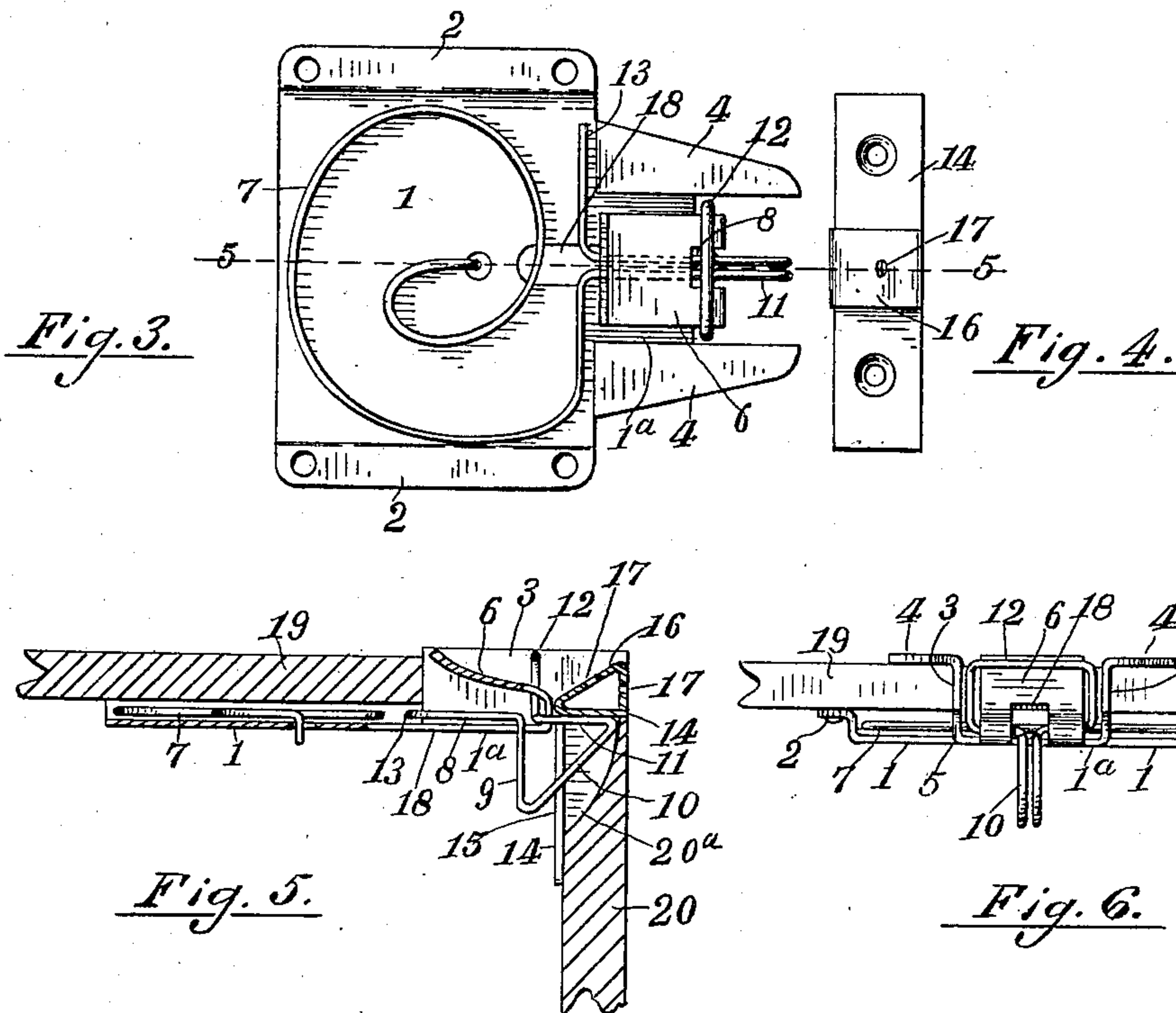
