Oct. 13, 1931. C. J. SYMMONDS 1,826,841

LOCKING DEVICE

Filed Dec. 15, 1930

Fig. 1

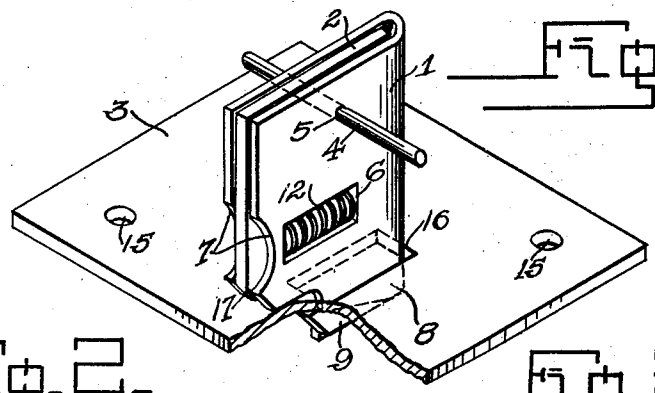


Fig. 2

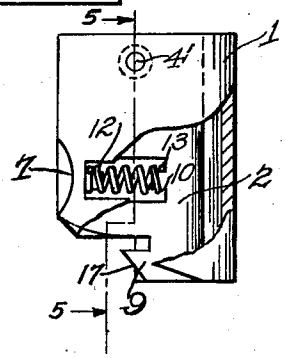


Fig. 3

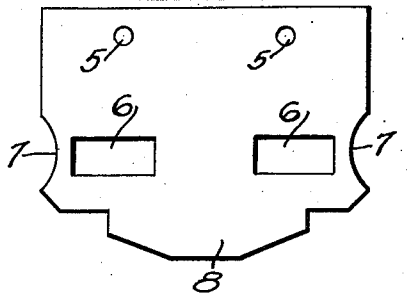


Fig. 4

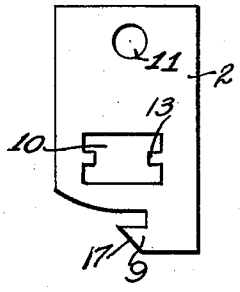
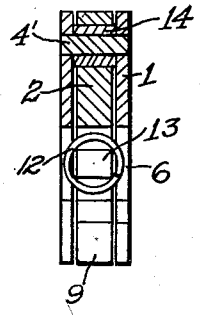


Fig. 5



INVENTOR.
Charles J. Symmonds
BY. Wm. J. Wallace
ATTORNEY.

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UNITED STATES PATENT OFFICE

CHARLES J. SYMMONDS, OF WASHINGTON, DISTRICT OF COLUMBIA

LOCKING DEVICE

Application filed December 15, 1930. Serial No. 502,309.

(GRANTED UNDER THE ACT OF MARCH 3, 1883, AS AMENDED APRIL 30, 1928; 370 O. G. 757)

This invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

My invention relates to a class of locks and latches, and in particular to a lock designed for articles of furniture adapted to be readily folded or unfolded as usage requires.

An object of my invention is to provide a simple, quick acting, and reliable finger latch that may be manufactured and sold at popular prices.

Another object of my invention is to provide a latch which is adapted to be attached to the ends of table legs for locking the legs to the table.

Still another object of my invention is to provide a latch which is of compact construction, durable, and efficient in use, readily applied to and removed from the furniture member to which it may be attached, the latch firmly holding in locked position the furniture member to which it is attached to a keeper member provided on another furniture member.

The usual type of locking device now employed are made in numerous sections thus making the locking device expensive to construct, unreliable, and inefficient in use.

It is therefore the aim and purpose of this invention to provide a locking device which is simple and cheap to construct, efficient in use, readily applied to and removed from a member to which it is attached and is not liable to get out of order.

