(No Model.)

# G. W. MAUK.

## GATE.

No. 501,801. Patented July 18, 1893.

Fig. 1.

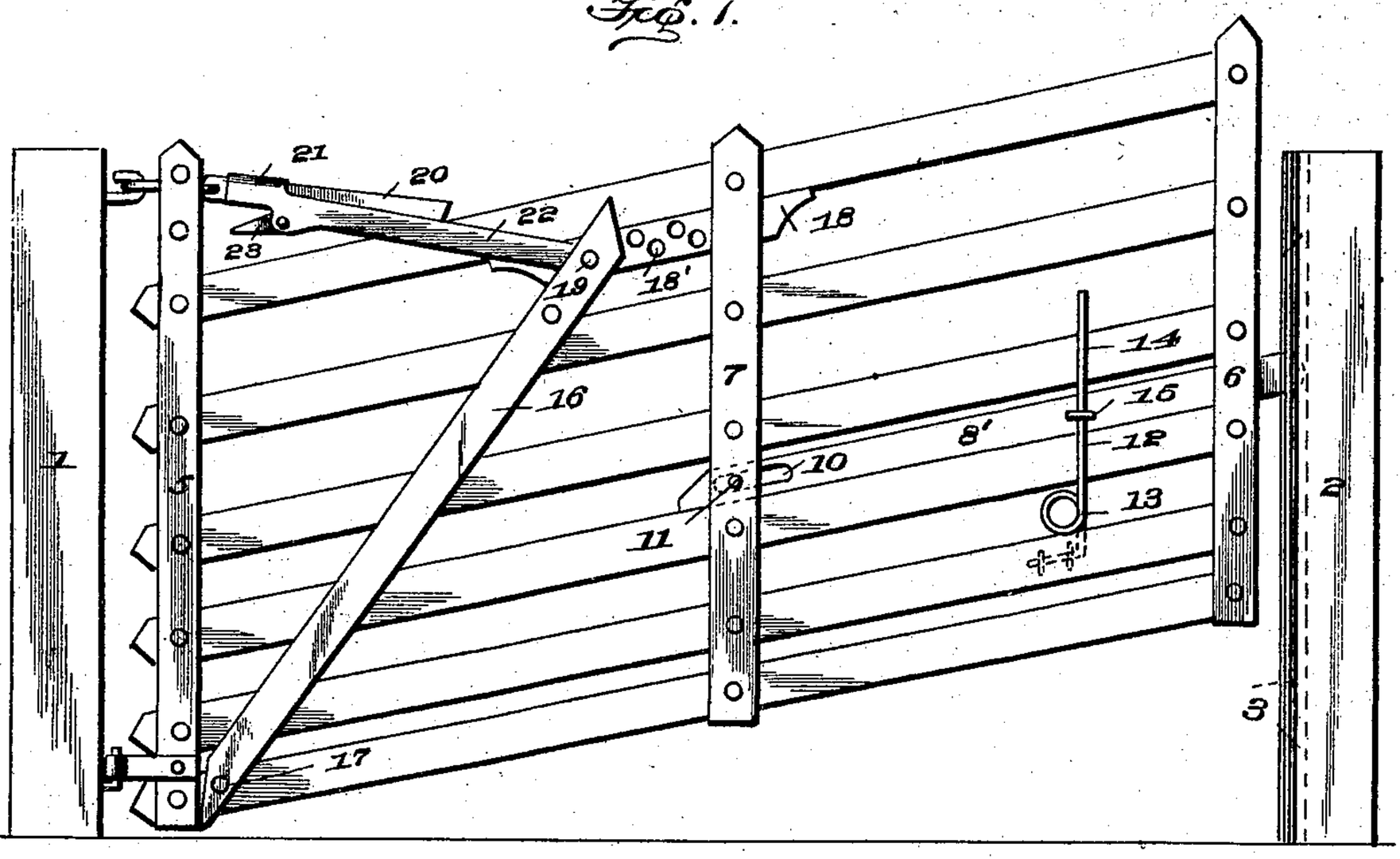


Fig. 2.

