

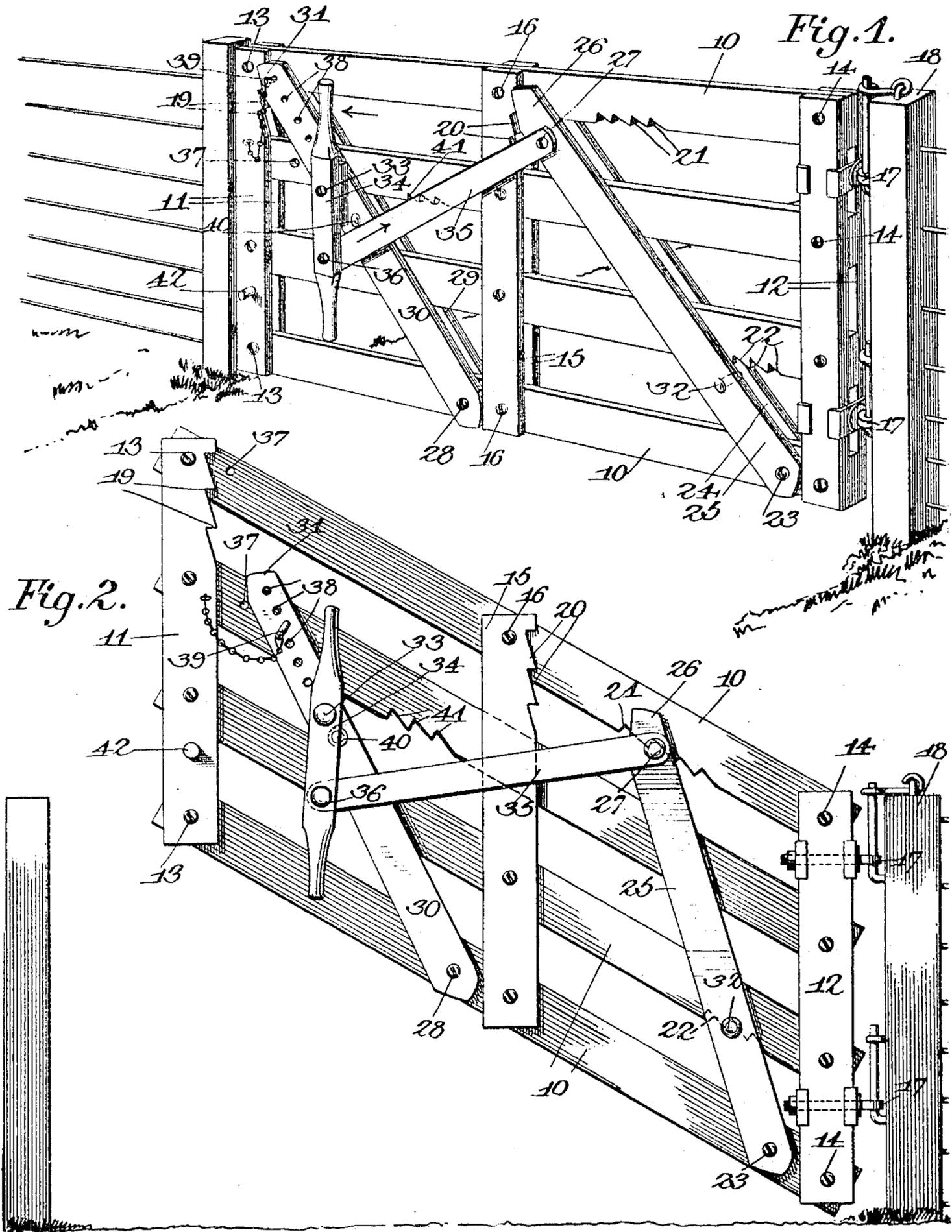
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J. DALRYMPLE.

GATE.

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Witnesses
E. H. Stewart
C. H. Woodward

James Dalrymple, Inventor.
by *C. A. Snowles*
Attorneys

UNITED STATES PATENT OFFICE.

JAMES DALRYMPLE, OF LEWISVILLE, INDIANA.

GATE.

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To all whom it may concern:

Be it known that I, JAMES DALRYMPLE, a citizen of the United States, residing at Lewisville, in the county of Henry and State of Indiana, have invented a new and useful Gate, of which the following is a specification.

This invention relates to swinging gates, which are also capable of being tilted vertically for passing over obstructions—such as accumulations of snow, ice, &c.—in the roadway, and has for its object to provide certain new and useful improvements in the construction of the gate, whereby the tilting of the same is facilitated, and the gate may be supported in various tilted positions in a simple and expeditious manner and at the same time permitted to swing upon its hinges.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a gate embodying the features of the present invention and shown in closed position. Fig. 2 is a side elevation of the gate supported in one of its tiltably-elevated positions and capable of swinging upon its hinges.

