F. W. SMITH & F. EGGE.

PADLOCK-CASES.

No. 194,849. Patented Sept. 4, 1877.

Fig 1

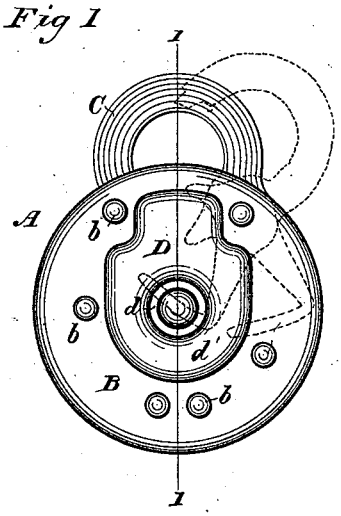


Fig 2

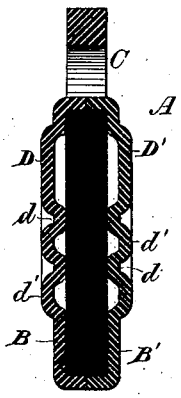


Fig 3

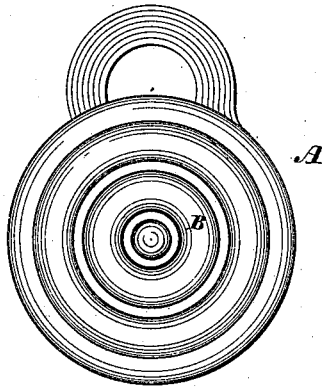


Fig 8.

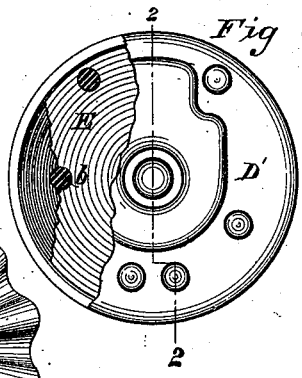


Fig 5

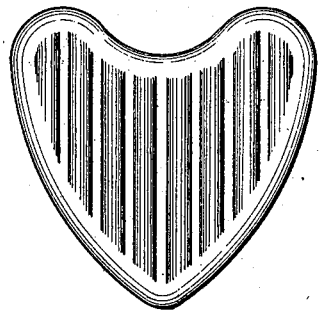


Fig 4

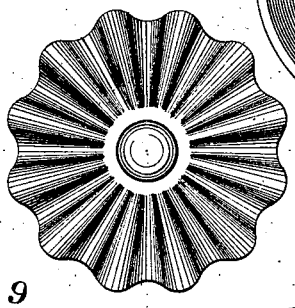


Fig 9

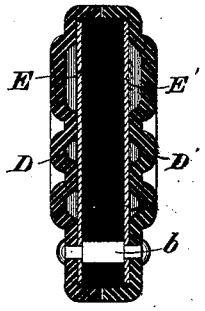


Fig 6

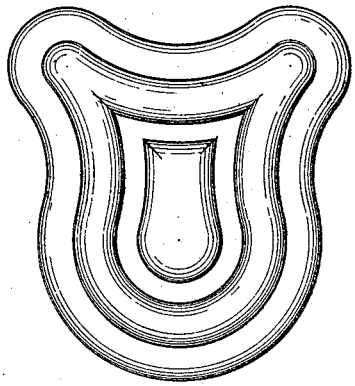
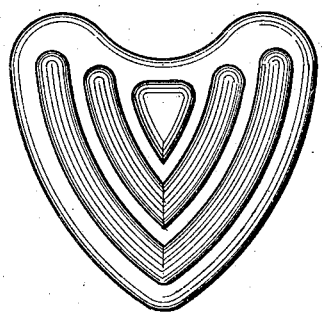


Fig 7



WITNESSES

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UNITED STATES PATENT OFFICE.

FRIEND W. SMITH AND FREDRICK EGGE, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN PADLOCK-CASES.

Specification forming part of Letters Patent No. **194,849**, dated September 4, 1877; application filed June 29, 1877.

To all whom it may concern:

Be it known that we, FRIEND W. SMITH and FREDRICK EGGE, both of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Padlocks, of which the following is a specification:

Our invention relates to padlocks of the class having sheet-metal shells or cases made in sections, and secured together by riveting or otherwise.

The objects of our invention are to improve such cases, and to protect the lock-works or mechanism inclosed by them from injury by rough usage; and our improvement consists in a sheet-metal bulged, corrugated, or crimped lock-case, the corrugations or projections being formed, as will hereinafter be explained, so as to both strengthen the case and to prevent injury to the internal works or moving parts by such knocking, striking, or battering as the case is usually exposed to or at all likely to receive accidentally.

