Oct. 10, 1933. C. CAMPBELL 1,929,479

GATE LATCH

Filed April 7, 1931 2 Sheets-Sheet 1

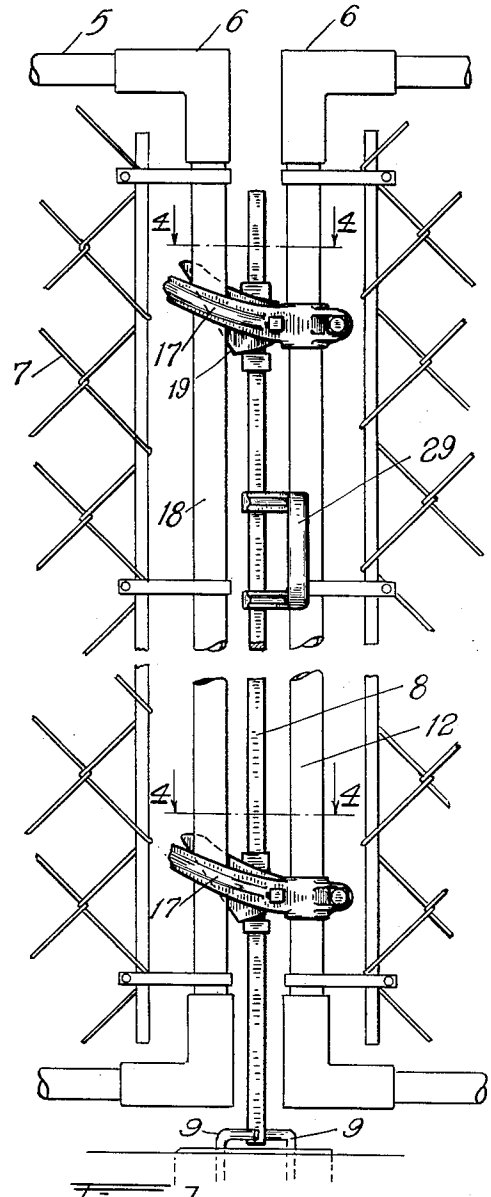


Fig. 1.

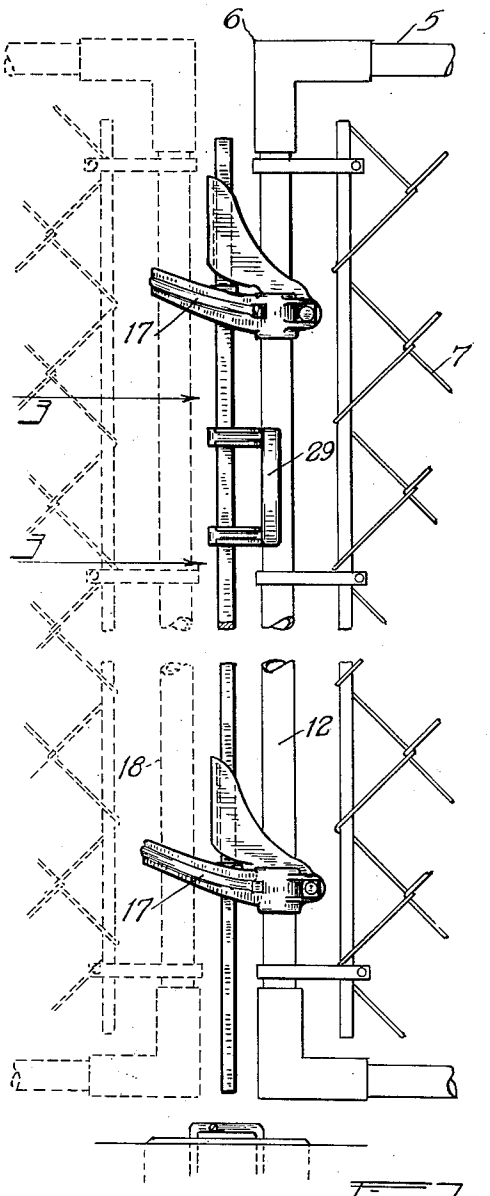


Fig. 2.

