Dec. 8, 1931. E. N. JACOBI 1,835,709

PADLOCK

Filed Dec. 19, 1928

Fig. 1.

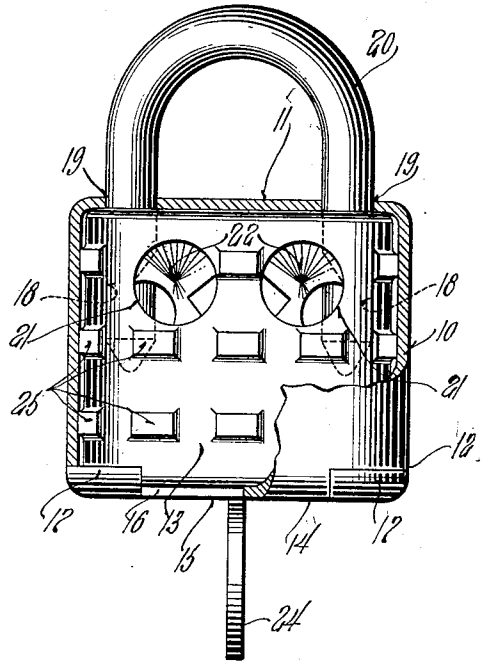


Fig. 2

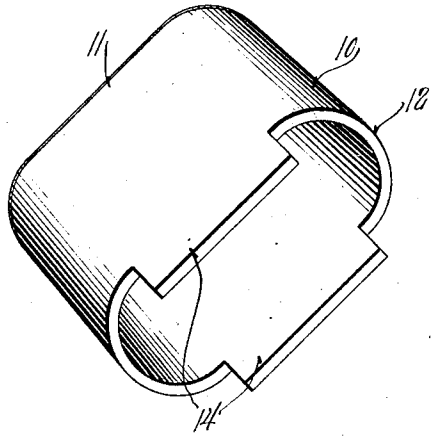
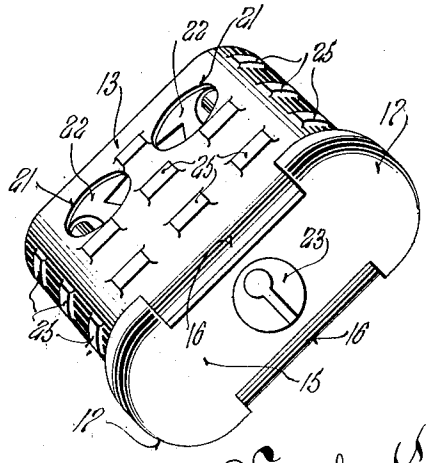


Fig. 3.



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UNITED STATES PATENT OFFICE

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PADLOCK

Application filed December 19, 1928. Serial No. 326,935.

This invention relates to certain new and useful improvements in padlocks, being a continuation in part of my Patent No. 1,703,193, issued February 26, 1929, and has as an object the provision of an improved and simplified construction which will afford maximum protection against unauthorized opening.

Another object of this invention resides in the provision of an improved structure whereby protection is provided against unauthorized opening of the lock by destruction such as blows from a hammer or other tool.

And a further object of this invention resides in the provision of an improved construction whereby the manufacture of the lock is greatly facilitated and consequently the cost of production reduced.

With the above and other objects in view which will appear as the description proceeds, my invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

In the accompanying drawings, I have illustrated one complete example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a view, partly in section and partly in side elevation, of a padlock embodying my invention;

Figure 2 is a perspective view of the casing, protecting the retainer for the locking mechanism of the padlock; and

Figure 3 is a perspective view of the retainer.

Referring now more particularly to the accompanying drawings, in which like numerals designate like parts throughout the several views, 10 represents a shell or casing preferably stamped from a single blank and case hardened. The shell, in the present instance, is substantially oval in transverse section, being closed at its top 11 and open at its lower end 12 to receive a retainer or block member 13. The retainer is cast or otherwise formed and is of a shape in transverse section to have a snug fit in the shell in which it is firmly secured by flanges or projections 14 extended from the lower peripheral edge of the shell 10 and clinched over its end 15 to engage in recesses 16.

