J. B. CLAY.

GATE LATCH.

APPLICATION FILED AUG. 3, 1917.

1,280,665.

Patented Oct. 8, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

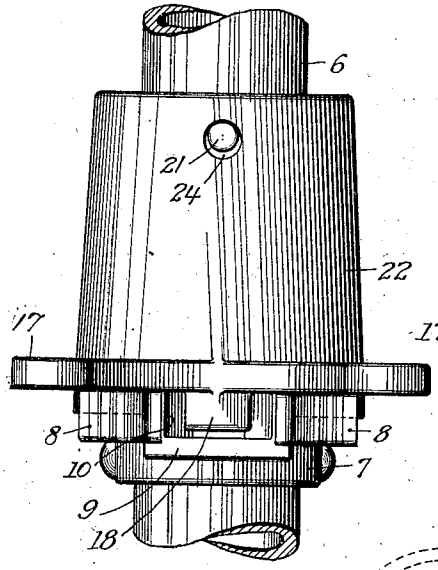


Fig. 2.

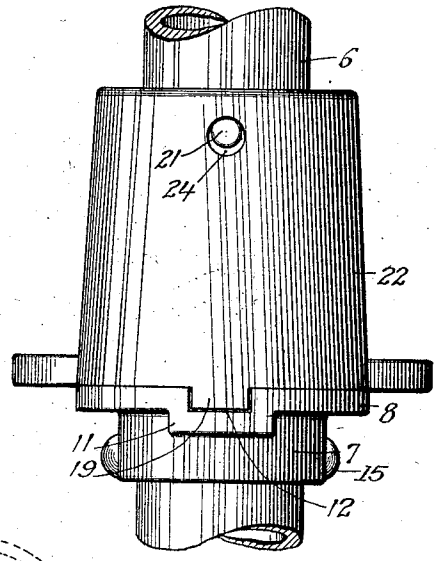
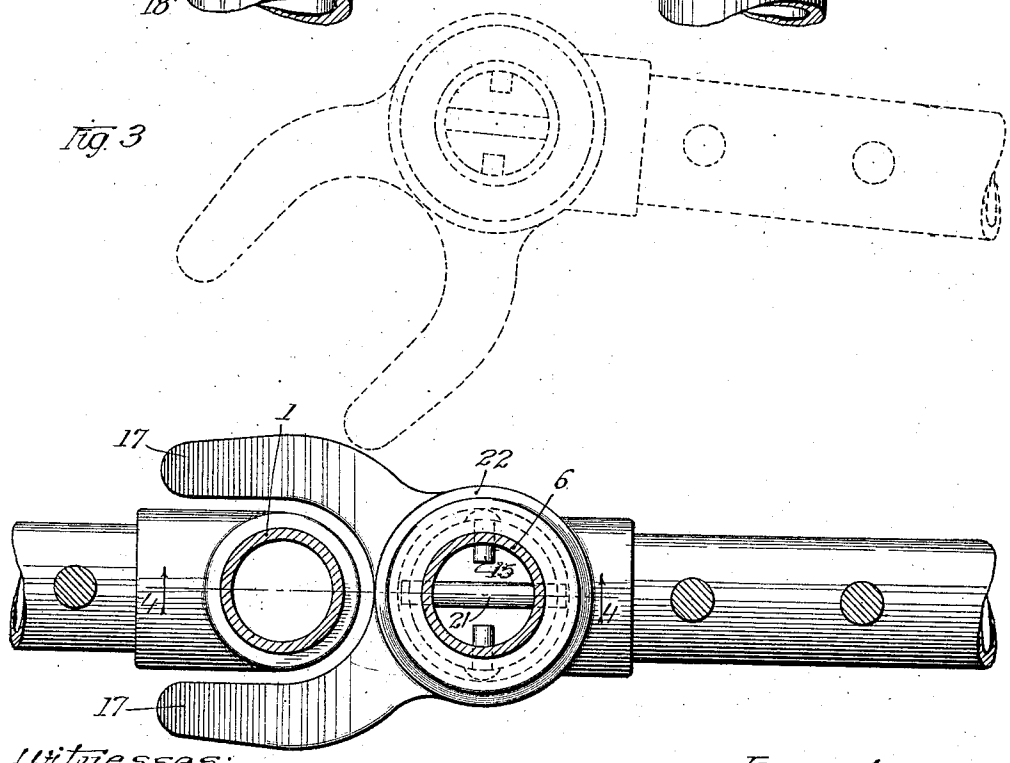


Fig. 3



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2 SHEETS—SHEET 2.

Fig. 4.