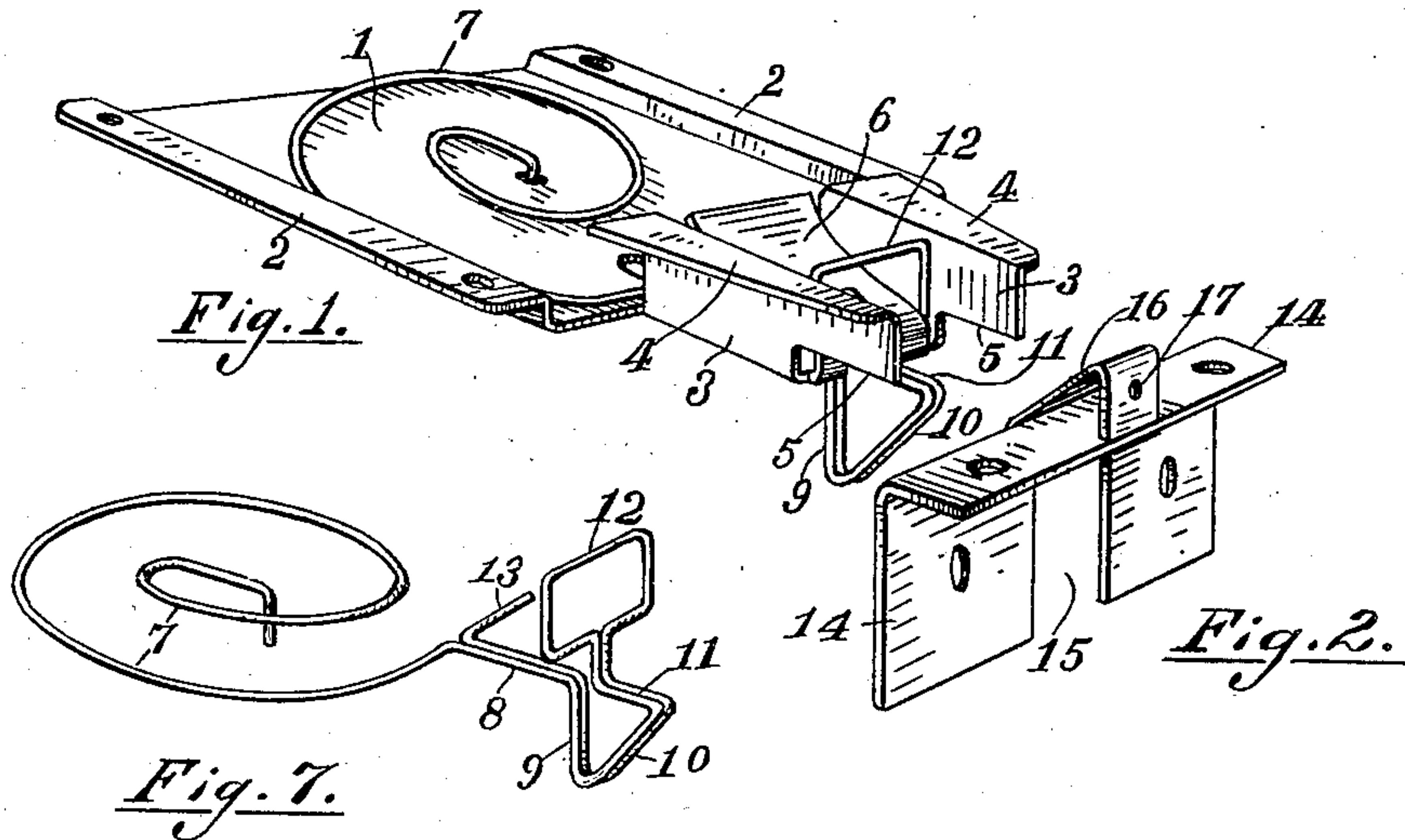


