

No. 675,130.

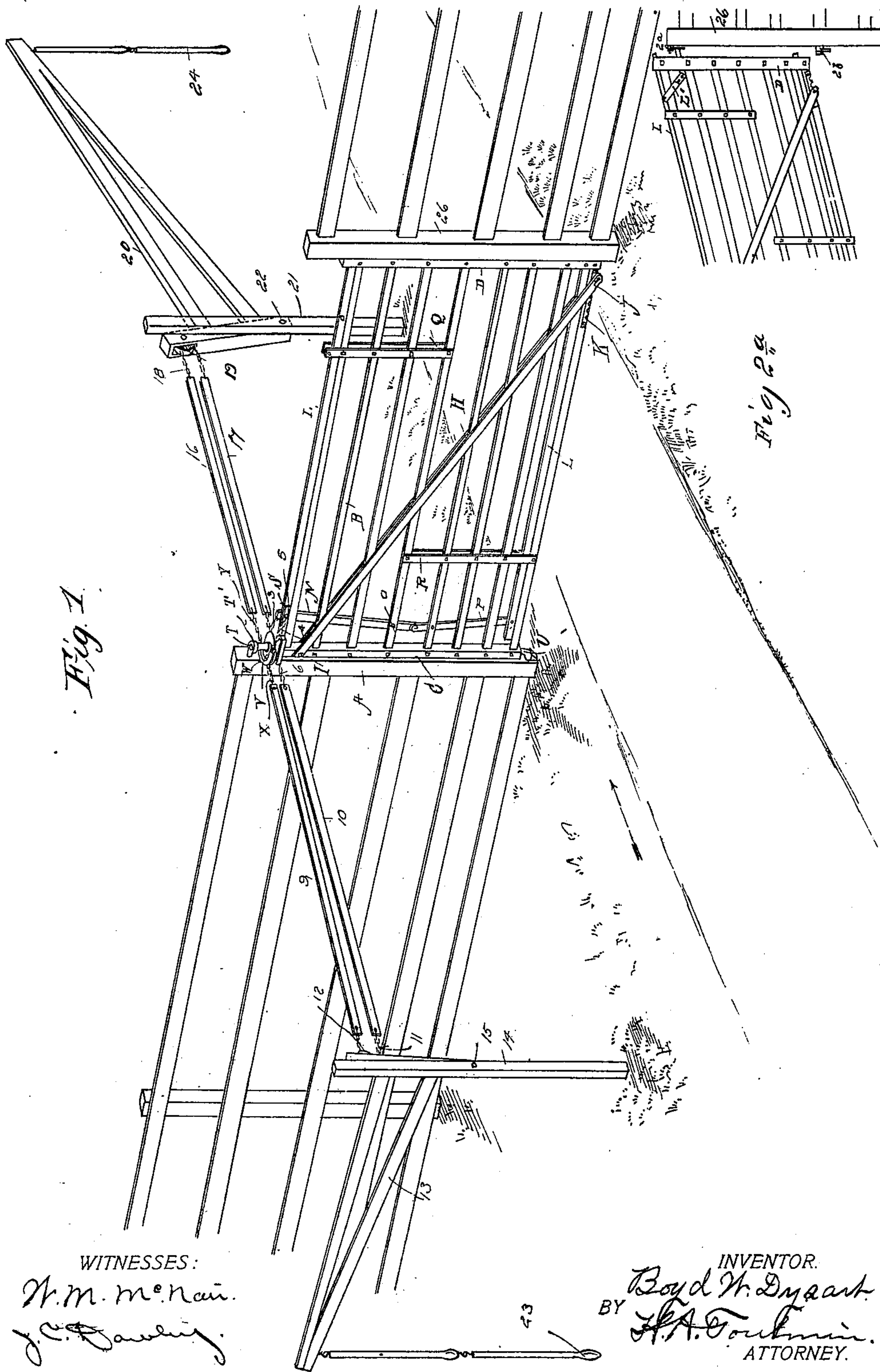
Patented May 28, 1901.

