J. Q. PRIMM.

GATE.

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936,738.

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Fig. 1.

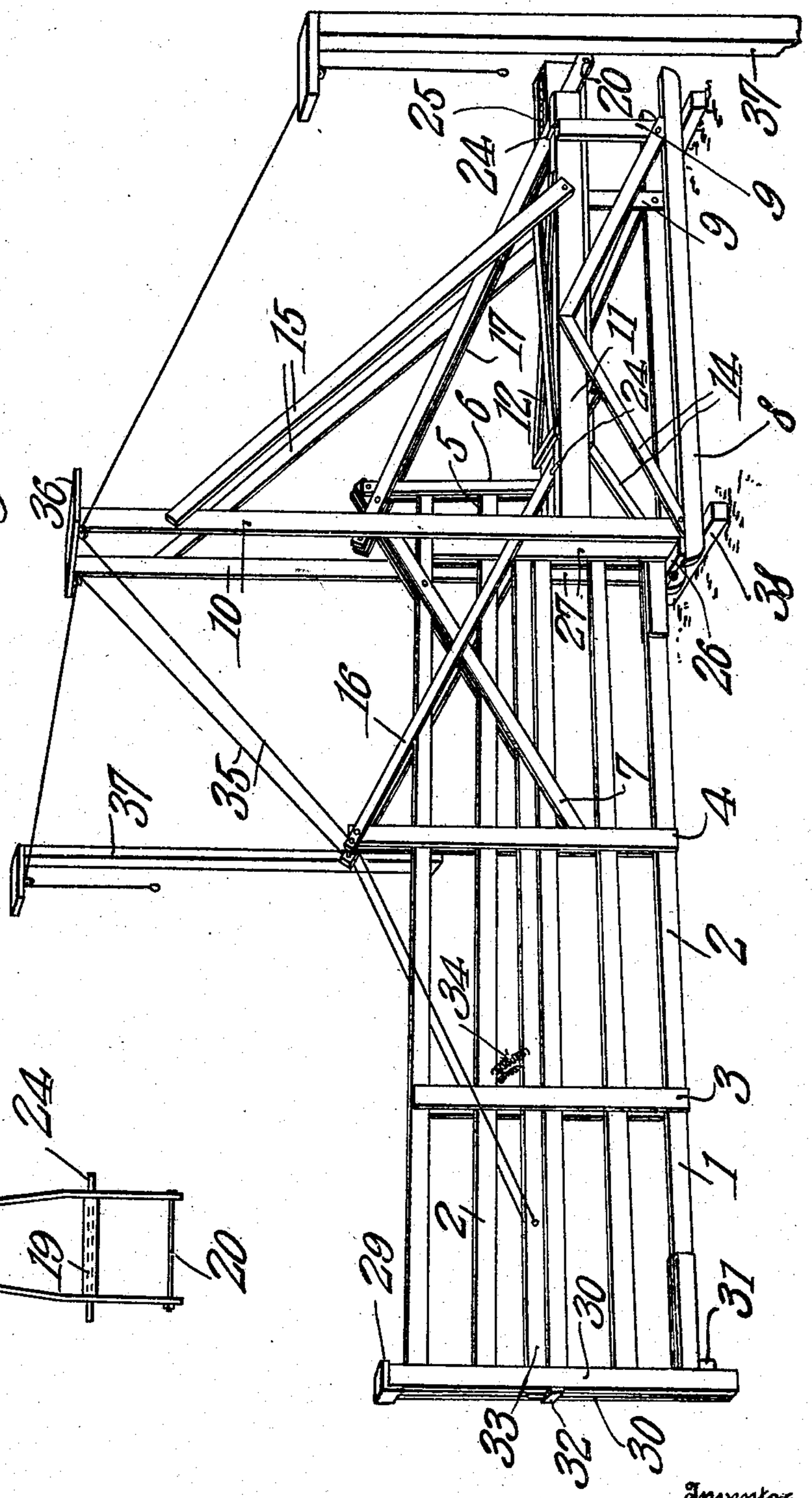
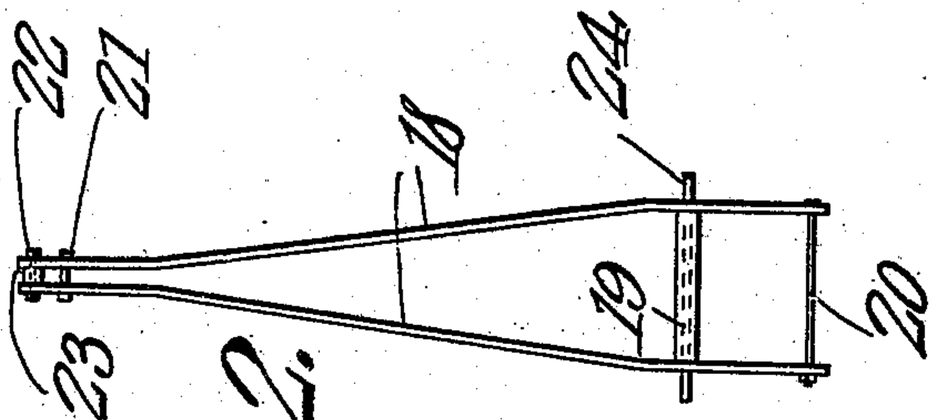


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN Q. PRIMM, OF LINCOLN, ILLINOIS.