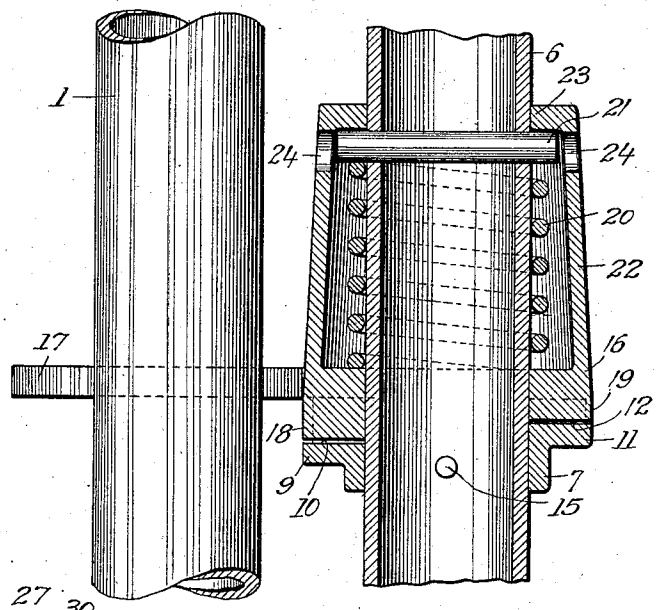


Fig. 6.

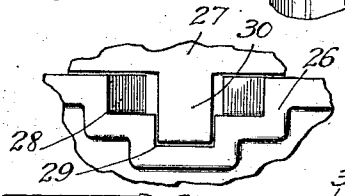
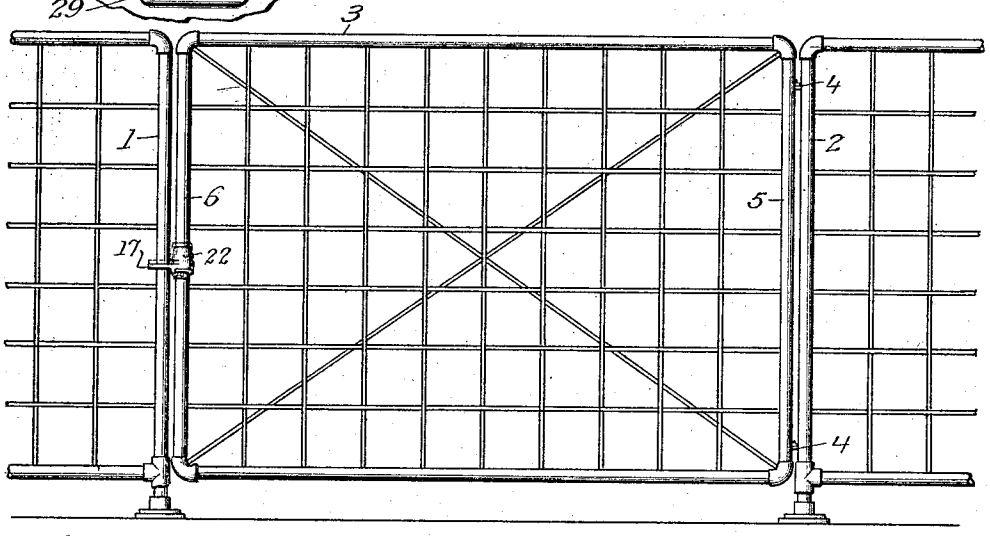


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH B. CLAY, OF CEDAR FALLS, IOWA.

GATE-LATCH.

1,280,665. Specification of Letters Patent. Patented Oct. 8, 1918.

Application filed August 3, 1917. Serial No. 184,248.

To all whom it may concern:

Be it known that I, JOSEPH B. CLAY, a citizen of the United States, residing at Cedar Falls, in the county of Blackhawk and State of Iowa, have invented certain new and useful Improvements in Gate-Latches, of which the following is a description.

My invention belongs to that general class of devices known as gate latches or the like, and relates particularly to a latch which may be carried upon the gate frame, or upon the fence post, the same being arranged to permit the gate to be swung in either direction. The same is also adapted for that class of gates known as tilting gates, as well as other styles. The invention has among its objects the production of a device of the kind described that is simple, durable, efficient, compact and satisfactory, for use wherever found applicable. It also has as an object the production of a gate latch which is substantially automatic in action regardless from which side the gate is pushed or thrown shut, in that it will stop the movement of the gate when at its closed position and positively lock it in such position until again released. It also has as an object the production of a latching device that will not be affected by weather conditions, nor by ordinary wear, but which will at all times operate satisfactorily. Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein made.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts,

Figure 1 is a view in elevation of the latch showing one side;

Fig. 2 is a similar view of the opposite side;

Fig. 3 is a top elevation of the same;

Fig. 4 is a sectional view taken substantially on line 4—4 of Fig. 3;

Fig. 5 is a view in elevation of a gate, a portion of a fence, and my device applied thereto, and

Fig. 6 is a view in elevation of a portion of a slightly modified construction.