B. W. DYSART.
GATE.

(Application filed Aug. 3, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

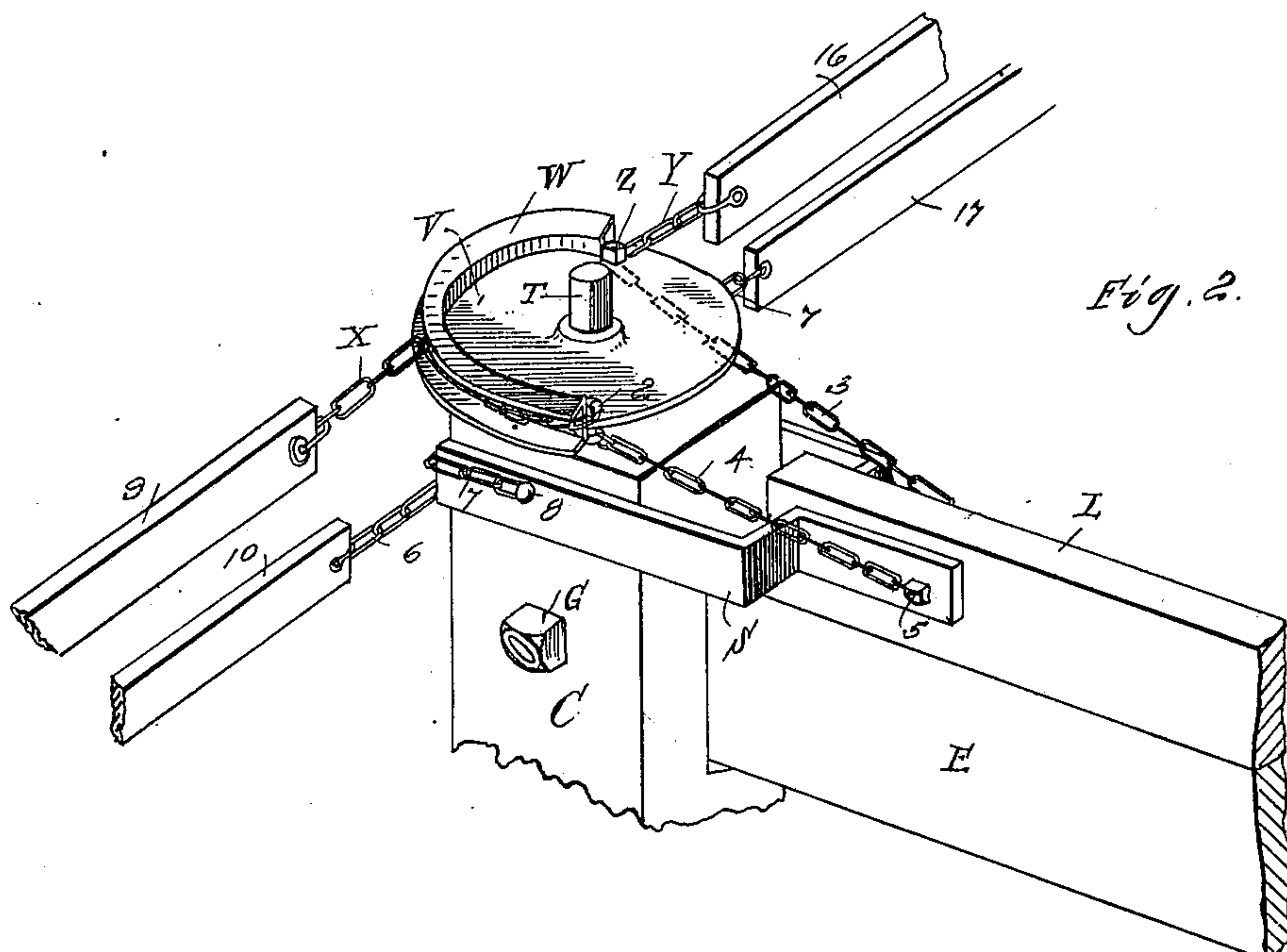


Fig. 2.

