



(No Model.)

M. E. COMPANY.  
RAILWAY GATE.

2 Sheets—Sheet 2.

No. 547,391.

Patented Oct. 1, 1895.

Fig. 2.

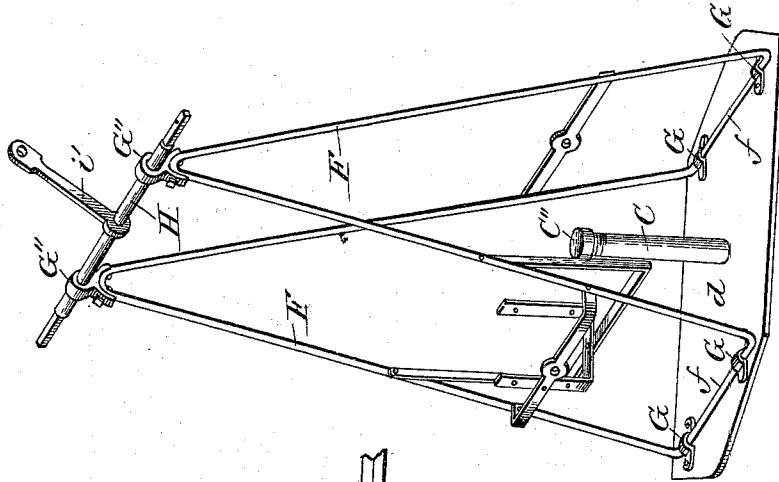
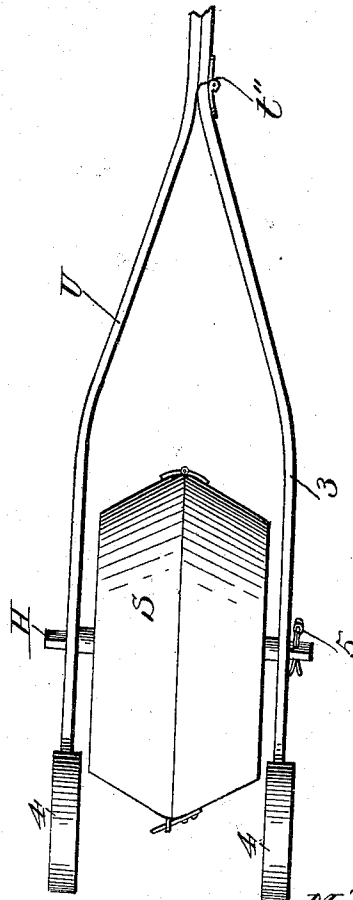


Fig. 4.



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# UNITED STATES PATENT OFFICE.

MILTON E. CAMPANY, OF HAMILTON, MICHIGAN.

## RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 547,391, dated October 1, 1895.

Application filed November 27, 1894. Serial No. 530,179. (No model.)

*To all whom it may concern:*

Be it known that I, MILTON E. CAMPANY, a citizen of the United States, residing at Hamilton, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Railway-Gates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of railway-gates which are placed where a street or highway crosses a railroad, tramway, or any thoroughfare where teams, pedestrians, street-cars, and other conveyances are in danger from approaching trains.

My improved crossing-gate differs in many respects from the crossing-gates now in use, and is designed to be lighter, more simple, and more easy to manufacture, one great difference in construction being that none of the gate-operating mechanism is fastened to the casing or covering, it all being attached and supported upon a plate which forms a base for the gate proper. By this means I am enabled to make the casing of lighter and thinner material, whereby it can be stamped or pressed from a sheet of steel or other suitable material into the proper and desired shape and form. Electricity is the preferred form of motive power. However, any other actuating-force may be employed for operating the gate. Worm-gearing is the preferred form of power-transmitting gearing, as by its use the gate is practically locked in the located position and can only be moved by actuating the said gearing from the source of motive power provided for operating the gate.

Another important feature of the improvement is the mounting of the gate so that the said gate and its operating mechanism will turn about a vertical axis, thereby permitting a person or vehicle to escape should they be shut in between the gates. This result has been aimed at by hinging the gate-arm; but the results are unsatisfactory, owing to the short length of the gate-arm.

The improvement consists of the novel features and the peculiar construction and combination of the parts, which hereinafter will be more fully described and claimed, and which are shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a railway-gate and its actuating mechanism, the door of the casing being opened to expose the said actuating mechanism. Fig. 2 is a perspective view of the frame or structure to which the actuating mechanism is attached. Fig. 3 is a detail view of the base and the vertical axis or spindle about which the gate and its actuating mechanism turns. Fig. 4 is a top plan view of the gate and the casing.

