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Newlon et al.

[11] **3,907,344**

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[54] **ADJUSTABLE ORNAMENTAL GATE LATCH**

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[52] **U.S. Cl.** **292/66;** 292/244; 292/305

[51] **Int. Cl.²** **E05C 5/00**

[58] **Field of Search** ..... 292/66, 200, 205, 236, 292/244, DIG. 44, 305, 147, 178, 60; 70/461

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[57] **ABSTRACT**

A non-handed latch is provided for use with either right-hand or left-hand gates. The latch includes a bilaterally symmetrical strike, striker bar and bar mounting means. A lug is included to keep the striker bar in a generally horizontal position even though the bar is extended to accommodate a gate-jamb clearance of extended dimension. Means are provided for securing the latch and gate by a padlock or other security device, and for storing the padlock when its use is not desired.

9 Claims, 6 Drawing Figures

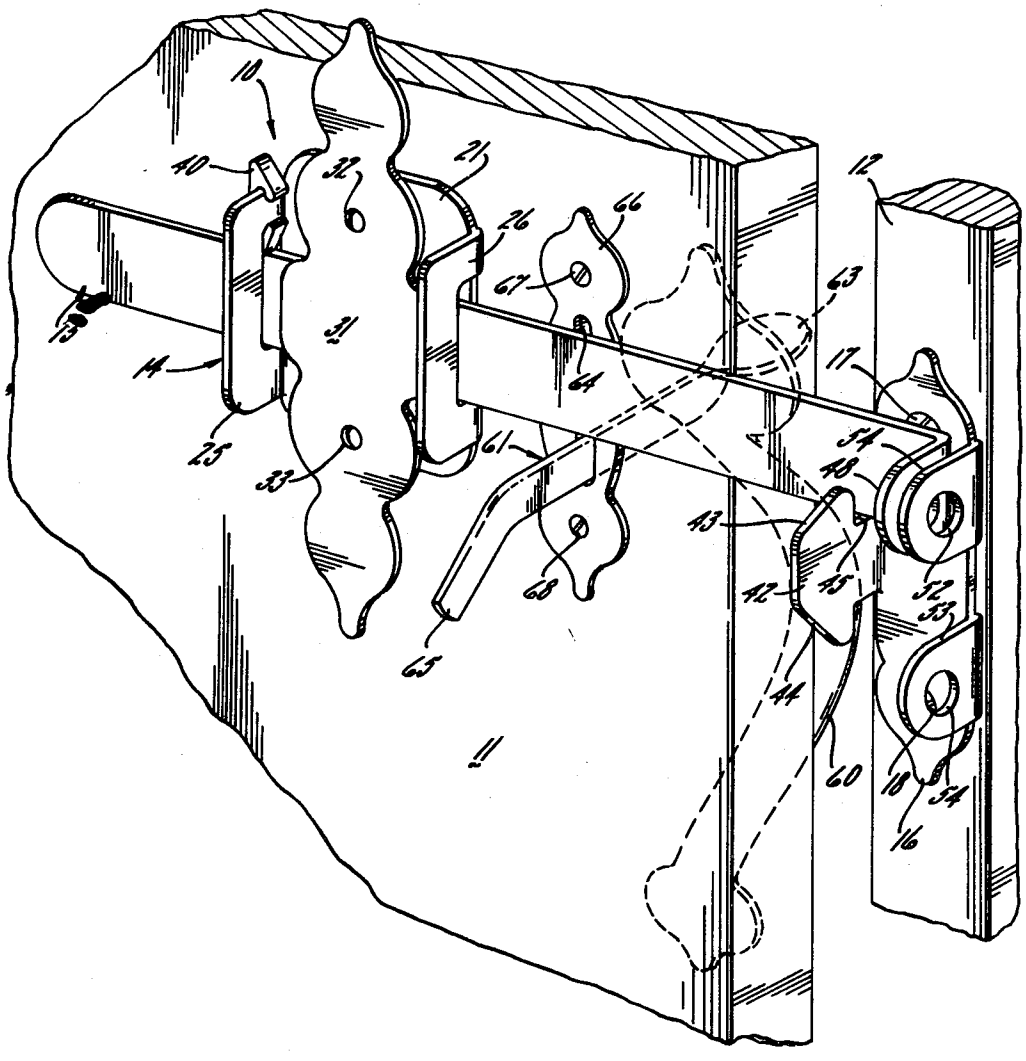

Fig. 1

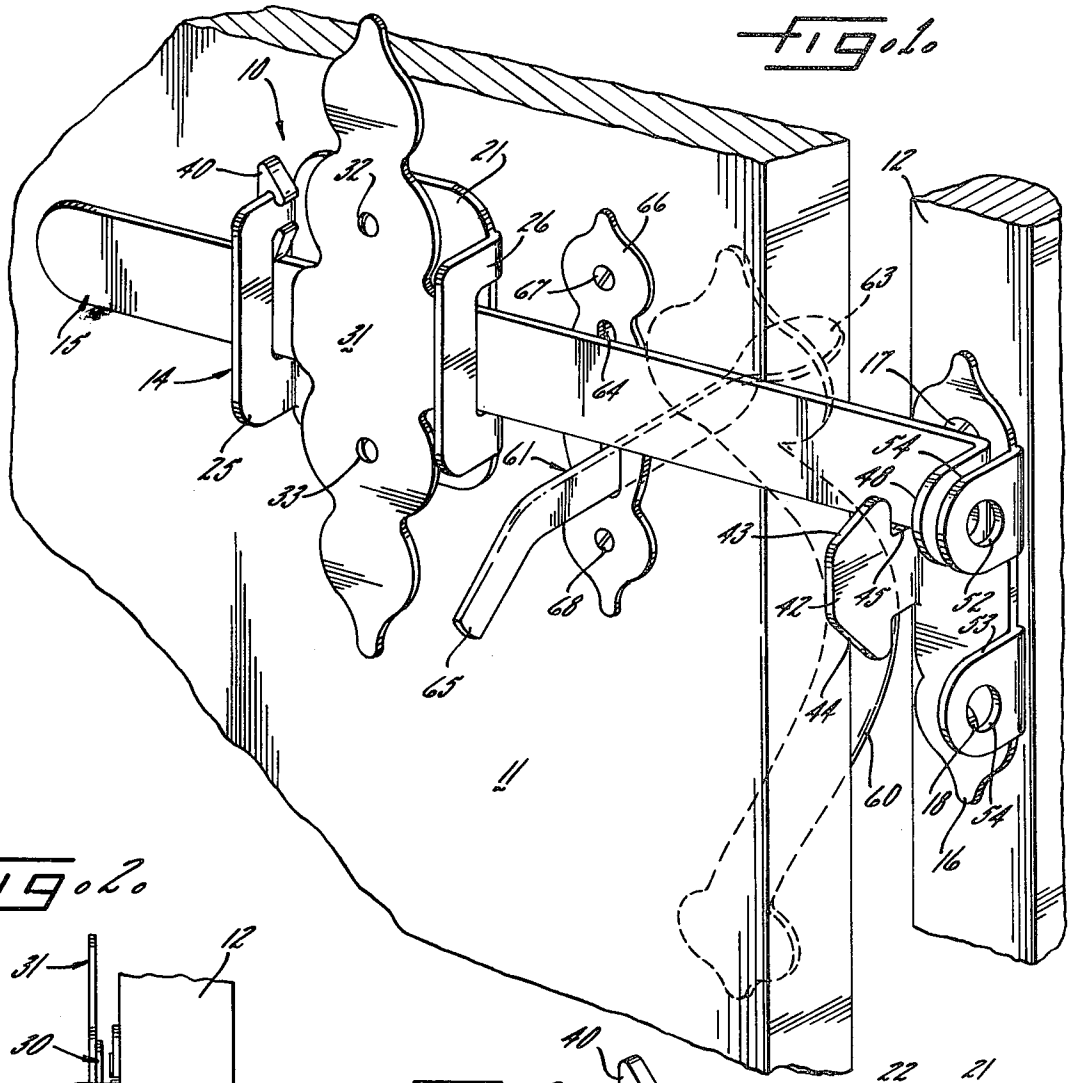

Fig. 2

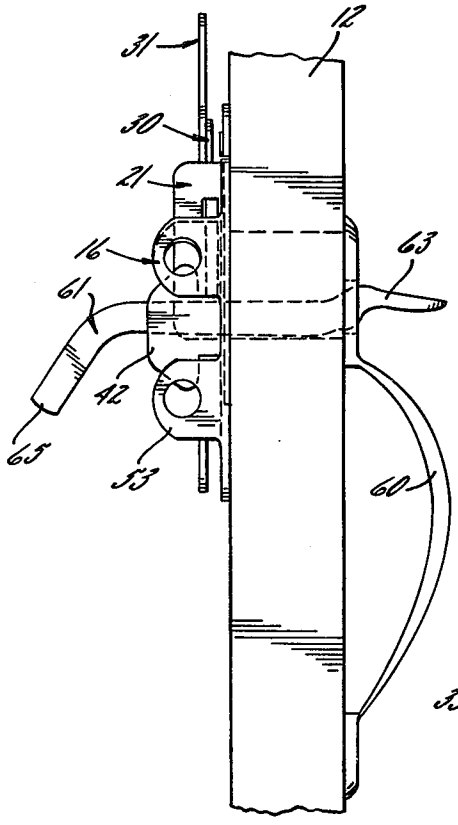

Fig. 3

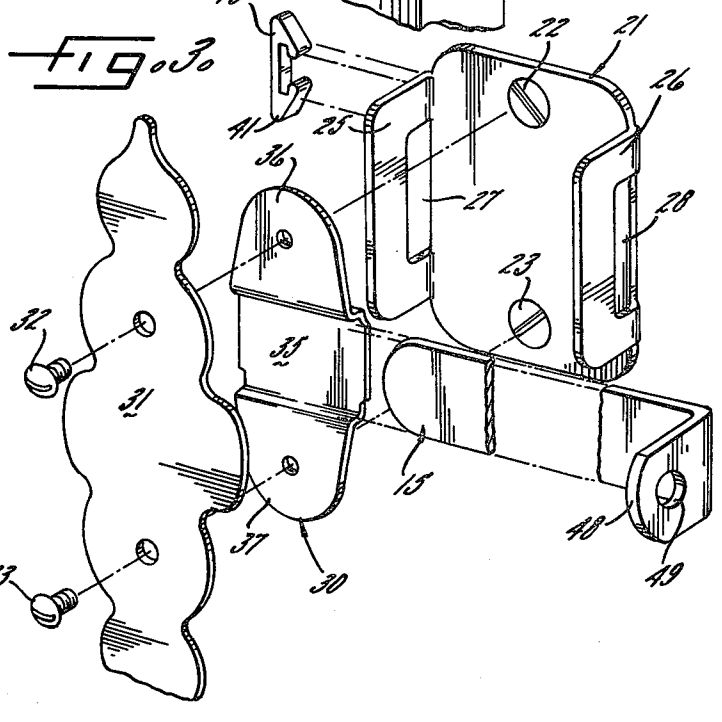

Fig. 4