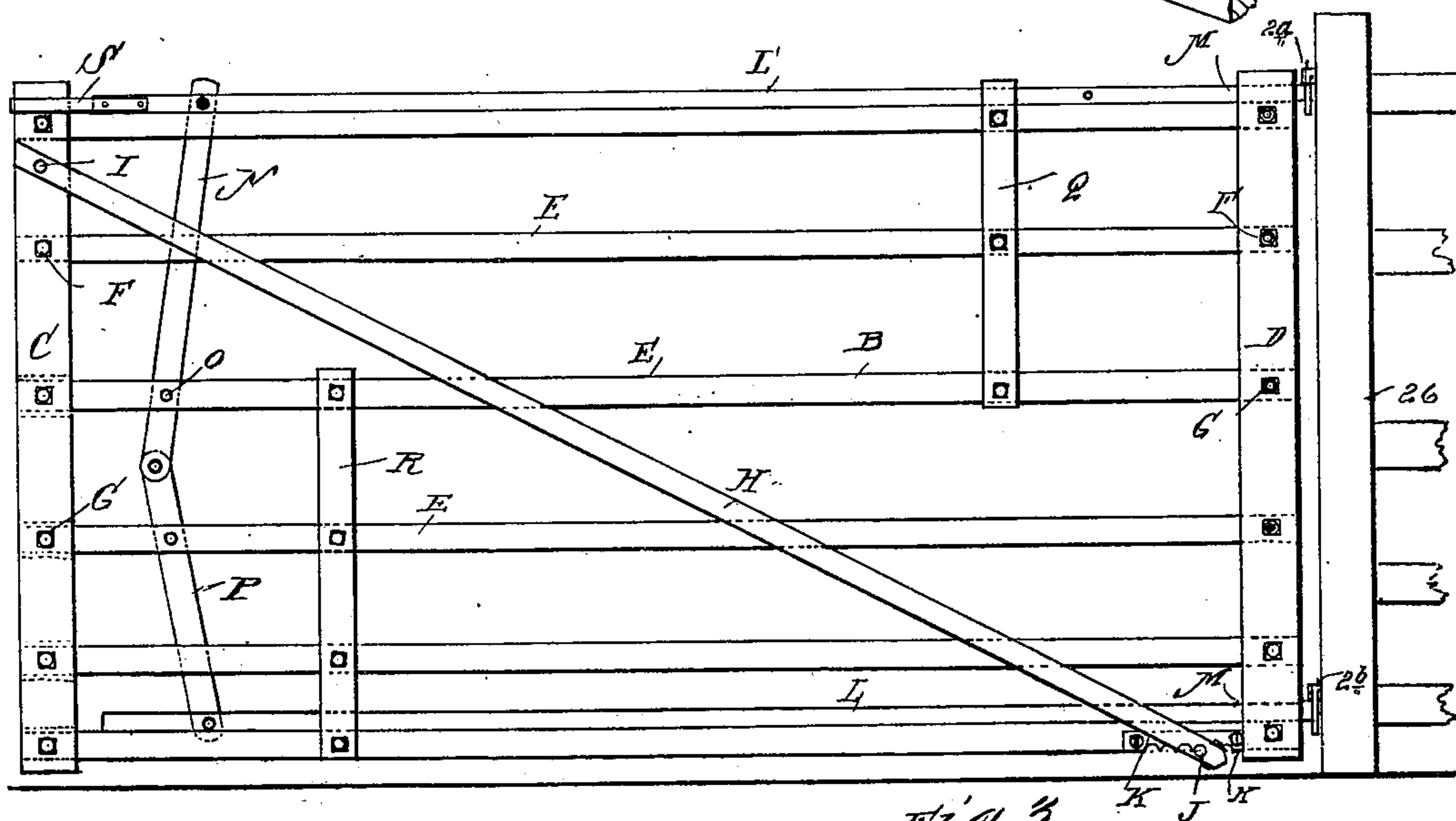


Fig. 3.

