W. L. WEINTZ.

GATE LATCH.

APPLICATION FILED JULY 25, 1921.

1,429,389.

Patented Sept. 19, 1922.

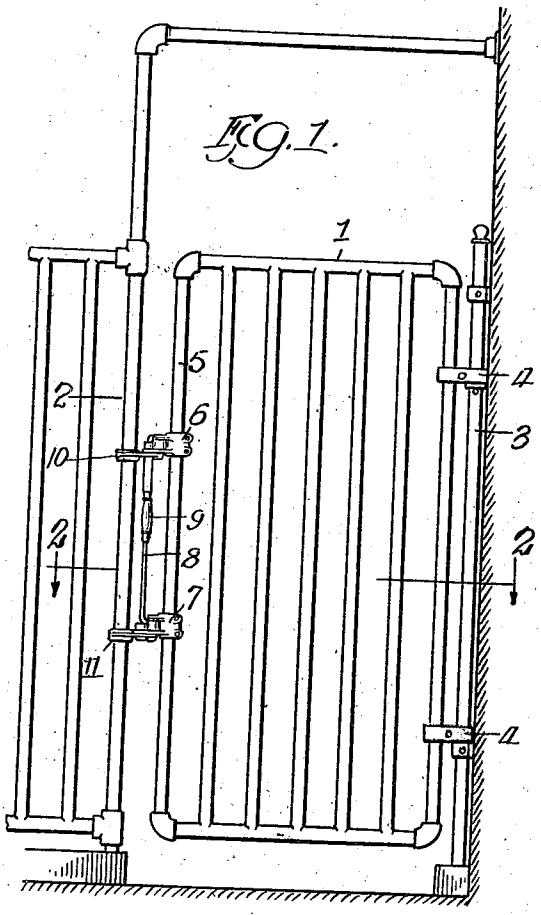


FIG. 1.

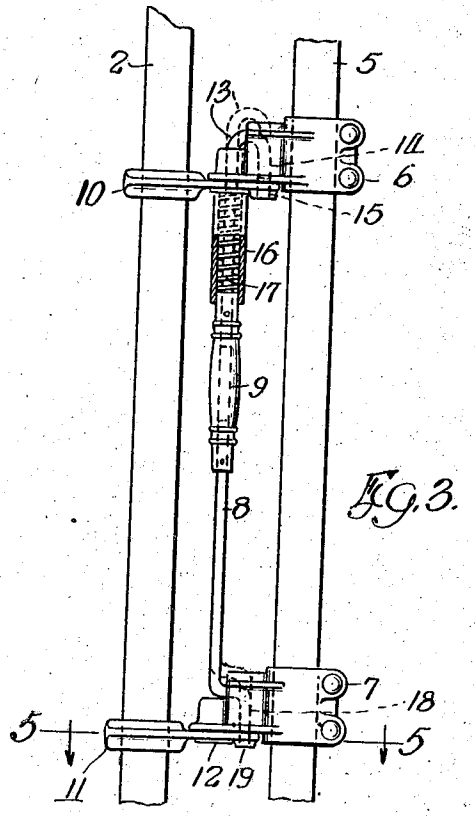


FIG. 3.

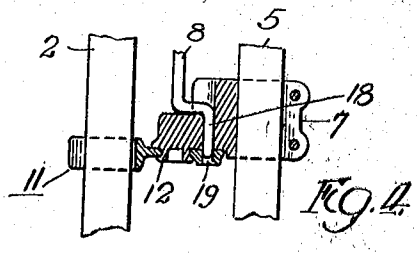
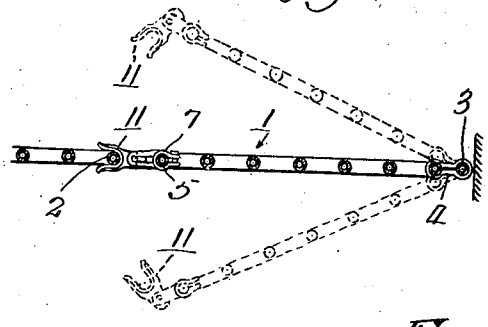


FIG. 4.

FIG. 2.