GATE.

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To all whom it may concern:

Be it known that I, JOHN Q. PRIMM, a citizen of the United States, residing at Lincoln, in the county of Logan and State of Illinois, have invented a new and useful Gate, of which the following is a specification.

The objects of the invention are, generally, the provision, in a merchantable form, of a device of the class above mentioned, which shall be inexpensive to manufacture, facile in operation, and devoid of complicated parts; specifically, the provision of a gate of the character specified, of novel and improved construction; of means for supporting and for operating said gate; of novel means for assembling the supporting and operating means with the gate; of novel means for upholding the gate in an open or in a closed position; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive and peculiar features of the device, it being understood that, within the scope of what hereinafter thus is claimed, divers changes in the form, proportions, size, and minor details of the structure may be made, without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings:—Figure 1 shows in perspective, a gate, constructed in accordance with my invention, and disposed in a closed position; Fig. 2 is a front elevation of one of the arms whereby the gate proper is supported and manipulated.

In the accompanying drawings the gate proper is denoted by the numeral 1. The gate comprises horizontal members 2, which are united by uprights 3 and 4, the upright 4 being longer than the upright 3, and arranged to upstand above the upper edge of the gate. The horizontal members which are disposed adjacent the upper edge of the gate 1, are terminally extended beyond the end of the gate, as denoted by the numeral 5. One or more of the horizontal members 2 may be so extended; in the present instance, I have extended three of them, and united their extremities by means of a terminal upright 6. This terminal upright 6, like the upright 4, is arranged to upstand above the upper edge of the gate. A diagonally disposed brace 7 is provided, the rear extremity of which may be assembled with the upper extremity of the terminal upright 6, the opposite extremity thereof being assembled with the upright 4 intermediate its ends. The upright 6 and the diagonal brace 7 exercise the function of attaching members for certain portions of the device which will be described hereinafter, and those portions of the members 6 and 7 which are disposed beyond the end of the gate will be referred to hereinafter as the "extension members". I further provide, in carrying out my invention, spaced, parallel runners 8, upon which the device rests. Rising from the runners 8 are struts 9 and 10. The struts 9 are disposed opposite each other, relatively near to one end of the runners 8. Adjacent the other end of the runners 8 are mounted the struts 10, which, as clearly shown in Fig. 1, are, compared with the struts 9, of relatively great length. These struts 9 and 10 are adapted to support an open frame 11, the component members of which are suitably braced together upon their upper edges, as denoted by the numeral 12.

In order to render the structure rigid I have provided a truss frame 14, which, at its ends, is terminally assembled with the struts and with the runners 8, from which the struts rise. This truss frame is duplicated upon either side of the device, as shown in Fig. 1. From the open frame 11 inclined braces 15 rise into connection with the struts 10, adjacent their upper ends.

The gate proper 1 is assembled with the open frame 11 by means of arms 16 and 17, and, since the said arms are alike in construction, a description of one of them will suffice for the other. Referring particularly to Fig. 2, it will be seen that these arms are fashioned from diverging strips 18. A tube 19 is disposed between the strips, intermediate their ends, and serves to space the strips apart. A bolt 20 unites the strips 18 at their

lower ends, their upper ends being united by means of bolts 21 and 22, the bolt 22, which is located at the upper extremity of the arm, carrying a collar 23, disposed between the upper ends of the strips 18 and adapted to space the same apart.

Disposed within the open frame 11 is a counterpoise weight, which, in the present instance, takes the form of a box, closed at the bottom, and adapted to receive boulders, sand, or other heavy substance. This box 25, which constitutes the counterpoise weight, is pivotally assembled with the lower ends of the arms 16 and 17 by means of the bolts 20, upon which the said box rests. The arms 16 and 17 in their turn are supported upon transverse pivot members 24, which, being introduced into the tubes 19, extend terminally beyond the strips 18, to engage the sides of the open frame 11.