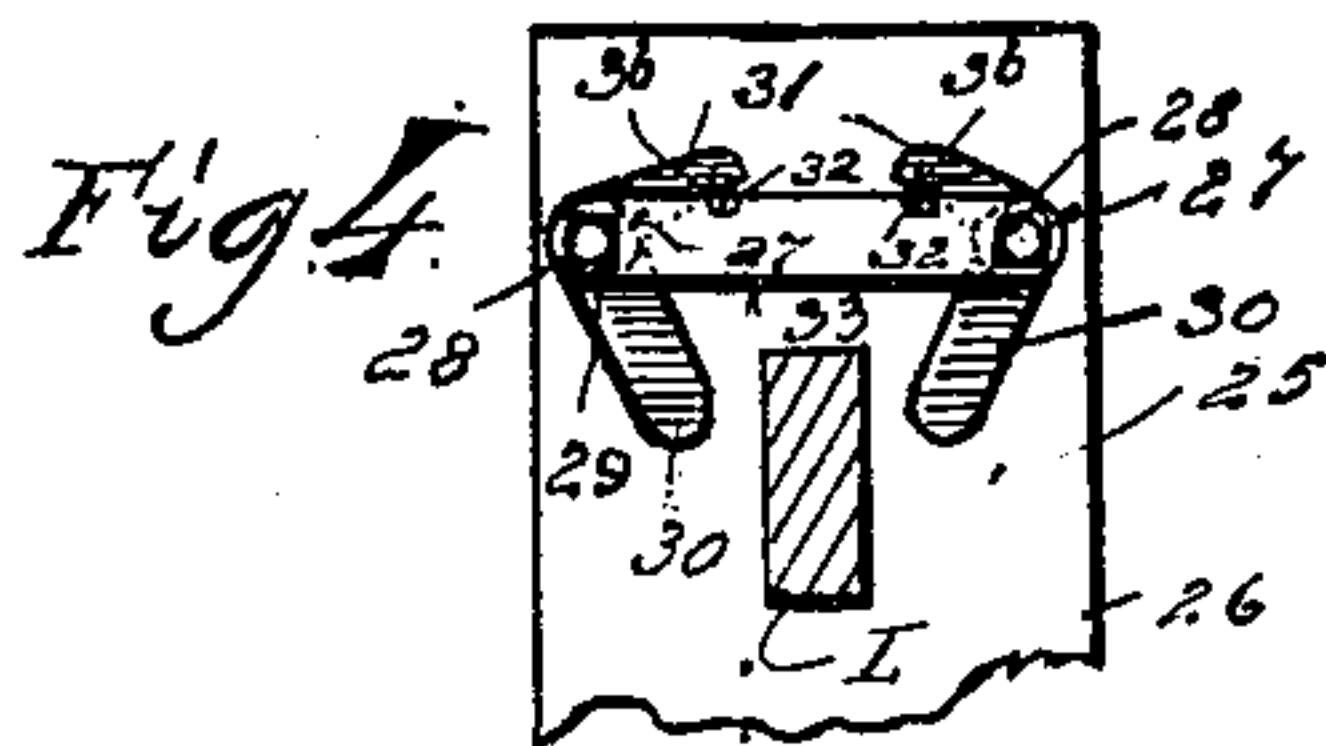


Fig. 4.

WITNESSES:
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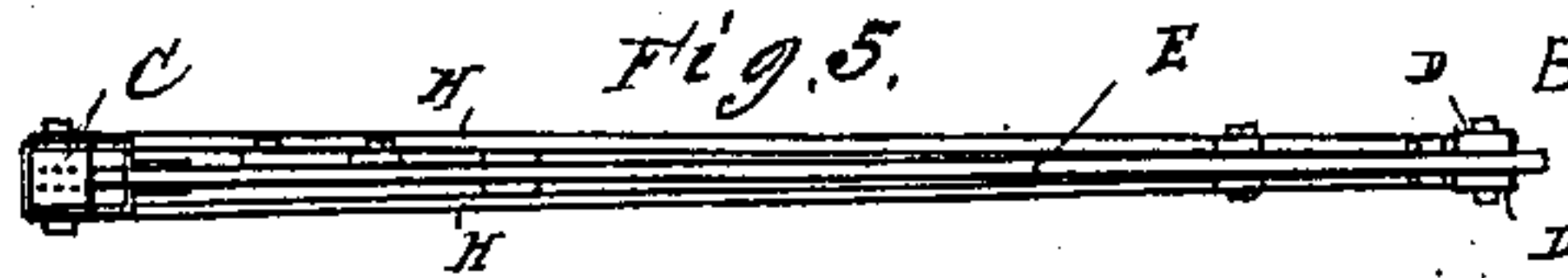


Fig. 5.

