April 15, 1952 W. SABER 2,592,956

EXTENSIBLE GATE LOCK

Filed April 27, 1949

Fig. 1.

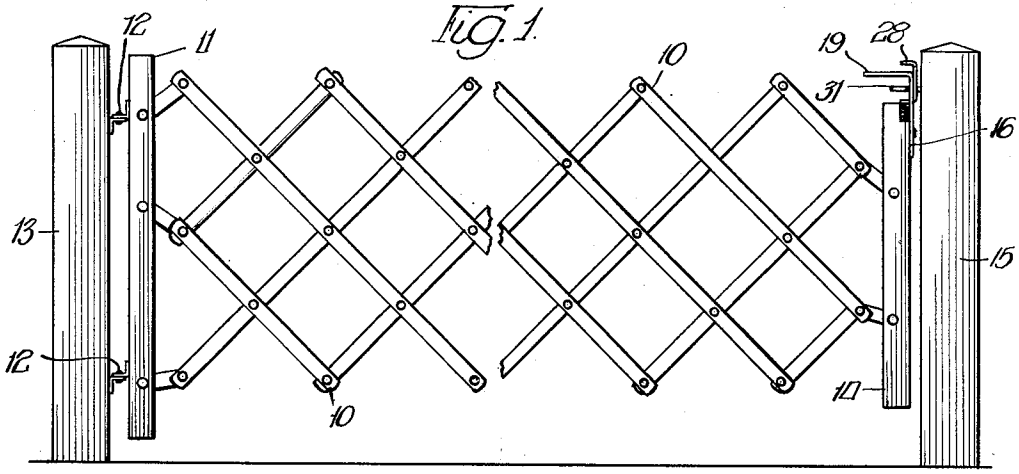


Fig. 2.

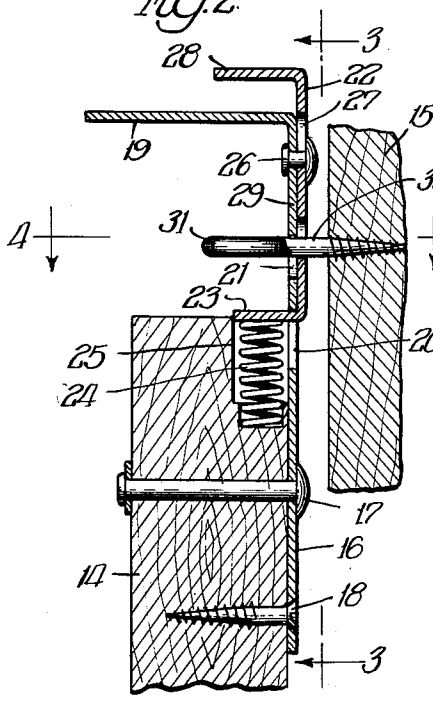


Fig. 3.

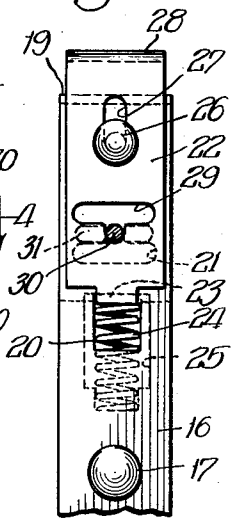


Fig. 5.

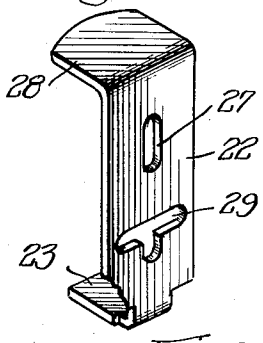


Fig. 6.

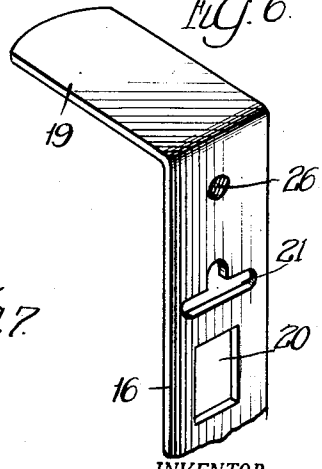


Fig. 4.

