A. W. SWANSON.

LATCH DEVICE.

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1,370,928.

Patented Mar. 8, 1921.

Fig. 1.

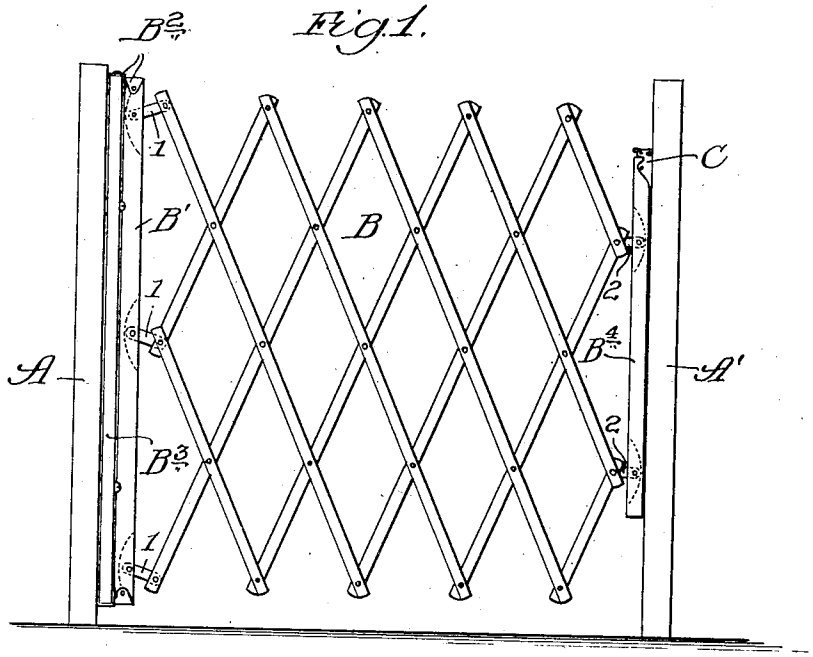


Fig. 2.

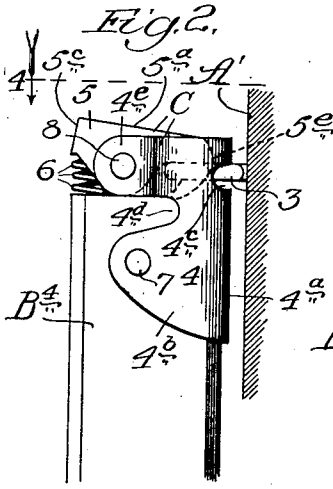


Fig. 3.

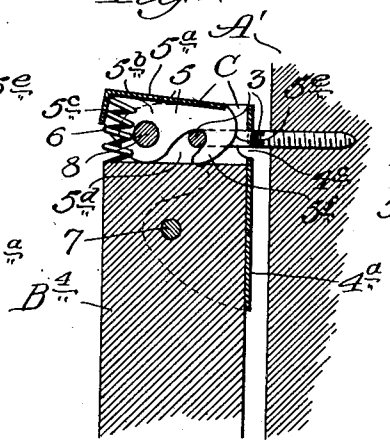
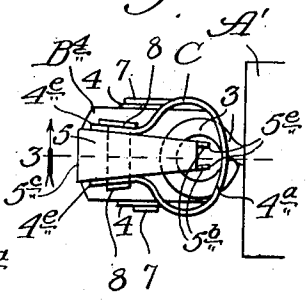


Fig. 4.



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UNITED STATES PATENT OFFICE.

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LATCH DEVICE.

1,370,928. Specification of Letters Patent. Patented Mar. 8, 1921.

Application filed May 17, 1920. Serial No. 381,900.

To all whom it may concern:

Be it known that I, AXEL W. SWANSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Latch Devices, of which the following is a specification.

This invention relates particularly to a latch device adapted for use in connection with extensible gates, such as disclosed in U. S. Patent No. 1,323,657 granted Dec. 2, 1919.

The primary object is to provide a latch for the free end of a gate which shall be of durable and compact construction and in which the latch-member is well housed.

The invention is illustrated in accompanying drawings in which—

Figure 1 represents an elevational view of an extensible gate equipped with the improved latch; Fig. 2, a broken elevational view, partly in section, illustrating the latch device; Fig. 3, a broken vertical sectional view taken as indicated at line 3 of Fig. 4; and Fig. 4, a plan sectional view taken as indicated at line 4 of Fig. 2.

In the construction illustrated, A, A′, represent the posts for a gate, such as a porch gate; B, an extensible gate carried by a bar B′ which is connected by hinges B^2 with the bar B^3, which is firmly secured to the post A, the extensible gate being provided at its free end with a vertical bar B^4; and C, the improved latch device applied to the upper end of the bar B^4.

The extensible gate B is shown as comprising 2 series of parallel bars which are pivotally connected with each other, thus affording a lazy-tong movement. At one end, the gate is connected by short links 1 with the B′. At the other end, the gate is connected, by short links 2, with the bar B^4.

The post A′ is equipped with a staple or eye 3 disposed in a horizontal plane.

The device C comprises a sheet-metal housing-member 4 which is secured to the upper end of the bar B^4; a sheet-metal latch-member 5 mounted in the member 4; and a spring 6 confined between the rear end of the member 5 and the upper end of the bar B^4.