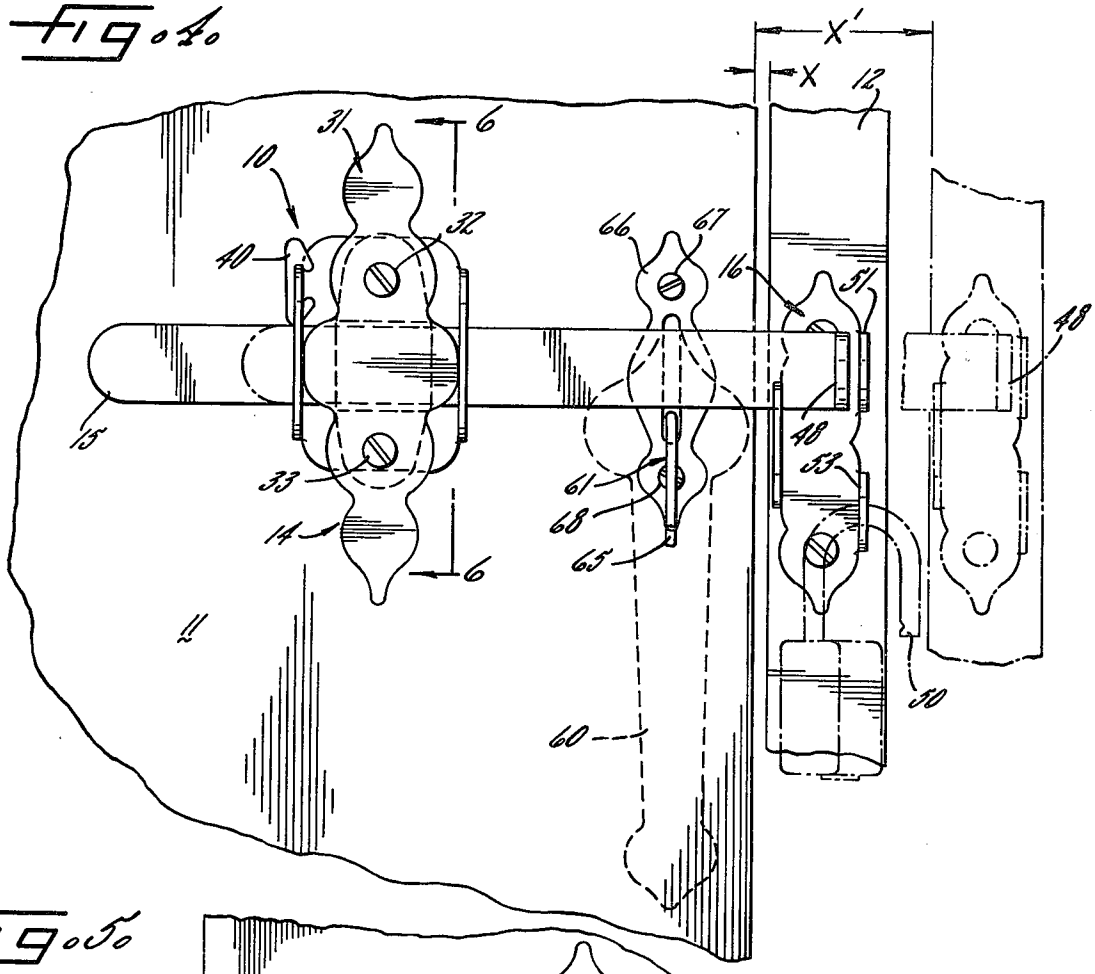

Fig. 5

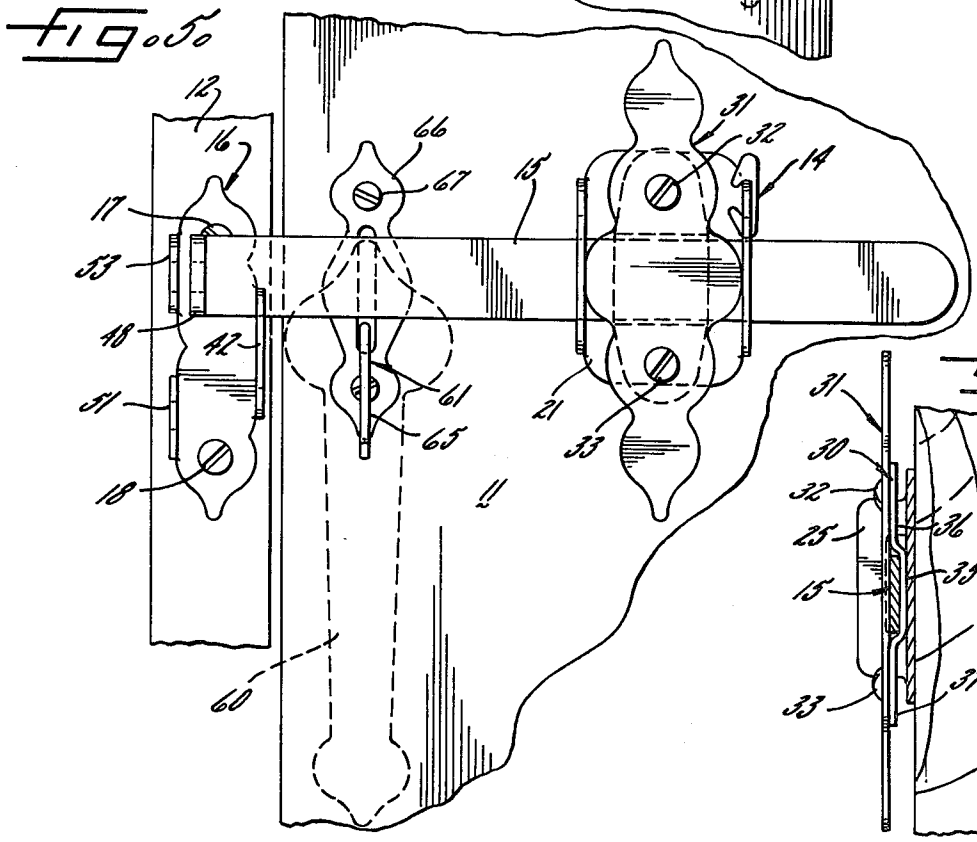

Fig. 6

ADJUSTABLE ORNAMENTAL GATE LATCH

BACKGROUND OF THE INVENTION

This invention relates generally to latches, and more particularly concerns a latch for use with gates, doors and the like which can be used on either a right-hand or a left-hand hung gate or door.

Latching mechanisms for gates, doors and like structures are among the oldest and most widely used of mechanical devices. Although common, the search has continued for effective, low-cost latching devices which can be used in a wide variety of applications.

It is the general object of the present invention to provide a low-cost, rugged latch which can be used with either a right-hand or a left-hand gate, door, or like structure. For the purposes of this description, a right-hand gate or door will be one having a latch at the right-hand near side of the gate as the gate is faced by an observer. A left-hand gate or door, conversely, is one having the latch mounted on the left-hand near side when faced by an observer.

In other words, it is an object of the invention to provide a completely reversible, non-handed, low-cost, rugged gate latch.