The retainer has a marginal flange 17 extended from its end 15 which overlies the peripheral edge of the shell, in the manner illustrated in Figure 1, to eliminate sharp edges and retain the general symmetrical exterior appearance of the lock. A pair of spaced longitudinal bores 18 is formed in the retainer to register with apertures 19 in the top wall 11 through which the ends of a shackle 20 are received, the shanks being provided with locking recesses 21 in which locking elements or tumblers 22 are engageable to lock the shackle against retraction.

A lock cylinder 23, see Figure 3, is mounted in a central bore formed in the retainer and communicating with its outer end 15 and has suitable mechanism, not shown, so that the insertion of a proper key 24 in the cylinder 23 and its rotation operates the locking elements or tumblers 22 to free the shackle 20. The specific construction and operation of the locking elements are shown and described in detail in the patent above referred to, and reference is directed thereto for such details.

In some constructions, it is desirable that the retainer be formed or cast to a size slightly larger than the interior of the shell 10 and then broached or otherwise machined to have a snug fit therein. This operation is generally extremely difficult as the chips cut therefrom in the broaching tend to curl inwardly, frequently jamming the die, damaging the same and hindering production and in this invention this objectionable feature is overcome by providing the retainer 13 with a series of peripheral projections or knobs 25 to reduce the amount of material removed in the finishing of the member. The excess of material is removed in the form of very small chips which readily clear the die.

From the foregoing description taken in

connection with the accompanying drawings, it will be readily apparent to those skilled in the art to which an invention of the character described appertains, that an unusually strong padlock structure is provided whereby positive protection is obtained for the locking elements, for even if the clinched flanges 14 are released from the retainer member, the shell 10 continues to protect the locking elements to prevent the opening of the padlock, and further that by virtue of the formation of the knobs 25, the broaching or other machining of the retainer to fit the shell is greatly facilitated.

What I claim as my invention is:

1. In a padlock including a retainer, a shackle member carried by the retainer, locking means carried by the retainer for locking the shackle member, a casing closed at one end and of an internal shape to receive the retainer, and a flange on the peripheral edge of the casing and struck over the outer end of the retainer to secure the casing thereover.

2. In a padlock including a retainer, a shackle member having an end engageable in the retainer and locking means carried by the retainer for securing the shackle end therein against retraction, an approximately cup-shaped casing of hardened metal having an internal cross-section complementary to the cross-section of the retainer and adapted to be engaged over the retainer and having an aperture through which the shackle end projects into the retainer, and a flange extended from the marginal edge of the casing to be turned over the adjacent end of the retainer to secure the casing thereover.

3. A padlock comprising a retainer, a shackle having its ends engageable in the retainer at one end, a marginal flange at the opposite end of the retainer, locking means carried by the retainer for releasably securing the shackle ends therein, and a hardened metal casing open at one end and adapted to be engaged over the first-mentioned end of the retainer and having apertures therein through which the shackle ends pass to be engaged in the retainer, the marginal edge portions of the casing terminating flush with the flange at the other end of the retainer.

4. A padlock, comprising a retainer, a shackle having its ends engageable in the retainer at one end, a marginal flange at the opposite end of the retainer, locking means carried by the retainer for releasably securing the shackle ends therein, a hardened metal casing open at one end and adapted to be engaged over the first-mentioned end of the retainer and having apertures therein through which the shackle ends pass to be engaged in the retainer, the marginal edge portions of the casing terminating flush with the flange at the other end of the retainer, and flanges projected from the marginal edges of the casing to be struck over into recesses in said last-mentioned end of the retainer to secure the casing thereover.

In testimony whereof I have hereunto affixed my signature.

EDWARD N. JACOBI.