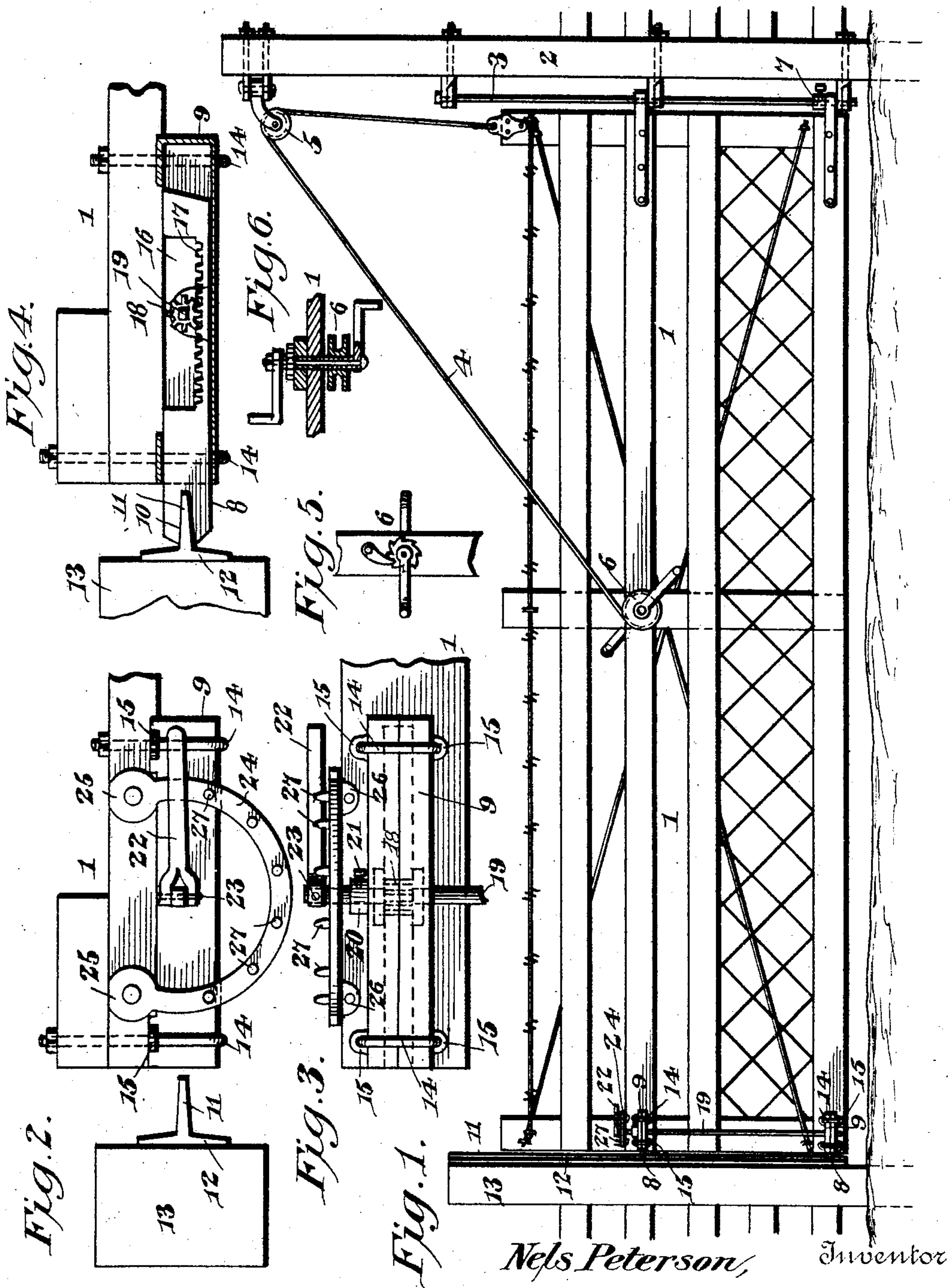


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N. PETERSON.  
GATE LATCH.

APPLICATION FILED JUNE 11, 1904.



Nels Peterson, Inventor

By

*E. G. Siggers*

Attorney

Witnesses

*Jas. E. McLaughlin*

*J. F. P. Rely*



# UNITED STATES PATENT OFFICE.

NELS PETERSON, OF MECKLING, SOUTH DAKOTA, ASSIGNOR OF ONE-HALF TO CARL YOUNGSTROM, OF MECKLING, SOUTH DAKOTA.