Our improvements also consist in providing the case with an internal protecting plate or plates to strengthen the case and afford a smooth or plain bearing-surface for the works, while rendering the work of picking the lock more difficult.

In the accompanying drawings variously-shaped lock shells or cases, all constructed in accordance with our invention, are shown.

Figure 1 is a side view of a lock-case; Fig. 2, a section therethrough on the line 1 1. Figs. 3, 4, 5, 6, and 7 are side views, showing various modifications in the manner of corrugating the cases. Fig. 8 is a side or plan view, with the shell partly broken away to show the protecting-plate; and Fig. 9, a section on the line 2 2 of Fig. 8.

Each shell or case A is made in halves or sections B B′, which are stamped out of suitable sheet metal, and at the same time crimped or corrugated, as will be explained hereinafter, by the employment of suitable dies.

Figs. 1 and 2 show a case especially designed for use in connection with the improvements shown and described in Letters Patent of the United States, No. 145,853, issued to us December 23, 1873. The sections are both formed alike and united by the rivets *b*. The shackle C is extended into the case beyond its pivot, (see dotted lines, Fig. 1,) as fully set forth in said Letters Patent, and moves in contact with the inner sides of the case. Obviously, a slight depression or indentation of the case upon the outside, such as might readily be caused accidentally, would produce a corresponding projection or bulge upon the inside, which, if in the path of the shackle, would prevent its free movement, or bind it to such an extent as to prevent all play, thus rendering the lock, for the time at least, incapable of perfect operation, if not totally ruining it. To avoid such injury, as well as to protect the mechanism of the lock, the metal is corrugated to form a projecting surface or offset, D, on each side of the case. The most prominent part of the case is much more likely to receive the blows, &c., than the remaining or uncorrugated portion, against the inner surface of which the works and shackle bear, when the protecting-plates, hereinafter described, are dispensed with. Considerable battering would be necessary to force inward the metal of the corrugations or projecting parts D of the case to such an extent as to injure the mechanism or interfere with the working of the lock. At or about the center of the case in each section an inward projection, or rather an undisturbed place, is left to form bearings *d* flush with the main uncorrugated portions of the case, between which bearings the bent inner end or extension of the shackle C works to prevent wabbling or sidewise movement, when the shackle is thrown back or rocked on its pivot in unlocking.

The depressions or grooves *d′* upon the outside of the case-sections opposite the bearings prevent injury to the case by the forcing inward of the bearings by hammering or battering, as the blows would be received upon the corrugated or prominent parts D and D′ of the shell. Thus the liability of impeding the movement of the shackle is avoided.

The case shown in Fig. 3 is provided with circular raised ribs or concentric corrugations D. This case is adapted for use in the same manner as that before described, for which it may be substituted.

Fig. 4 shows a circular lock-case, with radial corrugations extending to and around its

edge or periphery. The edges of the other cases may be corrugated, if deemed necessary; or the case may be changed in form, and made of any desired shape, and corrugated to suit the taste, and as required by the peculiarities of the lock.

Figs. 8 and 9 show a centrally-bulged or dish-shaped case as provided with internal protecting plates or shields E E′. These plates may be formed in suitable manner of sheet metal, and have openings corresponding with the rivets *b*, which pass through them. The plates serve as an additional means of strengthening the case, and also present regular smooth surfaces for the works and shackle-extension to bear and move upon.

It is obvious that by thus closely enveloping and protecting the works picking or tampering with the lock by inserting instruments in the spaces, channels, or openings formed by the corrugations or bulges in the case are prevented. One plate may sometimes be used; but we prefer to employ both, and in connection with any desired and suitable form of crimping, corrugating, or bulging.

We claim as our invention—

1. A sheet-metal lock-case, corrugated or crimped, substantially as hereinbefore set forth, whereby it is strengthened, and affords additional protection to the lock-works, which it is adapted to inclose and form bearings for, essentially as specified.

2. The combination of the corrugated case, provided with central bearings, and the shackle, having an extension working between said bearings, substantially as hereinbefore set forth.

3. The combination, substantially as hereinbefore set forth, of the case, its rivets, and the internal protecting plate or plates perforated for the passage of the rivets, and extending over the inner surface of the side or sides of the cases, thereby inclosing and protecting the works from edge to edge of the case.

4. The combination of the corrugated, crimped, or bulged case, and the smooth-surfaced protecting-plates, arranged against the inner sides of the case, substantially as and for the purpose set forth.

In testimony whereof we have hereunto subscribed our names.

F. W. SMITH.
FREDRICK EGGE.

Witnesses:
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J. J. PEYTON.