No. 898,279.

PATENTED SEPT. 8, 1908.

N. A. SMITH.  
BOX FASTENER.

APPLICATION FILED JUNE 5, 1908.



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# UNITED STATES PATENT OFFICE.

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## BOX-FASTENER.

No. 898,279.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed June 5, 1908. Serial No. 436,971.

*To all whom it may concern:*

Be it known that I, NICHOLAS A. SMITH, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Box-Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in box fasteners, and more particularly to latches for use on packing cases for beer bottles or other like articles, and its object is to provide a cheap, strong and effective structure that may be easily applied, to provide means for sealing the same when used, and to provide the device with various new and useful features hereinafter more fully described and particularly pointed out in the claims.

My device consists essentially of a sheet metal plate stamped into suitable form to constitute the case of the device and adapted to be attached to the cover, a strike plate made of sheet metal, and a spring catch formed of a single piece of wire bent into shape and adapted to serve as a catch, and to be secured by a seal when in use, and in various features of construction and arrangement, as will more fully appear by reference to the accompanying drawings, in which:

Figure 1. is a perspective of the latch proper; Fig. 2. the same of the strike plate; Fig. 3. a plan view of the latch; Fig. 4. the same of the strike plate; Fig. 5. a vertical section of the device together with a portion of a packing box; Fig. 6. a front elevation of the latch applied to the cover; and Fig. 7. a perspective detail of the spring and catch formed of a single piece of wire.

Like numbers refer to like parts in all of the figures.

The case consists of a single piece of stamped sheet metal and comprises a main portion 1 having its margins 2 turned upward and outward to form a thin space between the plate and the cover, in which space is arranged the involute spring portion of the catch hereinafter described.

Extending forward from and in the plane of the plate 1, is an extension 1<sup>a</sup> having a slot 18 for the latch to move in, and from the front of this extension a tongue 6 extends upward and rearward terminating at the surface of the cover whereby a portion of the catch is

covered. At each side of the extension 1<sup>a</sup>, the plate is turned up at right angles forming parallel vertical walls 3 spaced apart sufficient to leave a passage way between the same and the edges of the tongue 6 for the sides of the loop 12 hereafter described. These walls are turned outward at the top as at 4 to form flanges to engage the outer surface of the cover 19. The catch of this device together with the spring for operating the same is formed of a single piece of spring wire, bent as shown in Fig. 7. Beginning at one end with a downwardly turned end to engage an opening in the plate 1 to anchor the same, it is first formed into an involute coil 7, and thence extends radially forward above the slot 18 to near the front thereof, and thence downward vertically through the slot and below the same as at 9, and is thence bent upward and outward at an inclination as at 10, and thence horizontally in substantially the same plane of the portion 8 and coil 7 as at 11 to near the outer end of the portion 8 and is thence turned up vertically and formed in a substantially rectangular loop 12 surrounding the tongue 6 and movable between the same and the vertical walls 3 and thence extending downward it follows the course of the portions 11, 10, 9 and 8 alongside of the same to the angle where the coil 7 joins the radial portion 8 and is thence bent at right-angles as at 13, the end 13 and the outer end of the coil portion 7 engaging the edges of the vertical walls 3, thus limiting the outward movement of the catch due to the action of the spring portion 7.

The strike plate consists of an angle plate 14 adapted to be secured to the side 20 of the box and is provided with a slot 15 to receive the end of the bolt member, the portion 11 of which engages the under side of the horizontal member of the angle plates 14. The metal removed to form the slot 15 is bent upward and outward at an inclination as at 16 and thence downward, and supported on the outer edge of the horizontal member of the angle plate. This portion 16 serves to engage the inclined portion 10 of the catch and force the same inward when the lid closes. For the purpose of applying a seal, this portion 16 is provided with openings 17 extending horizontally therethrough and suitably located to permit a wire seal to be passed therethrough and through the loop 12, thus securing the catch and effectually sealing the device. The vertical walls 3 and the flanges 4



are extended outward beyond the extension 1, and the said walls are recessed at the under side as at 5 up to the plane of the upper surface of the margins 2, which is the plane of the under surface of the cover. This permits the cover to engage the side 20, and engagement of the latch member with the under side of the upper part of the angle plate.

The plane of the upper surface of the margins 2 and of the under surface of the flanges 4 are spaced apart equal to the thickness of the cover 19. It is thus only necessary to cut a recess in the edge of the cover to receive the forward extension 1<sup>a</sup> and the vertical walls 3, secure the strike plate to the front 20 of the case and secure the margins 2 to the inside of the cover.

In operation the coiled portion 7 acts as a spring to yieldingly force the latch portion outward below the top of the strike plate, and when the cover is to be opened, the loop 1<sup>a</sup> is manually pressed inward to release the catch from the strike plate, this loop also serving as a finger hold to open the cover.