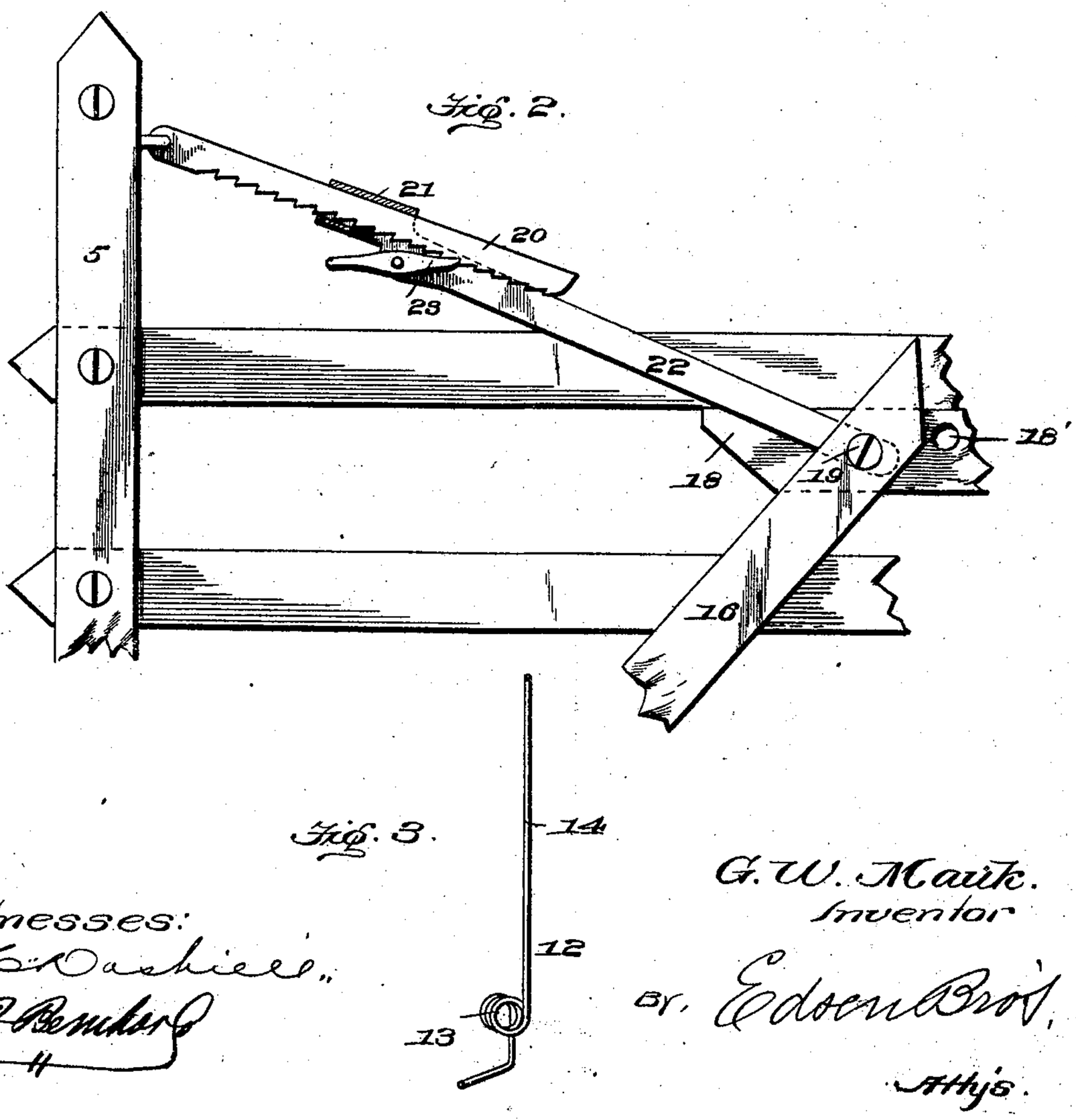


Fig. 3.




