

No. 624,121.

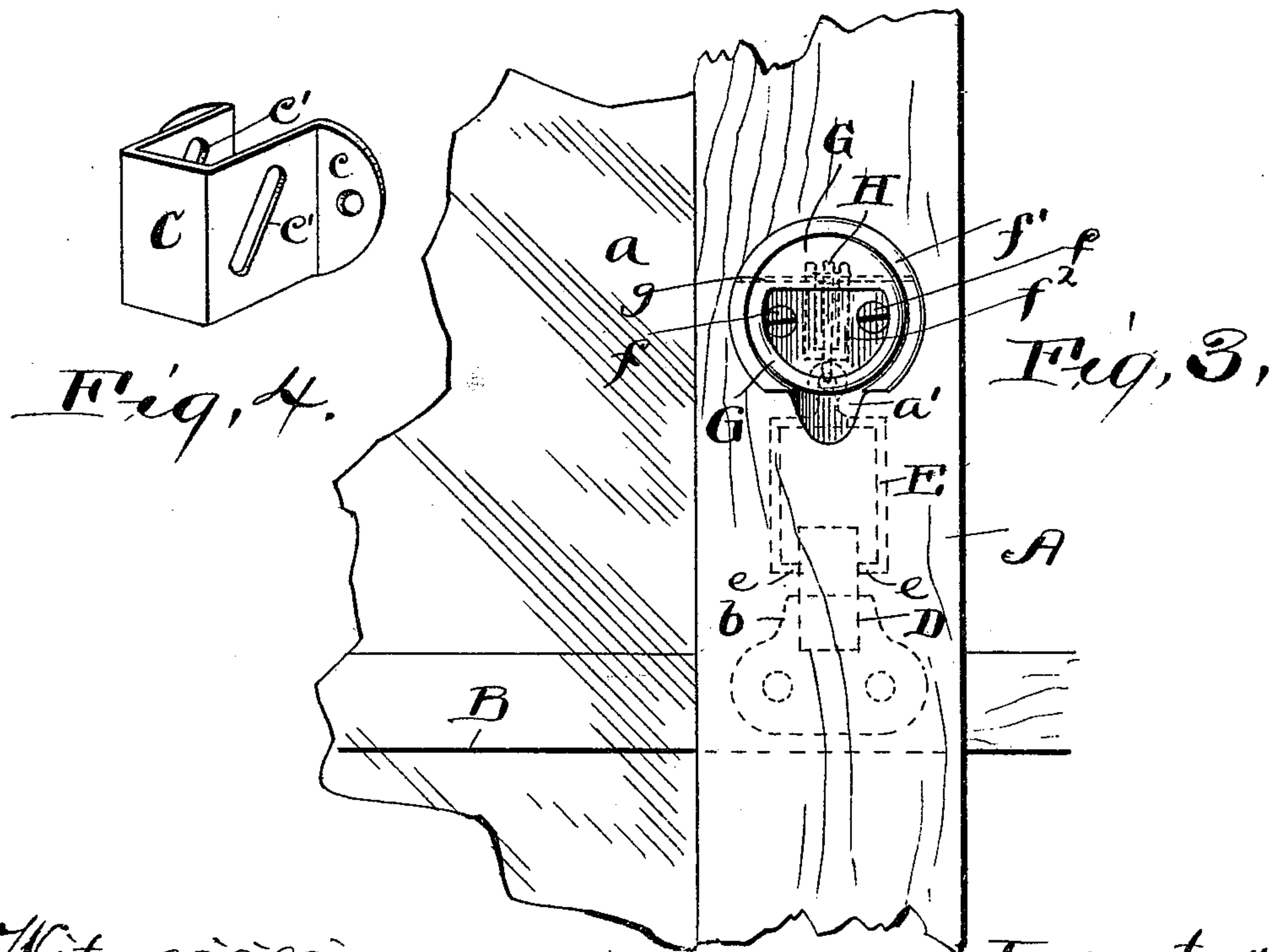
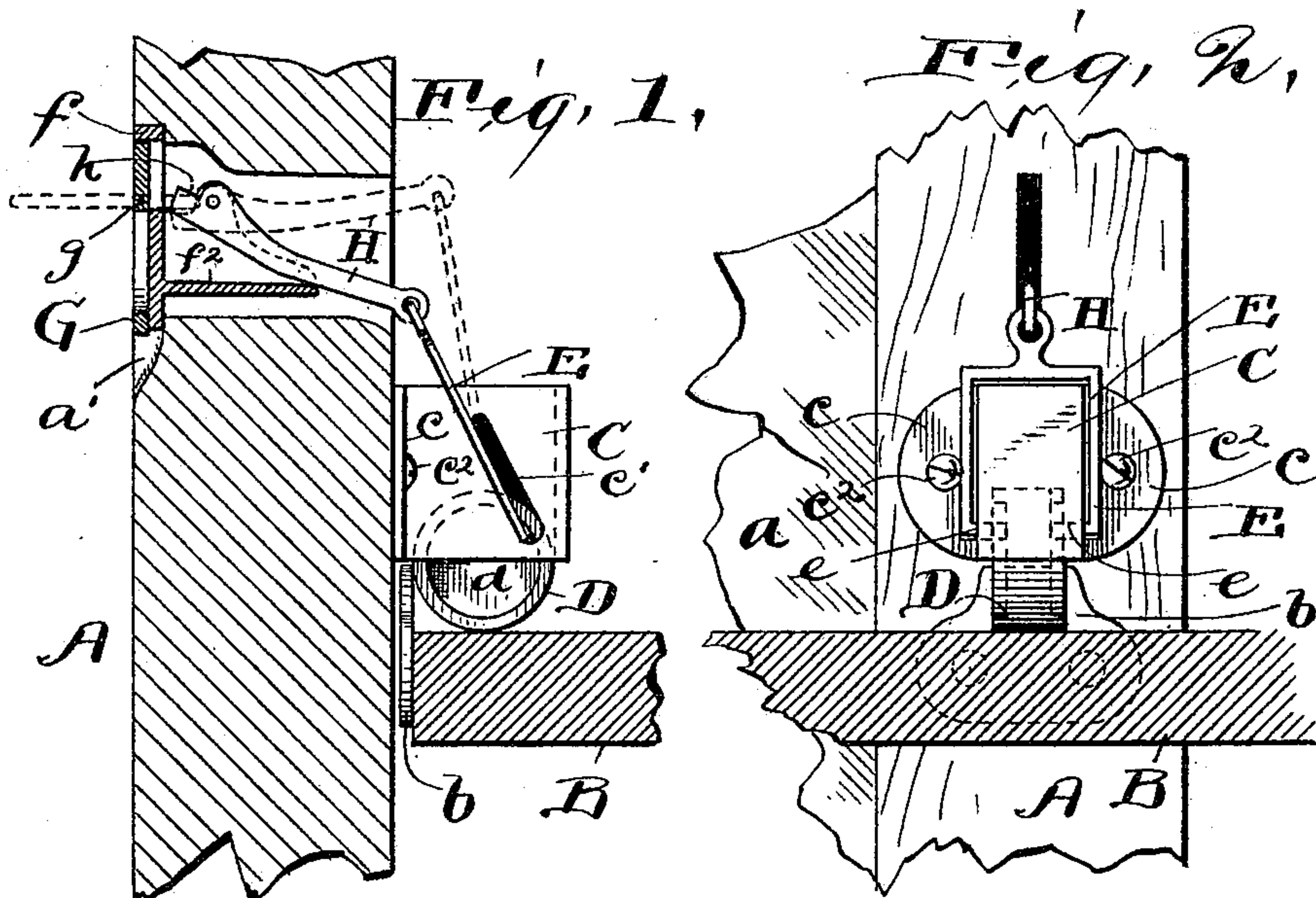
Patented May 2, 1899.

