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G. W. & C. E. GOSS.
GATE.

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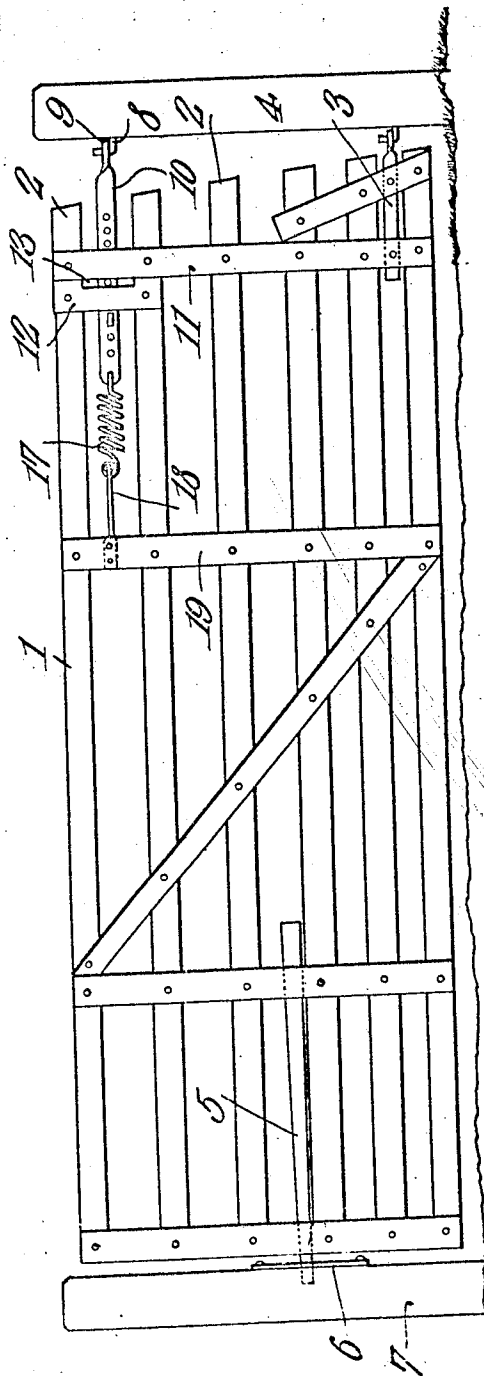


Fig. 1.

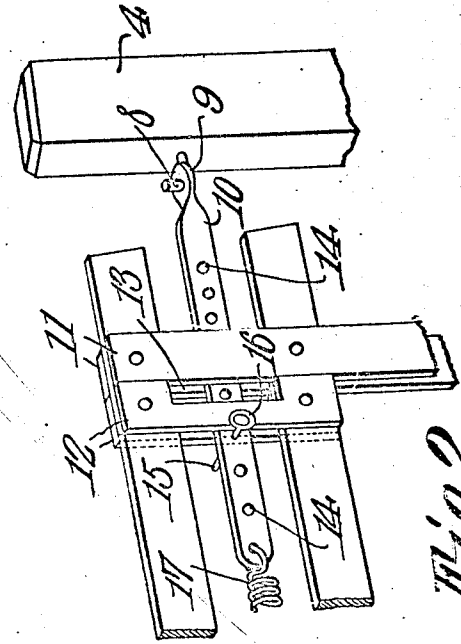


Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE W. GOSS AND CHARLES E. GOSS, OF BALTIMORE, OHIO.

GATE.

No. 895,178.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed December 30, 1907. Serial No. 408,647.

To all whom it may concern:

Be it known that we, GEORGE W. GOSS and CHARLES E. GOSS, citizens of the United States, residing at Baltimore, in the county of Fairfield, State of Ohio, have invented a new and useful Gate, of which the following is a specification.

This invention has reference to improvements in gates, and relates more particularly to means for supporting a gate so that sagging of the gate may be compensated for and the gate may be lifted at its free end should obstructions to the opening of the gate be encountered in the attempt to swing the gate from the closed position to the open position.

The invention comprises a hinged member elastically connected to the gate so that the gate at its latch end is capable of moving in a vertical plane through a limited arc, and provision is made for limiting the vertical movement of the gate to prevent its free end from striking the ground or in case of sagging of the gate to compensate for this sagging, and provision is also made whereby the hinge member may be so fixed to the gate structure that under some conditions the gate may not move in a vertical plane at all but at all times the gate may move about its hinges in the usual manner.

The invention will be best understood by a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, and in which drawings—

Figure 1 is an elevation of a gate with the improvement attached, and Fig. 2 is a perspective view of the improved hinged member and so much of the gate as directly coacts therewith.

Referring to the drawings, there is shown a gate 1 composed of spaced horizontal rails and upright and diagonal brace rails which may be indicative of an ordinary large farm or other gate and which need not of necessity be shaped or constructed as shown in the drawings. At the rear end the horizontal rails of the gate are cut off on a slant, as indicated at 2, and the bottom of the gate is supported by an ordinary hinge 3 the stationary member of which is fast in a post 4. This hinge need not be different from the ordinary gate hinge. The other or latch end of the gate is provided with any suitable kind of a latch, indicated at 5, arranged to engage a stationary member 6

fast on a post 7, all as is common in gate structures.