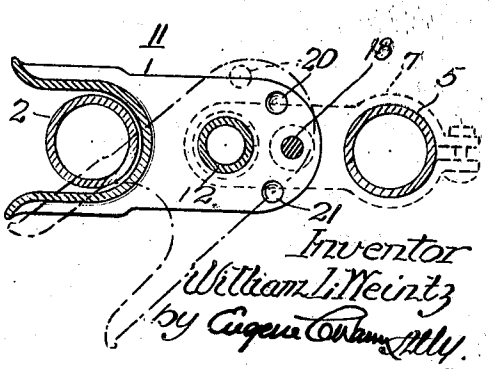


FIG. 5.

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Patented Sept. 19, 1922. 1,429,389

UNITED STATES PATENT OFFICE.

WILLIAM L. WEINTZ, OF OTTAWA, ILLINOIS, ASSIGNOR TO J. E. PORTER CORPORATION, OF OTTAWA, ILLINOIS, A CORPORATION OF ILLINOIS.

GATE LATCH.

Application filed July 25, 1921. Serial No. 487,261.

To all whom it may concern:

Be it known that I, WILLIAM L. WEINTZ, a citizen of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented new and useful Improvements in Gate Latches, of which the following is a specification.

This invention relates to gate latches especially designed for stock pen gates.

Among the objects of my invention is to improve the construction of gate latches of the kind mentioned in the several particulars as will hereinafter more fully appear.

In the accompanying drawings—

Fig. 1 is a front elevational view of a stock pen gate, equipped with a latch mechanism constructed in accordance with my invention;

Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1, the gate being shown closed in full lines and open in dotted lines;

Fig. 3 is an enlarged front elevational view of the latch mechanism;

Fig. 4 is a vertical sectional view taken through the lower part of the latch mechanism; and

Fig. 5 is a horizontal sectional view taken on line 5—5 of Fig. 3.

Referring to the drawings, 1 indicates a stock pen gate located between the vertical front and rear gate posts 2 and 3, respectively, of the pen structure. The gate 1 is attached to the rear post 3 by clamps 4, 4, and these are so made that the gate may be swung either into or out of the pen past the front post 2.

Applied to the front upright rail or tube 5 of the gate are two clamps or supporting members 6, 7, vertically spaced apart, as shown in Figs. 1 and 3. Between the clamps 6, 7, in front of the rail 5, is a rod or latch bolt 8 having a handle 9 intermediate its ends. Pivoted on the clamps 6, 7 are latch members 10, 11, one on each clamp and extending toward the gate post 2. These latch members have forked outer ends to straddle the gate post 2, as shown. The upper portion of the bolt 8 extends through the upper latch member 10 and forms a pivot pin therefor, while the lower latch member 11 is pivoted to the clamp 7 by a boss 12 provided on said clamp. The bolt 8 has a hook shaped upper end 13 slidably retained in a vertically arranged aperture 14 in the upper clamp 6 and adapted to enter a bolt hole 15 in the upper latch member 10 adjacent its rear end. Below the latch member 10 is a tube 16 through which the bolt 8 extends and forming a casing for a coiled spring 17. This bears downward on the upper end of the handle 9.

The bolt 8 has its lower end offset and substantially straight, and this end is in an aperture in the lower clamp 7, as shown in Fig. 4. The lower latch member 11 is provided adjacent its inner end with a bolt hole 19 to receive the lower end of said bolt. The apertures in the clamps 6, 7 register with the bolt holes in the latch members 10, 11 when the gate is in closed position.

The latch members 10, 11 are made substantially alike and, in addition to the bolt holes 15 and 19, respectively, each member has two shallow recesses or sockets 20, 21 (Fig. 5) arranged on opposite sides of the bolt holes 15, 19, as shown in Fig. 5.

The latch mechanism operates as follows: When the gate 1 is closed, it is between the posts 2 and 3, as shown in Fig. 1, and the latch members 10, 11 straddle the front post 2. Said latch members are held in that position by the hook end 13 of the bolt being in the bolt hole 15 of the upper latch member and the lower end 18 of the bolt being in the bolt hole 19 in the lower latch member, the spring 17 holding the parts interlocked so that the gate is locked closed and the latch members held astraddle the post 2.