The housing-member 4 is vertically disposed and of general U-form, having a web portion 4^a embracing the front edge of the bar B^4, and having wings or flanges 4^b which embrace the sides of the bar B^4. The housing-member 4 is secured to the bar B^4 by means of a rivet 7 which extends transversely through the bar and has its ends projecting through perforations in the wings 4^b near their lower ends and riveted thereon. The housing-member 4 projects above the upper end of the bar B^4, and has its web portion 4^a provided with a slot 4^c adapted to receive the eyelet 3. The flanges 4^b are cut away or recessed at their rear edges, as indicated at 4^d, leaving the upper portion of the housing-member provided with ears 4^e which are bent toward each other so as to overlie (edgewise) the upper end of the bar B^4.

The ears 4^e are connected by a transverse rivet 8 which serves as a pivot for the latch-member 5. The latch-member 5 is preferably formed of sheet-metal bent or stamped to provide an elongated substantially U-shaped member having an upper web portion 5^a and depending side flanges 5^b. From the rear end of the web 5^a depends a flange 5^c, thus providing a rear wall for the pawl or latch-member which partially houses the spring 6. The latch-member 5 tapers in plan view, as shown in Fig. 4, the web 5^a becoming narrower and the flanges 5^b converging toward the front end of the latch-member. The flanges 5^b are recessed at their lower edges near their front ends as indicated at 5^d; and the front edges of the flanges are rounded as indicated at 5^e. Thus, the latch-member is provided with a rounded front end or nose and so shaped as to provide the flanges 5^b with the hooks 5^f which serve to engage the staple or eyelet 3.

The spring 6 is a small coil spring confined between the upper end of the bar B^4 and the rear portion of the web 5^a of the latch-member, the spring being disposed back of the pivot 8 of the pawl and in front of the rear flange 5^c of the pawl.

It will be understood that the gate B may be released and then swung about the hinges B^2. In closing the gate, one naturally extends it after it has been swung to the closed position causing the bar B^4 to approach the post A′ in the movement of extension of the gate. In this movement, the latch-member 5 is automatically elevated by the staple or eyelet 3 and it will become automatically latched to the eyelet. To release the latch-member, it is necessary only to depress its

rear end by pressing downwardly thereon with the thumb or finger, after which the gate may be opened.

It will be understood that the housing-member provides a binding for the upper end of the bar B^4 and affords a housing for the horizontally disposed latch-member; and the latch-member is itself so formed as to provide a substantial horizontal wall filling the space between the ears 4^e of the housing.

The device is compact, may be manufactured cheaply, is easily applied, and presents no projections which might catch and tear the clothing.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom.

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

1. In a latch device, the combination with a bar, of a housing member having a web portion embracing one edge of the bar and flanges embracing the sides of the bar, said housing-member extending beyond the end of the bar and having its web portion provided with a slot, and a latch-member disposed at the end of the bar and pivotally connected with the flanges of the housing member.

2. In a latch device, the combination of a bar, a housing-member having a web portion disposed at one edge of the bar and having flanges embracing the sides of the bar, said flanges being recessed and having their upper portions bent toward each other and overlying the upper end of the bar, the web portion of said housing-member being provided with a slot, a latch-member pivotally mounted in the flanges disposed above the bar, and a spring confined between the rear end of said latch-member and the upper end of the bar and disposed between the rear end of the latch-member and the pivot.

3. In a latch device, the combination of a bar, a housing-member having a web at one edge of the bar and having flanges embracing the bar, said flanges having portions disposed above the end of the bar, a pawl pivotally mounted in said flanges above the end of the bar and having a nose portion adapted to bear on the end of the bar, and a spring confined between the end of the bar and the rear end of said latch-member, said housing-member having a recessed portion adapted to permit the entry of an eyelet.

4. In a latch device, the combination of a bar, a U-shaped housing-member having flanges embracing the sides of the bar, said housing having pivot-ears disposed above the end of the bar and the web portion of said housing having a slot disposed above the end of the bar, a U-shaped latch-member disposed between said pivot-ears and above the end of the bar, a pivot connecting said latch-member with said pivot-ears, and a spring confined between the end of the bar and the upper wall of said latch-member.

5. In a latch device, the combination of a bar, a U-shaped housing-member having flanges embracing the sides of the bar, said housing having pivot-ears disposed above the end of the bar and the web portion of said housing having a slot disposed above the end of the bar, a U-shaped latch-member disposed between said pivot-ears and above the end of the bar, a pivot connecting said latch-member with said pivot-ears, and a spring confined between the end of the bar and the upper wall of said latch-member, said latch-member having its rear portion provided with a flange which houses the upper portion of said spring.

6. In a latch device, a U-shaped housing having a web portion provided with a slot, said housing being provided with means for attachment to the bar of a gate, a pawl pivotally mounted in said housing and having a rounded nose portion presented to said slot and equipped with a hook adapted to engage a staple, and a spring serving to actuate said pawl.

7. In a latch device, the combination of a U-shaped housing-member having a web portion provided with a slot, a latch-member of U-shaped cross section mounted between the flanges of the upper end of said housing-member, said latch-member having a hooked end portion presented to said slot, and a spring for said latch-member.

8. In a latch device, the combination of a housing-member having a slotted web portion and having flanges which are recessed, the upper portions of said flanges being bent toward each other to afford pivot-ears, a pawl pivotally mounted between said pivot-ears and having a hooked portion presented to said slot, and a spring adapted to be confined between the rear end portion of said pawl and the end of a bar to which said housing is adapted to be applied.

AXEL W. SWANSON.