No. 859,626. PATENTED JULY 9, 1907.

M. A. STICKLEY.

FARM GATE.

APPLICATION FILED APR. 10, 1907.

2 SHEETS—SHEET 1.

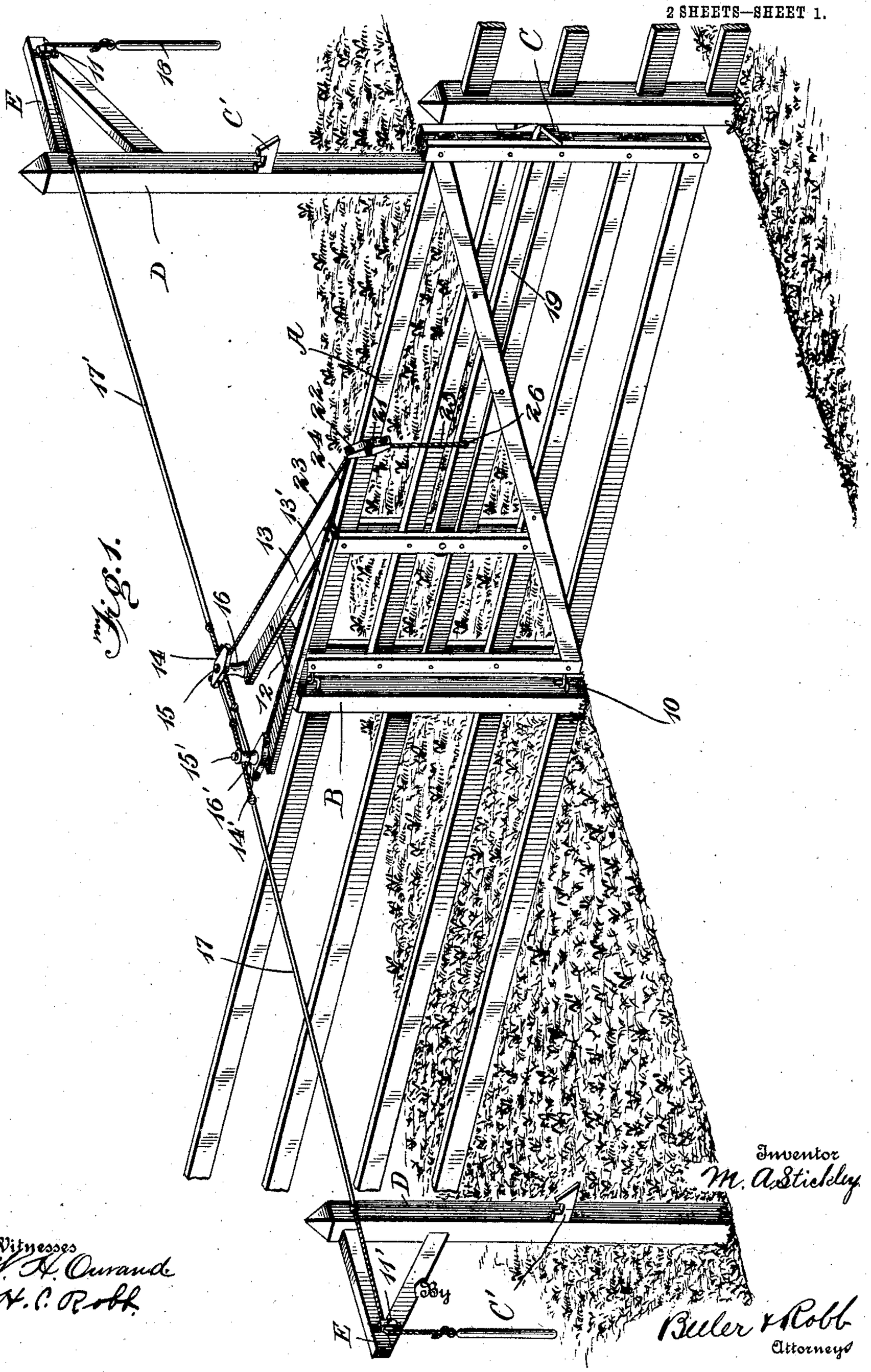

Fig. 1.