The ends of the runners 8 are united by a transverse brace 26, which, as clearly shown in Fig. 1, is adapted to serve as a support upon which the rear end of the gate is adapted to rest when the same is in closed position. The lower ends of the long struts 10 are provided with guide plates 27 extending toward each other and adapted to receive between them and to guide in its movement, the gate 1, when the same is operated as hereinafter described. The free end of the gate is adapted to be engaged, when the gate is in closed position, by a post 29, comprising laterally spaced members 30, between which the end of the gate 1 is adapted to fit. These spaced members 30 are united adjacent the surface of the ground by means of a transverse cleat 31, which, coacting with the brace 26, serves to support the gate when in a closed position. Intermediate their ends the spaced members 30 are united by a transversely disposed striking plate 32, which is adapted to receive the end of the latch-bar 33, the same being adapted to slide in the direction of its length upon one of the horizontal members 2 which comprise the gate, lateral movement in the latch-bar 33 being prevented by means of the uprights 3 and 4 which inclose it.

In order that the latch-bar 33 may stand normally in a position operative to engage the post 29, retractile springs 34 are terminally assembled with the latch-bar, intermediate its ends, and with one of the horizontal members 2. Operating members 35, which may be fashioned from cord, wire, cable or the like, are terminally assembled with the latch-bar 33, intermediate the springs 34 and the post 29. These members 35 rise into connection with the upper end of the arm 16, and, being continued upwardly, pass over pulleys, which are carried by a cross-piece 36, uniting the upper extremities of the long struts 10. Beyond the cross-piece the members 35 extend in opposite directions, passing over pulleys which are carried by posts 37, conveniently located upon either side of the gate.

Passing now to the immediate means whereby the arms 16 and 17 are assembled with the gate, it will be seen that the former is pivotally assembled with the upper extremity of the upright 4, above the top of the gate. The arm 17 is pivotally assembled with the extension member hereinbefore described, and the union between the arm 17 and the extension member is disposed at once above the gate and to the rear thereof. I have used the term "extension member" to signify, generally, the terminal upright 6 and the diagonal brace 7, it being obvious that the arm 17 may be assembled with either the upright 6 or the diagonal brace 7 without impairing the utility of the device, provided that the pivotal union between the arm 17 and the extension member be located above and to the rear of the gate proper. If desired, either the diagonal brace 7 or the terminal upright 6 may be dispensed with. However, the particular construction disclosed in Fig. 1 will be found to be rigid and satisfactory in operation.

I consider it to be advantageous that the upper extremities of the arms 16 and 17 are assembled, respectively, with the upright 4 and with the extension member, above the gate proper. By this construction I am enabled, without lengthening the space between the pivot member 24 and the lower bolt 20, to employ a deeper weight-box 25 than would be possible if the arms 16 and 17 were pivotally assembled with the body proper of the gate. Moreover, I regard it as of importance that the brace 7 and the terminal upright 6 unite to form an extension member which projects rearwardly beyond the gate proper. By uniting the arm 17 with the rearward extension of the gate I am enabled to employ a longer weight-box than would be possible with any other construction of which I am now aware.

As shown in the drawing, the transverse brace 26 may be provided with a ring or other suitable means whereby a team of draft animals may be hitched to the gate. The runners 8 serve as a means whereby the gate may readily be drawn from place to place, and, when in the desired location, sills 38 may be inserted beneath the runners 8, to space them from the ground and to prevent their rotting away. The gate is thus made readily portable, and, in the fall of the year, may be drawn into a shed and housed from the elements until occasion for its use again arises.

The principle upon which my device operates is not new, and a brief description of the manipulation of the same will suffice.

When the extremities of the operating members 35 are drawn upon, the latch-bar 33 will first be withdrawn from contact with the post 29, the arms 16 and 17 subsequently rising and retracting the gate 1 between the struts 10, into a position above the open frame 11. When it is desired to move the gate into the closed position shown in Fig. 1, a pull upon the operating member 35 will tilt the gate from its open position to the closed position shown in the drawings, the gate rising from its bearing upon the open frame 11 and moving outward and downward into engagement with the cleat 31 and the transverse brace 26, the counterpoise weight represented in the first figure by the box 25 and its contents, causing the gate to pass smoothly, evenly, and without jar, or undue exertion upon the part of the operator, into a closed or into an open position, as may be.

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

A device of the class described comprising arms, each including diverging strips; a tube disposed between the strips, intermediate their ends, and arranged to space the strips apart; transverse elements uniting the ends of the strips; a pivot member disposed within the tube and terminally extended beyond the strips; means engaging the extended portions of the pivot member for supporting the arms; a gate pivotally carried by the upper ends of the arms; and a counterpoise weight pivotally carried by the lower ends of the arms.

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

JOHN Q. PRIMM.

Witnesses:

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CHARLES J. GEHLBACH.