W. P. WATSON.

FARM GATE.

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907,924. Patented Dec. 29, 1908.

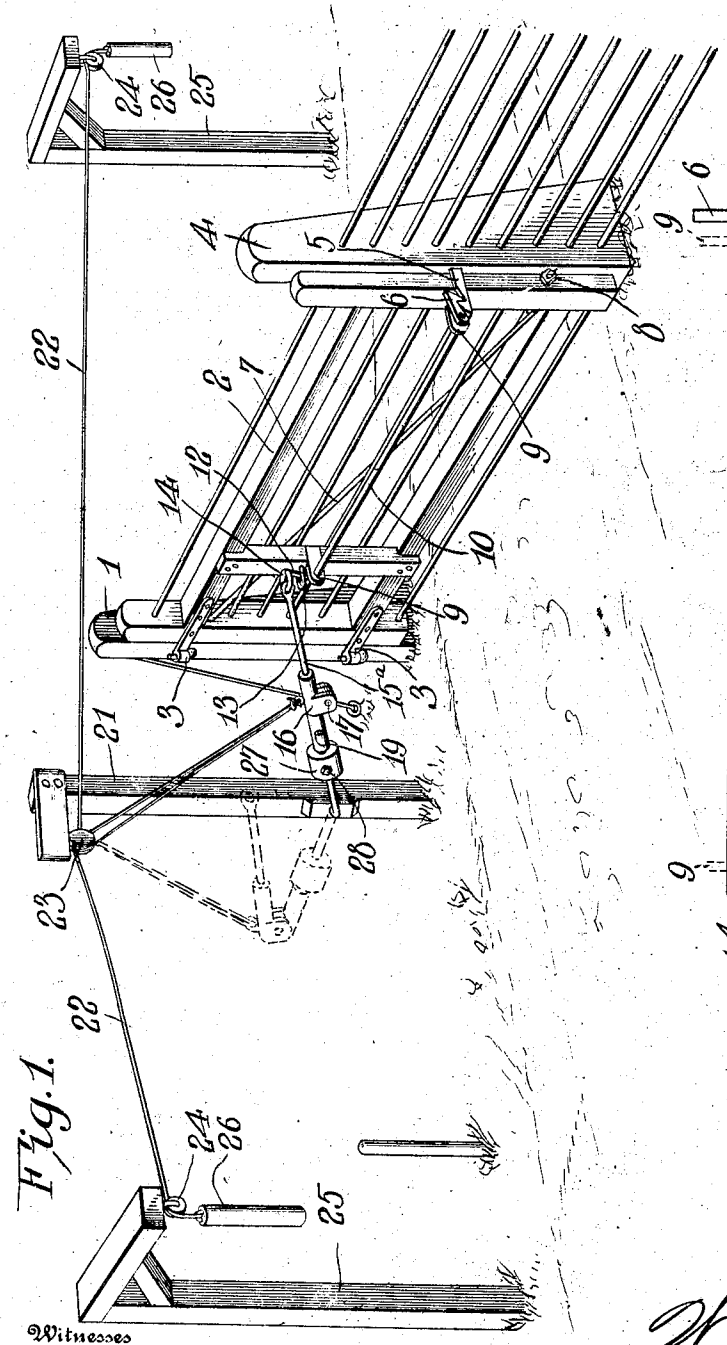


Fig. 1.

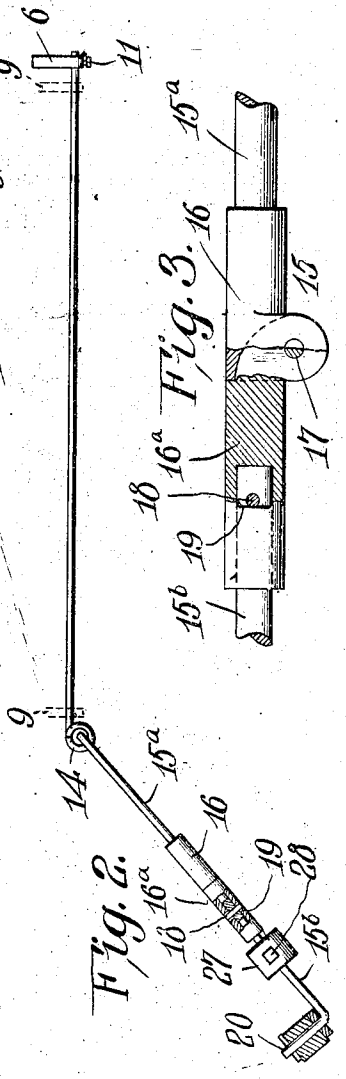


Fig. 2.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

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FARM-GATE.

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To all whom it may concern:

Be it known that I, WILLIAM PRICE WATSON, a citizen of the United States, residing at Franklin, in the county of Simpson and State of Kentucky, have invented certain new and useful Improvements in Farm-Gates, of which the following is a specification.

The object of this invention is to provide a simple and easily operated gate of the class particularly adapted for use on farms, road ways, or the like.

The invention resides particularly in the operating mechanism whereby the gate is opened and closed.

For a full understanding of the invention and the mode of operation thereof, reference is to be had to the following detail description and to the accompanying drawings, in which—

Figure 1 is a perspective view of a gate embodying the essential features of the invention, dotted lines showing the position of the weighted lever when the gate is opened; Fig. 2 is a top plan view of the latch operating mechanism detached from the gate, and Fig. 3 is a detail view, partly in section, showing more clearly the connection between the joint of the lever and the lower section of the same.