It will be noted that the device is cheap and easily applied, that when closed it can be readily sealed, and that there are no projecting parts to prevent the cases from being brought close together, or placed one on the other.

What I claim is:

1. A box fastener comprising a case formed of an integral piece of sheet metal consisting of a plate having a forward extension provided with a slot, parallel vertical walls at the respective sides of the extension, outwardly turned flanges at the top of said walls to engage the outer surface of a box cover, and means for attaching the plate to the inner surface of said cover.

2. A box fastener comprising a case consisting of a plate having its opposite edges raised, a forward extension to the plate provided with a slot, parallel vertical walls at the respective sides of the extension and extending beyond the same, said walls being recessed at the under side where extended, outwardly extended flanges at the top of the walls, and a catch movable in the slot and having an upwardly extended loop movable between the walls.

3. A box fastener comprising a case formed of an integral sheet metal structure consisting of a plate having its opposite edges raised, a forward extension in the plane of the plate and having a slot, vertical walls at the respective sides of the extension and extending beyond the same, a tongue extending upward and rearward from the outer end of the extension and spaced apart from said walls, and a wire catch having a loop surrounding the tongue and movable between the same and the walls and also extending downward through the slot and outward between the extension of the walls.

4. A box fastener comprising a case formed of an integral piece of sheet metal having a plate portion provided with raised opposite edges adapted to be attached to the under side of the box cover, a forward extension in the plane of the plate and having a slot, a tongue on the outer end of the extension and extending inward above the extension, vertical parallel walls at the respective sides of the extension and extending outward therefrom, said extended portions being recessed at the under side to the plane of the surface of said raised edges, outwardly extended flanges at the top of the walls to engage the outer surface of a box cover, and a latch consisting of a wire bent to form a spring, a catch and a loop and having the spring portion resting on the plate and attached thereto, the catch portion traversing the slot and extending outward therefrom, and the loop portion surrounding the tongue and movable between the same walls.

5. A box fastener comprising a spring a catch and a loop formed of a single piece of wire bent to form an involute spring, thence extending radially downward, outward and upward, thence inward, and thence upward in a loop and thence returning in parallel portions to the outer end of the coil.

6. A box fastener comprising a combined spring latch and loop formed of a single piece of wire bent in an involute coil at one end, thence extended outwardly to form a catch, and thence extended upward to form a member to normally operate the catch.

7. A box fastener comprising a strike plate consisting of an angle plate adapted to be secured to a box and having a slot or recess in its vertical member and also having the portion removed to form the recess extended upward and outward from the inner edge of the horizontal member and thence downward and resting on the outer edge of the said horizontal member.

8. A box fastener comprising a strike plate having an inclined member provided with an opening to receive a seal, and a catch engaging the strike plate and having a loop opposite said inclined member.

9. In combination with a box, a box fastener attached to the cover of the box and having a catch provided with a loop movable in a recess in the cover and a strike plate attached to the side of the box and having an inclined member opposite the loop and within the recess in the cover.

10. In combination with a box having a cover provided with a recess in its edge, a plate secured to the inner surface of the cover and having an extension below the recess, vertical walls on the extension and within the recess, outwardly turned flanges on the walls and engaging the outer surface of the cover, a catch having a loop movable between said walls and in the recess, an angle



plate attached to the side of the box and having a portion of its vertical member turned upward, outward and downward above the horizontal member.

- 5 11. The combination of a box having a cover provided with a marginal recess, a plate having raised edges secured to the inner surface of the cover, an outward extension on said plate below the recess and provided with a slot, vertical walls at the respective sides of the extension and within the recess, outwardly extended flanges on the walls and engaging the outer surface of the cover, a tongue on the extension and spaced  
10 apart from the walls, a strike plate attached to the side of the box opposite the recess and

beneath the edge of the cover, a wire formed into an involute coil opposite the plate and attached thereto at its inner end, and thence extended radially above the slot and thence  
20 extended downward through the slot and outward, upward and inward to form a catch to engage the strike plate, and thence extended upward in a loop surrounding the tongue and movable between the tongue and  
25 walls.

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

NICHOLAS A. SMITH.

Witnesses:

GEORGIANA CHACE,  
LUTHER V. MOULTON.