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BOYD W. DYSART, OF SPRINGFIELD, OHIO.

GATE.

SPECIFICATION forming part of Letters Patent No. 675,130, dated May 28, 1901.

Application filed August 3, 1900. Serial No. 25,730. (No model.)

To all whom it may concern:

Be it known that I, BOYD W. DYSART, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in farm-gates.

The general object of my invention is to provide a farm-gate which may be readily opened from either side and which always swings away from a wagon or team about to pass through the gate.

Another object of my invention is to provide suitable latch mechanism which is automatically withdrawn from the position in which it engages with one or more catch devices, while before the gate is again closed such latch device is again thrown into position for being engaged by the catch devices.

My invention also relates to details of construction and organization hereinafter appearing, and particularly pointed out in the claims.

In the accompanying drawings, on which like reference characters indicate corresponding parts, Figure 1 represents a detail perspective view of a portion of a fence with my improved gate mounted therein; Fig. 2, a detail perspective view of the upper rear corner of the gate on an enlarged scale. Fig. 2^a is a view of the front end of the gate and a portion of a fence, showing the gate elevated; Fig. 3, an enlarged front elevation of my improved gate, particularly illustrating the latch mechanism, as also the catches engaging therewith; Fig. 4, a detail view of a portion of a post with a pair of my improved catches pivoted thereon, and Fig. 5 a top view of the gate on a reduced scale.

The letter A represents an ordinary gate-post, to which my improved gate B is hinged in a manner presently to appear.

I will first describe the construction of the gate, after which I will describe the manner in which it is mounted.

At one end the gate is provided with a mortised stile C, while at its other end it is provided with a pair of strips D, also constituting a stile. The mortises are larger than

the slats or rails E of the gate, so that such slats have more or less play therein. The same is true with respect to the forward end of the rails, which fit between the strips D, constituting the front stile. Through the center of each mortise is formed a hole or opening F, as also through the ends of the rails or boards of the gate, for the reception of a bolt or pin G. By this construction the rails E may extend at right angles from the stiles C, or they may extend from the stiles at almost any angle, such movement of the rails permitting the pair of strips D to have a slight parallel movement toward the stile C. In order to hold the gate so that the bars are at right angles or other desired angle to the stiles, I provide a brace or support H, consisting of a pair of strips, one at each side of the rails of the gate and which are pivoted at their upper ends to the stile C, as indicated at I, while their lower ends are connected by a bolt or pin J, beneath the lower rail of the gate. This pin fits in a rack or serrated bar K, secured to the lower rail in any suitable manner. Should the strips D, constituting the front stile, be elevated, the bolt J engages with the proper notch in the rack to hold it in such position. Consequently by swinging the brace H to engage with different notches in the rack the outer end of the gate may be given a different elevation. Upon the lower rail and also upon the upper rail of the gate are mounted latch-bars L, each of which extends between the strips D and projects beyond the gate a short distance when the gate is in closed position. It will be seen that the inner ends of the bars L are a short distance from the stile C, as indicated in Figs. 2 and 3, when the gate is in its closed position. This is for the purpose of permitting the latch-bars to be shifted back against the rear stile in a manner presently to appear. To the upper bar L is pivoted one end of a lever N, fulcrumed at O to one of the rails E, while its lower end is pivoted to a lever P, also fulcrumed to one of the rails E. The other end of the lever P is pivoted to the lower latch-bar L. Consequently as the upper bar is moved in or out the lower bar is likewise operated. In order to stiffen the gate somewhat, cleats Q and R are employed, the cleats Q being mounted near the forward end and the cleats R near

