

No. 645,842.

Patented Mar. 20, 1900.

J. TENNANT.  
GATE.

(Application filed Aug. 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.

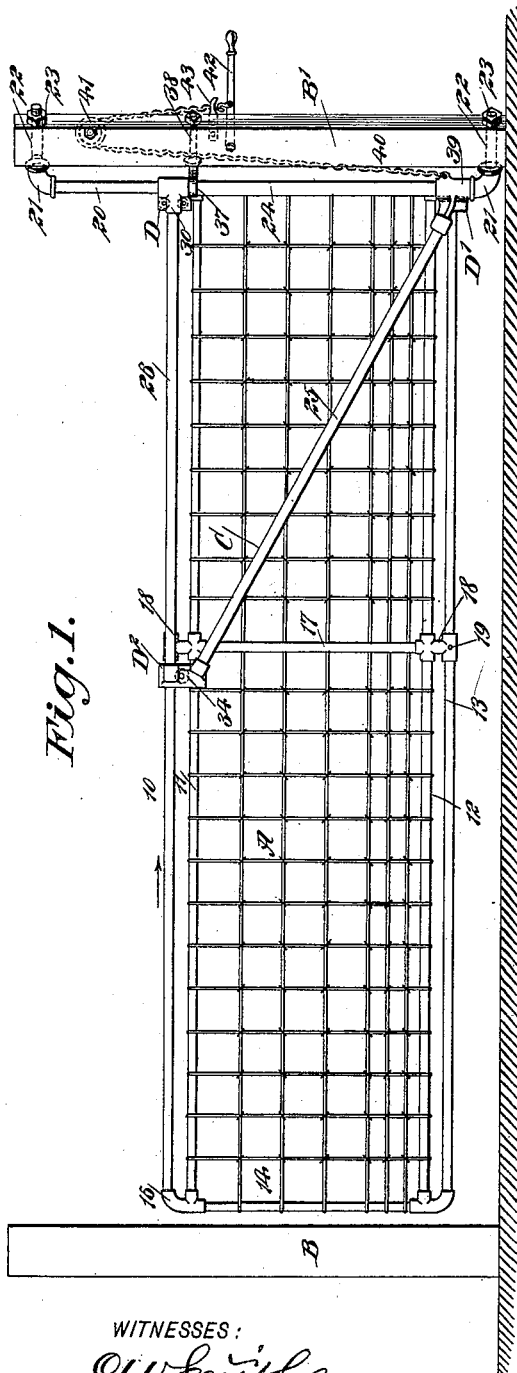
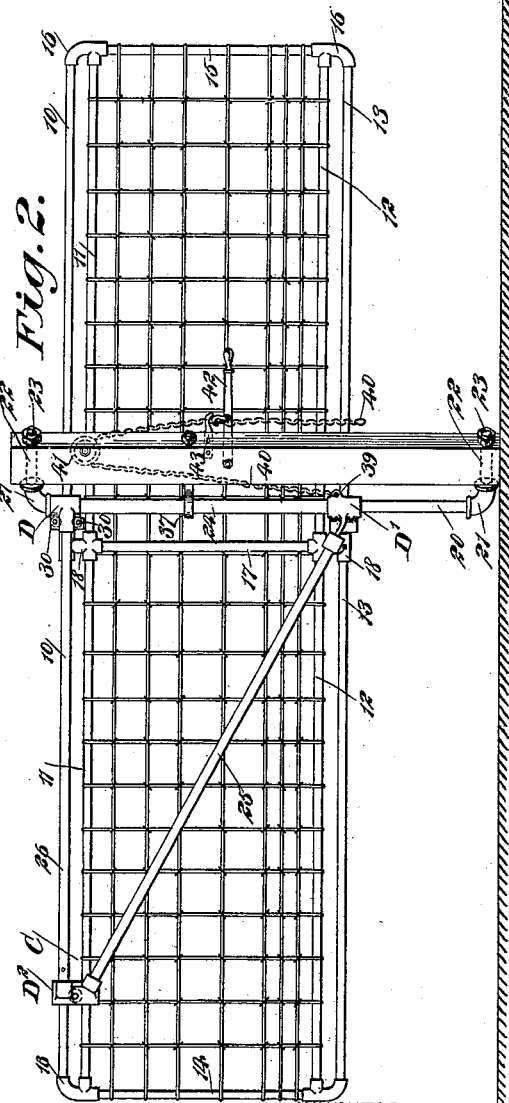


Fig. 1.

