Oct. 8, 1957 L. A. TAYLOR 2,809,063

GATE LATCH

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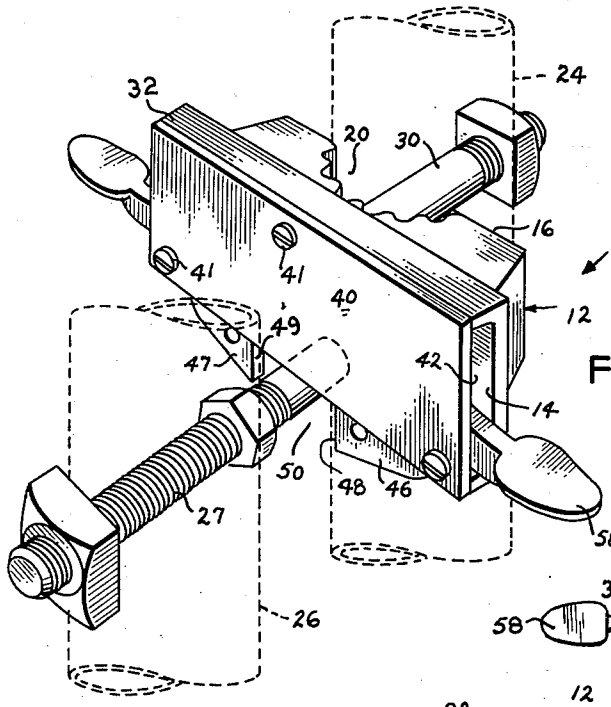


FIG. 1

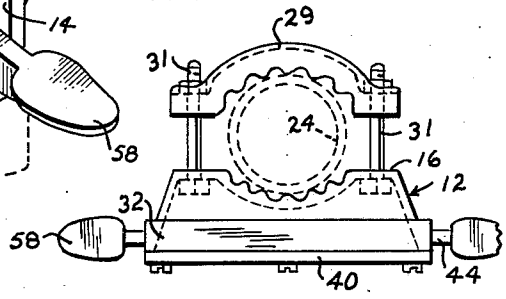


FIG. 4

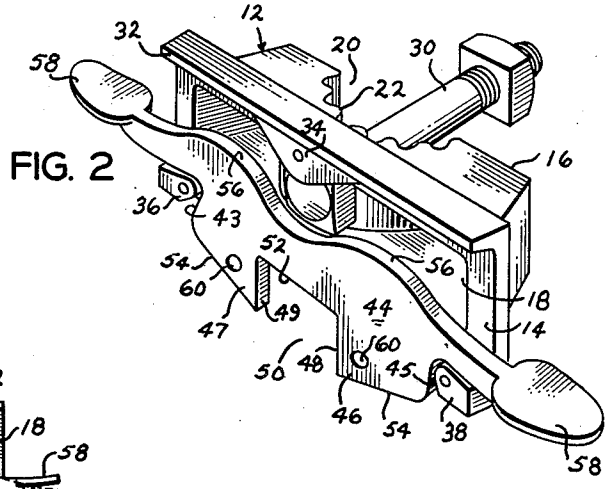


FIG. 2

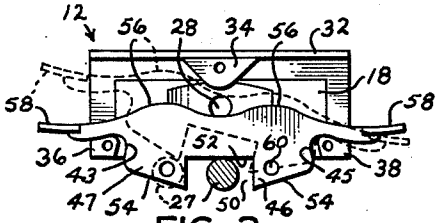


FIG. 3

Lloyd A. Taylor,
INVENTOR.

BY Loyal J. Miller
ATTORNEY

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GATE LATCH

Lloyd A. Taylor, Oklahoma City, Okla.

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2 Claims. (Cl. 292—218)

The present invention relates to gate latches, and more particularly to a gravity actuated latch for fastening a horizontally hinged gate.

The principal object of the present invention is to provide a gravity actuated latch for fastening a self closing hinged gate.

