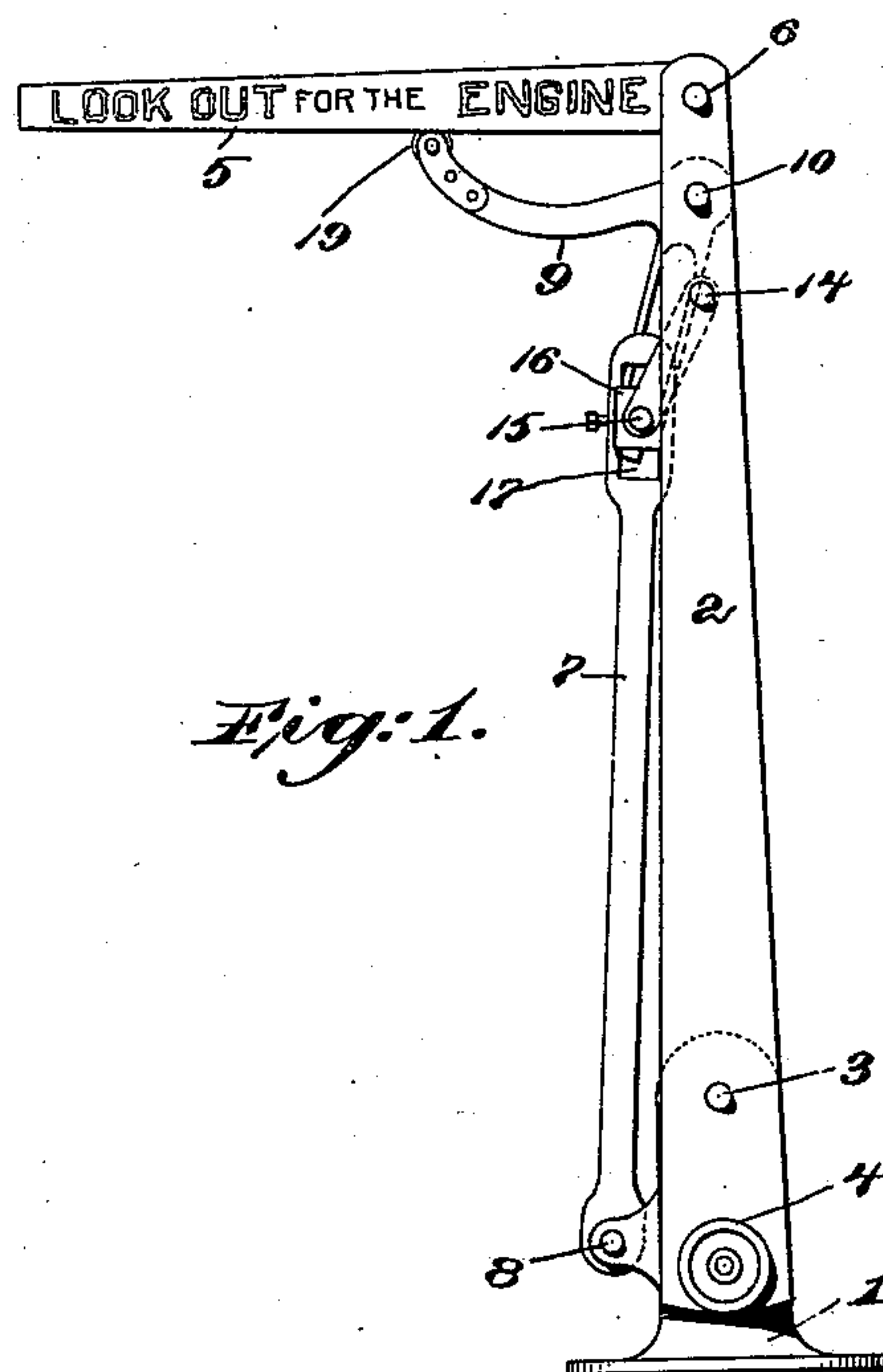
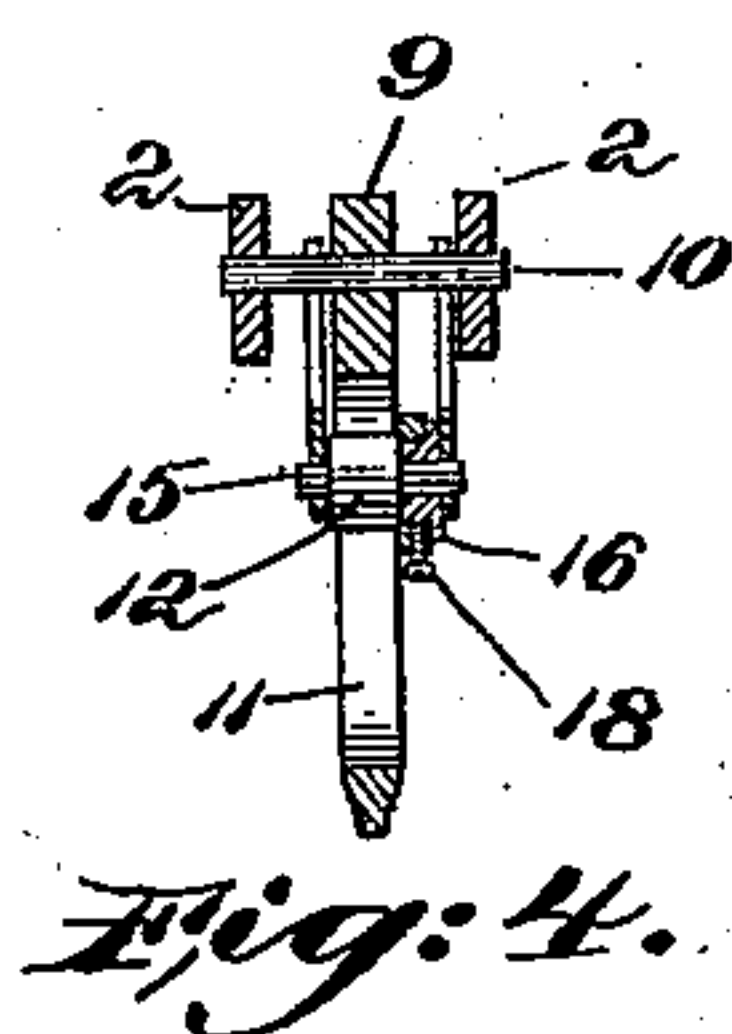