It is another object of the invention to provide a low-cost latch mechanism which can be used with a swinging gate and relatively fixed jamb wherein the clearance gap between the gate end and the adjacent jamb side measures between zero and seven inches or more. A related object is to provide a latch having mechanism for properly orienting the striker bar relative to a strike even when the latch is used on gates where the gap between the gate and jamb is extended.

It is yet another object of the invention to provide a low-cost latch mechanism wherein the latching striker bar does not necessarily pivot about a fixed point.

Still another object is to provide a gate latch which can be used by itself in connection with relatively short gates. When confronted by such a gate, a user can reach over the top of the gate to operate the latch mounted upon the opposite gate side. A related object is to provide such a latch which can alternatively be used on relatively tall gates which cannot be reached over by providing a simple auxiliary throw piece or similar device extending through the gate member.

A further object of the invention is to provide a non-handed latch which includes means for padlocking or otherwise securing the gate in a closed position. An ancillary object is to provide such a latch which includes means for hanging the padlock when the padlock is not being used to lock the gate.

Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings. Throughout the description, like reference numerals refer to the like parts.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing a portion of a typical gate or door and an accompanying post or jamb, the gate and jamb being provided with the novel latch of the present invention;

FIG. 2 is a side elevational view of the latch and gate shown in FIG. 1;

FIG. 3 is an exploded view of several latch parts;

FIG. 4 is a side elevational view of a typical right-hand gate and jamb utilizing the novel latch;

FIG. 5 is a side elevational view similar to FIG. 4 but showing a typical left-hand gate and jamb utilizing the novel latch; and

FIG. 6 is a sectional view taken substantially in the plane of line 6–6 in FIG. 4 showing in further detail selected portions of the latch mechanism.

DETAILED DESCRIPTION

While the invention will be described in connection with a preferred embodiment, it will be understood that it is not intended to limit the invention to this embodiment. On the contrary, it is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention.

Turning first to FIGS. 1, 4 and 5, there is shown a novel latch 10 embodying the present invention as it appears when installed upon a typical gate or door 11 and adjacent post or jamb 12. The latch 10 can be considered to comprise three major portions, viz., a mount 14, a striker bar 15 (both carried by the gate), and a strike 16 mounted, as by screws 17 and 18 upon the jamb 12. In accordance with the invention, each of these major components are formed so as to be bilaterally symmetrical about a horizontal plane, that is, the top silhouette of at least selected parts is a mirror image of the bottom silhouette of the part. This bilateral symmetry permits the latch to be used with either a right-hand gate (as illustrated in FIG. 4), or alternatively with a left-hand gate (as illustrated in FIG. 5) without substitution of any parts or other modifications. It will be understood that alternative mounting arrangements can be used; i.e., the mount 14 and striker bar 15 could be carried by the jamb 12 and the strike 16 could be carried by the gate 11. Non-horizontal mounting can also be employed if desired.