An equally important object is to provide a gate latch having a lever which is lifted by a fixed pin carried by the free end post of a hinged gate for securing the gate.

Another object is to provide a gate latch having a lever which may be manually released from either side of a closed gate.

Another object is to provide a gate latch of this class which is sturdily constructed and has only one moving part.

A further object is to provide a gate latch of this character which will permit a hinged gate to be released therefrom and opened in either direction.

Yet another object is to provide a gate latch of this class which is provided with means for locking the latch against unauthorized entry.

The present invention accomplishes these and other objects by providing a substantially rectangular body adapted to be rigidly secured transversely to the forward side of a fixed post adjacent a fixed pin or projection carried by the free end post of a hinged gate adjacent but spaced-apart from the fixed post. The body further includes a rigid flange along its longitudinal upper edge projecting forwardly toward the free end post of the gate. An arcuate edged depending guide is integrally carried centrally by the lower surface of the flange. A forwardly projecting stop is integrally carried by the body below the flange adjacent each outer lower end portion. A face plate is removably connected to the forward side of the body in contact with the flange and stops and forms a slot therebetween. An elongated release lever is longitudinally disposed within the slot and projects outwardly beyond the ends of the body. A registering recess is formed in the lower surface of each end portion of the lever for receiving the stops and preventing longitudinal movement of the lever relative to the body. Integral depending lip portions define a central rectangular downwardly opening pin receiving notch. The lower surface of each lip portion is beveled outwardly and upwardly from the lowermost portion of the lip portion so that the pin carried by the gate strikes the beveled surface to raise one end of the lever to permit the pin to enter the notch. The upper surface of the lever is provided with upward arcuately curved flanges for contacting the guide and maintaining one of the registering recesses in contact with the adjacent stop when the opposite end of the lever is raised.

Other objects will be apparent from the following description when taken in conjunction with the accompanying single sheet of drawings, wherein:

Figure 1 is a perspective view of one embodiment of the device installed on a fixed post, the fixed post and associated gate post being shown in dotted lines;

Figure 2 is a perspective view of the latch of Fig. 1, per se, with the cover or face plate thereof removed;

Figure 3 is a front elevational view of the device as seen in Fig. 2; and

Figure 4 is a top view of another embodiment of the device.

Like characters of reference designate like parts in those figures of the drawings in which they occur.

In the drawings:

The reference numeral **10** indicates, as a whole, the latch comprising a substantially rectangular body **12** having a forward side **14**, a rearward side **16**, and a hollow interior **18**. The rearward side of the body is provided with a central semi-circular recess **20** having serrations **22** perpendicular to the longitudinal axis of the body. The serrated recess **20** is adapted to contiguously contact a peripheral portion of the forward side of a fixed tubular post **24** adjacent but spaced from a free end post **26** of a horizontally hinged gate. The free end post **26** rigidly carries a pin **27** projecting at its free end toward and under the forward side of the body in closely spaced relation. As shown in Figs. 1 and 2, the body is centrally perforated, as at **28**, for receiving a bolt and nut **30**. The bolt **30** extends rearwardly through the recess **20** and projects through the fixed post **24**, thus rigidly connecting the body transversely of the post. Other means of rigidly connecting the body **12** to the post **24** is shown in Fig. 4 and includes a substantially U-shaped clamp element **29** co-operatively recessed and serrated with relation to the recess **20**. The clamp **29** is disposed transversely of the post **24** in co-operative alignment with the body **12** and has perforated ends for receiving bolts and nuts **31** carried by the rearward side **16** of the body on each side of the recess **20**. This clamping means permits vertical adjustment of the device **10** relative to the post **24**, for reasons more fully explained hereinbelow. The forward upper side of the body is provided with an integral longitudinally extending flange **32**. A web-like guide **34** is integrally carried in depending relation by the central portion of the flange. The lower surface of the guide **34** is arcuately curved longitudinally upwardly from its lowermost surface toward each end of the body to merge with the lower surface of the flange **32**. Stops **36** and **38** are integrally carried by the lower forward end corners of the forward portion of the body and extend forwardly equidistant with the flange **32**. A face or cover plate **40** is removably connected by screws **41** to the forward side of the body in contact with the flange **32** and the stops **36** and **38**, thus forming a slot **42** between the plate and the body.