With the above and other objects and advantages in view the invention preferably consists in the arrangement and combination of parts to be hereinafter more fully described and claimed and illustrated in the accompanying drawings; it being understood however, that various changes in form and proportion and other details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Referring more particularly now to the accompanying drawings in which corresponding parts are indicated by similar reference characters.

Fig. 1 is a perspective view of my new and improved lock detached from the furniture member to which it is to be attached and engaging a keeper member detached from a furniture member.

Fig. 2 is a detail view of the pivotable latch member in its outer casing, the casing being partly broken away.

Fig. 3 is a plan view of a cut-out sheet metal blank which when folded into position forms an outer U-shaped casing of the lock.

Fig. 4 is a detail side view of the pivotable latch member, the spring member thereof being removed.

Fig. 5 is a longitudinal sectional view on the line 5—5 of Fig. 2.

In the illustrated embodiment characterizing this invention my lock comprises mainly a U-shaped portion 1 forming an outer casing for the pivotable latch 2, 3 is a keeper plate. The latch 2 is pivoted to the U-shaped casing 1 by means of a pin 4 which is driven through the piece of furniture in which the lock is embedded to displace a temporary pivoted pin 4′ ordinarily keeping the latch and its casing together in pivotable relationship. The casing 1 is formed from a sheet metal blank stamped into a general rectangular shape as illustrated in Fig. 3 having two pin receiving apertures 5, and two rectangular spring receiving apertures 6. Cut-away portions 7 are provided for the purpose of forming a finger or thumb aperture to provide a working surface on the lock. The lower portion 8 of the blank is of an irregular shape to form a housing for the tongue or jaw member 9 formed on the pivotable latch member 2. The blank thus formed is bent about its central vertical axis into the form of a U for housing the pivotable latch member 2. The latch member 2 is formed from a flat piece of sheet metal of general rectangular configuration stamped to provide a tongue or jaw member 9, and an internal H-shaped aperture 10, and also a circular aperture 11 of greater diameter than the diameter of the pin receiving apertures 5 of casing 1 to receive the pin 4, and for a purpose which will hereinafter be described.

The pivotable latch member 2 is now inserted in its casing 1 with its aperture 11 in alignment and enclosing the apertures 5 of its casing 1. The temporary pivot pin 4′ is then driven through these apertures 5 of the casing 1 and the aperture 11 of the pivotable latch member 2 to hold these members together. The helical spring 12 is next presented through the apertures 6 of the casing 1 into the H-shaped aperture 10 of its latch member 2 with the end turns of the helical spring embracing the inwardly projecting tongues 13 formed by the H-shaped aperture 10. It is noted that the diameter of the helical spring 12 is greater than the thickness of the latch member 2 but less than the distance between the outer surfaces of the casing member 1 so that upon compressing the latch member 2 the spring will bear against the sides of apertures 6 of the casing. It is also pointed out that the collar 14 is positioned within the aperture 11 of the latch member 2 and is slightly longer than the diameter of the latch member 2 for keeping the contiguous surfaces of the casing member 1 and the latch member 2 separated, the temporary pivot pin 4′ being inserted through the collar 14.

All of the above assembly thus far formed constitutes one of the two complemental lock members. This assembly is adapted to be inserted into a cut-out portion in the piece of furniture in which it is to be used. Now the permanent pin 4 as shown in Fig. 1 is driven transversely through the furniture displacing the pin 4′ and taking the place of the pin 4′ in the assembly above described.

The other part of the complemental members comprises merely a flat keeper member 3 pierced with holes 15 to receive attaching means to secure it to its corresponding complemental part of said piece of furniture, the keeper member 3 also contains an aperture 16 to receive the jaw portion 9 of the latch member 2 together with the lower portion of its housing 1.