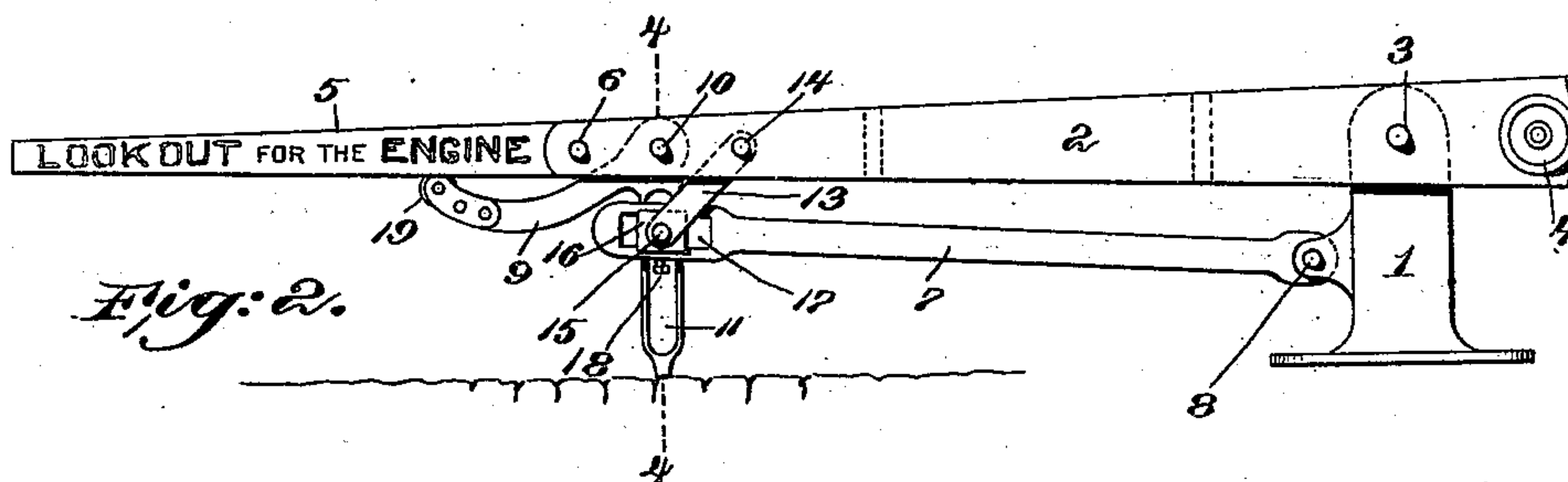
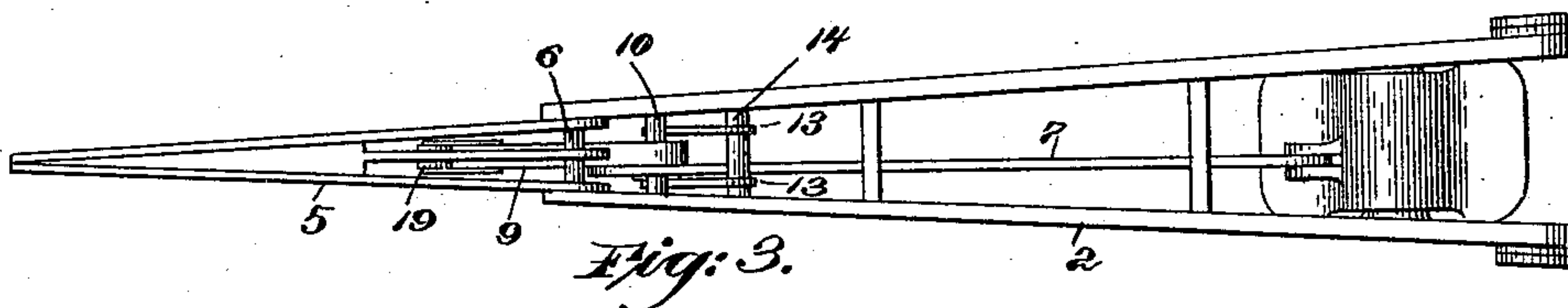