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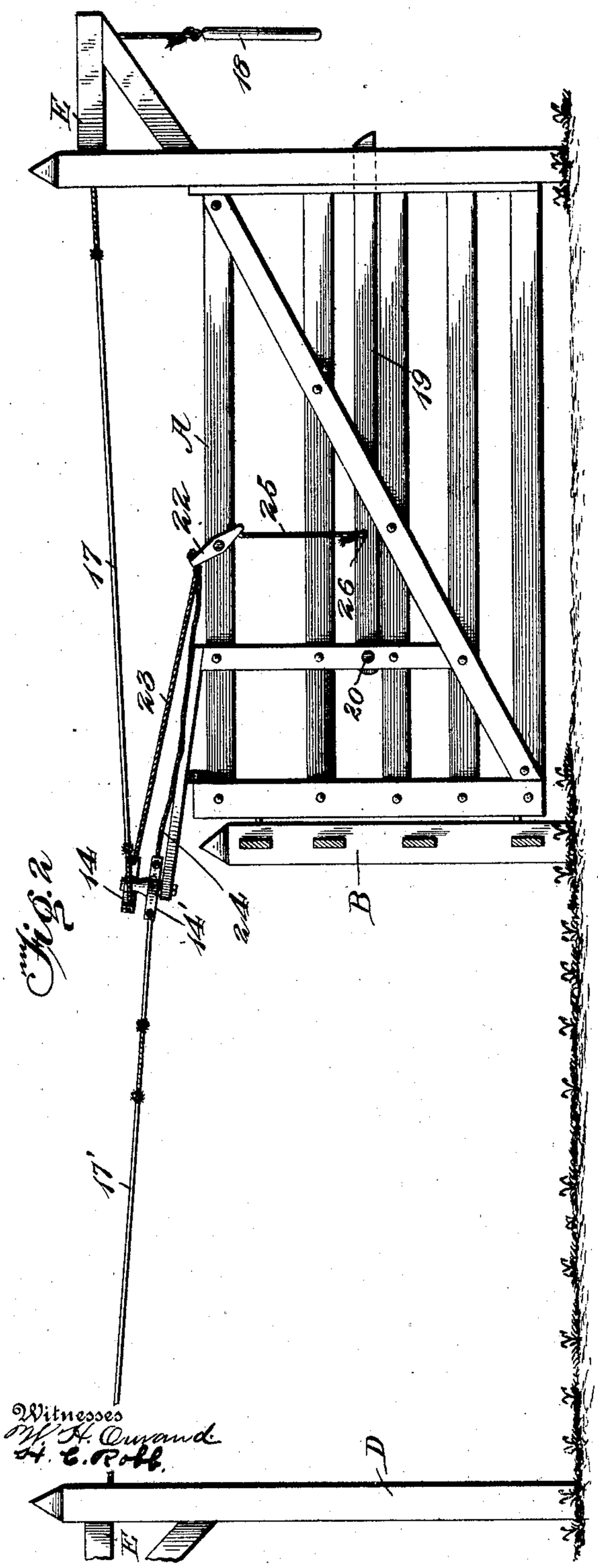

Fig. 2.

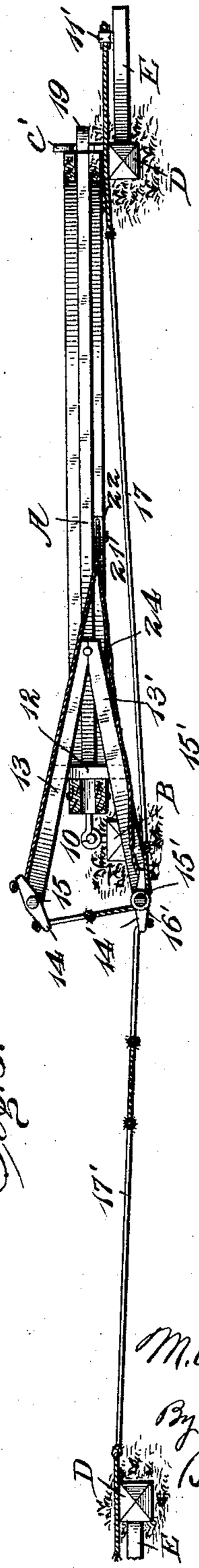

Fig. 3.

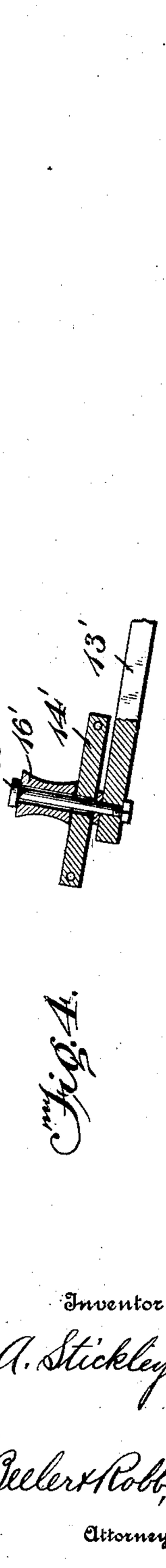

Fig. 4.