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# UNITED STATES PATENT OFFICE.

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## GATE.

SPECIFICATION forming part of Letters Patent No. 501,801, dated July 18, 1893.

Application filed June 16, 1892. Serial No. 437,005. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. MAUK, a citizen of the United States, residing at Williamsburg, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Gates; and I do hereby declare that the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it relates to understand and construct the same.

This invention relates to improvements in that class of swinging gates which employ an adjustable panel capable of being raised and held at the desired elevation to swing clear or over an embankment of snow, or other matter, that may accumulate in the roadway in the path of the gate; and the objects that I have in view are to provide a simple and efficient means for holding the gate at the desired elevation, which can be easily released to allow the gate to return, by its own weight or gravity, to its normal lowered position, as also to provide a novel form of latch mechanism in which the impelling spring serves as the means whereby the operator can retract the latch to open the gate.

With these ends in view my invention consists in the combination with the vertical stiles and the horizontal bars pivotally connected together, of inclined bars pivoted at their lower ends to the gate, a horizontal slide bar fitted beneath one of the horizontal bars of the gate and connected to the upper ends of the inclined bars, a ratchet or toothed bar pivoted to the gate, and a connecting link (or links) which are pivotally connected with the slide and inclined bars and which sustain a slide that straddles the ratchet bar and carries a pawl adapted to engage with the teeth of the tooth bar connected to the gate, whereby the gate can be raised or lowered at its free end and the links and pawl hold the inclined and slide bars to their proper positions so that the gate is free to swing on its hinges either when raised to an inclined position or when lowered to its horizontal position.

My invention further consists in the combination and construction of parts as will be hereinafter more fully described and particularly pointed out in the claims.

I have illustrated the preferred embodiment of my invention in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the gate in its raised position. Fig. 2 is an enlarged detail view, partly in section, of the means employed for holding the front end of the gate at the desired elevation. Fig. 3 is a detail view of the latch and its impelling spring.

Like numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

1 designates the hinge post, and 2 is the latch post. The latch post 2 has its inner face provided with a vertical groove 3 forming the keeper for the end of the latch-bar and this latch post has its sides beveled or inclined at 4 on opposite sides of the slot to enable the latch to readily pass the angles or corners of the post when the gate is closed from either direction.

The gate consists of the rear stile, 5, the front stile, 6, the middle stile, 7, and the horizontal or longitudinal bars 8. Each of the stiles consists of a pair of bars between which the longitudinal bars are fitted and pivoted by suitable transverse bolts or screws, and the rear stile 5 of the gate is somewhat higher than the front and middle stiles so that the gate can be hinged to the post 1 to swing easily in both directions.

The latch bar 8′ is fitted between the front and middle stiles of the gate so as to be guided thereby, and this latch bar rests upon one of the longitudinal bars of the gate so as to slide freely easily back and forth thereon. This latch bar is slotted longitudinally at its heel, as at 10, and through the slot passes a pin or stop 11 which is fixed to the middle stile so as to limit the play of the latch bar and prevent it from becoming detached. Said latch bar is normally projected beyond the free end of the gate, or its front stile, by means of a spring 12, more clearly shown by Fig. 3 of the drawings. This spring is constructed of a single piece of metal or wire, and one end of the spring is coiled as at 13 and the other end of the spring is extended to form the long arm 14. The coiled end of the spring is rigidly attached to one of the longitudinal bars of the gate in any suitable manner, and the long extended arm 14 is attached to the latch bar at an intermediate point of its length by means of the staple or loop 15, the upper extremity of said spring arm 14 being free so that it can be grasped by hand to retract the latch.