(No Model.)

W. MARTIN.
RAILWAY CROSSING GATE.

No. 547,795.

Patented Oct. 15, 1895.



Witnesses.

Arthur F. Randall,
Alice H. Morrison.

Inventor.

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by Maceo Calver & Randall
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UNITED STATES PATENT OFFICE.

WILLIAM MARTIN, OF SALEM, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
THOMAS F. LITTLE, OF SAME PLACE.

RAILWAY-CROSSING GATE.

SPECIFICATION forming part of Letters Patent No. 547,795, dated October 15, 1895.

Application filed April 6, 1895. Serial No. 544,732. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MARTIN, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Railway-Crossing Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to that class of railway-gates in which there is employed an arm or mast that is pivoted to a post or the like support at one side of a street or road which crosses the track, said mast or arm being pivotally mounted on the said post or other support and normally occupying a vertical or upright position, but having capacity for being swung down into a horizontal position parallel with the track and across the street or road. It has been proposed heretofore to construct a railway-gate of the character above set forth, so that when the mast or arm is down it will project to its full length across the street or road, closing the same to traffic, but when the said mast or arm is raised it will shorten or fold upon itself so as not to interfere with overhead wires or other structures or trees which may be adjacent to the gate.

My invention relates more particularly to railroad-gates of the variety in which the mast or arm is caused thus to shorten or fold upon itself in being raised and is straightened out to its full length in the process of being lowered into position across a street or road.

It consists in an improved construction and combination of parts which I will now proceed to describe, with reference to the accompanying drawings, after which I will more particularly point out and distinctly define the distinguishing characteristics thereof in the claims at the close of this specification.

In the drawings, Figure 1 is a view illustrating a gate embodying the best form of my invention which I have yet devised, the mast or arm being in its elevated position. Fig. 2 is a view in side elevation, showing the gate depressed into its working position. Fig. 3 is a view in plan of the gate when in the position which it occupies in Fig. 2. Fig. 4 is a section on line 4 4, Fig. 2.

At 1 is a post or standard of any suitable construction.

2 is the main part of the mast or arm, it being pivoted to the said post or standard at 3, and carrying counter-weights at 4, as usual. At 5 is the tip or end portion of the mast or arm, it being connected pivotally with the main part 2 at 6. At 7 is a rod or bar having its lower end connected pivotally at 8 with the post or standard 1. The main part 2 of the mast or arm and the rod 7 are both arranged to swing in the same vertical plane, and each moves through an arc of substantially ninety degrees. The two pivotal points 3 and 8, however, are eccentrically disposed with reference to each other, and hence, as will be understood, in consequence of swinging about two different centers, the parts 2 and 7 change positions relatively to each other as they rise and fall. As is indicated in Figs. 1 and 2, in the depressed or working position of the gate shown in Fig. 2 the outer or free end of the rod or bar 7 is more nearly out to the extremity of the corresponding portion of the part 2 of the mast or arm than it is in the elevated position of the gate that is shown in Fig. 1.