A release lever **44** is longitudinally disposed within the slot **42** and projects outwardly beyond each end of the body. The thickness of the lever **44** is less than the width of the slot **42** and transversely the width of the lever is such that the same may be freely moved vertically within the slot, for the reasons which will presently be apparent. Arcuate recesses **43** and **45** formed in the lower surface of the lever adjacent each end portion co-operatingly receive the stops **36** and **38**, respectively, and support the lever. Intermediate the recesses **43** and **45** the lever **44** is provided with a pair of integral depending lip portions **46** and **47** having opposing vertical sides **48** and **49**, respectively, defining a rectangular notch **50** for receiving the free end of the pin **27**. The lower surface **52** of the lever defining the upper edge of the notch **50** is substantially parallel with the lower surface of the body **12** when the lever is in its downward or latched position. The lower surface of each lip portion **46** and **47** is beveled outwardly and upwardly, as at **54**, toward the adjacent recess **43** or **45**. Thus, when the gate is closed the free end of the pin **27** strikes the beveled surface **54** raising

the adjacent end of the lever and allowing the pin to enter the notch 50.

The upper surface of the lever is provided with a pair of integral centrally spaced-apart flanges 56 having arcuate upper edges for contacting the adjacent lower surface of the guide 34 when one end of the lever is raised. Thus, the flanges 56 and the guide 34 co-act to maintain the lever in operating position within the slot 42 during opening and closing action of the gate. The outermost ends of the lever 44 are transversely flattened, as at 58, for manually grasping the lever to lift the same at one end and release the pin from engagement within the notch 50.

Each lip portion 46 and 47 is transversely perforated adjacent the lower surface of the body, as at 60, for receiving suitable locking means, not shown, for locking the lever in closed position.

Operation

The latch 10 is installed as disclosed hereinabove, and when the gate is moved toward a closed position the free end of the pin 27 strikes the adjacent beveled surface 54 of the lip portion 47 and raises the adjacent end of the lever, as shown by dotted lines, Fig. 3. The pin 27 raises the adjacent end of the lever by pivoting the recess 45 on the stop 38 until the lowermost portion of the lip portion 47 adjacent the pin 27 is substantially parallel with the lower surface of the body, thus allowing the pin to pass under the lowermost portion of the lip portion 47. The pin 27 has then entered the notch 50 and momentum of the closing gate causes the pin to strike the straight edge 48 of the lip portion 46 which pivots the raised end of the lever back to its downward or closed position. The flanges 56 and the guide 34 limit the upward movement of the lever, thus insuring that only the adjacent lip portion is raised above the pin to prevent the gate being swung beyond the closed position.

The gate may be opened by manually raising one end of the lever, thus allowing the pin 27 to be passed under the adjacent lip portion. The lever 44 is normally held in its downward latched position by gravity.

The preferred means of clamping the device 10 to the post 24, as disclosed by Fig. 4, permits vertical movement of the device relative to the post to properly position the lower surface in closely spaced relation above the pin 27 in the event that the gate has sagged or become out of line, causing the pin 27 to become misaligned relative to the slot 50 in the lever.

Obviously the invention is susceptible to some change or alteration without defeating its practicability, and I therefore do not wish to be confined to the preferred embodiment shown in the drawings and described herein, further than I am limited by the scope of the appended claims.