The stationary member 8 of the upper hinge of the gate receives the eye 9 of a strap 10 extending through the rear upright members 11 of the gate, and also between other members 12 immediately adjacent to the upright members 11, and on opposite sides of the horizontal rails of the gate. The uprights 12 have each a longitudinal recess 13 in the edge adjacent to the uprights 11. The strap 10 is provided with a longitudinal series of perforations 14, and these perforations are adapted to receive a pin 15 one end of which may terminate in an eye or hand hold 16 for facilitating the manipulation of this pin. To the end of the strap remote from the eye 9 is secured a strong helical spring 17, the other end of which is connected to a link 18 fast on another upright 19 of the gate.

The spring 17 may be of such strength as to normally support the free end of the gate, or very nearly support the free end of the gate. When the gate is mounted the free end is lifted to an extent necessary to bring the gate say about horizontal, and the pin 15 is passed through one of the perforations 14 so that when the free end of the gate is released this pin will engage the edges of the two strips 12 remote from the recesses 13. Now, any tendency of the free end of the gate to sag is resisted by engagement of the pin 15 with these members 12, which latter, because of the strain imposed upon them, may if desired be made of metal. Suppose, however, that in the course of time the gate does sag. Then it is only necessary to lift the gate to the desired extent, and move the pin 15 nearer to the post 4, and the gate will be held with its free end in the desired elevated position out of reach of the ground. Suppose, however, that because of ruts in the ground or uneven places or for any cause whatsoever, the gate in being swung toward the open position or from the open toward the closed position, should meet an obstruction, then the free end of the gate may be lifted around the fixed member of the hinge 3 as a pivot, until it is sufficiently elevated to override the obstruction. With heavy gates this operation would be difficult were it not for the presence of the spring 17, which may be made so strong as in a great measure to counterbalance the weight of the gate so that with little effort on the part of the person de-

siring to lift the gate, the same may be elevated. Suppose that for any reason it is advisable to hold the gate against being lifted, then it is only necessary to remove the
 5 pin 13 from its position adjacent to the outer edge of the strips 12 and insert it in a perforation 14 coincident with the slots 13. In this position the gate is held as firmly as though the hinged member were made fast
 10 by bolts or screws to the gate structure.

The invention is particularly applicable to long heavy gates and renders these gates very easy to manipulate, especially in locations where obstructions to the opening or
 15 closing of the gate are to be met. Furthermore, long heavy gates are liable to sagging to a certain extent, and this sagging may be entirely compensated for by the improved hinge device, so that instead of using two
 20 gates to close a wide opening in order that the evils of sagging may be overcome, it is possible to use a single gate for the same purpose, since even if sagging occurs it is not a material defect since the improved hinged
 25 structure provides a means for taking up the sagging, should such occur.

It sometimes happens that animals are able to lift a gate and crawl under the same, and this would occur quite easily with the
 30 balanced gate provided with the hinge member 10 and spring 17. Where such interference is likely the pin 15 may be normally inserted through the recesses 13, and this in no manner interferes with the use of the gate
 35 where obstructions to its opening or closing are found, since the pin 15 may be removed from the recesses 13 and the gate may have its front end elevated in the manner already described, so as to clear the obstructions, and
 40 afterward when the gate is closed the pin may be returned to the perforation coincident with the recesses 13.

What is claimed is:—

1. A gate provided with a hinge upon
 45 which the gate is movable longitudinally, and a spring connected between the gate and hinge for counterbalancing the weight of the gate.

2. A gate provided with a hinge opening upon which the gate is movable longitudinally, a spring connection between the gate and hinge for counterbalancing the weight of the gate, and means for locking the hinge to the gate in different positions of longitudinal adjustment. 50 55

3. A gate provided with a hinge upon which the gate is movable longitudinally, a spring connection between the gate and hinge for counterbalancing the weight of the gate, means for locking the hinge to the gate in different positions of longitudinal adjustment, and other means for preventing the front end of the gate from dropping beyond a predetermined point while yet preventing the elevation of the front end of the gate. 60 65

4. In a gate, a hinge member provided with a longitudinal series of perforations, a recessed member fast on the gate in coactive relation with the hinge member, and a pin adapted to the perforations of the hinge member and adjustable with relation to the recessed member to engage the latter through the recess or exterior thereto. 70 75

5. In a gate, a hinge member provided with a series of longitudinal perforations, a pin adapted to said perforations and to engage a fixed portion of the gate, and a spring secured at one end to the hinge member and at the other end to a fixed portion of the gate. 80

6. A gate provided with recessed members, a hinge member provided with a longitudinal series of perforations and in coöperative relation to said recessed member, a pin adapted to any one of the perforations either through the recess or exterior thereof, and a spring connected at one end to the hinge member and at the other end to a fixed portion of the gate. 85

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

GEORGE W. GOSS.
 CHARLES E. GOSS.

Witnesses:

E. O. WEIST,
 S. S. WEIST.