Between the rod or bar 7 and the tip portion 5 of the mast or arm I dispose connections, whereby as the gate swings from the position shown in Fig. 1 into that shown in Fig. 2 the said tip portion 5 is carried out or extended until finally it comes into line with the main part 2, and whereby, also, as the gate is swung back again into the position that is shown in Fig. 1 the tip portion 5 is allowed to turn on its pivotal connection with the main part 2 until it again stands at right angles to the said main part.

These devices are constructed and arranged as follows: 9 is a bell-crank, which is pivotally connected at its angle to the main part 2, as at 10. One arm thereof is in sliding engagement with the free end of the rod or bar 7. I have shown the said arm slotted lengthwise thereof, as at 11, and receiving in the said slot a pin or roller 12 or the like device, projecting from the side of the said rod or bar 7. A radius bar or link 13 is pivotally connected, by its one end at 12 to the part 2 of the mast or

arm and by its other end at 15 to the rod or bar 7 or some part carried thereby. I have shown this latter end of the radius-bar 13 as pivotally joined at 15 to a block 16, which also carries the pin or roller 12 and is mounted in the slot 17, formed lengthwise of the rod or bar 7, said block being secured at the desired position in the said slot by means of the clamping-screw 18, which passes through a part of the rod or bar 7 and engages by its inner end with the block 16. The other arm of the bell-crank 9 engages with the tip portion 5 of the mast or arm. I have shown the said tip portion as resting by its weight on the extremity of the latter arm, a roller 19 being journaled on the said extremity to reduce the friction. The radius bar or link 13 serves to hold the outer end of the rod or bar 7 at the proper distance from the main part 2 of the mast or arm. When the mast or arm is in its raised position, as in Fig. 1, the position of the rod or bar 7 relatively to the other parts is such as to locate the pin 12 at the outer extremity of the slot 11 in the bell-crank and draw the said bell-crank into a position which holds the tip portion 5 horizontally extended and at right angles to the main part 2. As the gate swings down into the working position represented in Fig. 2, the difference in the arcs described by the outer or free ends of the parts 2 and 7 causes the bell-crank 9 to be swung on its pivotal connection with the part 2, carrying with it the tip portion 5. When the gate finally comes into its lowest position, the said tip portion 5 is extended in line with the main part 2. The slotted arm of the bell-crank 9, as indicated in Fig. 2, is utilized as a rest or prop, which by coming in contact with the ground at its free end sustains the gate. When the gate is being returned from the position shown in Fig. 2 into the position that is represented in Fig. 1, the difference in the arcs described by the parts 2 and 7 causes the bell-crank and the tip portion 5 supported thereby to return gradually into a position which locates the tip portion 5 substantially at right angles to the main part. By means of the slot 17 and securing-screw 18 the block 16 and its pin 12 may be adjusted to positions at different distances from the pivotal point of the rod or

bar 7, thereby enabling the position of the tip portion 5 relatively to the main part 2 in each of the extreme positions of the gate to be varied. The adjustment described is equivalent to that which would be secured by varying the length of the rod or bar 7. In fact, the said adjustment renders the rod or bar variable in its effective length. As will be perceived, when the gate is down in the position in which it is represented in Fig. 2 the rod or bar 7 obstructs the space beneath the main part 2, thereby preventing people from crawling beneath, as heretofore has commonly been done.

I claim as my invention—

1. The combination with the main part 2 and rod or bar 7 swinging on different centers, of the tip portion 5 and bell-crank 9 pivotally mounted on said main part 2, the said bell-crank having one arm thereof in sliding engagement with the rod or bar 7 and the other operating the said portion 5, substantially as described.
2. The combination with the main part 2 and rod or bar 7 swinging on different centers, of the tip portion 5 and bell-crank 9 pivotally mounted on said main part 2, the said bell-crank having one arm thereof in sliding engagement with the rod or bar 7 and the other operating the said portion 5, and the radius-bar or link 13 confining the end of said rod or bar 7, substantially as described.
3. The combination with the main part 2 and rod or bar 7 swinging on different centers, of the tip portion 5 and bell-crank 9 pivotally mounted on said main part 2, the said bell-crank having one arm thereof extended to form a prop or support for the gate in the depressed position of the latter, and also in sliding engagement with the rod or bar 7, and the other operating the said portion 5, and the radius-bar or link 13 confining the end of said rod or bar 7, substantially as described.

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

WILLIAM MARTIN.

Witnesses:

WM. A. MACLEOD,
CHAS. F. RANDALL.