I will now proceed to describe the means whereby the free front end of the gate can be held at the desired elevation while the gate is free to swing horizontally in either direction, whereby the gate can be made to swing clear or over an embankment of snow that is liable to accumulate or form during the winter in the path of the gate. I employ two inclined bars 16, which are arranged on opposite sides of the longitudinal gate bars and between its rear and middle stiles, and the lower ends of these bars are pivotally connected, at 17, to the lower inner corner of the gate. Beneath one of the upper bars of the gate I provide a slide-bar 18 which plays freely between the parts of the middle stile of the gate, and to this slide-bar are pivotally connected the upper ends of the inclined bars 16. This slide bar is provided with a number of transverse apertures 18′, and the inclined bars are pivotally connected to the slide bar by means of a pivot bolt 19 which passes through one of the apertures in the slide bar, but the point of connection between the inclined and slide bars can be varied by removing the bolt and fitting the same in another bolt-hole in the slide bar. To the upper part of the long rear gate stile is pivotally connected one end of a ratchet bar 20, the upper side of which is made smooth or plain while on the lower side is formed a series of ratchet teeth. On this ratchet bar is fitted a slide 21 which is made approximately U-shaped in cross section, but the particular shape is not material. This slide is constructed to straddle the ratchet bar and to move freely back and forth thereon, and to the slide are attached the links 22 which extend to and are connected with the slide-bar or the inclined bars. I preferably make the links and the slide in one piece of metal, and the links are attached to the slide bar by means of the same pivot bolt that connects the inclined bars and the slide-bar together, but this particular construction is not material as the links can be made separate from the slide and suitably attached thereto, and the links can be attached to either the slide bar or the inclined bars by a bolt separate from the pivot bolt that connects the inclined and slide bars. This slide 21 carries a pawl 23, the latter being pivoted at an intermediate point of its length in the slide, and one end of this pawl is adapted to engage with one of the series of ratchet teeth in the ratchet bar 20 of the gate while the other end of the pawl is free and projected beyond the slide so that the pawl can be easily manipulated to release its nose from engagement with the ratchet teeth, thereby allowing the gate to drop or return by its own weight to its normal horizontal position.

The operation is as follows: The gate is adapted to swing freely on its hinge connection with the post 1, in either direction, and the spring normally impels the latch bar so that its outer end fits in the groove of the latch post. To retract the latch bar, it is only necessary to grasp the upper free end of the arm 14 and force it toward the middle stile of the gate which serves to pull the latch backward sufficiently to clear the post 2; and when the arm 14 is released the spring impels the latch bar so that its forward end projects beyond the front stile. When the gate is swung to, the free end of the latch bar strikes one of the beveled sides of the post and the latch bar is thus forced back sufficiently for the gate to pass into alignment with the post 2 and the latch is impelled by the spring into the slot or keeper in the post. To raise the free end of the gate sufficiently to clear a bank of snow in the path of the gate, it is only necessary to lift the front end of the gate which causes the slide bar to move toward the rear stile and the links and slide move rearwardly upon the ratchet bar toward said rear stile, carrying the pawl with the slide. This pawl drops by gravity into one of the teeth of the ratchet bar when the gate is released, so that the ratchet bar, the links, the slide bar, and the inclined bars sustain the gate in its raised position. To lower the gate to its normal position, it is only necessary to release the pawl from the ratchet bar and the gate returns by its own weight to the normal lowered position, thus moving the slide bar through the middle stile and pulling the slide and links down on the ratchet bar.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of the same.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pivoted gate panel, the inclined bar, and a horizontal slide bar, of a ratchet carried by the gate, and a slide connected with the slide and inclined bars and carrying a pawl that engages with said ratchet, substantially as and for the purpose described.

2. The combination with a pivoted gate panel, the inclined bars pivoted to said gate, and a horizontal slide bar fitted against a gate-bar and connected with the inclined bars, of a ratchet bar connected to the gate, a slide fitted on the ratchet bar and carrying a pawl that engages with the teeth of said bar, and a link connected with the slide and the slide bar, substantially as and for the purpose described.

GEORGE W. MAUK.

Witnesses:
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HOMER H. HEWITT.