the rear end. The upper end of the cleats R and the lower end of the cleats Q are pivoted upon the same rail. Only one bolt is placed through each of the rails and through the respective cleats. By this construction while the gate is stiffened it is still capable of being raised and lowered at the outer end. To the inner end of the upper latch-bar L is attached a metal strap S, which extends around the stile C and is adapted to slide on said stile with the upper latch-bar L. The upper end of the inner stile C is provided with a metal pin or stud T, which is preferably driven into a hole *c*, bored in the center of the upper end of the post and which fits into a screw-eye T', screwed into the post A, while the lower end of the stile C is also bored out and fits upon a hinge U, which is also screwed into or otherwise secured to the gate-post A. Upon the pin T and beneath the screw-eye T' is mounted a rotatable plate V, which has a flange W thereon for supporting a pair of chains X and Y. The chain X passes around the flange W in one direction and is secured to a bolt Z in the plate, while the chain Y passes around the flange in the opposite direction and is secured to a bolt 2. To the bolts Z and 2 are also connected one end of chains 3 and 4, respectively, while the other ends of said chains are secured to the upper latch-bar L by means of a bolt 5, such bolt also acting to secure the strap S to the latch-bar. Another pair of chains 6 and 7, respectively, extend around behind the rear end of the gate in the opposite direction, the chain 7 being secured to a rivet 8, carried by the strap S, while the chain 6 is connected in a similar manner to the strap on the opposite side of the post. The chains X and 6 are connected to pull-bars 9 and 10, respectively, which extend outward from the inner end of the gate, and to the respective outer ends of said pull-bars are attached the respective ends of a chain 11, such chain passing over a sheave or pulley 12, mounted in the upper end of a pull-lever 13, pivoted to the rear side of a post 14. (See Fig. 1.) A second pair of pull-bars 16 and 17 are secured to the respective chains Y and 7. The outer ends of these bars have secured to them a chain 18, which passes over a pulley 19 in a pull-lever 20, similar to the pull-lever 13. This pull-lever is pivoted to a post 21, as shown at 22, out to one side of the fence.

Let it be supposed that some one in a carriage or wagon wishes to pass through the gate in the direction of the arrow. He drives up to the side of the pull-lever 13 and takes hold of the hand-rod 23 and pulls down on such pull-lever. This immediately pulls on the pull-bars 9 and 10. The pull-bar 10, being secured to the strap through its chain 6, offers more or less resistance, since the chain passes around the back end of the gate and is secured to the strap on the opposite side, while the pull-bar 9 and its chain X, being secured to the plate V, which is rotatably mounted on the pin T, the plate will readily

turn or partially turn before a sufficient pulling force acting on the chain 6 will open the gate. Consequently the chain 3 will be drawn taut and the upper latch-bar L will be shifted against the stile C. This movement, as above described, will also operate the lower latch-bar, so that it, too, will be drawn against the stile C, provided both latch-bars are the same in length. Thus both of the latch-bars are withdrawn, so that they no longer project beyond the outer end of the gate, or at least a very slight distance. This movement of the latch-bars disengages the bars from their respective catches 2^a 2^b and at the same time prevents the plate or wheel V from further rotating. Consequently the pulling effect on the pull-bars 9 and 10 will act to pull the gate around, due to the leverage of the chains X and 6 around the plate V and rear stile C, respectively, so that the gate swinging out against the stop-post 21 substantially at right angles to the fence thus permits the vehicle to pass through. As the gate is opened the pull-bars 16 and 17 pull upon the inner end of the pull-lever 20 and act to elevate its outer end, while the pull-lever 13 is lowered, as above stated. When the traveler and his rig reach the other side of the gate, he takes hold of the pull-rod 24 and pulls down upon the lever 20, thereby pulling upon the pull-bars 16 and 17. Inasmuch as the gate is substantially parallel with such pull-bars, the pull-bar 17 readily acts upon the strap S to push the latch-bars L to their extreme outer position, inasmuch as the latch-bars offer the least resistance. As soon as the rear end of the strap comes in contact with the stile C, around which it passes, or during the time the strap is moving to such position the plate V will also be rotated back again to its initial position through the action of the chain Y and pull-bar 16 thereon, while at the same time the gate will swing to closed position, where the latch-bars are engaged by catch devices, presently to be described. As this is taking place the pull-lever 13 is elevated to its initial position. Thus the gate is ready for opening from either side. Should a person be traveling in the opposite direction to the arrow, as seen in Fig. 1, the pull-lever 20 is first operated, thereby throwing the gate around in the opposite direction or against the stop-post 14 in the same manner as above described.