T. B. STEVENS.

LATCH.

(Application filed Dec. 13, 1897. Renewed Mar. 4, 1899.)

(No Model.)



Witnessed,
E. B. Gilchrist
Philip E. Knowlton.

Inverton,
Theodore B. Stevens,
By His Attorneys,
Thurston & Bates

UNITED STATES PATENT OFFICE.

THEODORE B. STEVENS, OF CLEVELAND, OHIO.

LATCH.

SPECIFICATION forming part of Letters Patent No. 624,121, dated May 2, 1899.

Application filed December 13, 1897. Renewed March 4, 1899. Serial No. 707,807. (No model.)

To all whom it may concern:

Be it known that I, THEODORE B. STEVENS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Latches for Cupboard-Doors and Kindred Purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention is for a latch adapted for use on a cupboard or bookcase door or similar structure.

The object of my invention is to provide a latch which automatically latches the door when closed and effectively holds it and which has its locking portion on the back side of the door, and hence not visible from the front, and its releasing portion, which is on the front of the door, of very neat appearance while being efficient in operation.

The invention consists of the combinations of parts which I employ to attain this end, as hereinafter described, and definitely enumerated in the claims.

In the drawings, Figure 1 is a vertical section through a cupboard door and shelf to which my improved latch is applied. Fig. 2 is a rear elevation of the latch attached to such door, showing the shelf on a section at right angles to that shown in Fig. 1. Fig. 3 is a front elevation of a portion of such door having my latch. Fig. 4 is a perspective view of the casing which contains the locking member.

Similar letters of reference designate similar parts in each figure.

Referring to the parts by letters, A represents the vertical beam or edge strip of a door, *a* indicating a glass plate or a panel at the side thereof.

B represents a shelf of the cupboard.

C represents a casing made, preferably, of a single piece of metal bent into the form shown and being thus open at its top and bottom and on one side and being secured at this open side to the door by screws *c*², which pass through wings *c* of the casing.