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UNITED STATES PATENT OFFICE.

MARCUS ALLEN STICKLEY, OF McDANIEL, MARYLAND.

FARM-GATE.

No. 859,626. Specification of Letters Patent. Patented July 9, 1907.

Application filed April 10, 1907. Serial No. 367,417.

To all whom it may concern:

Be it known that I, MARCUS ALLEN STICKLEY, a citizen of the United States, residing at McDaniel, in the county of Talbot and State of Maryland, have invented certain new and useful Improvements in Farm-Gates, of which the following is a specification.

This invention relates to the class of farm gates, and particularly to that type of gates which are adapted to be opened and closed by hand operated devices from on horseback or from a vehicle.

The particular object in the present improvement is the provision of means whereby gates now in common use may be easily and cheaply equipped with operating devices whereby such gates may be brought within the class of so called automatic gates.

Another object is the provision of means whereby gates of this class are more easily and effectively operated than usual.

A still further object is to so proportion and mount certain detailed parts of the mechanism as to provide draft means having the peculiar effect of initially releasing the latch of the gate and subsequently allowing the latch to have movement automatically and independently of the draft means even though a continued pull be exerted upon the said draft means.

For a full understanding of the invention and the merits thereof reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a general perspective view of the entire gate mechanism including the novel constructions herein specified; Fig. 2 is a rear elevation of the gate in open position; Fig. 3 is a plan view, and Fig. 4 is a detail view to be hereafter described.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring particularly to the figures of the drawings and to the reference characters applied thereto, A indicates a gate of any ordinary or approved construction hinged as at 10 upon the post B so as to swing laterally in either direction. Such gate is ordinarily provided with a suitable automatic latch which may be of any usual type, such that when independent of any outside influence it automatically co-operates with the catch C to lock the gate closed.

Located at a suitable distance on each side of the gate and at substantially right angles to the line of the gate when closed is a stop post D of any suitable construction, the said stop posts being substantially in alinement with the said gate post B. Each of the stop posts is provided with a catch C′, adapted to receive and co-operate with the latch aforesaid to hold the gate open. There is erected either in connection with or in proximity to each of the said stop posts a suitable support E upon which is mounted at the outer end of the same a pulley 11, the pulley being pivoted upon a horizontal axis. Upon the top of the gate and near the rear end thereof is placed a cross bar 12 which forms a partial support for a pair of spaced arms 13 and 13′ which are secured at their forward ends to the top panel of the gate, and whose rear ends project to a suitable distance beyond the vertical line of the pivots 10. Upon the said rear ends of the arms are pivoted operating levers 14 and 14′, so as to swing on their pivots in parallel horizontal planes. The said levers are pivoted upon studs 15 and 15′, respectively, and associated with the said levers and mounted upon the corresponding studs are guide members 16 and 16′, respectively, said guide members being shown herein as being spool shaped and adapted to rotate upon the said studs. The said levers and guide members of each set are inversely arranged so as to bring the corresponding elements of each set into parallel planes for a reason which will soon appear.

Connected with the lever 14 and extending past the guide member 16′ over the pulley 11′ is a draft means 17. This draft means may be of any suitable character such as a chain, wire, or cord. It is preferred, however, for the sake of cheapness and durability that the said draft means be composed principally of wire, certain parts thereof which co-operate with guiding devices and which require a great deal of flexibility may be made of cord or rope. Such sections being short may be provided at small expense, and renewed when necessary. Secured to the lever 14′ and extended in the opposite direction past the guide member 16 and over the pulley 11 is a corresponding draft means 17′. It will now be seen that by arranging the elements 14 and 16 in different planes with respect to the corresponding elements 14′ and 16′, the draft means 17 and 17′ will be prevented from interfering with each other in an obvious manner. At the outer end of each of the said draft means is provided a handle 18 of any suitable length or construction.

