

(No Model.)

M. W. LYNCH.
LOCK BUCKLE.

No. 573,093.

Patented Dec. 15, 1896.

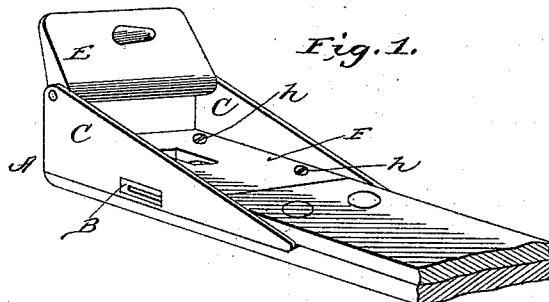


Fig. 2.

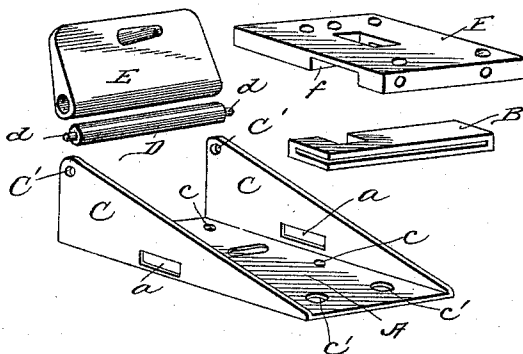


Fig. 3.

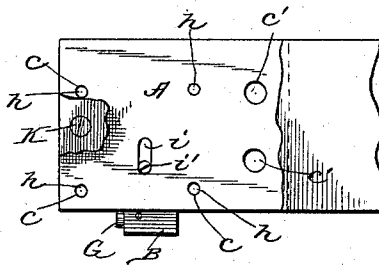
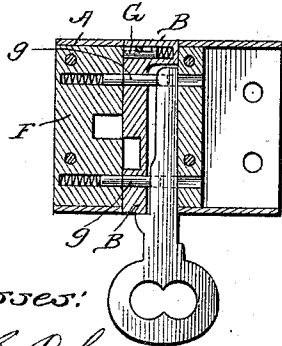


Fig. 4.



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UNITED STATES PATENT OFFICE.

MATTHEW W. LYNCH, OF MADISON, WISCONSIN.

LOCK-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 573,093, dated December 15, 1896.

Application filed December 30, 1892. Serial No. 456,818. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW W. LYNCH, of Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Lock-Buckles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention has for its object to improve the construction of the lock-buckle described in the patent granted to me on the 27th day of September, 1881, No. 247,507, whereby the manufacture of the same is facilitated and the strength and durability of the buckle increased.

To this end the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of a buckle embodying my present invention. Fig. 2 is a similar view with the parts separated. Fig. 3 is a view, looking at the rear side of the buckle, with the locking-bolt projected and the strap removed. Fig. 4 is a transverse sectional view.

Like letters of reference in the several figures denote the same parts.

Buckles of the character to which this invention is particularly applicable are designed especially for use in confining human beings, usually insane persons, and hence should be neat, smooth to the touch, and have no projecting portions liable to be broken, and, further, the locking mechanism must be entirely concealed within the body of the buckle. These desirable qualities were attained in the buckle heretofore patented to me, but practical use has demonstrated that the ends aimed at were attained at a sacrifice of strength and economy in manufacture, inasmuch as the solid block employed for the entire body of the buckle necessitated expensive boring and broaching, and where the pivot for the tongue passed through the sides or ears they were of necessity much weakened in order to insert a pivot of sufficient diameter to hold the tongue. With a view to

overcoming these difficulties I now strike the buckle-frame A up from sheet-steel or other suitable metal into the shape shown clearly in Fig. 2 and form in it transverse openings *a* at each side for the passage of the locking-bolt B, together with openings *c* for the reception of rivets to hold the parts of the lock together and openings *c'* for the attachment of the strap.

In the ears C at each side are formed relatively small openings C' for the reception of the reduced ends *d* of the pivot D for the tongue. This pivot must be of rather large diameter throughout the portion passing through the tongue, but by forming the body of sheet metal the ears may be sprung over the reduced ends, and when said ends are headed up the pivot serves to stiffen and brace the frame, and, further, prevents any possibility of the pinching or binding of the tongue.

The tongue itself (lettered E) is similar to that described in my before-mentioned patent, and hence needs no specific description.

Within the frame A is fitted a tumbler case or block F, having a transverse channel *f* milled in its under face and registering with the openings *a* for the reception of the locking-bolt. This case or block, it will be seen, can be dressed, bored, and milled before its insertion in the frame, and, if desired, may be made of brass or metal more easily worked than that of the frame, by reason of which expensive broaching for the channel and intricate boring is entirely avoided.

The tumbler-pins *g* are inserted, as usual, and adapted to work in the openings provided for them in the bolt and block, respectively, as shown in the sectional view.

In addition to the usual tumblers I provide the bolt D with a spring-pressed pin or tumbler G, which, when the bolt is pushed along to unlocked position, springs out on the outside of the frame and prevents the bolt from moving inward until the pin is pressed in by the finger. Thus the bolt cannot become accidentally locked.

The complete tumbler case or block is held in place by rivets *h*, passing through the same and through the frame A, thus making the structure rigid, but to insure the greatest strength the locking-bolt, when in locked po-

sition, has its ends confined within the openings in the frame A with the end faces flush with the outside surface of the frame.

To limit the longitudinal movement of the locking-bolt, a slot *i* is formed in the frame and a screw *i'* passed through the same and into the bolt.

In attaching the strap to the buckle it is preferably bifurcated and one arm passed along back of the buckle, where it is held by a screw K, while the other arm is riveted to the end of the frame below the block F, as shown clearly in Figs. 1 and 3.

The construction of the buckle, it will be seen, is greatly cheapened and its strength increased, at the same time maintaining all the desirable qualities before mentioned, and which practical use has shown are essential to the success of the device.

In use, of course, the free end of the strap is passed beneath the tongue, which is then turned down with the projection passing through an opening in the strap and into the recess in the body of the buckle. Then the locking-bolt is moved across behind the projection, and the tumblers entering their seats hold the same until the bolt is moved out by the insertion of a key. As in the former device, a straight inward push on the key moves the tumblers out and slides the bolt to open position, thereby releasing the tongue and allowing the strap to be disengaged.

Having thus described my invention, what I claim as new is—

1. In a lock-buckle, the combination with the frame stamped up from sheet metal with the oppositely-arranged transverse openings, the tongue carried by the frame, the pivot-pin passing through the tongue having reduced ends received in openings in each side of the frame, of the independent lock-case secured in the frame and having the transverse channel registering with the transverse openings in the frame, the locking-bolt sliding in said channel and having the ends within the opening in the frame, and the pin carried by the bolt working in a slot in the bottom of the frame for limiting the movement of the bolt, and the tumblers for holding the bolt.

2. In a lock-buckle, the combination with the sheet-metal frame formed with the ears at each side, the tongue pivoted thereon, of the independent tumbler-case secured in the frame and having the transverse channel in the lower face, the locking-bolt sliding in said channel, having the spring-pressed locking-pin for holding the bolt in unlocked position and the tumbler carried by the block for holding the locking-bolt in locked position.

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Witnesses:

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