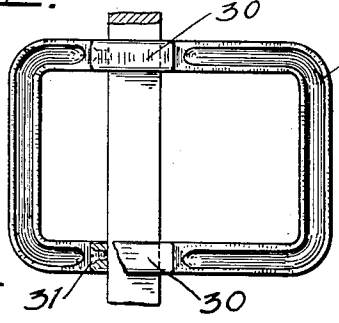


Fig. 3.

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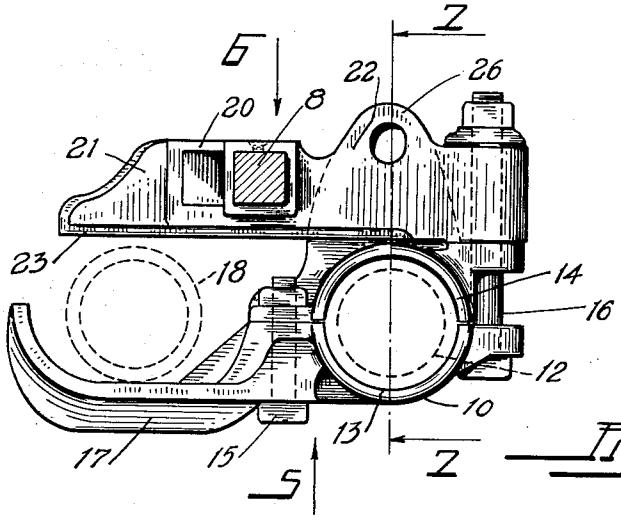


Fig. 4.

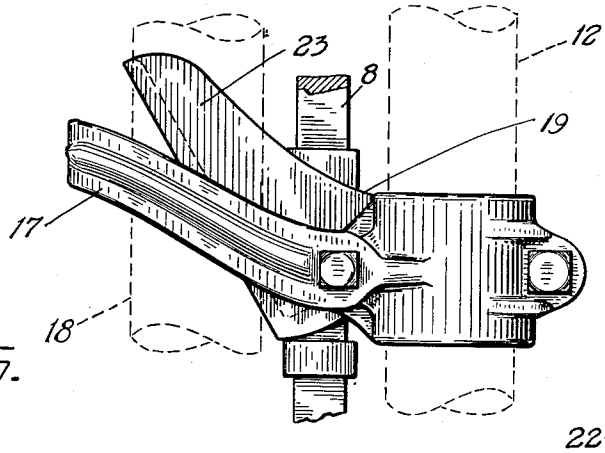


Fig. 5.

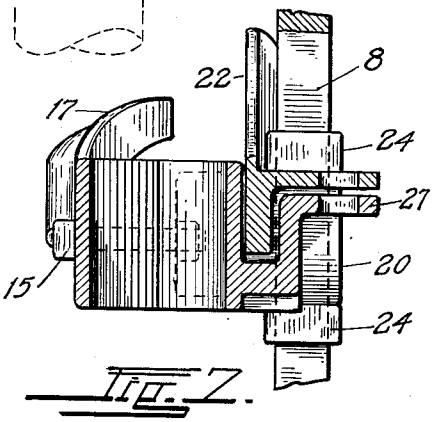


Fig. 7.

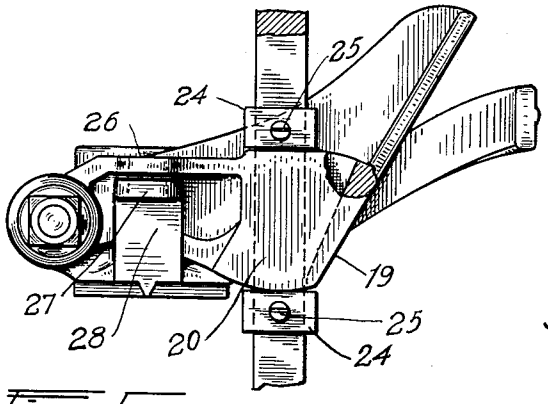


Fig. 6.

