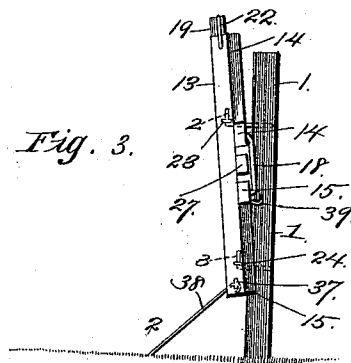
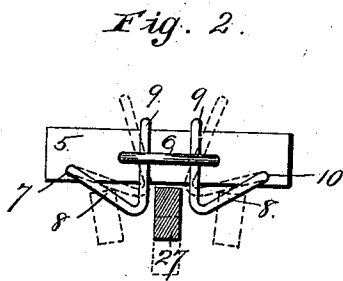
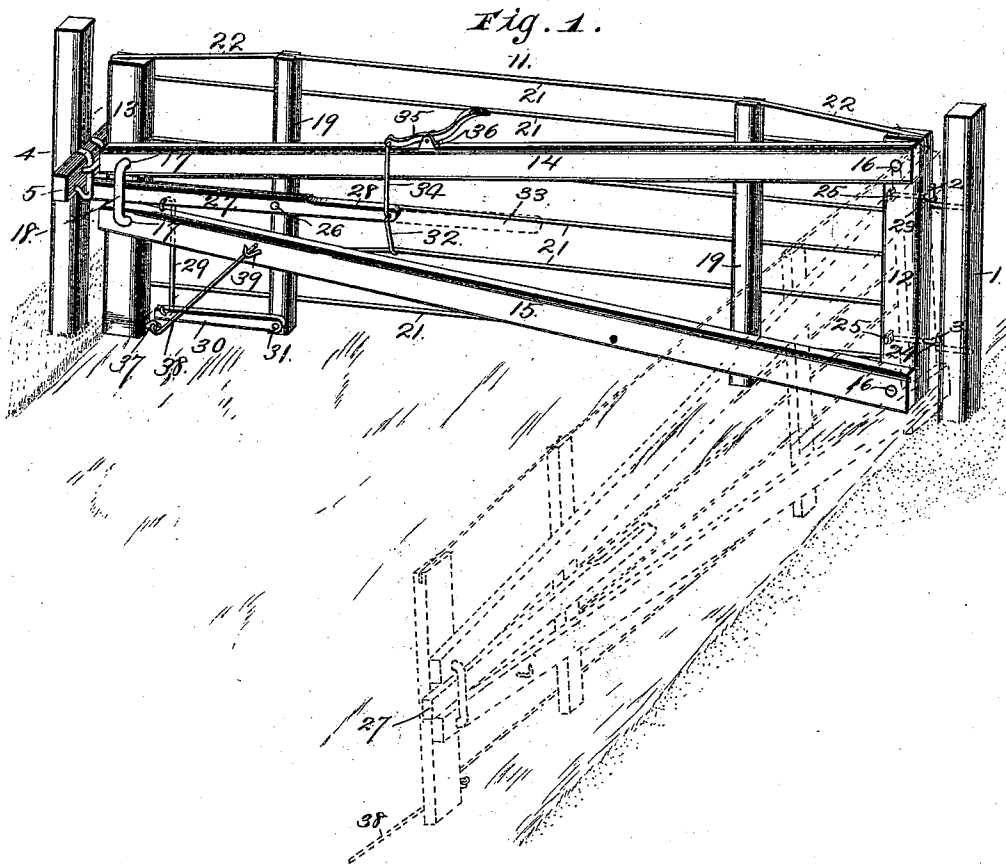


(No Model.)

W. M. GARRETSON.  
GATE.

No. 554,674.

Patented Feb. 18, 1896.



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM M. GARRETSON, OF TECUMSEH, NEBRASKA.

## GATE.

SPECIFICATION forming part of Letters Patent No. 554,674, dated February 18, 1896.

