No. 874,165. PATENTED DEC. 17, 1907.

H. L. COATS.

GATE AND OPERATING MEANS THEREFOR.

APPLICATION FILED APR. 3, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

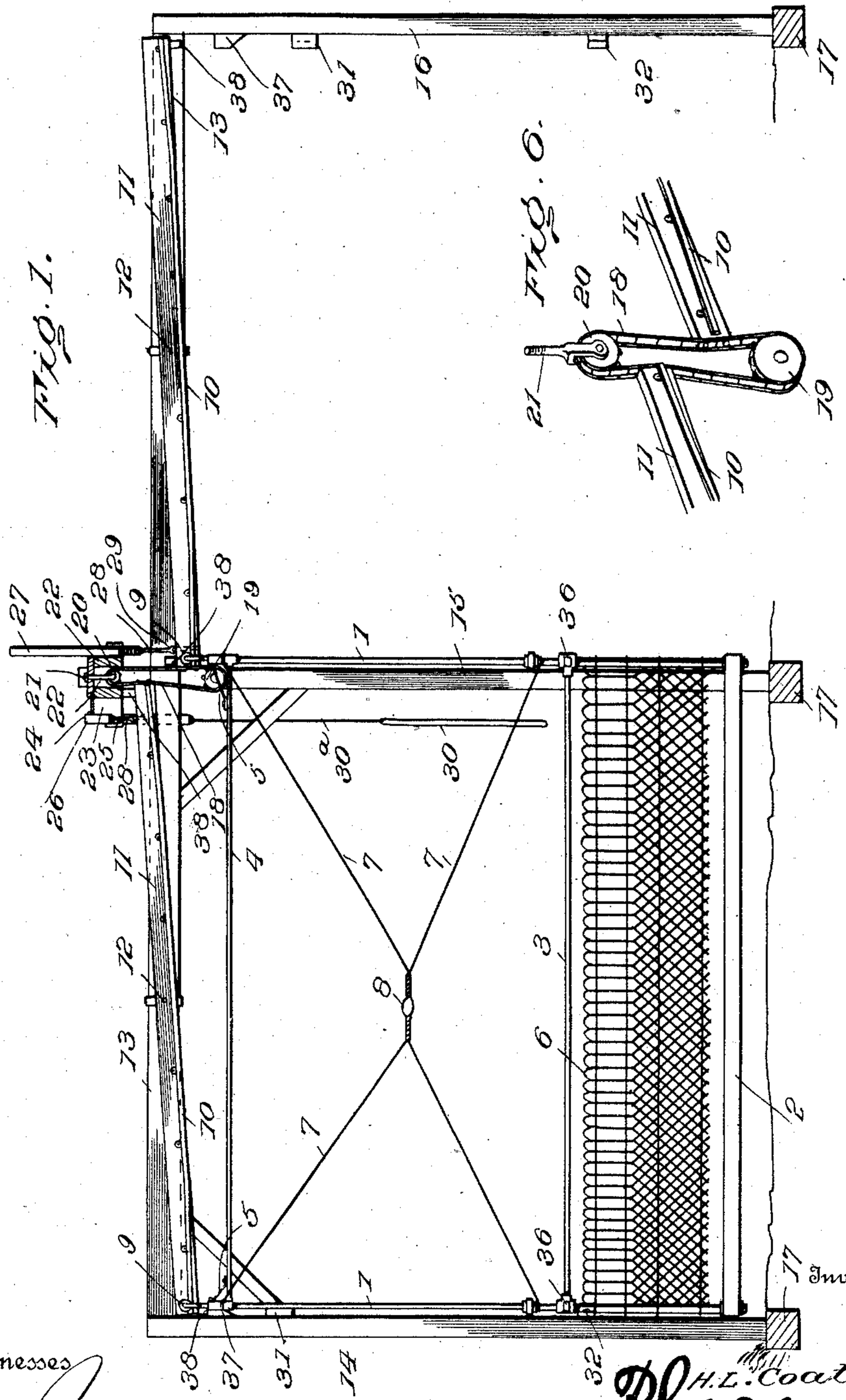

Fig. 6.

Witnesses

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2 SHEETS—SHEET 2.

FIG. 2.

