the object of the improvements being to increase the efficiency and facilitate the operation of the fastener and opener.

The improvements are illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the fastener and opener, showing how it is used to
25 force a door open. Fig. 2 is a similar view of the same, showing how it is used to tightly shut the door. Fig. 3 is a sectional view showing the means for mounting the rotary lever, and Fig. 4 is a sectional view showing the
30 shape of the cam-bar in cross-section and of the coacting end of the rotary lever in longitudinal section.

A is the door, and B the door-jamb.

35 C is the cam-bar, which is shown secured to the jamb, and D is the rotary lever, which is shown mounted on the door. The lever might be mounted on the jamb, with the cam-bar on the door; but the arrangement shown
40 is more desirable, since the crank-handle E with which the lever is provided also serves as a handle for swinging the door.

The cam-bar C is formed with two ears *a a*, by means of which it is secured to the jamb,
45 a post *b*, integral with the upper ear, extending perpendicularly from the jamb, and the inclined bar *c*, which connects the post *b* and the other ear and is integral with both. The cam-bar is thus composed of a single piece of
50 metal and may be conveniently cast in the proper shape. The operative portion of the cam-bar is inclined, and it is located at a dis-

tance from the surface of the door-jamb, so that a space is left between the bar and door-jamb for the passage of the end of the lever
55 D. The cam-bar extends longitudinally of and parallel with the meeting edges of the door and door-jamb. Neither the upper nor the lower face of the cam-bar is flat, but both are beveled or curved along the longitudinal
60 edge of the cam-bar which is next to the meeting edges of the door and door-jamb. Preferably the cam-bar is substantially elliptical in cross-section, as shown in Fig. 4. The rotary lever has one end *d* which co-operates
65 with the cam-bar, and on its other end it carries the crank-handle E. The lever is fulcrumed to swing in a plane parallel with the surface of the door, and the fulcrum is nearer the handle end of the lever than it is the end
70 of the lever which co-operates with the cam-bar. As a result of this construction the lever can be rotated through an entire circle, the crank-handle not coming in contact with the cam-bar when swung past the same.
75

F is a cast-metal plate or disk, which is fastened to the door by screws *e e*. It is formed with a central projecting circular flange *f*, which in turn is formed with a central circular projecting boss *g*. The lever D is formed
80 with an eye which permits the lever to be slipped over the boss *g* and to seat against the flange *f*. The lever is held in place by a retaining screw-bolt G, which screws into the boss *g*, a washer *h* being interposed between
85 the head of the bolt and the outer surface of the lever. The entire strain of the lever when revolved is by this construction borne by the boss *g* and is taken from the screw-bolt G.

The working end *d* of the lever which co-
90 operates with the cam-bar is beveled on both its upper and its lower side, as shown in Fig. 4, so that when the lever is turned its working end will pass either beneath or above the cam-bar with the least possible friction. The
95 beveled shape of the working end of the lever, in connection with the elliptical form of the cam-bar in cross-section, always insures the proper action of the lever and assists in the wedging action between the lever and the
100 cam-bar which effects the closing and opening of the door. This improved lever and cam-bar, while efficient in action and durable, are inexpensive in manufacture, all the parts

being conveniently made of malleable iron or brass.

The improved door fastener and opener is particularly efficient in the case of refrigerator-doors, where it is essential that the door should shut close and air-tight, and which in consequence is more difficult to open and close than other doors.

I claim as my invention—

1. The improved door fastener and opener, which consists of a cam-bar C and a rotary lever in combination therewith, one of said parts being carried by the door-jamb and the other by the door, said cam-bar extending longitudinally of and parallel with the meeting edges of said door and door-jamb, said cam-bar extending at an incline and so that a space is left between its under side and the part to which it is attached, whereby the working end of said lever may (when the door is closed) pass either above or below said cam-bar, depending on the direction in which it is moved, said cam-bar being curved or beveled on both its upper and lower faces along its longitudinal edge which is next to the meeting edges of the door and door-jamb, and the working end of said lever being also

beveled on both its upper and lower surfaces, substantially as set forth.

2. The improved door fastener and opener, which consists of a cam-bar and a rotary lever co-operating therewith, one of said parts being carried by the door-jamb and the other by the door, the working end of said lever passing either above or below said cam-bar, depending upon the direction in which said lever is turned, in combination with a fixed bearing plate or disk F for said lever, said plate having a central projecting circular flange *f* and a central circular boss *g* projecting from said flange, said lever having an eye fitting over said boss, whereby said lever seats against said flange, a retaining screw-bolt G, which screws into said boss, and a disk or washer *h*, interposed between the head of said bolt and the outer face of said lever, substantially as set forth.

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

CHARLES A. GLOEKLER.

Witnesses:

C. O'DONNELL,

GEO. W. RICHARDS.