Application filed March 22, 1895. Serial No. 542,739. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. GARRETSON, of Tecumseh, Johnson county, Nebraska, have invented certain new and useful Improvements in Gates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to gates, and my objects are to provide a gate which automatically rises at its free or outer end as it is opened, that it may in turn automatically close if not braced in such open position; to provide a gate which is automatically and reliably locked each time it closes; to provide a gate which may be opened by persons on foot or on horseback; to provide means for automatically bracing and holding it in its opened position, and finally to provide a detachable-gate mounted upon a frame composed of wood bars, which will not collapse when removed from its hinges, nor will the wires slacken.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a gate embodying my invention, occupying its closed position in full lines and its open position in dotted lines. Fig. 2 is a view partly in section and partly in elevation, which shows the relation between the latch-bar and the latches. Fig. 3 represents an end view of the gate in the position shown in dotted lines, Fig. 1, or in its open position.

In the said drawings, 1 designates a hinge-post at one side of a roadway, and projecting therefrom are the hinge-hooks 2 and 3, the vertical arm of the hinge-hook 2 occupying a position farther from the contiguous side of the post than the vertical arm of the hinge-hook 3. At the opposite side of the roadway is the latch-post 4, and extending transversely of the inner side of the same is the bar 5. A horizontal elongated loop or slot is formed at the inner side of said bar by means of the wire rod 6, which has its opposite ends engaging said bar. Near the outer lower corner

at one end of the said bar is pivoted, as at 7, a latch, consisting of the downwardly and inwardly inclined arm 8 and the vertical upwardly-projecting arm 9 at the inner end of said arm 8. Said vertical arm 9 engages the said loop or slot, and at its upper end is bent to form the horizontal shoulder 9<sup>a</sup>, which normally rests upon the top of the bar 5. A similar latch is pivoted near the opposite lower corner of the bar 5, as at 10, so that its arm 8 shall extend downward, converging toward the arm 8 of the latch pivoted at 7, and its inner arm 9 shall extend parallel with the arm 9 of the first-mentioned latch, though at a distance from said arm slightly exceeding the width of the latch-bar, hereinafter to be described.

A wire gate 11 is constructed as follows: 12 and 13 designate the vertical end bars, and 14 and 15 designate longitudinal bars which are pivotally mounted, as at 16, to the upper and lower ends, respectively, of the end bar 12, and converge at equal angles to the end bar 13, to which they are also pivotally connected upon separate bolts, if desired, but preferably upon the opposite ends 17 of the vertical rod 18, which bridges the space between the front ends of the bars 14 and 15. At suitable points vertical bars 19 are arranged, and connecting said end bars and attached in any suitable manner to and supporting said vertical bars 19 are longitudinally-extending parallel wires 21 of the gate. The uppermost wire 21 preferably is in the form of an inverted truss-rod, extending obliquely, as shown at 22, over the upper ends of the bars 19 and the end bars, though I do not confine myself to this precise construction. Projecting in the same vertical plane from the end bar 12 are the eyebolts 23 and 24, which engage the upper and lower hinge-hooks 2 and 3, respectively. The eyebolt 24, of course, projects farther from the end bar than the eyebolt 23, so that said end bar shall extend parallel with the hinge-post 1. The threaded ends of said eyebolts are engaged by nuts or caps 25, which may be operated to raise the front end of the gate should it begin to sag at that end from any cause.

From the foregoing construction of the gate it will be apparent that bracing the end bars of the gate apart by the converging bars 14 and 15 will make it impossible for the gate to

