May 17, 1927. C. G. WHITE 1,628,703

GATE

Filed Dec. 4, 1925 2 Sheets-Sheet 1

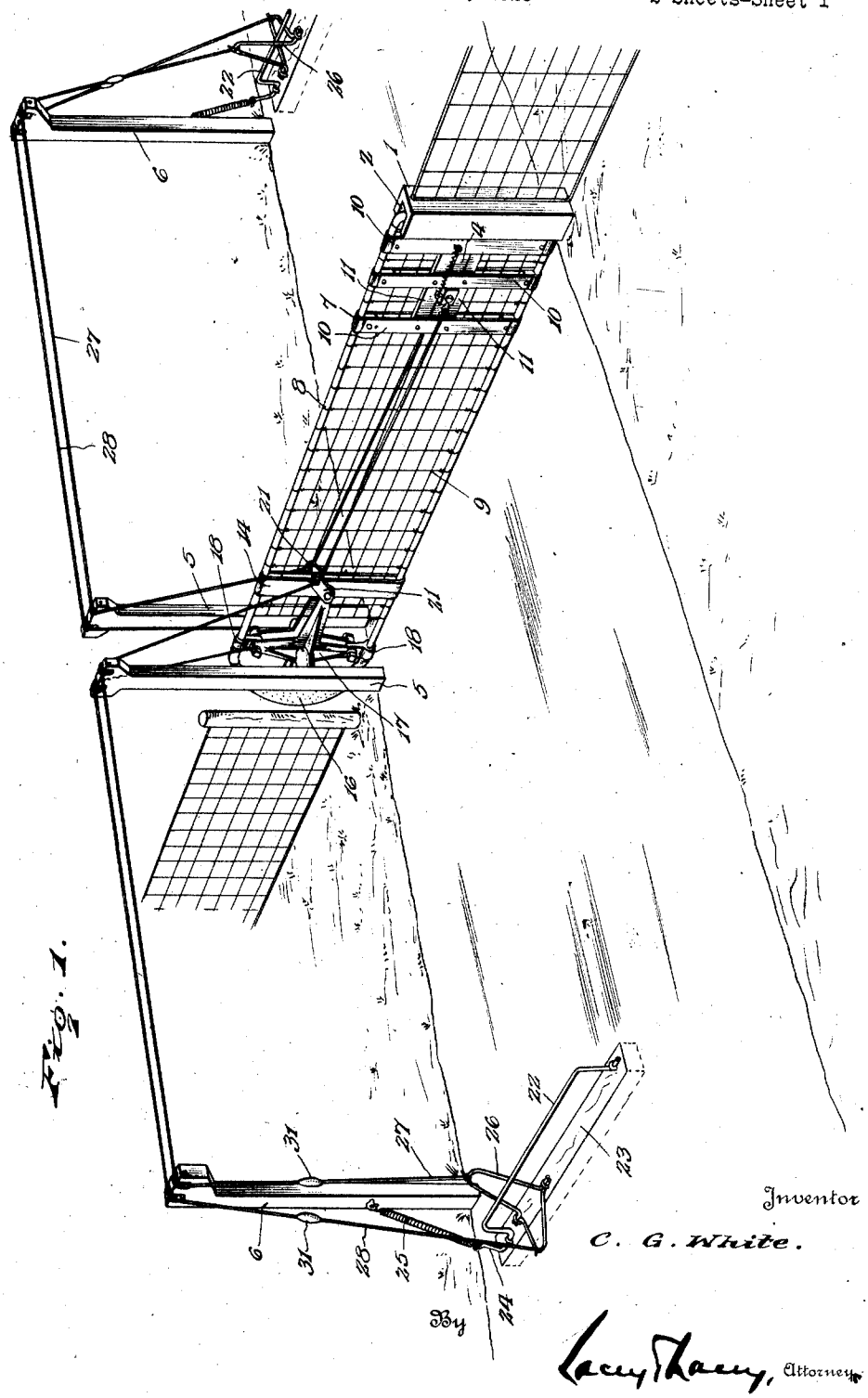


Fig. 1.