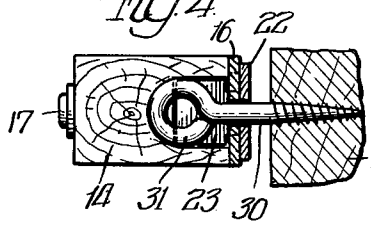
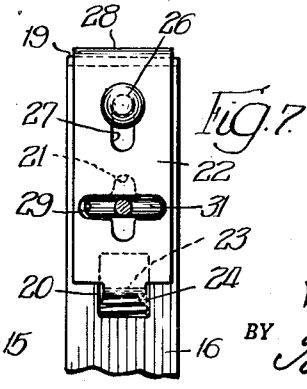


Fig. 7.



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EXTENSIBLE GATE LOCK

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3 Claims. (Cl. 292—302)

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The present invention relates to extensible gate locks, and has for its main object the provision of a lock whereby the gate, when in an extended position, may be readily and easily affixed to a gate post or disconnected therefrom.

Another object of the present invention is the provision of a lock for the purpose above specified, including a pin having an eye driven into a post, with means carried by the gate to engage the shank of the pin, the eye preventing the disengagement of lock with the pin, until the lock is manipulated to condition the same to clear said eye preparatory to the disengagement of the lock from the pin.

A still further object of the present invention is the provision of a lock of the character stated, which includes a pair of plates, one stationary and the other shiftable, and each provided with slots, which come into register when one plate is shifted with respect to the other, for the purpose of providing an opening in the two plates through which a head of a pin may pass, and whereby the two plates may engage the shank of the pin, the pin being driven into a post.

With the above general objects in view and others that will appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the appended claims.

In the drawing forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:

Fig. 1 is a plan elevational view of the gate when in an extended position, showing the relative position of the lock and the cooperating post with which the gate is locked;

Fig. 2 is an enlarged cross-sectional view on a vertical plane through the lock;

Fig. 3 is the face elevational view of the lock, the view having been taken along line 3—3 of Fig. 2;

Fig. 4 is a cross-sectional view on line 4—4 of Fig. 2;

Fig. 5 is a perspective view of a slidable plate constituting a part of the present lock;

Fig. 6 is a fragmentary perspective view of the stationary plate constituting a part of the present lock; and

Fig. 7 is a view similar to that of Fig. 3 with the slidable plate shifted for permitting insertion or withdrawal from the two plates of a pin.

Referring to the present drawing in detail

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there is shown therein extensible gate 10 having at one of its ends bar 11 which is suspended upon hinges 12, the latter carried by post 13.

Carried by the opposite end of gate 10 is bar 14, which cooperates with post 15. By virtue of the above construction gate 10 may be extended from post 13 to post 15, or it may be folded and shifted away from post 15 towards post 13. The lock constituting the present invention cooperates with bar 14 and post 15 whereby gate 10 may be engaged with said post 15 when the gate is in an extended position, or whereby the same may be disengaged from said post 15 preparatory to the folding of the gate and shifting the same away from said post 15.

The lock includes stationary plate 16 which is affixed, by its lower end, to the end face of bar 14 by means of bolt 17 and screw 18. The upper end of said plate 16 extends above the upper end of bar 14, and is provided with an integrally formed, horizontal arm 19, which overhangs the upper end of said bar 14. Substantially at its center said plate 16 is provided with a rectangular opening 20, the upper end of which is on a plane coextensive with the upper end of bar 14, as is clearly seen in Fig. 2.

Above said opening 20, said plate 16 is further provided with slot 21, including a lower longer section and a communicating, central narrower section, merging from above with said longer section, as is seen in Fig. 6.

Cooperating with said stationary plate 16 is slidable plate 22, which is superimposed for shifting movement upon the outer face of said plate 16, and adjacent the upper end thereof. Integrally formed with the lower end of said plate 22 is tongue 23, which is narrower than the body of said plate 22, and which projects in a central relation therewith.