## GATE-LATCH.

SPECIFICATION forming part of Letters Patent No. 779,963, dated January 10, 1905.

Application filed June 11, 1904. Serial No. 212,175.

*To all whom it may concern:*

Be it known that I, NELS PETERSON, a citizen of the United States, residing at Meckling, in the county of Clay and State of South Dakota, have invented a new and useful Gate-Latch, of which the following is a specification.

The invention relates to improvements in gate-latches.

The object of the present invention is to improve the construction of swinging gates, more especially to provide a simple, inexpensive, and efficient locking mechanism for that class of swinging gates which are adapted to be raised and lowered to arrange them at different elevations in order that they may swing clear of obstructions or afford a passage-way for small animals.

A further object of the invention is to provide a locking device of this character adapted to engage a latch-post at any point throughout the length of the same and to enable a plurality of latch-bolts to be simultaneously operated.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts herein-after fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of a vertically-adjustable gate provided with locking mechanism constructed in accordance with this invention. Fig. 2 is a detail plan view illustrating the construction of the latch-post and the means for operating the latches. Fig. 3 is a detail view of one of the latches and the means for operating the same. Fig. 4 is a horizontal sectional view of one of the latches, showing the bolt in engagement with the latch-post. Figs. 5 and 6 are detail views of the windlass for raising and lowering the gate.

Like numerals of reference designate corre-

sponding parts in all the figures of the drawings.

1 designates a swinging gate, which may be constructed in any desired manner and which is hinged to a post or upright 2 by means of a pintle-rod 3, which passes through suitable eyes of the gate and the post, as clearly indicated in Fig. 1 of the drawings. The inner end bar of the gate is connected with one end of a rope, cable, or other flexible connection 4, which extends upward to a pulley 5, and the said flexible connection extends from the pulley 5 to a windlass 6, mounted on the gate at the center thereof and provided with a suitable pawl-and-ratchet device, whereby the gate is held at any desired elevation. A collar 7 is arranged on the pintle-rod above the lower eye of the gate and is provided with a set-screw for engaging the pintle-rod, whereby the collar is rigidly connected to the same to form a stop for the lower eye for preventing the gate from being raised.

The gate is provided with a plurality of latches, each consisting of a slidable bolt 8, mounted within a sectional casing 9 and provided at its outer end with a tapering notch or recess 10 for the reception of an outwardly-extending flange 11 of a bar 12, which is T-shaped in cross-section to form a continuous keeper. The bar 12, which is provided with laterally-extending flanges, is secured to the front of a latch-post 13 and extends substantially the entire length of the same, being preferably terminated short of the surface of the ground, as indicated in Fig. 1 of the drawings. The latches are preferably located at the bottom of the gate and at the upper portion thereof, as shown, and the sectional casings, which enable the parts to be readily assembled, are secured to the gate by means of clips 14, embracing the sections and passing through upper and lower eyes 15 of the same, as clearly shown in Fig. 3. The clips have threaded ends and are provided with nuts for engaging the gate. Each bolt, which is slidable within its casing, is provided with a longitudinal recess or opening 16, and it has a series of teeth 17 extending along the side



wall of the same to form a rack which is engaged by a pinion 18. The pinion 18, which is rotated by the means hereinafter described, is adapted to reciprocate the latch-bolt to carry  
 5 the same into and out of engagement with the vertical flange 10 of the latch-post. The vertical flange is tapered or wedge-shaped and is firmly engaged by the latch-bar when the gate is locked.