Reverting now to the latch construction, the same is shown herein as of the pivoted and gravity operating type, the latch 19 being pivoted at 20 so as to swing in a vertical plane and to automatically co-operate with the catch C. In this type of gate, it is essential that means be provided whereby an initial pull upon the draft means for opening the gate will operate to release or unlock the latch, and to this end connections are provided extending from the said levers 14 and 14′ to co-operate with the latch to release the same. In this instance there is pivoted upon the gate at or near the top thereof at the point 21 a bar or lever 22, which may be of somewhat the same construction as the lever 14. In place of the said lever 22 an ordinary pulley may be pivoted if desired, or any other suitable direction changing device. A connection 23, of suitable construction such as cord or wire extends from the inner end of the lever 14 to the upper end of the lever 22, and a corre-

sponding connection 24 extends from the inner end of the lever 14′ to the same point at the upper end of the lever 22. A draft upon either of the connections 23 and 24 will, therefore, turn the said lever 22 upon its pivot. The lower end of the said lever 22 is connected with the latch by means of a connection 25 secured in any suitable manner to the latch at the point 26 at any suitable distance between the latch pivot 20, and the outer end of the gate.

From the foregoing detail description of the parts of the improved mechanism, the operation of the same will be understood to be substantially as follows: A person approaching the gate and desiring to open the same, will pull downward upon the handle 18, exerting a pull upon the draft means 17, the first effect of which is to swing the lever 14 upon its pivot stud 15, whereby the connection 23 will be drawn toward lever 14 swinging the top of the lever 22 toward the gate hinge and lifting the latch out of engagement with the catch. A continued pull, however, upon the draft means 17 will exert a direct pull upon the lever 14, and said direct pull will be received by the stud 15 and arm 13 causing the gate to swing upon its pivot in a direction away from the operator. The connection 23 by reason of the aforesaid direct pull of the draft means upon the stud 15 will at a certain predetermined point in the said opening movement of the gate become slack allowing the latch free movement independently of the said draft means, even though a pull be continued indefinitely upon the said draft means. It will therefore be seen that as the gate approaches the stop post D the latch will be free to automatically engage with the catch C′ associated with said stop post D, irrespective of whether it is found necessary to exert a continued pull upon the draft means, but as is often the case it is necessary to give an additional impulse to the gate at such time in order to completely open the same. In actual practice of this type of gates it is by no means an uncommon occurrence for the gate when nearly open to be given a reverse impulse by some unforeseen circumstance, such as a gust of wind, which necessitates the operator if he still has the draft means in his control to give an additional draft upon the same in order to lock the gate open, but if the draft means should exert a corresponding pull upon the latch operating means at such time it will be obvious that the latch would be prevented from automatically co-operating with the catch at just the time required to lock the gate open.

It will be understood that the latch 19 is of sufficient length and weight to overbalance the intermediate connections and be in position to automatically co-operate with the catches whenever required. During the opening movement of the gate as above described the draft means 17′ will come into idle co-operation with the guide member 16 where it will remain while the gate is open. After passing through the gate the operator will pull downward upon the handle 18 to which he will be then adjacent, exerting the pull upon the draft means 17′, which will be first transmitted to the latch to release the same through the lever 14′ and connection 24, and a subsequent pull upon the said draft means 17′ will operate to swing the gate upon its hinges toward its closed position, in an obvious manner. The gate will now be ready to be opened in either direction, as before.

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

1. Operating mechanism for a farm gate comprising, in combination, spaced arms to be secured to the gate, levers pivoted on the said arms at one end thereof, a guide roller for each of said levers and pivoted coaxially therewith, draft means attached to the ends of said levers, respectively, at one end thereof, the draft means for each lever co-operating with the guide roller of the other lever, and latch connections secured to the other ends of the said levers, substantially as shown and described.

2. An improved farm gate mechanism comprising, in combination, a gate hinged to swing laterally in either direction, an automatic latch to hold the gate normally closed, stop posts each having a catch to co-operate with the latch to hold the gate open at will, spaced arms secured to the gate and projecting rearwardly beyond the axis of the gate hinges, a lever and an associated guiding member pivoted upon the rear end of each of said arms, draft means extending from the aforesaid stop posts and severally connected to the rear ends of the said levers and adapted to co-operate with the said guiding members, respectively, and flexible connections between said levers and the latch.

3. The combination of a gate, a pivoted gravity latch therefor, spaced draft arms secured to the gate and projecting rearwardly beyond the vertical axis of the gate hinges, levers pivoted on the vertical studs on the rear ends of said draft arms, a lever pivoted at the top of the gate on a horizontal pivot, flexible draft means connected with the several levers on the ends of the draft arms, the draft means for each draft arm lever being guided past the axis of the other draft arm lever, flexible connections between the inner ends of said levers and the upper end of the lever pivoted to the top of the gate, and a connection between the lower end of the last named lever and the latch.

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

MARCUS ALLEN STICKLEY.

Witnesses:
O. H. Benson,
W. D. Thompson.