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UNITED STATES PATENT OFFICE

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GATE LATCH

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Application April 7, 1931. Serial No. 528,345

4 Claims. (Cl. 292—3)

This invention relates to gate-latches and its principal object is to provide a latch mechanism of simple construction and easily operated to lock or unlock a swinging gate to which it is applied.

The invention is particularly adapted for use on double gates and another object of the invention resides in the provision of a latching device which positively prevents the gates from swinging open after they have been fastened by the device.

An added improvement is found in the provision of means in association with the latch, by which the gate or gates may be locked in the closed position against being opened by unauthorized persons, and still further objects reside in details of construction and novel and advantageous arrangements and combinations of parts as will be fully disclosed in the course of the following description.

In the accompanying drawings,

Figure 1 represents the latch device in the closed position relative to double gates to which it is applied,

Figure 2 shows the latch device of Figure 1, in the open condition,

Figure 3 is an enlarged view of the handle of the latch device, looking in the direction of the arrows 3 in Figure 2,

Figure 4 is an enlarged horizontal section taken on either of the lines 4—4 in Figure 1,

Figure 5 is a side elevation of the parts shown in Figure 4, looking in the direction of the arrow 5,

Figure 6 is a side elevation of the same parts looking in the direction of the arrow 6 in Figure 4, and

Figure 7, a section taken on the line 7—7, Figure 4.

Like characters of reference designate corresponding parts throughout the views.

The latching device has been shown in connection with a pair of swinging gates 5, each composed of a rectangular frame 6 formed of pipe, and a woven wire fabric 7 stretched inside the same. Obviously the construction and form of the gates may be varied without material change in the construction of the latching appliance.

The gates which as usual are mounted to swing about hinges at their outer ends, have their inner ends slightly spaced apart when in their closed position. A vertically movable and vertically extending operating bar 8 is alined with a keeper 9 on the ground below the gates. Two vertically spaced latch units are operatively associated with the bar and each latch unit comprises a collar 10 clamped around one of the upright members 12 of the frame of one of the gates. The collars are composed of two flanged halves or collar members 13 and 14 secured together by bolts 15 and 16. One of the halves of the collar to wit, collar member 13 carries a relatively horizontal projecting arm 17 which partially embraces the upright member 18 of the frame of the gate, opposite to that to which the collars are applied, the arm being preferably formed as an integral part of the collar-section from which it projects. The other collar member 14 carries a laterally projecting portion that provides a support or bracket for the latch member hereinafter mentioned and described more specifically and it also carries an apertured ear the function of which is later more fully pointed out.

One of the bolts 16 by which the collar is clamped upon the frame-member of one of the gates, is made sufficiently long to serve as a pivot for a latch-member 19, which when the gates are closed projects opposite the arm 17 at the other side of the frame-member of the other gate, when the latching device is in its closing position. The latch member 19 rests on the bracket just mentioned, to wit, the bracket herein designated 28.

The pivoted latch member has at one side of a projecting arm 23, an integral sleeve 20 around the operating bar and at opposite sides of the sleeve, reenforcing flanges 21 and 22.

The bar 8 is preferably of rectangular section and the opening of the sleeve extends vertically and in one general direction and is made of tapering form to permit of a relative pivotal movement of the latch-member in one direction, with two of its sides parallel and in close proximity to opposite sides of the vertically extending bar to prevent displacement of the latch in a direction at right angles to that of its pivotal motion.

Two vertically spaced collars 24 fastened to the bar by set-screws 25, above and below the sleeve, support the latch-member and prevent its displacement in a vertical direction, and one of the flanges 22 of the latch member has an apertured ear 26 registering with a correspondingly formed ear 27 on a bracket 28 formed on the half of the collar opposite to that carrying the arm 17, for the application of a padlock when the latching appliance is in its closed position.

The operating bar 8 is furthermore provided with a double handle 29 projecting at opposite

sides of the gate, to facilitate the up and downward movement of the bar. The handles may be formed integrally with two sleeves 30 fitted around the bar and fastened thereto by set screws 31.