Referring now to the catch devices, it will be seen that upon the face 25 of the post 26 is pivotally mounted a pair of catches, such catches having an angle 27, through which is formed a hole or opening 28 for the reception of a bolt 29 after securing the catch to the post, while from such portion extends a pair of arms 30 and 31, respectively, the arm 31 acting as a stop to engage with a pin 32, screwed into the post 26, while the arm 30 hangs down and engages with one of the latch-bars L to prevent the gate from swinging from the post 26, yet yielding in the opposite di-

rejection to permit the latch-bars to swing into position between a pair of such catch devices, as illustrated in Fig. 4. In order that the weight of the gate in swinging shut may not come entirely on the bolt or lag-screw for one catch device, I provide a bar 3^a, through which the bolts or lag-screws extend, so that as a shock comes against one lag-screw such shock is distributed to the other one. It will also be observed that the bar 3^a is slightly notched in two places along its upper edge, as shown in Fig. 4 at 3^b. This is for the purpose of more readily holding the outer end of stop-lugs 32.

It will be observed that the pull-rods 23 and 24 are jointed. This is for the purpose of permitting them to yield should the pull-levers be drawn sufficiently close to the ground for the lower end of the pull-rods to strike the ground without interfering with lowering the pull-levers still farther.

As the gate is raised and supported in such raised position by means of the braces H the stile D, as above stated, is swung parallel away from the fence-post 26 and at the same time elevated above the fence-post 26. In order that the gate may be held in position by the catches, I provide an auxiliary sliding latch L', which is adapted to be connected with the upper latch-bar L. (See Fig. 2^a.) This auxiliary latch L' rests upon the second gate-rail and may be readily removed when not needed; but when the gate is elevated it is employed. It will be observed that this latch projects farther than the latch-bar L. This is for the purpose of engaging with the catches when the stile D is moved parallel from the fence-post 26.

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

1. In a gate, the combination with a stile hinged to a gate-post, of a plate rotatably mounted upon said stile, a pair of chains, one extending around said plate on one side in one direction, while the other extends around said plate on the same side in the opposite direction, one end of each of said chains being secured to said plate, a pair of pull-rods secured to said chains, one extending in one direction from said gate and the other in the opposite direction, a latch-bar, a pair of chains secured to said latch-bar and also to said plate at opposite sides from each other, a

strap secured to said latch-bar and extending about said stile, a pair of chains, one extending around said stile in one direction and secured to said strap and the other extending around the stile in the opposite direction and also secured to said strap, and a pair of pull-bars connected with the latter chains extending in opposite directions from each other, and means to pull on each of said pull-bars to unlatch said latch-bar and swing said gate open and shut, as also to operate said latch-bar into latching position on swinging said gate shut, all substantially as shown and described.

2. The combination, with a hinged gate, of pull-bars flexibly connected with the gate in pairs on each side thereof, a stop-post at each side of the gate, and a pull-lever mounted on each stop-post, each pull-lever having an equalizing connection with the corresponding pair of pull-bars, substantially as described.

3. The combination with a gate, of a pair of pull-bars, one of which is connected therewith at one end, a partially-rotatable plate to which one end of the other of said pull-bars is connected, a chain connecting the other ends of said pull-bars with each other, a pull-lever, a pulley carried thereby around which said last-named chain passes, and latch mechanism operatively connected with said plate and adapted to be operated by the pull-bar connected with said plate, the other pull-bar acting to swing said gate when the pressure between said pull-bars becomes equal, all substantially as shown and described.

4. The combination, with the stile of a gate, of a pin centrally mounted in its upper end, a plate rotatably mounted on said pin, latch-bars mounted on said gate, pull-bars operatively connected with said plate, and constructed and arranged to partially rotate said plate to operate said latch-bars in one direction, other pull-bars constructed and arranged to positively engage and operate said latch-bars in the other direction, said bars also respectively acting to open and close said gate, substantially as described.

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

BOYD W. DYSART.

Witnesses:

F. W. SCHAEFER,
CHASE STEWART.