D indicates the locking member, which consists of a roller having, preferably, an interior web portion *d*. This roller is adapted to easily slide up and down in the casing C with-

out binding. As shown in the drawings, the roller in the closed position rests on the shelf B and locks the door by forming a strut between the plate *b*, secured to the front edge of the shelf, and the rear side of the casing. The plate *b* instead of being secured to the shelf might be bracketed out from the door-jamb, the roller being supported by a horizontal projection on such bracket or being suspended by the bail, as desired. The roller is adapted to be elevated into the casing, thus releasing the door from the shelf, by means of the bail E, which has a pair of arms lying outside of the casing, which arms have in-turned ends *e*, projecting through slots *c'* in the casing and into the ends of the roller D. Thus when the bail is elevated the roller is lifted upward into the casing C and out of the way of the plate *b*, and the door is free to open.

Secured on the front side of the door by screws *f* or otherwise is the plate F, having the flange *f'* extending around a portion of its outer edge. Pivoted to this plate by a pin *g*, extending into the flange *f'* or otherwise, is the lever G. Pivoted to a bracket *f*², extending backward from the plate F, is a lever H, to the rear end of which is connected the bail E and the front end *h* of which projects forward into the path of the upper end of the lever G when that lever is swung on its pivot. The lever G has its lower portion made, preferably, in the form of a finger-ring. It overhangs the plate F a little at the lower edges, and a groove *a'*, cut in the door, furnishes convenient means for lifting up this ring by the finger. When the ring is so lifted up, the inner end impinges against the forward end *h* of the lever H and raises the bail, and thus lifts the roller D out of the way of the plate *b* and unlatches the door.

Supposing the door to be open, the lever G hangs in a vertical position. The lever H rests on the base of the bracket *f*² and the roller D hangs on the bail E, thus depending from the casing preferably somewhat more than half. If now the door is shut, the roller strikes against the forward edge of the plate *b* and is by it easily shoved up into the casing C until the plate passes under the roller, when the roller drops back by gravity behind the plate and the door is locked, the parts being

as shown in solid lines in Fig. 1. When it is desired to open the door, the finger is inserted in the groove a' and the finger-lever G is raised. Thereupon the inner end of this lever operating on the lever II raises the bail and withdraws the roller into the casing, (the parts in this position being shown in dotted lines in Fig. 1,) while the ring form of the lever G allows the finger to extend through it, and thus simple and convenient means are furnished for drawing the door open by the same finger which released it and in practical operation by a continuation of the movement which released it.

15 Having described my invention, I claim—

1. In a latch, in combination, a casing C, a locking member D, a bail E, a lever II connected at one end to the bail and pivoted intermediate of its ends, the finger-lever G normally hanging vertical and adapted to be swung into substantially horizontal position and when so swung to have its upper end engage with the forward end of the lever II and raise the bail and locking member, substantially as described.

2. In a latch, in combination, a plate F, a bracket extending rearward therefrom, a lever II pivoted to said bracket, a lever G pivoted to said plate and adapted when swung on its pivot to engage with said lever II on one side of its pivot whereby the latter is turned on its pivot, a bail extending from the lever II and adapted to release a locking member, substantially as described.

3. In a latch, a casing C composed of a single piece of metal bent substantially in the form shown and thus having three sides and being open at three sides and having wings opposite one of the open sides whereby it may be secured there being slots through the two opposite sides in combination with a roller within the casing and a bail on the outside of the casing having arms extending through said slots into the roller, whereby separation of said three parts is normally prevented, substantially as described.

4. In a latch, a plate F adapted to be secured to a door in front of the opening therein, a bracket f^2 extending rearward from said plate

into said opening, a lever II pivoted to said bracket and having the end h extending forward from its pivot, a lever G pivoted to said plate and having the end above its pivot adapted to engage with the end of the lever II when the lever G is swung toward the horizontal position, in combination with a lock on the inner side of the door connected with and actuated by said lever G, substantially as described.

5. In a latch, in combination, a plate F adapted to be secured to a door, a bracket f^2 extending rearward from said plate, a lever II pivoted to said bracket and having the end h extending forward from its pivot, a lever G pivoted to said plate and having the end above its pivot adapted to engage with the end h of the lever II when the lever G is swung toward the horizontal position, a casing C secured on the inner side of the door, a locking member D within said casing and a bail connected at one end with the lever II and having its other end loosely engaging the locking member whereby when the lever G is operated the locking member may be elevated, substantially as described.

6. In a latch, in combination, a plate F adapted to be secured to a door in front of an opening therein, said plate having an opening in its upper portion, a lever G lying in front of said plate and pivoted to the same on a line higher than the bottom of the opening in said plate, the lower part of said lever being in the form of a ring adapted to receive one's finger, and the upper part serving to cover the opening in the upper part of the plate F, a latch on the inner side of the door, and operating means therefor back of the plate F and adapted to be engaged by the upper end of the lever G swinging through the opening in the plate when that lever is swung into substantially horizontal position, substantially as described.

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

THEODORE B. STEVENS.

Witnesses:

E. L. THURSTON,

ALBERT H. BATES.