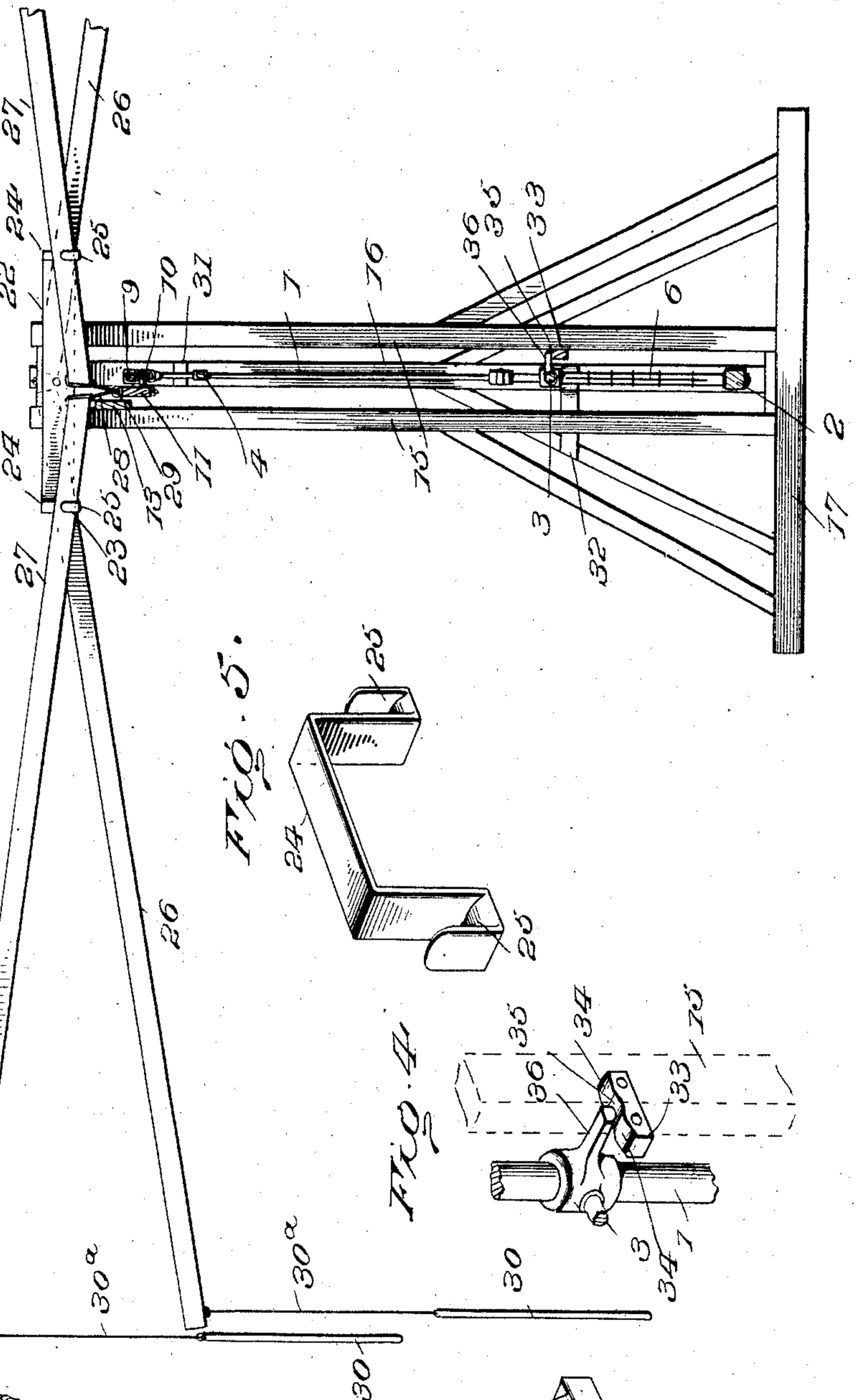
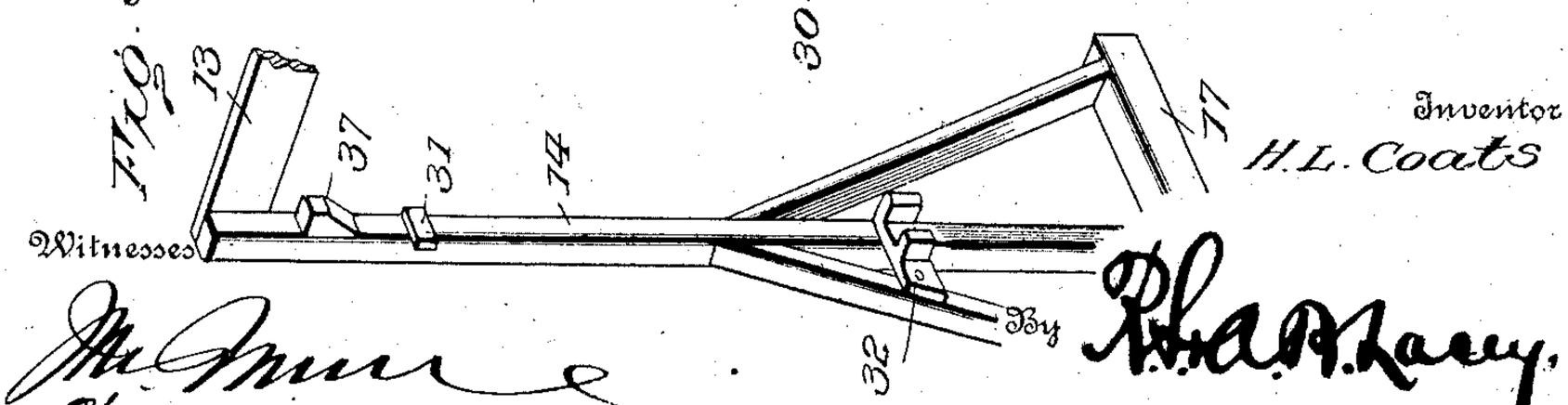