Like characters of reference designate corresponding parts in both figures of the drawings.

The present gate includes longitudinal rails 10, which are received between end cross-bars 11 at the free end of the gate and secured thereto by suitable fastenings 13, similar end bars 12 being employed to embrace the rails at the hinged end of the gate and secured thereto by fastenings 14. A pair of intermediate cross-bars 15 embrace the middle portions of the rails and are connected thereto by fastenings 16. The several fastenings 13, 14, and 16 pivotally connect the rails and the cross-bars, whereby the former may be tilted vertically upon the pivotal fastenings as centers. Any suitable or appropriate hinge-post 18 may be employed, to which the gate is connected by suitable hinges 17 to permit of the gate swinging in opposite directions from its closed position.

In addition to the cross-bars 11, 12, and 15 the gate is also braced by two sets of diagonal braces or props, the inner set being designated by the reference-numerals 24 and 25 and embracing the rails, with their lower ends pivotally connected to the lowermost rail, as at 23, adjacent the hinged end of the gate, the upper end portions of these props or braces being connected by a transverse bar or pin 27, working in the space between the two uppermost rails. Each of the intermediate cross-bars 15 is provided in what will be termed its "rear" edge with notches 20, constituting a rack made up of ratchet-teeth, and the upper end of each of the braces or props 24 and 25 is beveled to successively engage these teeth, and thereby add materially to the strength and rigidity of the gate. Similar diagonal braces or props 29 and 30 are located between the intermediate cross-bars 15 and the end cross-bars 11, there being a pivotal connection 28 between the lower ends of these props or braces and the lowermost rail. The upper portions of the rear edges of the end bars 11 are provided with notches 19, constituting ratchet-teeth, and the upper ends of the props 29 and 30 are each beveled to successively engage the respective sets of teeth. A suitable handle 42 is carried by and projects at the outer sides of the end bars 11 for convenience in elevating the free end of the gate. During the elevation of the gate the intermediate cross-bars 15 and the end bars 11 travel upwardly across the upper free ends of the two sets of diagonal braces or props, whereby said props successively engage the teeth 20 and 19, and the gate may be adjustably supported in various vertically tilted positions by means of the props engaging the end and intermediate cross-bars.

For the purpose of supporting the gate in higher positions than can be obtained by the props engaging the end and intermediate cross-bars, the under side of the uppermost rail is provided with a series of ratchet notches or teeth 21, located between the intermediate cross-bars and the cross-bars 12 and disposed for engagement by the pin or bearing 27, which connects the upper end portions of the props 24 and 25, as indicated in Fig. 2 of the drawings. The props 24 and 25 are also connected adjacent their lower ends by means of a pin 32, working between the two lowermost rails, the lower edge of the next-to-the-bottom rail being provided with ratchet notches or teeth 22 for engagement by the pin

32 when the upper pin 27 engages the teeth 21, thereby to more rigidly sustain the gate in its tiltably-elevated position.

To provide for tiltably elevating the gate in a more convenient manner than can be accomplished by lifting upon the handle 42, an upright lever 34 is fulcrumed intermediate of its ends, as at 33, upon one of the props 29 or 30, said lever terminating at its opposite ends in suitably-formed handles. A connecting-bar 35 has its lower end pivotally connected to the lever, as at 36, below the fulcrum of said lever, from which the bar inclines upwardly and rearwardly and is pivoted to the adjacent member of the set of props 24 and 25, as at 27. A pin 40 connects the props 29 and 30 between the two middle rails of the gate, and the lower edge of the adjacent upper rail is provided with notches 41 for engagement by the pin 40 in certain adjusted positions of the gate.

When the gate is in its horizontal closed position, as indicated in Fig. 1 of the drawings, the props engage the uppermost of the teeth 19 and 20, and the entire gate-frame is rendered rigid by means of a removable pin 39 passing through the uppermost of a series of perforations 38 in the props 29 and 30 and a perforation 37 in the uppermost rail. It is proposed to connect the pin 39 to the frame of the gate by means of a suitable flexible connection—such, for instance, as a chain—to prevent loss of the pin. To elevate the gate, the pin 39 is removed and the free end of the gate is lifted by means of the handles 42, as hereinbefore described, or the lever 34 is swung in the direction of the arrow on Fig. 1, so as to push the connecting-bar 35 against the props 24 and 25, whereby the latter will be swung rearwardly upon their common pivotal support 23 and the pin 27 will slide rearwardly against the under side of the uppermost rail, thereby tilting the gate. During this operation the end bars 11 slide upwardly across the tops of the props 29 and 30 until the desired elevation has been obtained, with said props engaging certain of the teeth 19, whereupon the lever is released and the props 24 and 25 will gravitate into engagement with certain of the teeth 20 corresponding to the teeth 19, engaged by the props 29 and 30, whereby the gate-frame will be rendered rigid in its tilted position and at the same time capable of swinging upon its hinges. If the gate is to remain in its tilted position the pin 39 is of course passed through one of the perforations 38, which is registered with one of a series of perforations 37 in the next to the uppermost rail of the gate. A higher elevation of the gate may be obtained by a continued manipulation of the lever 34 in the direction of the arrow, so as to work the pins 27 and 32 back into certain of the teeth 21 and 22, the movements of these pins across the lower

