Aug. 30, 1927. 1,640,757

C. M. EDWARDS

GATE

Filed Aug. 15, 1924

Fig 1.

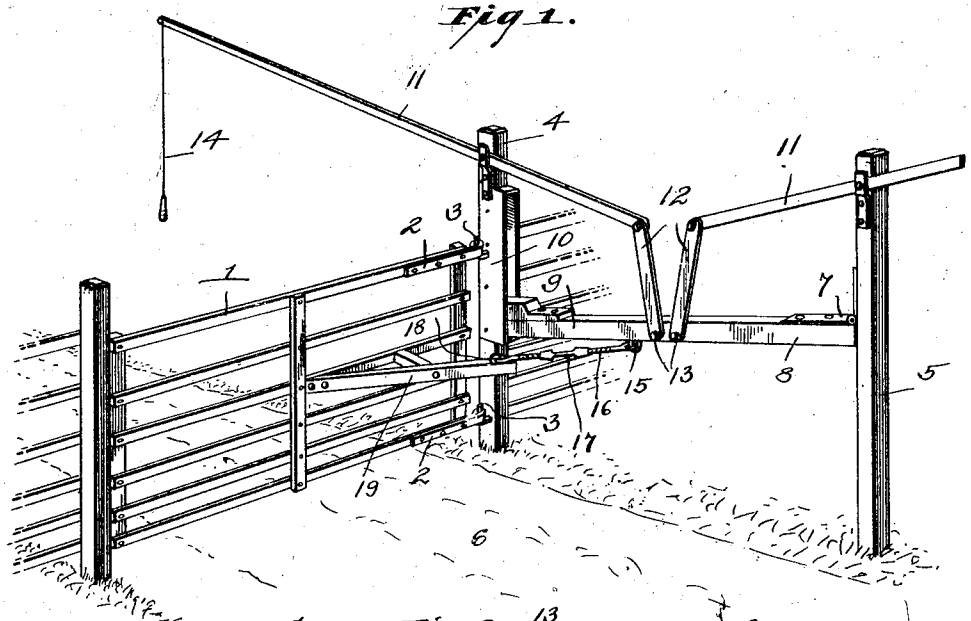


Fig 2.

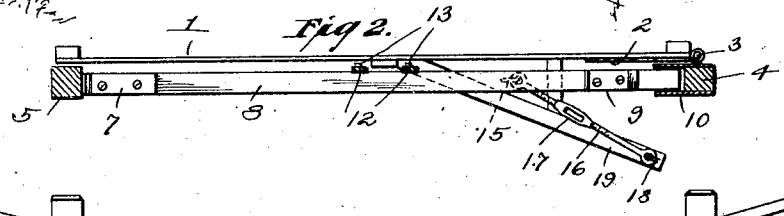
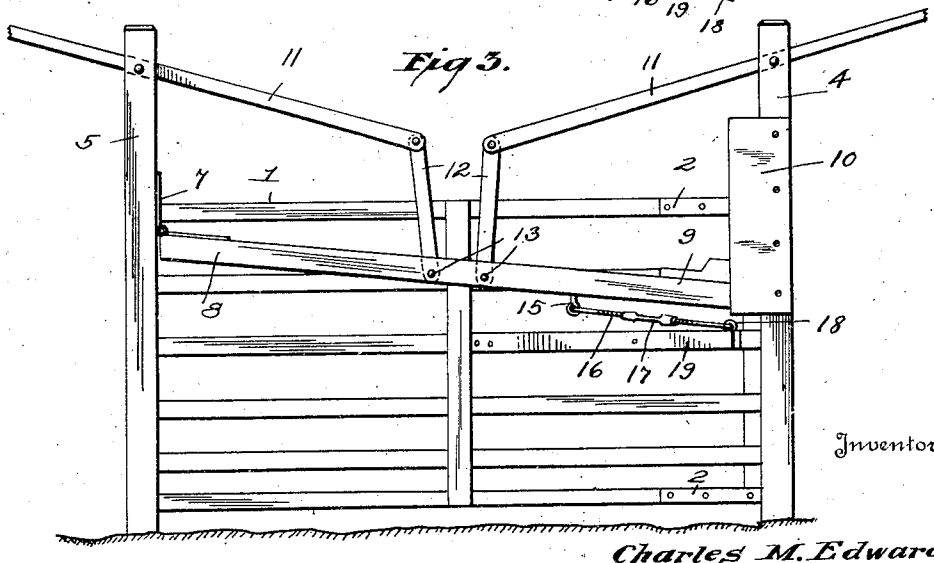


Fig 3.



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UNITED STATES PATENT OFFICE.

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GATE.

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This invention relates to improvements in gates, and the primary object thereof resides in the provision of an improved operating mechanism for opening or closing a gate when the latter is approached while the operator is seated within an automobile or other vehicle.

Other objects of the invention reside in the provision of a simple, positive and conveniently operated gate structure so formed as to require but little manual effort to effect its operation; in the provision of means for retaining the gate positively in either its opened or closed position and in the provision of novel and improved means consisting of but few and simple parts for effecting the actual swinging of the gate.

With these and other objects in view, as will appear as the description proceeds, the invention consists in the novel features of construction, combinations of elements and arrangements of parts hereinafter to be fully described and pointed out in the appended claims.