Referring to the drawings, it may be first mentioned that the device is applicable to practically any type or style of gate and fence, and hence the particular style or type of gate and fence shown is merely illustrative of the application and use of my device. I have shown the latch applied to the end bar of the gate frame at the free end, and arranged to engage with the end post of the fence at the gate opening. The two fence posts 1 and 2 of any suitable style may be arranged as shown to provide an opening, between which is arranged the gate 3, that shown having the end bar 5 hinged at 4 to the post 2. The opposite end of the gate, as shown bar 6, is the swinging free end of the gate. Either the post 1 or the bar 6, as shown bar 6, may be equipped with my latch, the same being arranged to engage the other part. Referring particularly to Figs. 1, 2 and 4, 7 represents a part preferably flanged thereabout at 8, provided with a bearing face at the top, and provided with the projecting parts 9 and 11, disposed as desired, which are recessed as at 10 and 12 respectively. It will be particularly noted by referring to Figs. 1 and 2, that the recess 10 is of somewhat greater depth than the recess 12, and also wider, the purpose of this being explained more fully hereafter. The parts 7 may be secured to the gate bar or fence post in any desired manner. In the type of gate shown, part 7 is tubular or provided with an opening of a size to fit the bar 6, and the part 7 positioned on the bar 6, substantially as shown. For locking part 7 in place I have shown screws 15, which pass through the flange 7 and engage with the bar 6, it being understood, however, that any equivalent means may be employed for the purpose.

Mounted on part 7 is a part 16, having one or more projecting arms 17, two being shown on the double acting gate illustrated. The arms are spaced or forked, as it may be termed, so as to receive the post 1. The part 16 is made tubular or with an opening therethrough, and is rotatable as well as slidable on bar 6, as will be more fully set forth. Part 16 is also provided with lugs 18 and 19, arranged to engage in the recesses 10 and 12 respectively. It will be noted that lug 18 does not fit the sides of the recess 10, but is narrower, while lug 19 fits the recess 12 fairly closely. The lug 19 is also not as deep as the lug 18, which extends ad-

jacent the bottom of the recess 10. The part 16 may be maintained in contact with the flange 8 or part 7 by its weight, *i. e.*, by gravity, or by suitable retaining means for the purpose. For illustration of the preferred construction, I have shown a spring 20 arranged to bear against the top of part 16, and a pin 21, or its equivalent, carried by the post 6. I have also shown a housing consisting of the sides 22 and top 23, formed integral with or carried by part 16, and inclosing the spring. The holes 24 may be provided in the housing for the insertion or withdrawal of the pin 21.

In operation, assuming that the device is mounted substantially as shown and described, and that the gate is shut and locked as shown in Figs. 3 and 5, and it is desired to open the gate and swing it to one side or the other, for example as indicated in the dotted lines in Fig. 3. When the parts 16—17 are raised the lugs 18 and 19 clear the recesses, and lug 18, can ride upon the upper face of flange 8, and the gate may be opened. Owing to the spring the latch ordinarily remains in the position shown in the dotted lines in Fig. 3 until the gate is pushed or slammed shut. Assuming that it is slammed shut, one of the arms 17, that is the one in proper position, will engage the post 1, and as the gate continues to swing, part 16 will be pivoted about post 6. The lug 18 will first drop into the recess 10, and owing to the greater width of the recess than the lug, the same has time to drop down enough to engage one of the side walls of the recess. If the gate is not moving very rapidly, as for example, being slowly pushed into place, lug 19 will engage in recess 12, and the gate 1 locked in its central position. If the gate is moved rapidly, however, as in the case where it is slammed shut, lug 19 may not have a chance to engage in its recess, but rides upon the face of the flange 8. The gate, however, will not be swung by to open or unlocked position, as it is locked by the partial engagement of lug 18 with the walls of the recess 10. Upon the rebounding of the gate, lug 19 will ordinarily engage in its recess 12, permitting lug 18 to drop farther and substantially to the position shown in Fig. 1. Regardless, however, of whether lug 19 dropped into its recess, the gate will be securely and automatically locked shut by the lug 18, so that it cannot be accidentally opened.