sag or the wires to lose their tension, even should the gate be lifted off its hinges. The upwardly-inclined bar 15 resists any downward tendency of the front end of the gate, while the downwardly-inclined bar 14, in conjunction with the upwardly-inclined bar, absolutely prevents the wires from losing their tension unless they become loose at their points of connection with the bars, as will be understood. Pivottally mounted at 26 upon the vertical bar 19 contiguous to the front end of the gate is the longitudinal latch-bar 27, which projects between the vertical arms 9 of the latches below the transverse bar 5, and is adapted to have a slight pivotal motion between the brace-bars 14 and 15 of the gate-frame. Said bar also projects rearward of its pivot, as shown at 28. A link-rod 29 pivottally connects said latch-bar forward of its pivot with the front end of the foot bar or treadle 30, contiguous to the ground, and pivottally mounted at its rear end, as at 31, upon said bar 19. The front end of the latch-bar is held normally in its elevated position by the link 32, which engages the tension-wire 21 immediately below, which thus serves as a retraction-spring. If required the link 32 may be dispensed with and the latch-bar weighted or extended rearwardly a suitable distance, as shown at 33, so as to overbalance the front end and hold it normally in its elevated position. Rearward of its pivot a link 34 pivottally connects said latch-bar with the front end of a hand or foot lever 35, pivottally mounted in a bracket 36 at a suitable point within reach of a person on horseback, preferably upon the bar 14. At the lower end and rear side of the end bar 13 is an eyebolt 37, and universally linked to said eyebolt is a rod 38, which in its inoperative position is detachably supported by a hook 39, projecting from a convenient point of the frame of the gate.

To open the gate, a person, if walking, depresses the foot-bar 30 with his foot until the front end of the latch-bar is below the lower end of the latch-arms 9, as shown in dotted lines, Fig. 2. The gate is then swung open in either direction, and at the same time the rod 38 is detached at its upper end from the hook 39 by the operator's foot or hand, and, owing to the universal joint between it and the eyebolt 37, drags after the gate as it is opened in either direction. Owing to the fact that the hinge-points of the gate are out of vertical alignment, as described, said gate at its front end rises, and when it reaches its open position is elevated and tilted or inclined, as shown in Fig. 3. When it has reached this position and is released, it is obvious that the drag-bar 38 at its lower end is planted by the pressure from the gate and thus prevents said gate from closing. After the person or vehicle has passed through, the brace-bar 38 is tripped from its position by a kick from the operator's foot, or in any other manner, and the gate immediately

swings back to its normal position across the road. When the projecting end of the latch-bar strikes the inclined arm 8 of the contiguous latch, as shown in dotted lines, Fig. 2, said latch is forced upward to the position shown in dotted lines, and the latch-bar, passing, comes in contact with or strikes against the vertical arm of the opposite latch, which it cannot pass. The gate is prevented from reopening, because the first-mentioned latch immediately drops down to its original position, and this secures the gate positively and reliably in its closed position. The gate may be unlatched also by operating the lever 35, as will be understood.

From the above description, taken in connection with the accompanying illustration, it will be apparent that I have produced a cheap, strong, and durable gate, which is positive and reliable in its every action, and which will also be found to possess a great advantage in that the wires will not lose their tension when the gate is removed from its hinges and transported from one place to another.

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

1. A gate consisting of end bars, inclined rails and horizontal wires connecting the bars, vertical bars connected to said wires, a latch-bar pivoted to one of said vertical bars, and a link 32 connecting the same with one of the wires of the gate that the tension of the latter may hold the front end of the bar yieldingly upward, in combination with a hinge-post at one end, and a latch-post at the other end provided with latches engaged by said bar, substantially as shown and described.

2. The combination with a gate, comprising a wood framework and tensioned wires, of a latch-post having a transverse bar, and a pair of gravity-latches pivoted to said bar, and consisting of downwardly-converging arms and upwardly-projecting arms 9, having turned ends to rest upon said transverse bar, a guide-rod 6 for said upwardly-projecting arms, and a depressible latch-bar pivoted to the gate, so that as the gate is closed said latch-bar will come into contact with the inclined arm of the opposing latch and elevate the same out of its path and then come in contact with and be arrested by the vertical arm of the other latch, a connection between one of said tensioned wires of the gate and the rear end of the latch-bar to hold it yieldingly into engagement with the under side of the said transverse bar between said latches, and a lever connected to said latch-bar, whereby the tension of said wire may be overcome sufficiently to cause the disengagement of the latch-bar, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM M. GARRETSON.

Witnesses:

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EDWIN HOWORTH.