The two latch-units are identical in construction and operation and while they operate simultaneously by reason of the fact that they are associated with one and the same operating bar, they are otherwise independent of each other.

The units may be placed at any desired elevation on the bar by merely changing the position of the collars 24, and more than two units may be assembled on the bar, if so desired.

In Figure 1 of the drawings, the latching appliance is shown in the position in which it locks the gates, while Figure 2 shows the appliance in the position in which the gates are released for free swinging motion about their hinges.

Referring to Figure 1, it is to be noted that the operating bar is at its lower end held in the keeper which may be composed of two U-shaped anchors set in a block of cement. The arms 17 on the collars and the arms 21 of the latch-members conjointly embrace the frame of the gate opposite to that to which the collars are fastened, and the two gates are thus securely locked against conjoint or relative movement about their hinges.

In other gate latches at present in use, it is possible to swing one gate or both gates even though the latch is in the closing position. In the present latching device, this is not possible. The bar must be lifted before either gate can be moved from its closed position.

To unfasten the gates, the bar is lifted by means of one of its handles, thereby releasing its lower end from the keeper.

The upward movement of the bar causes the latch members of the two units to move about their respective pivots, with the result that their arms are raised to the position shown in Figure 2, out of the path of the gate across which they normally projected.

The gates are thus free to be moved about their hinges, and when they are subsequently returned to their closed position, they are automatically latched by the downward movement of the bar into its keeper, when released.

If it is desired to prevent the gates from being unfastened by unauthorized persons, a padlock may be applied to the registering ears 26 and 27 of the collar and the latch member of either unit, which secures the latch member against pivotal movement on the collar.

It is to be clearly understood that the keepers 9 function only as a means to keep the gates in alinement and that the latching mechanism, as shown and described, will in itself maintain the gates in their locked and relatively fastened position independent of the keepers. Therefore, under favorable conditions, the keepers may be omitted without affecting the operation of the latch mechanism as a locking and fastening medium for the gates.

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

1. A gate latch comprising a support, an arm adapted to limit movement of a gate in one direction and having an integral, apertured ear, means holding the arm and hence its said ear in fixed relation on the support, a second arm pivoted on the support and adapted normally to project opposite the first-mentioned arm to cooperate therewith in embracing a part of the gate, said second arm also having an integral, apertured ear, and being arranged for the apertures of the ears to register when the pivoted arm is in said opposite position.

2. In a device of the character described, a unitary latch-element comprising a collar for its connection with a support, clamping means for the collar including a bolt, a projecting arm fixed on the collar, an arm pivoted on the bolt opposite the first-mentioned arm and cooperating therewith to form a barrier-embracing enclosure, the movable arm having an opening to receive an operating bar, and the collar having a flange forming a rest for the pivoted arm.

3. In a device of the character described, a unitary latch-element comprising a collar composed of two sections bolted together for its application to a support, a projecting arm fixed on one of the sections, a movable arm pivoted on the other section opposite the fixed arm and cooperating therewith to form a barrier-embracing enclosure, and the collar having an apertured bracket forming a rest upon which the movable arm is seated when in normal cooperative position in respect to the fixed arm, which said movable arm has an apertured ear that is cooperatively related to the apertured portion of the bracket when the movable arm is seated upon the bracket.

4. In a device of the character described, a unitary latch-element comprising a collar for its connection with a vertically extending support, clamping means for securing the collar in place on said support, a laterally projecting arm fixed on the collar, and an arm pivotally mounted on the collar opposite to and in cooperative relationship in respect to the first mentioned arm to form a barrier-embracing enclosure, the pivoted arm having therein a vertically extending opening to receive a vertically extending operating bar, and a bar that provides a vertically extending member that passes through said vertically extending opening and which carries vertically spaced collar members between which the pivoted arm is located and by which the pivoted arm is caused to be moved according to the vertical movement of the rod.

CALVIN CAMPBELL.