To unlock and open the gate, the operator grasps the handle 9 and lifts up on it to raise the bolt 8, thereby lifting its ends out of engagement with the latch members 10 and 11. This unlocks the gate and the latter may be swung open, either into or out of the pen as indicated by dotted lines in Fig. 2. The latch members 10 and 11 straddling or having their side portions on opposite sides of the post 2 when the gate 1 is closed, will by contact with said post on swinging the gate open be turned about their pivots as they leave the post into positions with their forked ends facing toward the post, as shown in Fig. 2. The latch members will be swung far enough while engaged with the post to bring one of the sets of shallow recesses 20 or 21, depending on which way the gate is swung, into register with the locking ends of the bolt 8, and, by means of the spring 17, such ends will snap into engagement with such recesses and hold the

latch members against accidental movement out of the position into which they have been turned. This prevents the latch members from being swung out of such positions should a workman brush against them in passing into and out of the pen while the gate is open, or should an animal in being driven into or out of the pen strike against them.

To close and lock the gate, the gate is swung into closed position and, the post 2 being in the path of movement of the latch members 10 and 11, the same will come into contact with the post 2 before the gate is fully closed and, by impact with the post, be turned back into positions straddling said post as soon as the gate reaches closed position. The engagement between the ends of the bolt 8 and the shallow recesses 20 or 21 is merely sufficient to hold the latch members against accidental movement, but when the latch members are swung into locking position by contact with the gate post 2, the bolt 8 will be raised out of the shallow recesses by the impact and snap into the bolt holes 15, 19 as soon as the gate reaches fully closed position. By this construction, the gate is automatically locked when swung into closed position without requiring the attendant to manipulate the latch device for that purpose.

The bolt 8 is movable endwise and relatively to the latch members. This enables the latch members to be retained in fixed planes and need not be mounted to be raised and lowered to effect locking and unlocking of the gate. Thus an animal in the pen cannot unlock the gate by pushing upward on the latch members. The bolt must be raised to unlock the gate and thus is operated in somewhat the same way as the ordinary gate latch. The bolt 8 is not provided with any projecting parts which can be engaged by the head or body of an animal and permit the animal to unlock the latch, and thus is cattle-proof. The bolt 8 extends between the latch members and is movable into and out of locking engagement with both, thus requiring but one bolt for both latch members and enabling a positive and effective lock to be had. The bolt engaging the shallow recesses holds the latch members, when the gate is open, in positions to properly engage the gate post on swinging the gate closed from either side of the post. The shallow recesses provide a positive lock for this purpose and always hold the latch members in proper positions when the gate is open.

While I have shown and described herein in detail a latch mechanism embodying the features of my invention, it is to be understood that I do not wish to be limited to the details of construction and arrangement of parts as shown, for such parts may be variously changed and modified without departing from the spirit and scope of my invention.

I claim as my invention:

1. The combination with a gate post and a hinged gate, of a latch mechanism, comprising two pivoted latch members spaced apart and carried by said gate, said latch members having forked outer ends to straddle said post when the gate is closed and being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, each latch member having a bolt hole on the side of its pivot opposite its forked outer end, and a single spring pressed latch bolt slidably carried by said gate in the plane thereof and lying between the gate and post when the gate is closed, said bolt extending between said latch members and having its ends movable into and out of locking engagement with the bolt holes therein, said bolt snapping into said bolt holes when the gate reaches closed position.

2. The combination with a gate post and a hinged gate adapted to be swung into open position to either side of said post, of a latch mechanism, comprising two pivoted latch members spaced apart and carried by said gate, said latch members having forked outer ends to straddle said post when the gate is closed and being turned simultaneously by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, each latch member having a bolt hole adjacent its inner end and two shallow recesses, one on each side of said bolt hole, and a spring pressed bolt carried by said gate between said latch members, said bolt being movable endwise into and out of locking engagement with the bolt holes of said latch members, said bolt engaging said shallow recesses when the gate is open for releasably holding said latch members in positions to straddle said post on swinging the gate closed, said bolt automatically snapping into said bolt holes when the gate reaches closed position.