Fig. 2.



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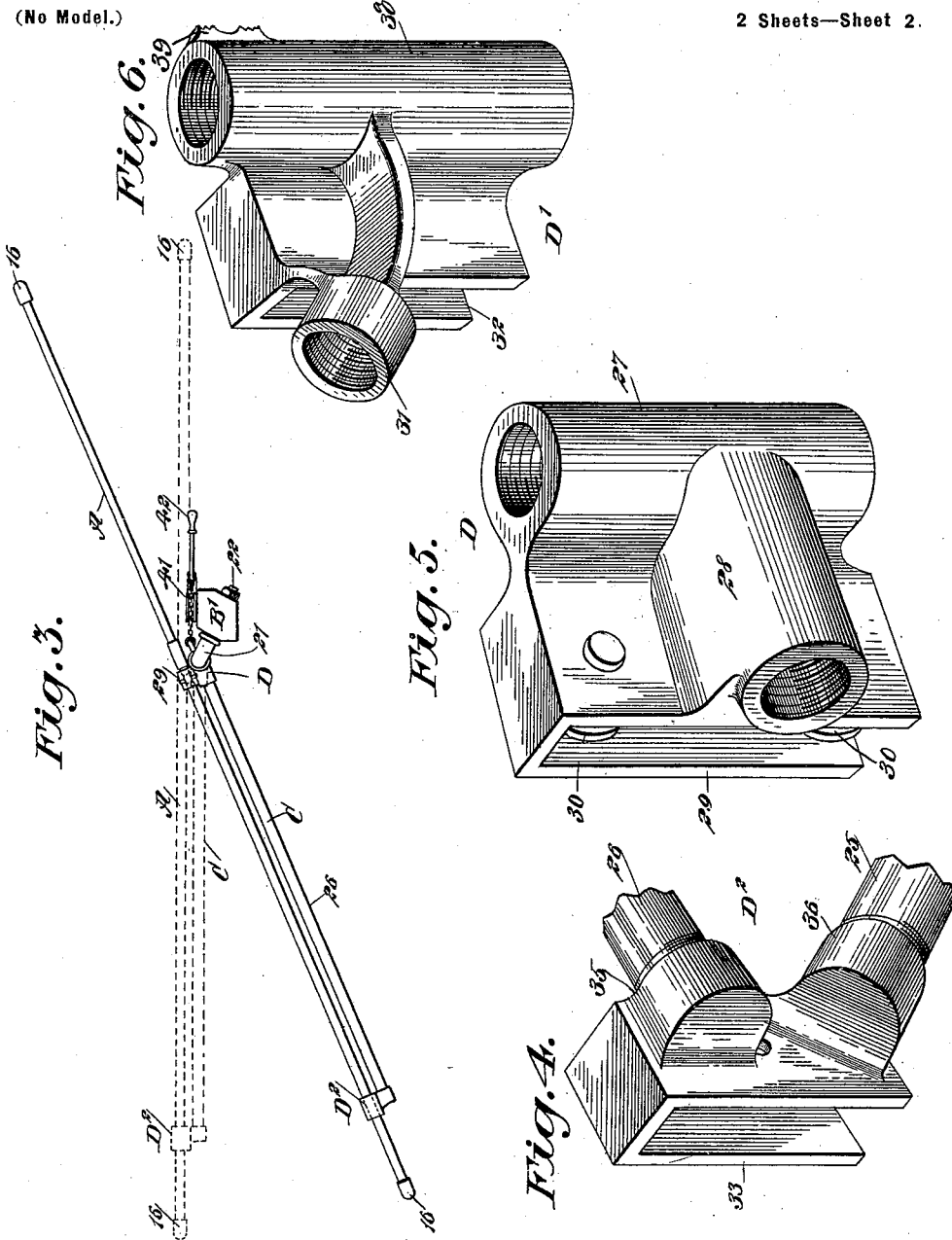
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# UNITED STATES PATENT OFFICE.

JOSHUA TENNANT, OF CARSON CITY, MICHIGAN.

## GATE.

SPECIFICATION forming part of Letters Patent No. 645,842, dated March 20, 1900.

Application filed August 29, 1899. Serial No. 728,866. (No model.)

*To all whom it may concern:*

Be it known that I, JOSHUA TENNANT, of Carson City, in the county of Montcalm and State of Michigan, have invented a new and Improved Gate, of which the following is a full, clear, and exact description.