The operation is as follows: Upon depressing by the thumb or finger the pivotable latch member 2 adjacent the cut-away portion 7 of the casing 1 about its axis 4 the pivotable latch member 2 is forced against the helical spring 12, the jaw member 9 is caused to be disengaged from its cooperating part of the keeper member 3 thereby permitting the two furniture parts to which these members are secured to be moved relative to each other into any position into which they are constrained to move. To lock the members firmly together it is simply necessary to bring the two furniture parts together again so that the jaw member 9 of the pivotable latch member 2 and the lower portion of its housing 1 enter into the aperture 16 provided on the keeper member 3. The beveled edge 17 of the jaw member 9 guiding the latch member 2 into locked position with the aperture 16 of the keeper member 3.

It will thus be seen that I have invented a simple, efficient, and practical locking device which is not liable to get out of order, which may be readily applied to and removed from the place to which it is attached and which may be manufactured at low cost of production.

What I claim as new and wish to secure by Letters Patent is:

1. A lock comprising a U-shaped housing member enclosing a substantially rectangular shaped latch member pivoted thereto, means for operating said latch member comprising cut-away portions on the opposed edges of said housing member, an integral jaw portion on said latch member, a helical spring maintaining said latch member in one position and a cooperating keeper plate pierced to receive the lower portion of said housing member.

2. A latch member for a lock, comprising a substantially rectangular strip of sheet metal having a latching jaw integral therewith projecting from one of its longitudinal ends and pierced with a circular pivot receiving aperture at its other end and further pierced with a transversely formed H-shaped aperture intermediate said ends.

3. A lock comprising a U-shaped housing member enclosing a latch member pivoted thereto, an integrally formed jaw portion on the lower end of said latch member, a helical spring maintaining said latch member in one position, a cooperating keeper plate pierced to receive the lower portion of said housing member, a collar for separating said latch and housing member and cut-away portions on the opposed edges of said housing member for providing a working surface for said latch member.

4. A lock comprising a U-shaped casing having circular aligned holes and transversely formed and aligned rectangular shaped apertures on opposite sides thereof, a latch member having a latching jaw integrally formed on one of its longitudinal ends and pierced with a circular hole at its other end and further pierced with a transversely formed H-shaped aperture intermediate said ends, a pin for pivotably connecting the said latch member to said casing and a keeper to engage said latching jaw.

5. A lock comprising a U-shaped casing having a circular aligned hole and a transversely formed and aligned rectangular shaped aperture on opposite sides thereof, cut-away portions on opposed edges of said casing for providing a working surface for the lock, a substantially rectangular shaped latch member having an integrally formed latching jaw on one of the longitudinal ends of said latch member and a circular pivot re-

ceiving aperture pierced in the other end thereof the said pivot receiving aperture of said latch member in alignment with the circular aligned holes of said U-shaped casing, a transversely formed H-shaped aperture pierced intermediate the longitudinal ends of said latch member, a pin in the pivot receiving aperture of said latch member and the aligned holes of said casing for pivotably connecting the said latch member to said casing, a helical spring adapted to be presented through the rectangular shaped apertures of said casing into the H-shaped aperture of said latch member for holding the said latch member in one position and a keeper plate pierced to receive the locking jaw of said latch member.

6. A lock comprising a U-shaped casing having a circular aligned hole and a transversely formed and aligned rectangular shaped aperture on opposite sides thereof, semi-circular cut-away portions on opposed edges of said casing for providing a working surface for operating said latch member, a substantially rectangular shaped latch member having an integrally formed latching jaw on one of its longitudinal ends and pierced with a circular pivot receiving aperture at the other end thereof in alignment with the circular aligned holes of said U-shaped casing, a pin in the pivot receiving aperture of said latch member and the aligned holes of said casing for pivotably connecting the latch member to said casing, a transversely formed H-shaped aperture pierced intermediate the ends of said latch member in alignment with the rectangular shaped apertures of said casing, a helical spring adapted to be presented through the apertures of said casing into the H-shaped aperture of said latch member for holding the latch member in one position the ends of said helical spring bearing against the sides of the apertures of said casing, a collar for separating the latch and casing and a keeper plate pierced to receive the lower portion of said casing.

CHAS. J. SYMMONDS.