As indicated above, the present invention is also concerned with providing a latch which can be used with gates and jambs — either right- or left-handed — mounted so that the gate 11 and jamb 12 are relatively close together with a small clearance X. Alternatively the same latch can be used with gates 11 and jambs 12 which provide a range of greater gate-jamb clearances X′ of seven inches or more. To this end, the mount 14 includes a bilaterally symmetrical base bracket member 21 adapted to be attached, as by screws 22 and 23 or other convenient means, upon the gate 11. Here, two opposed opened ears 25 and 26 are formed on opposite sides of the bracket 21, and the respective openings 27 and 28 formed between the ears and bracket base plate 21 accommodate passage of the striker bar 15. The striker bar is movably secured in place by a channel member 30 and a cover plate 31, which may be formed in decorative manner. This channel member 30 and cover plate 31 can be drawn together around a portion of the striker bar 15 by convenient means such as screws 32 and 33. In carrying out the invention, the channel member 30 can be provided with a mid-portion 35 which is recessed from the adjacent end portions 36 and 37 by a distance less than the thickness of the nested striker bar 15. Thus, when the cover plate 31 is attached thereover and the inter-connecting screws 32 and 33 are drawn up, the striker bar 15 is caught between the plate 31 and channel member 30 in a firm frictional grasp, as can be envisioned from FIG. 6. The plate 31 and channel member 30 then prevent lateral movement of the striker bar 15 through the

bracket openings 27 and 28 over more than a limited distance.

Further in accordance with the invention, low manufacturing cost and long operation life are encouraged by eliminating the need for parts formed with relatively extreme precision. To this end, the striker bar 15 and attached cover plate 31 and channel member 30 are permitted to pivot from a latched to an unlatched position about a non-fixed point relative to the mounting bracket 21. This is accomplished in the present instance by forming the bracket ear openings 27 and 28 larger than the striker bar 15.

With the above in mind, it can be appreciated that the length of the striker bar 15 may be adjusted, as dictated by relative conditions. For example, should the gate post 12 (as viewed in FIG. 4) settle or shift to the right resulting in a change of position, the spacing X would be increased to X'. With the present invention, such a condition can be easily accommodated, after the gate hardware affixed. In this regard, the striker bar 15 need merely be extended to the position illustrated in phantom, so that it can again engage the strike plate 16. Similarly, should the gate post shift in the opposite direction so as to reduce the spacing, for example from X' to X, the striker bar 15 can easily be retracted by a loosening of the screws 32 and 33; a repositioning thereof; and a retightening of said screws. Most importantly, the above-noted adjustments and repositioning can be achieved without a remounting of strike plate 16 or repositioning of the mount 14.

If a fixed pivot were employed, the above-discussed adjustments could not be achieved with the ease described. On the contrary, the mounting bracket 21 would have to be repositioned, in the degree of repositioning as can be seen from FIG. 4 is limited by the placement of the striker bar actuating mechanism.

It is a feature of the invention that the striker bar 15 can be maintained in a relatively horizontal position even when it is extended over a relatively long distance as illustrated in phantom lines in FIG. 4. To this end, a small interconnector lug member 40, which may be formed of a resilient, resinous plastic is hooked or otherwise secured over one of the opened ear members 25. A lower lug corner 41 (see FIG. 3) abuts the top of the striker bar 15 and normally maintains the striker bar 15 in a generally horizontal position.

In further accordance with the invention, the strike 16 is also bilaterally symmetrical. An arrow-shaped protruding strike cam 42 includes inclined cam surfaces 43 and 44; however the strike 16 is oriented, the top cam surface is positioned to engage the striker bar 15 as the gate 11 is swung into a closed position. The top cam surface 43 forces the striker bar upward as the striker bar 15 passes over the cam 42. When the gate 11 reaches a closed position, the striker bar 15 falls into a retaining slot 45, and is retained in the illustrated latched position.