3. The combination with a gate post and a hinged gate, of a latch mechanism, comprising two clamps secured to said gate in spaced relation, latch members, one pivoted to each clamp and having forked outer ends to straddle said post when the gate is closed, said latch members being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, said latch members having bolt holes and shallow recesses, and a spring pressed bolt extending between said latch members and slidably mounted in said clamps, said bolt having one of its ends hook shaped and the opposite end straight

to engage in the bolt holes and recesses, respectively, of said latch members.

4. The combination with a gate post and a hinged gate, of a latch mechanism, comprising a pivoted latch member carried by said gate and having its outer end forked to straddle said post when the gate is closed and provided adjacent its inner end with a bolt hole and a shallow recess on one side thereof, said latch member being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, and a spring pressed bolt carried by said gate and movable into and out of locking engagement with said bolt hole, said bolt, when the gate is open, engaging in said recess to releasably hold said latch member in position to straddle said post on swinging said gate closed, said bolt snapping into said bolt hole as soon as the gate reaches closed position for locking said latch member astraddle said post.

5. The combination with a gate post and a hinged gate adapted to be swung into open position to either side of said post, of a latch mechanism, comprising a pivoted latch member carried by said gate and having its outer end forked to straddle said post when the gate is closed and provided adjacent its inner end with a bolt hole and two shallow recesses, one on each side of said bolt hole, said latch member being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, and a spring pressed bolt carried by said gate and movable into and out of locking engagement with said bolt hole, said bolt, when the gate is open, engaging in one of said recesses to releasably hold said latch member in position to straddle said post on swinging said gate closed, said bolt snapping into said bolt hole as soon as the gate reaches closed position for locking said latch member astraddle said post.

6. The combination with a gate post and a hinged gate, of a latch mechanism, comprising two clamps secured to said gate in spaced relation, two latch members, one pivoted on each clamp and having forked outer ends to straddle said post when the gate is closed and being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, each latch member having a bolt hole on the side of its pivot opposite its forked outer end, said clamps having apertures registering with said bolt holes when the gate is closed, and a single spring pressed latch bolt slidably carried by said clamps in the plane of said gate and lying between the same and said post when the gate is closed, said bolt extending between said latch members and having its ends movable into and out of said bolt holes through the apertures in said clamps, said latch members having shallow recesses on opposite sides of said bolt holes to receive the ends of said bolt when the gate is open for holding said latch members in positions to straddle said post on swinging the gate closed.

7. The combination with a gate post and a hinged gate, of a latch mechanism, comprising a supporting member carried by said gate, a latch member pivoted to said supporting member and having a forked outer end to straddle said post when the gate is closed, said latch member being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, said latch member having a bolt hole and a shallow recess on one side thereof, said supporting member having an aperture registering with said bolt hole when the gate is closed and registering with said recess when the gate is open, and a spring pressed bolt on said gate and having its end slidably mounted in said aperture and adapted to snap into locking engagement with said bolt hole as soon as the gate reaches closed position, said bolt having its end engaging in said recess when the gate is open to releasably hold said latch member in position to straddle said post on swinging said gate closed, the impact of the latch member against said post in closing the gate being sufficient to move said bolt out of said recess and permit the latch member to be swung into locking position.

8. The combination with a gate post and a hinged gate, of a latch mechanism, comprising two clamps secured to said gate in spaced relation, two latch members, one pivoted on each clamp and having forked outer ends to straddle said post when the gate is closed and being turned by said post into and out of straddling engagement therewith on swinging said gate into and out of closed position, said clamps having apertures registering with said bolt holes when the gate is closed, and a single spring pressed bolt in the plane of said gate and slidably supported by said clamps, said bolt extending between said latch members and having its ends movable into and out of said bolt holes through said apertures, said bolt at one end extending through the pivotal connection between the adjacent clamp and latch member, said end of the bolt being hook shaped and the opposite end of the bolt being straight to snap into said bolt holes from the same side of the same.

In testimony that I claim the foregoing as my invention, I affix my signature this 21st day of July, A. D. 1921.

WILLIAM L. WEINTZ.