10 The pinions 18 of the upper and lower latches are provided with polygonal openings for the reception of polygonal portions of a vertical shaft 19, which is journaled in suitable bearings of the casings at the top and bottom thereof. The vertical shaft is supported in  
 15 position by means of an adjustable collar 20, provided with a set-screw 21 and arranged upon the upper latch-casing, as clearly shown in Fig. 3. The vertical shaft is loosely arranged within the bearings of the latch-casings and is adapted to be readily removed therefrom. The vertical shaft is operated by  
 20 means of an arm or handle 22, having one end forked or bifurcated to receive the upper end of the vertical shaft and pivoted to the same by a pin 23 or other suitable fastening device. The upper end of the shaft is preferably squared, as shown in Fig. 2, and the arm or handle enables the shaft to be readily rotated  
 30 to move the latch-bolt inward and outward. The arm or handle is locked against accidental movement by means of a curved bar 24, provided at its ends with perforated enlargements or ears 25 for the reception of screws or other  
 35 suitable fastening devices for securing the bar 24 to the gate. The bar is also provided with depending ears 26, which are secured to the gate, as indicated in Fig. 3 of the drawings, and it extends horizontally from the gate, being provided at intervals with upwardly-extending lugs or projections 27. The lugs or  
 40 projections are spaced apart to receive the handle or arm 22, and they are adapted to lock the same. The handle is retained in engagement with the horizontal bar by gravity, and it is readily lifted out of engagement with the same when it is desired to partially rotate the shaft for reciprocating the bolts. When  
 45 the shaft is turned, the bolts, which may be of any desired number, are simultaneously reciprocated to lock or unlock the gate.

The latches are adapted to engage the latch-post at any point, and the gate may be readily secured to the latch-post at any point  
 55 throughout the length of the vertical flange. The vertical flange also forms a guide, and the gate may be readily raised and lowered while in its closed or locked position.

The gate is adapted to be adjusted vertically  
 60 to clear obstructions, such as snow, and also to provide a passage-way for small animals, such as sheep and hogs, when it is desired to separate the same from other stock.

Having thus fully described my invention,

what I claim as new, and desire to secure by  
 Letters Patent, is—

1. The combination with a gate, and a latch-post provided with a keeper, of upper and lower casings mounted on the gate, upper and lower latch-bolts slidable in the casings and  
 70 arranged to engage the keeper, said latch-bolts being provided with racks, a vertical shaft extending through the casings, pinions mounted on the shaft and meshing with the racks, and means for rotating the shaft to re-  
 75 ciprocate the bolts.

2. The combination with a gate, and a latch-post having a continuous vertical keeper, of a plurality of latch-bolts mounted on the gate and provided with racks, a vertical shaft, pin-  
 80 ions mounted on the shaft and meshing with the racks, an arm or handle connected with the shaft, and means for engaging the arm or handle for locking the shaft against turning.

3. The combination with a gate, and a latch-  
 85 post, of a plurality of latches mounted on the gate for engaging the latch-post, a vertical shaft, gearing for connecting the shaft with the bolts, a pivoted arm connected with the shaft, and a horizontal bar provided at inter-  
 90 vals with means for engaging the arm.

4. The combination with a gate, and a latch-post, of a plurality of latches mounted on the gate for engaging the latch-post, a vertical shaft, gearing for connecting the shaft with  
 95 the bolts, a pivoted arm connected with the shaft, and a horizontal bar extending from the gate and provided at intervals with lugs or projections spaced apart to receive the arm.

5. The combination with a vertically-ad-  
 100 justable gate, and a latch-post provided with a continuous keeper, of a plurality of latches mounted on the gate and provided with lugs, pinions meshing with the racks, a shaft connected with the pinion, a pivoted arm con-  
 105 nected with the shaft, and means for engaging the arm, whereby the shaft is locked against turning.

6. The combination with a gate, and a latch-post, of upper and lower latch-casings pro-  
 110 vided with alined bearings, latch-bolts slidable in the casings for engaging the latch-post and provided with racks, pinions arranged within the casings and meshing with the racks, a shaft journaled in the bearings and having the  
 115 pinions mounted on it, an adjustable collar secured to the shaft and supported by one of the shafts, and means for operating the shaft.

7. The combination of a gate, a latch-post having a T-shaped bar forming a continu-  
 120 ous keeper and consisting of lateral projecting flanges fitting against the post, and a projecting tapering or wedge-shaped flange, a latch slidably mounted on the gate and provided with a tapering recess receiving and  
 125 conforming to the configuration of the wedge-shaped flange, and means for operating the latch.

8. The combination with a gate, a latch-post,  
a casing composed of sections provided with  
eyes, clips embracing the sections and passing  
through the eyes and securing the casing to  
5 the gate, a latch-bolt slidable in the casing,  
and means for operating the latch-bolt.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

NELS PETERSON.

Witnesses:

S. B. McGLUMPHY,  
HOWARD B. CASE.