In accordance with yet another aspect of the invention, the latch is adapted to accommodate a padlock or similar security device. Here, the striker bar is provided with an out-turned end 48. An eye 49 in this end 48 is adapted to receive the shackle 50 of a padlock or other locking device. A mating foot 51 and shackle-receiving eye 52 are formed on the strike. To preserve the above-described bilateral symmetry, a second foot 53 and eye 54 are also provided. When the padlock is not being used to lock the gate, it can be stored by passing the padlock shackle through the eye 54 in the second or non-mating foot 53, as illustrated in FIG. 4.

For use with tall gates, a handle 60 and throw piece 61 can be provided to operate the latch from an opposite gate side, as illustrated in FIGS. 1 and 2. The illustrated throw piece 61 is directly connected to a thumb actuator 63, and is inserted through an elongated slot 64 formed in the gate 11. Depression of the thumbpiece 63 forces the throw piece 61 to pivot upwardly, thereby forcing upwardly the striker bar 15 and unlatching the gate. A down-turned throw piece end 65 serves as an auxiliary latch actuator handle, and can also be formed to prevent accidental or deliberate extraction of the throw piece 61 from the gate slot 64. Slot wear and deformation can be prevented by a cover plate 66 mounted to the gate 11 by screws 67 and 68 or other convenient means.

The invention is claimed as follows:

1. A non-handed latch for gates and the like, comprising a bilaterally symmetrical striker bar, a bilaterally symmetrical strike adapted to be secured to a fixed jamb adjacent the gate, and including means for receiving and retaining one end of the striker bar in a latched position, and bilaterally symmetrical mounting means for mounting the striker bar on the gate to be pivoted between latched and unlatched positions, said mounting means including bilaterally symmetrical means for securing the striker bar on the mounting means in any one of a range of extended positions, the bilaterally symmetrical parts permitting the latch to be used with either a right-handed or a left-handed gate.

2. A latch according to claim 1 wherein said means for securing the striker bar includes a channel member and a plate member adapted to be drawn together over a portion of said striker bar.

3. A latch according to claim 1 wherein said mounting means includes a bracket having an opened ear member for loosely receiving said striker bar, and there is further provided means interconnecting said striker bar and said opened ear member to orient the striker bar in a generally horizontal position when the striker bar is mounted in a relatively extended position, said interconnecting means comprises a resilient resinous clip adapted to be secured over at least part of said opened ear.

4. A latch according to claim 1 wherein said mounting means includes means permitting the striker bar to pivot relative to the mounting means about a non-fixed point.

5. A latch according to claim 1 wherein said striker bar includes lock-receiving means, and said strike includes bilaterally symmetrical lock-receiving means adapted to mate with the striker bar lock-receiving means.

6. A reversible latch structure of generally bilateral symmetrical design, usable with either right-hand or left-hand mounted gates, or the like, said latch structure comprising an elongate striker bar mounted for pivotal movement; a strike plate including a strike adapted to be secured to a fixed jamb, and including oppositely facing retaining means, each adapted to accept an end of said striker bar, depending upon whether a right-hand or left-hand mounting is effected; mounting means for mounting said striker bar on said gate, or the like, for movement between latched and unlatched positions relative to said strike, said mounting means comprising a bracket having a pair of

spaced, slotted flanges which receive said elongate striker bar, and positioning means adjustably affixed to said striker bar thereby adapting same for mounting thereto at selected locations along the length of said striker bar, said positioning means sized to be received between said spaced, slotted flanges to limit the degree of lateral movement of said striker bar relative to said bracket, while permitting said striker bar to pivot with respect to said bracket, the adjustability of said positioning means permitting said striker bar to be mounted in any one of a number of extended positions relative to said bracket.

7. A reversible latch structure according to claim **6**, wherein said positioning means received between said bracket flanges, includes a pair of opposed members adapted to be drawn together to clamp said striker bar therebetween.

8. A reversible latch structure according to claim **6**, wherein there is provided a clip member which is engageable with said slotted flange remote from said strike to maintain the striker bar in a generally horizontal relation when in the relatively extended position.

9. A reversible latch according to claim **6**, wherein said striker bar includes an apertured flange on the end thereof adapted to engage said strike, said flange being disposed at substantially a right angle to the plane of movement of said striker bar, and said strike including a corresponding apertured flange disposed parallel to said striker bar flange, which flange will align when said striker bar is engaged with said strike to provide a pair of coaxial apertures adapted to receive a lock device.

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