FIG. 5.

FIG. 4.

FIG. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY L. COATS, OF MOSCOW, IDAHO.

GATE AND OPERATING MEANS THEREFOR.

No. 874,165. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed April 3, 1907. Serial No. 366,212.

To all whom it may concern:

Be it known that I, HENRY L. COATS, a citizen of the United States, residing at Moscow, in the county of Latah and State of Idaho, have invented certain new and useful Improvements in Gates and Operating Means Therefor, of which the following is a specification.

This invention has for its object an improved construction of gate and operating means therefor whereby the gate may be opened and closed with a minimum of effort and without shock, or strain upon the parts, and a further object of the invention is to provide an improved sliding gate which will be simple in construction, as well as durable, and efficient in operation, being susceptible to movement by persons on foot as well as those who are riding or driving along the road.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, combinations, and arrangements of the parts which I shall hereinafter fully describe and then point out the novel features in the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a gate embodying the improvements in my invention; Fig. 2 is a transverse sectional view thereof; Fig. 3 is a detail perspective view of one of the end standards or posts; Fig. 4 is a detail perspective view of a latch and its keeper; Fig. 5 is a detail perspective view of one of the straps that form supports for the actuating levers; and, Fig. 6 is a detail perspective view illustrating the operative connection between the adjacent ends of the tilting beams.

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.

The gate proper may be of any desired construction or design and may be composed either of wood or metal, or a combination of the two, and in the present instance, the said gate has metallic uprights 1 that are connected together in spaced relation by means of a bottom beam or sill 2, an intermediate cross rod 3, and an upper cross rod 4, which may be braced as indicated at 5. If desired, the lower end of the gate may embody a panel 6 of ornamental wire work or the like as clearly illustrated in the drawing. If desired, also, the gate may be braced above the panel 6 by means of the wires 7 that are preferably twisted together.

As above stated, my improved gate is adapted to slide or glide in a horizontal plane over and away from the opening which it is designed to close, and to this end the said gate is provided at its upper end with rollers or wheels 9 by which it is suspended from two tracks or rails 10 secured to and carried by independently mounted beams 11 that are arranged in substantially longitudinal alinement and preferably in about the same horizontal plane, said beams being mounted to rock about horizontal axes 12 and being supported from longitudinally alined cross beams 13. These beams 13 are supported at their ends on end standards 14 and 16, and an intermediate pair of standards 15 which are spaced from each other as shown in the transverse sectional view. These standards may be supported on mud sills 17 secured rigidly thereto by means of diagonal braces as shown.