I claim:

1. A latch for a hinged gate having a vertical free end post disposed adjacent, when the gate is closed, but spaced-apart from a tubular fixed post, said free end post having a pin extending toward said fixed post, said latch comprising: a substantially rectangular body, said body having a central arcuate recess extending inwardly of one side of the body defining a circumferential arc having the axis thereof perpendicular with relation to the longitudinal axis of said body for co-operative engagement with a circumferential portion of the forward side of said tubular fixed post adjacent the pin on said free end gate post, the wall of said body defining the recess having a plurality of transversely disposed serrations for gripping said tubular fixed post; a pair of bolts extended through the wall of said body on the respective opposing sides of the recess; an arcuately recessed transversely serrated clamp element carried by said bolts for co-operating with the recess in said body and transversely gripping said tubular fixed post in vertically adjustable positions, the upper edge of said body opposite said fixed post having a forwardly extending longitudinal flange; an integral web-like guide depending from said flange medial its ends, the lower surface of said guide arcuately curved outwardly and upwardly from its lowermost edge to merge with said flange; a stop integrally carried by each lower outer forward end of said body, said stops projecting forwardly equidistant with said flange; a face plate removably connected to the forward side of said body in contact with said flange and said stops and forming a slot in co-operation with said body; and a release lever longitudinally disposed within the slot and extending outwardly beyond the ends of said body, the outward projecting opposing end portions of said lever having substantially horizontally disposed end surfaces for manually grasping the same and raising the lever, said lever having a registering recess in its lower surface adjacent each end portion for receiving each respective said stop, the lower surface of said lever having a pair of spaced-apart depending lip portions defining a rectangular downwardly opening pin-receiving notch, said lip portions normally disposed below the lower surface of said body and beveled upwardly and outwardly from the lowermost portion of the lip portions so that said pin strikes the beveled surface and moves one end of said release lever upwardly permitting the pin to be engaged by the notch, the upper surface of said lever being provided with a pair of longitudinally spaced-apart arcuate edged flanges for contiguously contacting said web-like guide and maintaining one registering recess in contact with the adjacent stop when the opposite end of said lever is raised by said pin.

2. A latch for a hinged gate having a vertical free end post disposed, when the gate is closed, adjacent but spaced from a second and fixed tubular post, said free end post having a fixed pin extending toward said fixed post, said latch comprising: a substantially rectangular body, said body having a central arcuate recess extending inwardly of one side of the body defining a circumferential arc having the axis thereof perpendicular with relation to the longitudinal axis of said body for co-operative engagement with a circumferential portion of the forward side of said fixed post adjacent the pin on said free end post, the wall of said body defining the recess having a plurality of transversely disposed serrations for gripping said tubular fixed post; a pair of bolts extended through the wall of said body on the respective opposing sides of the recess; an arcuately recessed transversely serrated clamp element carried by said bolts for co-operating with the recess in said body and transversely gripping said tubular fixed post in vertically adjustable positions, the upper edge of said body opposite said fixed post having a longitudinal flange extending toward said free end post; an integral guide depending from said flange medial its ends, said guide having an arcuately curved lower surface; a stop integrally carried by each respective end of said body below said flange, said stops projecting toward said free end post equidistant with said flange; a face plate removably connected to said body and contacting said flange and said stops for forming a slot in co-operation with said body; and a gravity actuated release lever longitudinally disposed within said slot, said lever projecting longitudinally beyond the ends of said body, the outwardly projecting end portions of said lever having substantially horizontally disposed end surfaces for manually grasping the same and raising said lever, said lever having a registering recess in its lower surface adjacent each end portion for receiving each respective said stop and preventing longitudinal movement of said lever relative to said body, said lever having a pair of centrally disposed spaced-apart depending lip portions defining a rectangular downwardly opening pin-receiving notch therebetween, said lip portions normally disposed below the lower surface of said body and beveled outwardly and upwardly from the lowermost portion of the lip portions so that said pin strikes the beveled surface of one said lip portion and moves the adjacent end of said release lever upwardly

for permitting said pin to enter said notch, the upper surface of said lever having a pair of longitudinally spaced-apart arcuate edged flanges for contiguously contacting said guide and maintaining one registering recess in contact with the adjacent said stop when the opposite end of said lever is raised by said pin.

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