One object of my invention is to provide a gate capable of being swung from its swing-post to or from a team or person, and also capable of being slid past the swing-post and opened as far as desired.

A further object of the invention is to provide means whereby the gate may be raised or lowered while in either its normal position or when slid past the swing-post and held in the position to which it may be vertically adjusted in order that the gate may clear any obstructions or may be held sufficiently from the ground to prevent snow-drifts having any effect on the gate.

Another object of the invention is to provide a gate of the character above described which will be simple, durable, and economic and to so construct a crane-support for said gate, in addition to its pivotal support, that said gate will be preserved against lateral or vertical strain.

The invention consists in the novel construction and combination of these several parts, as will be hereinafter set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the gate in its normal position. Fig. 2 is a front elevation of the gate, illustrating it as having been slid back partially past the swing-post. Fig. 3 is a plan view of the gate, partially slid back and partially open, illustrating in dotted lines the position of the gate when simply slid back a certain distance; and Figs. 4, 5, and 6 are detail perspective views of fittings employed in connection with the crane used in the construction of the gate.

The frame of the gate A is preferably made of gas-pipe or metal tubes and comprises upper parallel horizontal bars 10 and 11 suitably spaced, corresponding lower horizontal bars 12 and 13, end bars 14 and 15, connections 16 between the end bars and upper and lower

bars, a central brace 17, and a connection 18 between said central brace and the upper and lower bars 10, 11, 12, and 13 of the frame.

The connections 16 consist of three-way elbows located at the corners of the frame, and each elbow 16 is provided with two horizontal sockets and with a vertical socket, the end tubes 14 and 15 of the gate-frame being screwed in the end sockets of the elbows 16, while the top and bottom bars of the frame are screwed into the horizontal sockets. The said elbows or fittings 16 are in pairs, one elbow of a pair being provided with an interior right-hand thread and the other elbow with an interior left-hand thread. The fitting or connection 18, whereby the central brace 17 is held in position, is in the form of a five-way T; but the vertical members only of each T are provided with a thread, one right-hand and the other left-hand, and in these members the brace 17 is screwed, while the other members are perfectly plain, and the upper and lower bars 10, 11, 12, and 13 of the gate-frame are simply passed through these members. Preferably, however, the lower member of the lower T-fitting 18 is screwed to the lower bar 13 of the gate-frame by one or more rivets 19 or their equivalents. The gate is adapted to normally stand, as usual, between two posts B and B', the post B' being the swing-post, and this post is provided with a vertical rod or tube 20, the said rod or tube 20 serving as a pivot for the gate. This rod, bar, or tube 20 is provided with an elbow 21 at the top and at the bottom, and each elbow is provided with a threaded bolt 22, either integral therewith or secured to it, and these bolts are passed through the swing-post, as shown in Figs. 1 and 2, and carry suitable nuts 23 at their outer ends.

The gate A is mounted upon the pivot rod or tube 20 through the medium of a crane C, and this crane is likewise made, preferably, of gas-pipe or its equivalent and comprises an upper fitting D and a lower fitting D', both of which are adjacent to the swing-post, and a second upper fitting D<sup>2</sup>, which in the normal position of the gate is at or about the center of its upper portion. The upper and lower fittings D and D' adjacent to the swing-post are connected by a tube 24 of greater diameter than the pivot rod or tube 20, upon

which rod or tube the crane-tube 24 is adapted to freely turn and freely slide. The lower fitting D' is connected with the upper central fitting D<sup>2</sup> by means of a diagonal tube 25, while an upper horizontal tube 26 connects said upper fitting D<sup>2</sup> with the upper fitting D, adjacent to the swing-post B'.

The upper fitting D, that is adjacent to the swing-post, is shown in detail in Fig. 5 and consists of a vertical interiorly-threaded tubular section 27, into which the upper end of the vertical member 24 of the crane is screwed, a horizontal socket 28, into which an end of the upper horizontal member of the crane is secured, and an inverted-U-shaped guide 29, the members of which guide are adapted to pass downward, one at each side of the upper bars 10 and 11 of the gate-frame. In this guide 29 two friction-rollers 30 are mounted, one of which engages with the upper and the other with the under face of the upper longitudinal bar 10 of the gate-frame, as illustrated in both Figs. 1 and 2.