It is obvious from the preceding that the action would be the same if the parts were mounted on the post 1 and arranged to engage the bar 6, and this is true regardless of the method of securing the parts to the respective bar or post. The action is the same when the latch is used on a tiltable gate and it is not rendered inoperative by the gate, or the fence post sagging or pulling out of place to any reasonable extent. The same is also not easily unlocked or operated by stock. Owing to the housing as well as the covering of part 7 by the part 16, the device is substantially protected from the weather; consequently not easily rendered inoperative from such causes. The same consists of a minimum of simple parts, is economical to manufacture, easy to install, and does not easily get out of order.

In the construction shown in Fig. 6, 26 corresponds to the part 7, and 27 to the part 16. In this case 28 represents a recess in the part 26 of the desired depth and width, and 29 another or further recess formed below and preferably centrally the side walls of the recess 28. Part 27 is shown provided with a lug 30. In this construction the recesses are combined and one lug serves the purpose of the two lugs illustrated in the other construction, and first engages or drops into the recess 28, and thereafter into the recess 29. Recess 28, however, is of sufficient width to permit the lug to engage during the time the same may travel between the two side walls. Obviously the opposite sides of the members may be similarly constructed. The action is the same as the other form and the construction is the full equivalent.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same within the scope of the appended claims without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

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

1. In a gate latch of the kind described and in combination, a movable gate part and a fixed fence part, and gate locking means carried by one part and arranged to detachably engage the other part, comprising a member formed with a plurality of dissimilar recesses therein and secured on one of said parts, a second member mounted on said first member and rotatable relative thereto, said second member provided with means for engaging the other part and with lugs arranged to engage in said recesses, said recesses and lugs differing in sizes, whereby the second member is partially rotatable on first member when one lug is in engagement with its recess and non-rotatable when the other lug is engaged with its recess.

2. In a gate latch of the kind described and in combination, a substantially fixed part, and a second part mounted in proximity thereto, and rotatable and slidable relative the first part, one part provided with

a plurality of recesses, one recess being relatively narrower and shallower than the other, the other part provided with lugs arranged to engage in the recesses of the other part, one lug being of greater depth than the other, and arranged to engage in said larger mentioned recess.

3. In a gate latch of the kind described and in combination, a substantially fixed part, and a second part mounted in proximity thereto, and rotatable and slidable relative the first part, one part provided with a plurality of recesses, one recess being relatively narrower and shallower than the other, the other part provided with lugs arranged to engage in the recesses of the other part, one lug being of greater depth than the other, and arranged to engage in said larger mentioned recess, means for securing one of said parts in place, the other part provided with forked arms projecting at one side thereof, and means for normally holding said parts in operative engagement, whereby the same are locked against relative rotation.

4. In a gate latch of the kind described, comprising a tubular part having a flange thereabout and formed with a recess below the face of said flange on one side, and a recess on the opposite side of greater depth and width than the first mentioned recess, a second part mounted on said first mentioned part and rotatable relative thereto, said second part provided with forked arms at one side, and with lugs arranged to engage in said recesses, one of said lugs being of greater depth than the other, and of less width than its recess, a means arranged to normally maintain said second part in engagement with said first part.

5. In a gate latch of the kind described, comprising a tubular part having a flange thereabout and formed with a recess below the face of said flange on one side, and a recess on the opposite side of greater depth and width than the first mentioned recess, a slidable part mounted on said first mentioned part and rotatable relative thereto, said slidable part provided with forked arms at one side, and with lugs arranged to engage in said recesses, one of said lugs being of greater depth than the other, and of less width than its recess, a means arranged to normally maintain said slidable part in engagement with said first part, and a housing for inclosing said means.

6. In a device of the kind described and in combination, a bar, a rotatable part secured on said bar, said part being provided with a plurality of recesses, one recess being larger than the other in depth and width, a second part mounted on said bar and slidable and rotatable thereon, said second part provided with a pair of forked arms at one side and with lugs arranged to engage in the recesses on the other part, the lug for said large recess being of greater height than the other, and of less width than its recess, a spring arranged on said bar, having one end bearing against said second part, means for engaging the other end of said spring, and a housing arranged to inclose said spring and said spring-engaging means, said housing provided with openings for the removal of said spring-engaging means.

7. In a gate latch of the kind described and in combination, a pair of relatively movable coöperating parts, one rotatable relative the other, said parts provided with coöperating interengaging means, whereby upon moving one part toward the other the rotatable part may be only partially rotated, and upon further movement of one part toward the other the rotatable part will be locked against rotation.

In testimony whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOSEPH B. CLAY.

Witnesses:
ROY W. HILL,
CHARLES I. COBB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."