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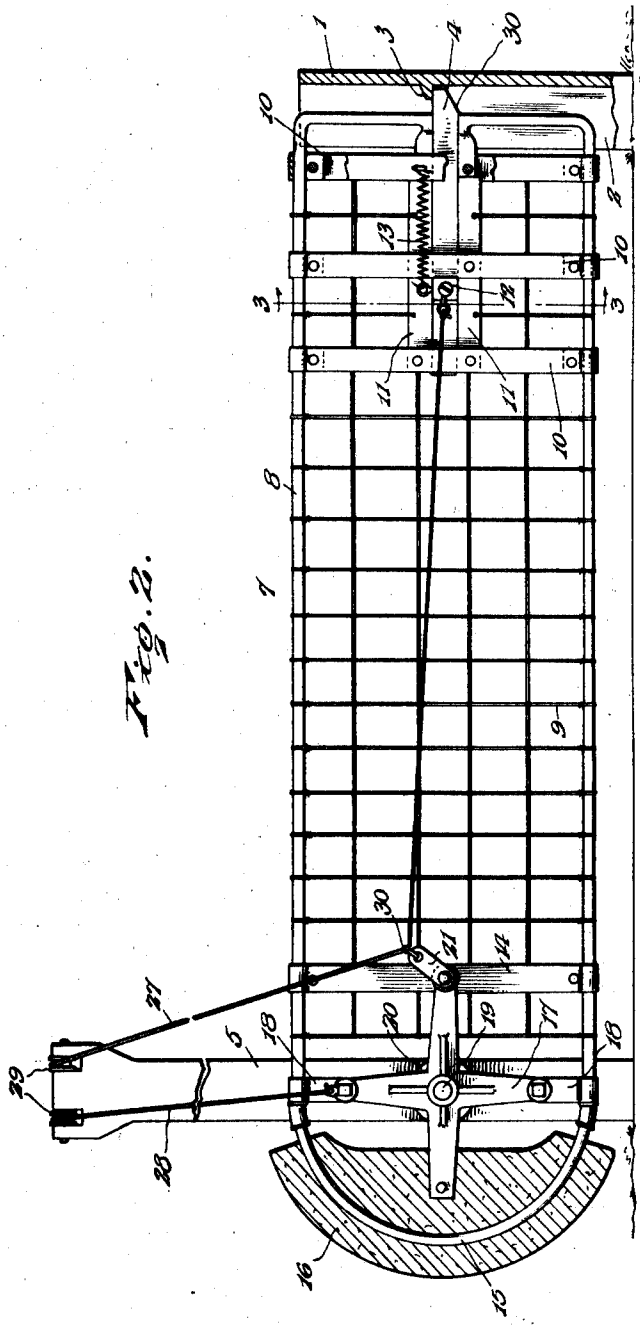


Fig. 2.

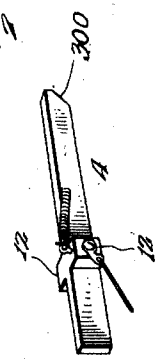


Fig. 4.

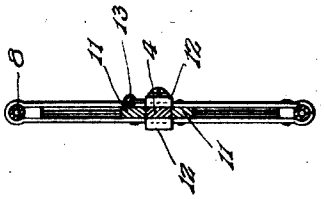


Fig. 3.

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UNITED STATES PATENT OFFICE.

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GATE.

Application filed December 4, 1925. Serial No. 73,230.

My invention relates to gates and has for its object the provision of mechanism of simple construction and arrangement whereby the gate may be easily opened or closed without requiring the occupant of an approaching vehicle to dismount. The invention seeks to provide a gate of the stated type which will be nicely balanced so that it will operate easily and without requiring excessive exertion upon the part of the operator. The invention is illustrated in the accompanying drawings and consists in certain novel features which will be first fully described and then more particularly pointed out in the appended claim.

In the drawings:

Figure 1 is a perspective view of a gate embodying my invention, the gate being shown in its closed position;

Fig. 2 is a view, partly in side elevation and partly in vertical section, of the gate;

Fig. 3 is a detail transverse section on the line 3—3 of Fig. 2;

Fig. 4 is a detail perspective view of the latch.

My gate is intended more particularly for use as a barrier across private roads where it is desirable to separate one field from another field. It is capable of use, however, wherever unrestricted use of a road is not desired. In carrying out the invention, I provide at one side of the road a latch post 1 which may be anchored in the ground in any approved manner and is provided in one side with a vertical groove 2 adapted to receive the free end of the gate. At a proper point in the height of this post, a lug 3 is provided on the base wall of the groove 2 to be engaged by the latch 4 of the gate, as shown in Fig. 2. At the opposite side of the road, I set up a pair of posts 5 which are of such height as to extend appreciably above the latch post and the gate, and at the same side of the road and spaced a proper distance from the posts 5 are other posts 6 which are of the same or approximately the same height as the posts 5. The posts 5 are spaced apart a sufficient distance to accommodate the gate 7 between them and they serve as supports for the gate which is pivotally or hingedly mounted upon and between said posts so that it may swing in a vertical plane. The gate may be of any approved detail form and is preferably composed of a tubular frame 8 having wire netting 9 secured thereon and having secured vertically across the frame at its free end braces 10 which reinforce the wire netting and also aid in supporting the guides 11 which are formed by turning inwardly the end portions of the frame to present parallel horizontal bars between which the latch 4 is received. The latch is provided on its sides with lugs 12 playing between two of the braces 10 and, consequently, serving as stops to engage the said braces and limit the movement of the latch, as will be readily understood. The latch is normally held in its latching position by a coiled spring 13 attached at one end to the latch and at its opposite end to the foremost brace 10, as clearly shown in Fig. 2.