The two beams 11 are arranged end to end as above indicated, and are mounted for simultaneous movement by means of a sprocket chain 18 which has two vertical runs, as shown, that are connected, respectively, to the adjacent ends of the beams 11, and that extend around lower and upper sprocket or flange wheels located between the intermediate pair of standards 15. The lower sprocket wheel is designated 19 and the upper is designated 20, and they both may be in the nature of pulleys or sheaves suspended from tension bolts 21.

Secured to the two middle standards 15 and at right angles to the gate are two transversely extending blocks 22 across the ends of which are hanger straps 24, each of which is formed at its ends with upwardly facing hooks 25. Two levers 26 are fulcrumed, end to end, in the two hooks 25 on one side, and another pair of levers 27 is fulcrumed in the respective hooks at the opposite side, and each lever is provided at its inner end with a link 28 by which the levers on the same side are connected to the eye bolt 29 in one of the beams 11. It will thus be understood that by pulling down upon either of the levers 26, both of the beams 11 will be rocked in one

direction, through the instrumentality of the chain 18 and that by pulling down either of the other pair of levers 27, the said rocking beams 11 will be moved in the opposite direction. The parts which carry the hanger straps 24 and their hooks, which serve as fulcra for the levers are intended to extend some distance over the road way so that the levers may be set over the road way sufficiently to render it unnecessary to drive either one side or the other to grasp the hand pieces 30 that are suspended from the outer ends of the respective levers by means of the flexible connections 30[a].

31 designate two stops which project outwardly from the end standards 14 and 16 so as to limit the movement of the gate in either direction.

32 designates guides which are adapted to receive the ends of the gate at the limit of movement of the latter in either direction, and 33 designates a keeper which is secured to one of the intermediate posts 15 and which is formed with two beveled surfaces 34 extending in opposite directions on its upper edge, said surfaces merging in a slightly depressed resting surface 35. A latch 36 is secured to that end of the gate which is next to the keeper 33 when the gate is closed, and a similar latch is secured to the opposite end of the gate, either one of said latches being adapted to ride up the slightly beveled surface 34 on to the resting surface 35 to hold the gate either fully open or fully closed. These beveled surfaces are so slight that while they will hold the gate fully open or fully closed in connection with the latch, yet they will in no wise interfere with the proper movement of the gate in either direction.

In the practical operation of my improved gate, the rocking beams 11 are operated by the levers 26 or 27 as the case may be, and this rocking movement of the beams 11 will manifestly change the inclination of the tracks 10 as a whole and permit the gate to glide along in one direction or the other, according to the direction in which the said beams have been rocked. It is to be particularly noted that the tracks are slightly curved upwardly at their ends, so as to retard slightly the movement of the gate in either direction when it nearly reaches the limit and thereby prevent any jar upon the termination of the closing or opening movement. In order to prevent any shock to the parts by the operation of the beams 11, I provide the ends of said beams with buffers 38. The buffers at the outer ends of the beams are adapted for engagement with buffer-blocks 37 secured to the end standards 14 and 16, while those at the inner ends of the beams are intended to engage the side blocks 22.

From the foregoing description in connection with the accompanying drawings, it will be seen that I have provided a very simple and efficient sliding gate, such that a slight movement of one of the operating levers, which may be effected by very little exertion will tilt the two beams 11 in one direction or the other and will cause the rollers 9 mounted on the respective tracks carried by the beams to roll along the beams in one direction or the other and cause the gate to glide easily along the tracks either towards or from the opening where it is located, the gate being always held in a true horizontal position while moving and being effectually prevented from getting out of plumb.

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

In combination, a gate, elevated supports upon which said gate is mounted to glide horizontally, said supports including end posts and a pair of intermediate posts spaced from each other, transversely extending blocks mounted upon the middle posts at right angles to the gate, a pair of hanger straps extending across the ends of said blocks and each strap provided at its ends with upwardly facing hooks, two levers fulcrumed end to end in the two hooks on one side, another pair of levers fulcrumed in the respective hooks at the opposite side, each lever being provided at its inner end with a link, elevated beams mounted to rock about horizontal axes and located end to end and extending oppositely from the pair of intermediate posts, the said links being connected to the adjacent ends of said beams, tracks carried by the beams, rollers mounted to travel on the respective tracks, the gate being suspended from said rollers, and a connection between the adjacent ends of the two beams whereby both beams will be rocked in the same direction upon the actuation of either.

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

HENRY L. COATS. [L. S.]

Witnesses:

K. A. NEAL.

FRED VEATCH.