In the drawings:

Figure 1 is a perspective view disclosing a gate and the improved operating means, comprising the present invention, associated therewith,

Figure 2 is a horizontal sectional view taken through the operating means, and

Figure 3 is a side elevation thereof.

Referring more particularly to the details of the invention the numeral 1 designates an ordinary swinging gate of any desired construction, form or size. In the present instance the gate is provided at its hinged end with a pair of spaced horizontal straps 2, formed with eyes for the reception of the vertical legs of a pair of hinge pins 3. The stationary ends of these pins are suitably embedded in a post 4, suitably supported in any desired manner in a fixed upright position. This construction is such that the gate will be permitted to swing in a horizontal plane through an arc of substantially 90°, as is customary in gates of this character, whereby the roadway across which the gate is positioned may be opened or closed for vehicular travel.

To effect the operation of this gate there is provided a second upright post 5, spaced longitudinally from the post 4 and arranged in parallel relation with the roadway or drive 6, which the gate 1 normally obstructs. Pivotally secured to the post 5, preferably by means of a hinge 7 is a pivoted weight beam 8. This beam has its free vertically oscillatory end 9 mounted in a vertically extending guide 10 suitably formed with the post 4. This guide serves to stabilize the beam 8 and to limit its movement within a short path of vertical travel. Also pivoted to the posts 4 and 5 and extending parallel to the roadway 6 are operating levers 11, and to the shorter ends of these levers there are connected links 12, which in turn have their lower ends pivotally connected as at 13 with the operating beam 8. The longer ends of the levers 11 extend beyond the posts 4 and 5 to positions free from interference with the swinging movement of the gate 1, and preferably connected to the outer ends of these levers are depending operating cables 14. The lower ends of these cables are situated so as to be within the convenient reach of a vehicle operator or a pedestrian passing along the roadway. It will be manifest that by merely pulling the cables 14 in a downward direction, the lever arrangement will result in rocking the beam 8 about the hinge 7.

To transfer the movement of the weight beam to the swinging gate, the under side of the beam, adjacent to the guide 10 is provided with an eye 15 to which is flexibly connected an adjustable floating link 16, provided in its length with a turn buckle 17 by means of which the effective length of the link may be readily governed. The other end of the link is connected with an eye 18 provided upon an angularly extending bar 19 which is rigidly formed with and to one side of the gate 1. By this arrangement the eye 18 is situated in spaced lateral relation with respect to the hinge supports for the gate proper. In the operation of the gate it will be seen that by rocking one of the levers 11 so as to elevate the weight beam 8 a tensile pull will be imparted to the flexible link 12, which connects the gate with the beam. Because of the offset manner of connecting the link with the gate the latter will be horizontally turned about its hinged mounting upon the post 4. After the gate has been turned through substantially 45° of its complete arc of travel the beam 8 will have reached its uppermost position within the guide 10 and the offset eye 18 of the gate will have

intersected and passed beyond the plane of travel of the beam. Therefore, when the operating lever is released the weight beam, responding to gravity, will oscillate downwardly to the bottom of the guide 10. Since the eye 18 is then beyond the path of travel of the beam, it follows that the downward movement of said beam, in responding to gravity, will automatically effect the continued swinging movement of the gate until the latter has completed its full arc of travel of substantially 90° and is situated in a position extending parallel to the roadway, leaving the latter open for normal travel. After the vehicle has passed the gate, the operating lever 11 on the far side of the operating mechanism is then oscillated to again elevate the weight beam. This causes the gate to begin its path of oscillatory travel toward its normal closed position, and following the release of the last operating lever the weight beam returns to its normal position in the bottom of the guide, completely closing the gate and completing the cycle of operation. It will be noted that the operating mechanism is such that the gate will be locked in either its opened or closed position, a feature which is brought about by the peculiar location of the weight beam and its cooperative action upon the gate.

It will be seen that the construction while exceedingly simple provides a very positive and reliable means for regulating the opening and closing of a swinging gate. The construction avoids the use of springs, cables, pulleys and other similar mechanical elements and movements which are likely to become out of order and require repair and adjustment. In the present instance the gate mechanism is of a form designed to give extended service, constructed to avoid mechanical complication and yet formed to be operated with the utmost facility. Of course, I realize that gates have been constructed heretofore which admit of their opening and closing by means of operating mechanism controlled from the seat of the vehicle, however, the present invention aims to provide an improvement on these prior structures by the provision of mechanism having fewer parts and wherein certainty of operation, ease in control and extended life are present.

What is claimed is:

A mechanism of the class described, a gate mounted for swinging movement in a horizontal plane, an operating beam for said gate arranged perpendicularly to said gate when the latter occupies a closed position, a support upon which said gate is pivotally mounted for horizontal swinging movement, a second support spaced from said first named support and on which said beam is pivotally mounted for vertically swinging movement, a guide carried by said first named support for the reception of the free swinging end of said beam and serving to guide and limit the oscillatory travel of said beam in a vertical plane, pivoted operating devices carried by said supports and connected with said beam, a rigid offset structure extending horizontally from said gate contiguous to its inner or hinged end, and a flexible connection between the extreme outer portion of said offset structure and said beam, said connection being proportioned to pass beneath said beam when the latter assumes an elevated position, whereby the weight of the beam is utilized to retain the gate locked in either its opened or closed positions, said connection providing an adjustment to vary its effective length.

In testimony whereof I affix my signature.

CHARLES M. EDWARDS.