At the hinged or pivotal end of the gate, a brace 14 is secured upon the frame and the frame is provided with or includes a semi-circular frame member 15 which carries a counterbalance weight 16 which may conveniently be a concrete block molded upon the said frame member. The supporting member of the gate comprises a pair of cruciform bodies 17 disposed at opposite sides of the gate frame and having their vertical arms connected with the upper and lower frame members by clips 18, as shown and as will be readily understood, while the intersecting horizontal arms are secured at their extremities to the brace 14 and in the counterbalance 16 respectively, as shown clearly in Fig. 2. The cruciform bodies are provided with an axle or trunnions 19 which are rotatably fitted in bearings 20 secured upon the inner opposed sides of the supporting posts 5 whereby the gate may rock in a vertical plane, as will be understood. At the junctions of the supporting bodies 17 and the brace 14, guide links 21 are mounted at the opposite sides of the gate for a purpose which will presently appear.

Disposed transversely in the roadway at opposite sides of the gate and adjacent the vertical posts 6 are trips 22 which are essentially crank shafts having their crank portions normally upright. These crank shafts are rotatably mounted at their ends upon base bars 23 which are embedded in the roadway and at their inner ends they are provided with supplemental cranks 24 between which and the respectively adjacent posts 6 are mounted springs 25 which are so set as to yieldably hold the crank shafts in their normal positions. Mounted for rocking movement upon the bases 23 and in

axial alinement with the pivots or journals of the respective crank shafts are rockers 26 which consist each of diverging arms arranged at opposite sides of the crank shafts, as shown clearly in Fig. 1. To the opposite ends of these rockers are secured the ends of cables 27 and 28 which extend upwardly therefrom to and over guide rollers at the top of the adjacent post 6 and then to and over similar guide rollers 29 at the top of the post 5 and thence downwardly to the gate, the cables 27 being passed through guide eyes 30 at the ends of the links 21 and then extended forwardly to be attached to the respective lugs 12 or to the body of the latch, as will be understood upon reference to Figs. 1 and 2. The ends of the cables 28 are attached to the upper ends of those arms of the cruciform body 17 which are normally upright.

It is thought the operation will be readily understood from the foregoing description, taken in connection with the accompanying drawings. The cranks or trips 22 normally stand upright, as previously stated, and the inner arm of the rocker 26 rises from the ground between the said crank and the gate. A vehicle approaching the gate is caused to ride over the crank 22 and will thereby rock the same from its upright position to a horizontal position, thereby causing it to impinge against the forward arm of the rocker 26, and said arm will be thereby swung downwardly and exert a pull upon the cable 27. The movement of the cable 27 will be initially imparted to the latch 4 so as to release the same from the lug or keeper 3 against the tension of the spring 13, and then will exert an upward pull upon the gate through the link 21, the lug 12 upon the latch impinging against the innermost brace 10 so that the movement of the latch will be arrested and the continued pull upon the cable consequently imparted to the gate. The upward pull upon the gate exerted through the link 21 and the forwardly extending arm of the rocker body or support 17 will, of course, cause the gate to turn in a vertical plane about the trunnions or axle 19 as a pivotal center, the gate assuming a vertical position between the posts 5 and out of the path of the vehicle. The vehicle is then driven through the gateway and steered so as to ride over the far crank 22, whereupon the said crank will be rocked so as to impinge upon the outer arm of the adjacent rocker 26 and pull upon the corresponding cable 28. Upon referring to Fig. 2, it will be readily understood that, when the gate is swung to a vertical position, the upstanding arms of the supporting bodies or plate 17 will be caused to assume a horizontal position at the rear of the gate supporting posts. Consequently, when a pull is exerted upon the cable 28 by the passing vehicle, a lifting movement will be imparted to the said arms and the gate, consequently, rotated or turned so as to resume its normal closed position. When the gate is thus swung downwardly, the beveled end 300 of the latch will engage the keeper or lug 3 so that the latch will ride over the lug and assume its locking engagement with the under side of the same, it being understood that, when the vehicle passes beyond the first crank 22, the pull upon the cable 27 is released so that the spring 13 can project the latch to its normal position. Likewise the spring 25 will return the crank or trip 22 to its upright position immediately after the vehicle has cleared the same.

In some climates, heavy snows and like conditions may clog the action of the trips or cranks 22 so that they cannot be easily turned. To meet this condition, I provide the grips 31 upon the cables 27 and 28 above the rockers 26 so that the cables may be easily reached and manipulated by the operator or driver of the vehicle.

It will be readily seen that I have provided a very simple and inexpensive gate which may be easily opened and closed by the occupant of a vehicle without requiring the occupant to alight. The gate is very evenly balanced so that it will turn from closed to open position or vice versa without requiring laborious effort upon the part of the operator and, due to its simple construction, repairs will seldom be needed.

Having thus described the invention, I claim:

The combination of a pair of supporting posts, a gate having one end arranged between and extending rearwardly beyond said posts, supporting bodies secured to the sides of the gate and pivotally supported by said posts, a counterbalance secured about the extended end of the gate and about portions of the supporting bodies, and operating cables attached to the gate and the said supporting bodies in right angular relation to the bodies and extending upwardly and over the posts and provided beyond the posts with operating means.

In testimony whereof I affix my signature.

CHARLES G. WHITE. [L. S.]