H. V. DOTY & M. H. KIRKLAND.

GATE.

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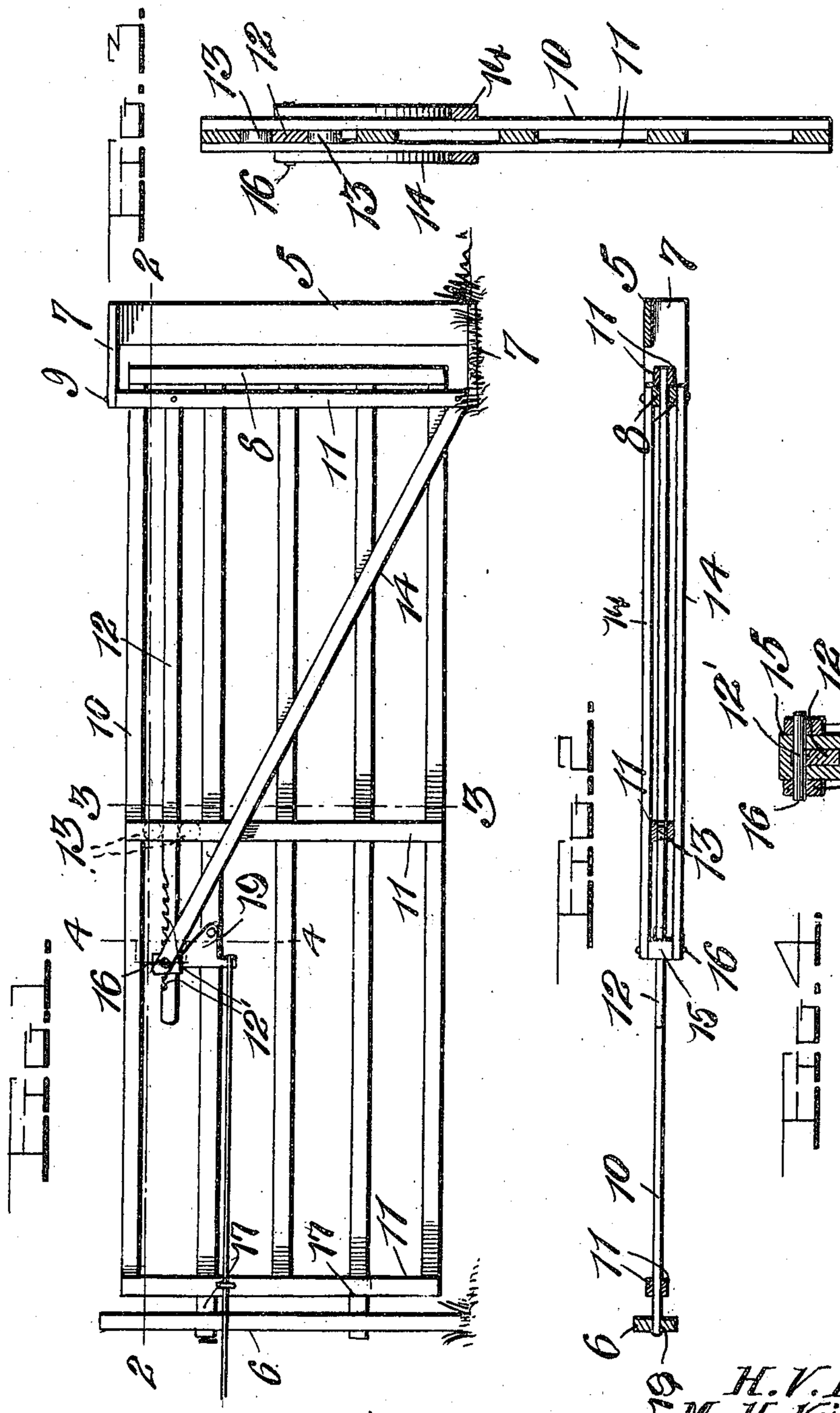
975,516. Patented Nov. 15, 1910.



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UNITED STATES PATENT OFFICE.

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GATE.

975,516. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed July 16, 1910. Serial No. 572,298.

To all whom it may concern:

Be it known that we, HOMER V. DOTY and MILTON H. KIRKLAND, citizens of the United States, residing at Benton Ridge, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in gates and has for its object to provide a combined sliding and swinging gate, and new and novel means for mounting and supporting the same in its sliding movement.

A further object of the invention is to provide a gate of very simple construction and means for holding the same in an elevated or lifted position to avoid snow drifts or unevenness of the road surface in moving the gate to its open and closed position.

With these and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a gate embodying our invention; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a section taken on the line 3—3 of Fig. 1; and Fig. 4 is a detail section taken on the line 4—4 of Fig. 1.

Referring more particularly to the drawing 5 and 6 indicate the inner and outer gate posts respectively. The post 5 has secured to its upper and lower ends blocks 7. These blocks extend upon one side of the gate post 5 and parallel bars 8 are arranged between their ends and pivoted therebetween on the pins 9 which are secured to the blocks 7 and extend into pivot sockets or recesses provided in spacing blocks arranged between the ends of the bars 8 whereby the same are rigidly secured together. The lower block 7 is embedded or anchored in the ground in any preferred manner.