edges of the adjacent rails tending to tilt the gate to a greater extent. When the pins 27 and 32 engage the notches 21 and 22, the free ends of the props 29 and 30 are of course disengaged from the teeth 19, and, if desired, these props may be swung back until the pin 40 engages the teeth 41, so as to afford an additional prop for the free end portion of the gate. When the gate is to be lowered, it is slightly elevated by pressure of the lever 34 and lifting upon the handle 42 until the pins 27 and 32 are free from the notches 21 and 22, whereupon the gate may be readily eased down step by step without the necessity for exerting more than a slight manual force.

From the foregoing description it will be understood that the gate of the present invention is exceedingly simple and effective for the purpose designed and is capable of being propped in different elevated positions by means contained within its own structure, said means being conveniently accessible and readily controlled for raising and lowering the gate in a simple and expeditious manner. Furthermore, it is not necessary to dismantle the gate for raising and lowering the same, and the gate is capable of swinging in opposite directions in any of its tilted positions.

Having thus described the invention, what is claimed is—

1. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, and a brace member pivoted upon the gate with its free end portion having a series of detachable engagements successively with one of the cross-bars and one of the rails to support the gate in tiltably-adjusted positions.

2. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, one of the cross-bars and one of the rails each being provided with a series of teeth, and a brace member fitted upon the gate with its free end portion formed for detachable engagement successively with the teeth of the cross-bar and the teeth of the rail to support the gate in tiltably-adjusted positions.

3. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, a brace member pivoted upon the gate with its upper free end portion having a series of detachable engagements with one of the cross-bars and also capable of movably bearing against the under side of one of the rail members to elevate the gate, another brace member pivoted upon the gate and having a series of detachable engagements with one of the other cross-bars, a lever fulcrumed upon one of said brace members, and a connecting-rod extending between the lever and the other brace member.

4. A gate comprising pivotally-connected

longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, a pair of brace members embracing the rails and pivoted at their lower ends to one of the rails, the upper ends of the braces having a series of detachable engagements with one of the cross-bars, a pin connecting the brace members to work against the under side of one of the rails for elevating the gate, another brace member pivoted at its lower end to the gate with its upper end having a series of detachable engagements with another cross-bar, a lever fulcrumed upon the latter brace member, and a connection between the lever and the first-mentioned pair of braces.

5. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, two of the cross-bars being provided with ratchet-notches, a brace member pivoted at its lower end upon the gate with its upper end formed for successive engagement with the notches of one of the cross-bars and also capable of movably bearing against the under side of one of the rails to elevate the gate, another brace member pivoted at its lower end upon the gate with its upper free end formed for successive engagement with the notches of the other cross-bar, a lever pivoted upon one of the braces, and a connecting-rod extending between said lever and the other brace member.

6. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, a brace member pivoted upon the gate with its upper free end capable of bearing movably against the under side of one of the rails, another brace pivoted upon the gate with its upper free end having a series of detachable engagements with one of the cross-bars, the last-mentioned brace member and one of the rails of the gate being each provided with a series of perforations for successive alinement when the members are disposed in certain predetermined positions, a pin for engagement with alined perforations of the rail and the brace, a lever pivoted to one of the brace members, and a connecting-rod extend-

ing between the lever and the other brace member.

7. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being tilted vertically, a brace pivoted upon the gate with its free end formed for engagement with one of the cross-bars at different points to support the gate in different elevated positions, and means carried by the brace for engagement with one of the longitudinal rails to support the gate in an elevated position when the brace is out of engagement with said cross-bar.

8. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being vertically tilted, one of the cross-bars being provided with a vertical series of notches, one of the rails being provided in its under side with a series of notches, a brace pivoted upon the gate with its free end formed for successive engagement with the notches of the brace, and a lateral projection carried by the brace for successive engagement with the notches of the rail when the brace is out of engagement with the cross-bar.

9. A gate comprising pivotally-connected longitudinal rails and cross-bars forming a flexible structure capable of being vertically tilted, a pair of cross-bars, two of the cross-bars being each provided with a vertical series of notches, a pair of longitudinal rails being each provided in its under side with a series of notches, braces pivotally mounted upon the gate with their free ends in cooperative relation with the notches of the respective cross-bars and also provided with lateral projections for engagement with the notches of the respective notched rails, a lever fulcrumed upon one of the braces, and a connecting-bar extending between the lever and the other brace.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES DALRYMPLE.

Witnesses:

AMOS JOHNSON,
JOHN DAILEY.