Said tongue 23 is passed through said opening 20, and overhangs, in contactual relation coil spring 24. Said coil spring 24 is positioned within cavity 25 made in the upper end of said bar 14 and adjacent the end face thereof. Said tongue 23 enters said cavity 25 through the open upper end thereof and is urged by said spring 24 into an upward direction, as is seen in Fig. 2 for maintaining said slidable plate 22 in an extended position with relation to said stationary plate 16. The upper marginal edge in said plate 16, adjacent said opening 20 limits farther upright shifting movement of said plate 22, as said tongue 23 comes in contact therewith.

Passed through said stationary plate 16, adjacent the upper end thereof, is rivet 26, which

is extended through longitudinal slot 27 made in said slidable plate 22.

Integrally formed with the upper end of said slidable plate 22 is horizontal extension 28, which overhangs, in parallel relation, said arm 19. When manual pressure is applied to said extension 28, causing the latter to shift toward arm 19, slidable plate 22 will be caused to shift downwardly, with tongue 23 sliding within opening 20 and compressing coil spring 24. Rivet 26 and slot 27 constitute a guiding means for shifting said plate 22 upwardly or downwardly. When manual pressure upon said extension 28 is released, coil spring 24, bearing against tongue 23 causes said plate 22 to assume the normal, upwardly extended position, illustrated in Fig. 2, from that shown in Fig. 7.

Intermediately of said tongue 23 and slot 27 said slidable plate 22 is provided with slot 29, which includes an upper longer section and a communicating central narrower section, merging from below with said longer section, as is seen in Fig. 5. This slot 29 is in all particulars identical in its configuration with slot 21 in said stationary plate 26, except that when the narrower section in slot 21 extends upwardly from the longer section thereof, in slot 29 the narrower section thereof extends downwardly from the longer section of said latter slot.

The two slots 21 and 29 in the two plates 16 and 22, are so positioned with respect to each plate and with respect to the two plates, that when plate 22 is in a normal upwardly extended position the narrower sections of the two slots are in alinement, as is seen in Figs. 2 and 3. When however slidable plate 22 is shifted in a downward direction by manually pressing upon extension 28, the longer portions of two slots 21 and 29 come into an alinement, as is seen in Fig. 7.

Driven into post 15 is pin 30, provided at its outer free end with an integrally formed eye 31.

When gate 10 is extended, and bar 14 thereof is brought toward post 15, extension 28 is depressed for shifting slidable plate 22 downwardly. This operation will aline the longer sections in slots 21 and 29, as is seen in Fig. 7, for permitting passage therethrough for eye 31. While holding extension 28 in a depressed condition, and while manually grasping arm 19, the gate is manually shifted thereby toward post 15 until eye 31 has passed through the alined longer sections of two slots 21 and 29, as is seen in Fig. 7. When said eye 31 has passed both plates 16 and 22 through the alined longer sections of said slots 21 and 29, and has assumed the position illustrated in Figs. 2 and 4, the manual pressure upon extension 28 is released, as well as the manual hold upon arm 19. The weight of the gate will cause the same to shift downwardly until the shank of pin 30 comes into the narrower section of slot 21. By virtue of this action the adjacent end of gate 10 is supported upon the shank of pin 30 with plate 16 bearing thereagainst by its marginal portion adjacent the narrower section of said slot 21. The release of manual pressure at extension 28 will simultaneously cause slidable plate 22 to shift upwardly, due to the pressure of coil spring 24 at tongue 23. This action causes the narrower section of slot 29 to accommodate the shank of pin 30 therewithin, as seen in Figs. 2 and 3.

Thus, in the engaged position of plates 16 and 22 with respect to the shank of pin 30 only the narrower sections of slots 21 and 29 remain

in alinement, accommodating the said shank therewithin, with the marginal portions of the said plates adjacent the said narrower sections of said slots 21 and 29 in contactual relation with the shank of pin 30. This operative position of plates 16 and 22 with relation to said pin 30 effectively engages said plates 16 and 22 rigidly with said pin 30, and the gate with post 15, eye 31 of the pin constituting a bar preventing the withdrawal of the pin from said plates 16 and 22.