The lower fitting D' is illustrated in detail in Fig. 6 and consists of a vertical sleeve 30<sup>a</sup>, interiorly threaded to receive the lower end of the vertical member 24 of the crane C, an upwardly-inclined socket 31, which receives the lower end of the diagonal member 25 of the crane C, and an inverted-U-shaped guide 32, the members whereof extend downward one at each side of the lower bar 13 of the gate-frame, as shown in Figs. 1 and 2.

The fitting D is illustrated in detail in Fig. 4 and consists of an inverted-U-shaped guide 33, the members of which extend downward at each side of the two upper bars 10 and 11 of the gate-frame, an upper socket 35, in which the inner end of the upper member 26 of the crane is secured, and a lower diagonal socket 36, which receives the upper end of the diagonal member 25 of the said crane, and a pulley 34 is mounted in the guide 33, which pulley engages with the under face of the upper bar 10 of the gate-frame. Thus it will be observed that the gate A when in its normal position—that is, when it is farthest projected from the swing-post—is capable of swinging inward or outward in the same manner as an ordinary gate and is, furthermore, capable of being raised and lowered. It is also obvious that the gate A may be slid through the guides of the hanger to a point beyond the swing-post and then swung so as to entirely open the gateway or partially open the same. In each event the gate is swung through the medium of the crane C, which crane is of such construction that it not only supports the gate, but likewise preserves the gate against lateral and vertical strain.

When the gate is in its lowest position, the upper fitting D bears upon the eye 37, which loosely surrounds the vertical member 24 of the crane C, the said eye being provided with a shank 38, that is passed through and is secured to the swing-post B.

The gate is preferably raised and lowered by attaching one end of a chain 40 to the eye 39 in the lower fitting D', as shown in Figs. 1 and 2, which chain 40 is carried upward and over a pulley 41 on the side of the swing-post B which faces the gate, as shown in Fig. 3, and the other end of said chain 40 is attached to a lever 42, fulcrumed upon the swing-post. The chain 40 between the lever and guide-pulley 41 is made to pass between the members of a forked keeper 43, the members of which keeper are curved in a downward direction. Thus as the lever is pressed downward the chain slips out from the keeper 43 and the gate may be raised, and when the lever is permitted to move slightly upward a link of the chain will be caught between the members of the keeper 43. By keeping the chain 40 clear of the keeper 43 the gate may be quickly lowered to its lowermost position.

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

1. In a gate, a swing-post, a crane pivotally connected with the said post and mounted for vertical movement upon its pivot, the said crane being of triangular form, each corner of the crane being provided with a fitting and each fitting provided with a guide, the upper fitting adjacent to the swing-post being provided with rollers, the upper fitting at the extreme outer end of the crane being also provided with a roller in its guide-section, and a gate provided with an upper and a lower auxiliary bar, the upper bar being passed through the guides in the upper fittings of the crane in engagement with the rollers therein, the lower auxiliary bar being passed through the guide of the lower fittings of the crane, for the purpose specified.

2. In a gate, the combination, with a swing-post, a pivot parallel with the post, a crane having a tubular section adjacent to the swing-post and mounted to slide and turn upon the pivot connected with the post, the said crane being provided with a fitting at its upper outer corner, its lower inner corner and its upper inner corner, each of the said fittings being provided with a downwardly-extending inverted-U-shaped guide, the upper fitting at the outer corner of the crane having spaced rollers mounted in its guide portion and the upper fitting at the inner end of said crane being provided with a single roller in its guide-section, and means, substantially as described, for raising and lowering said crane, of a gate, the frame of which consists of two upper and two lower bars, end bars connected with the upper and the lower bars, and a body-section extending from the innermost upper bar to the innermost lower bar, the upper bar of the gate-frame being passed through the upper fittings of the crane in engagement with the single roller of the inner fitting and between the rollers in the outer upper fittings of the crane, the lower bar of the said gate-

frame being passed through the guide-section of the lower fitting of said crane, for the purpose described.

3. The combination of a swing-post, a triangular frame having vertical movement, mounted on the swing-post and provided at each end with a fitting having an offset guide, the guide being at one side of the crane, a single roller located in the offset guide of the forward upper fitting, a pair of rollers one

above the other located in the upper rear fitting, and a gate, the top bar whereof passes through the guides of the said fittings of the crane, resting upon the single forward roller and passing between the rear double rollers, as set forth.

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Witnesses:

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