Throughout the following description and on the several figures of the drawings similar parts are referred to by like reference characters.

Specifically describing the detail construction of the invention, and referring particularly to the drawings the numeral 1 designates a suitable form of gate post upon which the gate 2 is mounted for horizontal swinging movement, being hinged to the post 1 as shown at 3. A latch post 4 is provided with a suitable catch 5 which is adapted to be engaged by a latch 6 carried by the gate and which locks the gate in closed position as shown most clearly in Fig. 1 of the drawings. The gate 2 is preferably braced by a diagonally arranged connection 7 which may be of wire, or the like, and the lower end of which is preferably connected by any suitable adjustable means, such as an eye bolt 8 with the outer lower portion of the gate. Adjustment of the connection 7 will prevent sagging of the gate 2 in an evident manner.

Mounted on the gate 2 longitudinally thereof and supported by suitable outstanding brackets 9 is a shaft 10 upon the outer end of which is mounted the latch 6, said latch being adjustable by means of a set screw 11. The innermost end of the shaft 10 is provided with a crank arm 12 projecting upwardly therefrom and movable in a loop 13 attached to and projecting outwardly from a side of the gate 2. The upper end of the arm 12 is formed with an eye 14 pivotally connected with the upper end of a jointed lever 15 arranged at one side of the gate. The lever 15 consists of upper and lower sections 15^a and 15^b connected together by a pivot joint 16. The joint 16 comprises an upper member having off-standing ears pivotally connected with the upper portion of a lower member 16^a, as shown at 17. The lower member 16^a of the joint 16 is hollow or tubular at the lower portion thereof and receives in the tubular portion the upper end of the section 15^b of the lever 15. The section 15^b of the lever 15 is connected with the member 16^a of the joint 16 by means of a pin 18 which passes through the upper end of the said section 15^b with its opposite ends projecting into slots 19 in opposite sides of the member 16^a. In other words the lower portion of the lever 15 has a pin and slot connection with the joint 16, whereby the section 15^b of the lever is practically swivelly connected with its joint. At its lower end the lever 15 is formed with a lateral extension 20 journaled in a supporting post 21 which coöperates to support the operating ropes 22 by which the gate 2 is opened and closed. The operating ropes 22 pass over a double pulley 23 carried by the post 21 and from said pulley 23 each rope extends to and over a single pulley 24 supported by a post 25 one of which is located upon each side of the gate 2, and some distance therefrom. Handles 26 are applied to the opposite ends of the ropes 22 and may be grasped in actuating the ropes in operating the gate. Mounted adjustably upon the lower section 15^b of the lever 15 is a weight 27 held at a desired adjustment by means of a set screw 28. The position of the weight 27 is determined by the size of the gate 2 with which the operating mechanism comprising this invention is used.

The operating ropes 22 are connected at the adjacent inner ends thereof with the upper member of the joint 16 and when either of the ropes is pulled the lever 15 is moved upwardly and caused to break joint and this

movement imparts a slight lateral tilting movement to the arm 12 of the shaft 10 thereby lifting the latch 6 out of engagement with the catch 5 and simultaneously causing the gate to move toward its open position. Only a slight pull upon the ropes 22 is necessary to open the gate for the reason that as soon as the joint 16 of the lever 15 is broken, and the weight 27 is carried into a position upon the opposite side of the axis 20, as shown in dotted lines in Fig. 1, the gravitating force of said weight is sufficient to cause the final opening movement of said gate. The above is true also in the closing movement of the gate because the weight 27 performs the same function in effecting the closing movement thereof, as soon as the said weight passes to that side of the axis 20 nearer the gate. As the gate closes the sections of the lever 15 assume alined positions and the latch 6 automatically engages the catch 5 and is held in such engagement by the weighted lever 15.

It will be apparent that the pivotal connection of the upper end of the lever 15 with the eye 14 of the crank 12 moves in the arc of a circle, as the gate 2 opens and closes. This arcuate movement necessitates that the lower member of the joint 16 have the swivel connection 18 and 19 with the lower section of the lever 15, since the pivotal axis 20 of the lever 15 does not change as the gate opens and closes. In opening and closing the gate, the lower member 15^a of the joint 16 rotates slightly with reference to the section 15^b of the lever 15, or in other words has a sort of swivel movement.

Having thus described the invention, what is claimed as new, is:

1. In combination, a gate, operating mechanism therefor, including a jointed lever movable at its lower end about a permanent axis and pivotally connected at the upper end with the gate, operating devices connected with the lever to cause the same to break joint and effect opening or closing movement of the gate, and a swivel connection between the joint and body of the lever.

2. In combination, a gate, operating mechanism therefor, including a jointed lever movable at its lower end about a permanent axis and pivotally connected at the upper end with the gate, operating devices connected with the lever to cause the same to break joint and effect opening or closing movement of the gate, and a transverse pin and slot connection between the lever and a section of the joint aforesaid.

3. In combination, a gate, operating means therefor including a supporting post, a shaft mounted on the gate, a latch adjustably connected with the shaft, a catch coöperating with the latch, a crank arm projecting from the shaft, a jointed lever pivotally connected with the supporting post aforesaid and movable about said pivotal connection as a permanent axis, a pivotal connection between said lever and the crank arm of the shaft, a weight supported by one of the jointed parts of the lever, a swivel connection between one of the jointed parts of the lever and the body thereof, and operating devices connected with the lever.

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

WILLIAM PRICE WATSON.

Witnesses:
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