The gate 10 is of the usual construction and comprises a plurality of horizontal bars connected at their ends and between the same by means of vertical bars 11. The gate 10 at one end is movably disposed between the parallel pivoted bars 8. The vertical gate bars 11 each consist of a pair of parallel members arranged upon opposite sides of the horizontal bars. Certain of these horizontal gate bars are extended beyond the forward end of the gate to provide latch bars 17 which engage in keeper openings 18 formed in the gate post 6. A horizontally extending rack bar 12 is pivoted at one end between the pivoted bars 8 and extends between the parallel members of the intermediate gate bars 11. Guide rollers 13 are rotatably mounted between said members and engage the opposite edges of the rack bar 12 to support the gate thereon in its sliding movement and also to provide a support for the outer end of the bar 12. The upper edge of the outer end portion of the bar 12 is provided with a plurality of rack teeth 12′. The diagonal bars 14 are pivoted at one end upon the lower ends of the bars 8 and extend across the outer faces of the intermediate gate bars 11. Between the upper ends of the diagonal bars 14 the block 15 is arranged and through this block the rack bar 12 is disposed. A pin 16 extends through the ends of the bars 14 and the block 15 and is adapted for engagement in the teeth 12′ of the rack bar.

In the operation of our improved gate, when it is desired to open the same, the gate is forced rearwardly between the pivoted bars 8 to disengage the latch bars 17 from the openings 18 in the gate post 6. The gate may then be swung to its open position, the bars 8 rotating upon the pins 9. In the sliding movement of the gate, the rollers 13 move upon the edges of the rack bar 14. When it is desired to elevate or tilt the gate to avoid a snow drift or unevenness in the ground surface, the operator lifts the free end of the gate to angularly dispose the same between the pivoted bars 8. This lifting or elevating of the gate disengages the rack bar 14 from the pin 16 and when the gate is released said pin engages the teeth of the rack bar whereby the gate is supported in its elevated position. It may then be easily swung to its open position over the obstructions.

From the foregoing it is believed that the construction and operation of our improved gate will be readily understood.

The device is extremely simple and highly efficient in practical operation. It may also be easily and quickly set up in position for use and owing to the few parts embodied in its construction it will be obvious that the cost of repairs is reduced to a minimum.

While we have shown and described the preferred construction and arrangement of the various parts, it will be understood that the

device is susceptible of considerable modification without departing from the essential feature or sacrificing any of its advantages.

In order to easily disengage the teeth of the rack bar 12 from the pin 16, we provide a trip 19 which is pivoted upon one of the gate bars and has one end of an operating cord attached thereto, said cord extending through a suitable guide eye carried by the gate.

When it is desired to lower the gate from its inclined position, the operator has only to pull upon the cord to raise the trip and engage the same against the inclined pivoted bars 14 so as to raise the pin 16 carried thereby out of engagement with the teeth of the rack bar.

Having thus deescribed the invention what is claimed is:—

1. The combination with a gate consisting of a plurality of horizontal bars and vertical bars comprising spaced members arranged on opposite sides of the horizontal bars at each end thereof and at their centers, of a gate post, pivoted guide bars arranged adjacent to the gate post, one end of the gate being movably disposed between said guide bars, a horizontal rack bar pivoted at one end between the guide bars and between adjacent horizontal gate bars, the other end of said rack bar extending between the intermediate vertical gate bars, rollers mounted between said vertical bars engaging the upper and lower longitudinal edges of the rack bar, rack teeth formed upon the upper edge of said bar at its outer end, diagonal bars extending upon opposite sides of the gate and pivoted at their lower ends to the lower ends of said guide bars, a block arranged between the upper ends of the diagonal bars and having an opening therein through which said rack bar is movably disposed, a pivot pin extending through said block and its opening and through the ends of the diagonal bars, said pin being adapted to engage with the teeth of the rack bar to support said gate in an angular position for swinging movement, and a pivoted manually actuated trip member carried by the gate to engage the block and release the pin from engagement with the rack teeth to lower the gate.

2. The combination with a gate consisting of a plurality of horizontal bars and vertical bars comprising spaced members arranged upon opposite sides of the horizontal bars, of inner and outer gate posts, arms secured to the inner gate post, spaced guide bars pivoted between said arms, the inner end of said gate being movable between the bars, a rack bar pivoted at one end between the guide bars, guide rollers carried by the gate engaging upon the longitudinal edges of the rack bar, rack teeth formed on the upper edge of the rack bar at its outer end, movable diagonal bars arranged upon opposite sides of the gate and pivoted to the guide bars at their lower ends, a guide member arranged between the upper ends of the diagonal bars, said rack bar being movable in the guide member, means securing the guide member between the diagonal bars adapted to engage with the rack teeth to support the gate in an inclined position with relation to the guide bars, a trip pivoted to one of the horizontal bars of the gate and engaging with said guide member to elevate the same and the diagonal bars and release the rack bar to lower the gate, and a flexible operating element connected to said trip and extending through a guide eye on the gate.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

HOMER V. DOTY.
MILTON H. KIRKLAND.

Witnesses:
JOHN J. COLE,
RALPH D. COLE.