When on the other hand extension 28 is again depressed, with arm 19 manually elevated, the longer sections of slots 21 and 29 will again come in alinement, as is seen in Fig. 7, and eye 31 will be permitted to shift from said plates 16 and 22 on shifting bar 14 away from post 15.

It is further noted that no amount of manual pressure upon extension 28 will suffice for dislodging pin 30 from its engagement with plate 16, due to the fact that the shank of said pin 30 still remains within the upper narrower section of slot 21 due to the gravity of the gate, with eye 31 still remaining in the path of plate 16. Therefore, upon depressing extension 28 it is necessary to manually lift arm 19 in order to lift the gate and bring the shank of pin 30 out of the narrower section of slot 21 into the longer section thereof, with the latter in the path of eye 31. It is only when these two actions have been performed in succession that the longer sections of the two slots 21 and 29 will be brought into mutual alinement and in the path of eye 31 in order to permit passage of eye 31 therethrough for withdrawing pin 30 from its engagement with plates 16 and 22 when bar 14 is manually shifted away from post 15 by means of said arm 19.

From the hereinabove description it will therefore be readily seen that when the gate is used on a porch the children and the uninitiated persons will not be readily capable of opening the gate by dislodging the same from its engagement with post 15 through pin 30.

While there is described herein preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. In an extensible gate and a cooperating post to which the gate shifts, said gate including an end bar, a lock comprising a pin engaged with said post, an eye formed at the free end of said pin, a stationary plate carried by said bar, a shiftable plate in association with said stationary plate, each of said plates being provided with a slot, including a longer section and a communicating narrower section, and a tensioning member in association with said shiftable plate for normally maintaining the narrower sections of said slots in alinement, said shiftable plate being adapted for shifting movement with relation to said stationary plate against the action of said tensioning member for bringing the longer sections of said slots in the two plates in alinement for permitting passage of said eye therethrough on shifting of the gate toward the post, in the normal position of said shiftable plate with relation to said stationary plate the shank of said pin being adapted to repose within the alined narrower sections of said slots with the eye of said pin constituting a means for preventing the withdrawal of the shank of said pin from the alined narrower sections of said slots.

2. In an extensible gate and a cooperating

post to which the gate shifts, said gate including an end bar, a lock comprising a pin engaged with said post, an eye formed at the free end of said pin, a stationary plate carried by said bar, said stationary plate being provided with a slot, including a longer section and a communicating narrower section upwardly extending from said longer section, a shiftable plate in association with said stationary plate, said shiftable plate being provided with a slot, including a longer section and a communicating narrower section downwardly extending from said longer section, and a tensioning member in association with said shiftable plate for normally maintaining the narrower sections of said slots in the two plates in alinement, on actuation of said shiftable plate against the action of said tensioning member the longer sections of said slots coming in alinement for admission therethrough of said eye upon shifting of the gate toward the post, in the normal position of said shiftable plate with relation to said stationary plate the shank of said pin entering the narrower sections of said slots, with said eye forming a bar for preventing shifting of the gate from the post.

3. In an extensible gate and a cooperating post to which the gate shifts, said gate including an end bar, a lock comprising a pin in engagement with said post, an enlargement formed at the free outer end of said pin, a stationary plate carried by said bar, said stationary plate being provided with a slot, including a longer section and a communicating narrower section, a shiftable plate in association with said stationary plate, said shiftable plate being provided with a slot, including a longer section and a communicating narrower section, and means for normally maintaining said shiftable plate in a shifted position with relation to said stationary plate, in the normal shifted position of said shiftable plate with relation to said stationary plate the narrower sections of said slots in the two plates remaining in alinement, on actuation of said shiftable plate against the action of said means the longer sections of said slots shifting into an alinement for admission therethrough of said enlargement on shifting of the gate toward the post, in the normal position of said shiftable plate with relation to said stationary plate the shank of said pin entering the narrower sections of said slots with said enlargement in the path of said plate for preventing shifting of the gate away from the post.

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