The base *d* is centrally provided with a tubular extension *C*, closed at its upper end by a cap *C'*, forming a bearing for the upper end of a vertical post *d''*. This post is firmly secured in the ground, so as to carry the weight and not give under the strain to which the gate will be subjected in the rotation of the base and the attached parts. A coil-spring *e* is mounted on the post *d''* and has one end attached thereto and the other end made fast to the base *d*. This spring is designed to return the base to a normal position after being turned to permit the escape of a person caught or shut in between the gates. A frame is attached to the base to form a support for the shaft *H*, to which the gate *U* is secured. This frame is composed of two similar side pieces *F*, each comprising two members oppositely disposed, forming an inverted-V-shaped standard. The lower ends of these standards are connected by cross-pieces *f*. The standards and the cross-pieces are preferably formed of gas-pipe or similar tubing. The frame is secured to the base by means of clips *G*, which embrace the cross-pieces *f*. The shaft *H* is journaled in bearings *G''*, made fast to the upper ends of the side standards, and has its end squared and projected through the sides of the case. An arm *i''* extends from the shaft and is connected by pitman *b''* with a crank *i* on the power-driven shaft 2, mounted in bearings *K*, carried by the base *d*. The electric motor is suitably supported by the frame *F F*, and the armature *L''* has its shaft extended and provided with a worm-gear *a''*,

which meshes with a gear-wheel *b*, whose teeth mesh with the threads of the worm-gear *a''*. This gear-wheel *b* is mounted upon the shaft

2. Pins *m* project laterally from the side of the gear-wheel *b* and form stops to hold the gate open and closed. A pivoted catch *m''* is horizontally disposed upon the base *d* and has its hooked end adapted to engage with the stops *m* and limit the movement of the gate and hold it in the required position. A lever *o*, pivoted at one end, has its other end connected by a rod *P* with the outer end of the catch and is provided with an armature *n''* to be attracted by the field-magnet *L* of the motor on establishing the circuit, so as to be attracted thereby and disengage the catch from the gear-wheel *b* prior to moving the gate from either position. A spring *p''* returns the lever *o* to a normal position after the circuit is interrupted, so that the catch *m''* will occur in position to engage with the proper stop *m*. The casing *S* is of pressed sheet metal and is composed of two parts which are hinged together at one edge and secured by a suitable lock at the other edge. By this construction—that is, having the case formed of sheet metal—the structure is light and the case can be cheaply manufactured. The gate *U* has its inner end bifurcated and spanning the case, the bifurcated ends being mounted upon the ends of the shaft *H* and counterbalanced by weights *4* in the usual manner. One of the bifurcated ends, as *3*, is hinged at *h''* to permit this part to be turned when it is desired to gain access to the case for any required purpose. A pin *5* passes through an opening in the end of the shaft and secures the end *3* in the proper position.

Suppose a person or vehicle is caught between the gates when closing them, the gate can be turned to permit the escape of the said person or vehicle by lateral pressure being brought against the said gate. Not only does the gate turn, but the base and the attached parts also turn. As the base *d* turns, the spring *e* has its tension increased, and on releasing the gate the spring *e*, regaining itself, returns the gate to a normal position. To open or close the gate it is necessary to establish the circuit which energizes the field-magnets and causes the attraction of the armature *n''* and the release of the catch *o* from the gear-wheel *b*. The motor being set in motion opens or closes the gate, as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The herein-described improved railroad gate, comprising a pivotally supported inclosing casing, a frame or support mounted within said casing, a shaft mounted in suitable bearings in said frame or support and extending through the sides of said casing, and the gate

secured to said shaft, substantially as set forth.

2. The herein-described improved railway gate, comprising a pivotally-supported inclosing casing, a frame or support mounted within said casing, a shaft mounted in suitable bearings in said frame or support and extending through the sides of said casing, a gate secured to said shaft, and means for raising and lowering said gate, substantially as set forth.

3. The herein-described improved railway gate, comprising an inclosing casing having its base-plate pivotally mounted upon a pivot rod or post, a supporting frame secured within said casing, a shaft mounted in suitable bearings in said frame and extended through the sides of said casing, a gate secured to said shaft, mechanism for raising and lowering said gate, and means for holding the same locked when either raised or lowered, substantially as set forth.

4. The combination with a pivot rod or post, of a casing having a base-plate pivotally secured on said rod or post, a shaft pivotally mounted in said casing, a gate mounted on said shaft, and means for raising and lowering said gate, substantially as set forth.

5. The combination with a pivot rod or post, of a casing having a base-plate, a cylindrical sleeve secured to said base-plate and adapted to fit on said pivot rod or post, a spring secured to said pivot rod or post and said base-plate, a shaft pivotally mounted in said casing, a gate secured on said shaft, and means for raising and lowering said gate, substantially as set forth.

6. The combination with a pivot rod or post, of a two-part casing having a lower base-plate pivotally secured on said rod or post, a shaft pivotally mounted in said casing, a railroad gate having bifurcated ends secured to said shaft, one of said ends being hinged to the main body of said gate, and means for raising and lowering said gate.

7. The herein-described improved railroad gate, comprising a pivotally supported inclosing casing, a supporting frame secured in said casing, a shaft mounted in suitable bearings in said frame and extended through both sides of said casing, a gate secured to said shaft, a crank-arm also secured to said shaft, a gear wheel mounted in said casing and having pins or stops near its periphery, a pitman connecting said crank-arm and said wheel, a locking lever designed to engage said pins or stops, and means for operating said gear-wheel, substantially as set forth.

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

MILTON E. CAMPANY.

Witnesses:

C. E. SIPLE,  
H. A. SEARS.