March 2, 1926. 1,575,248

J. ANDY

CROSSING GATE

Filed June 12, 1924

Fig. 1

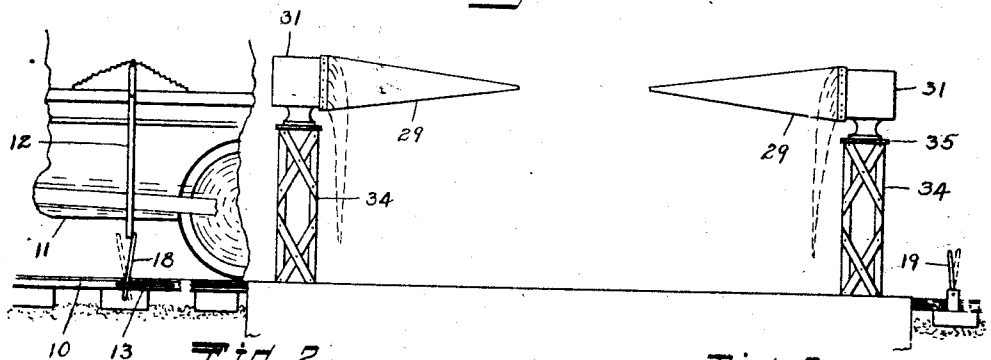


Fig. 2

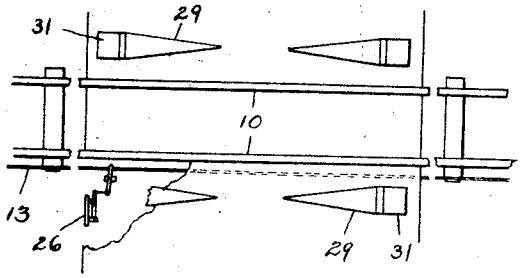


Fig. 3

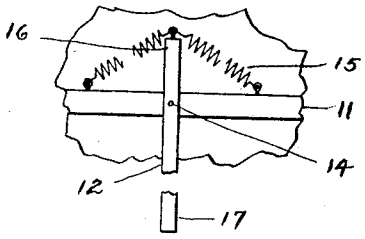


Fig. 4

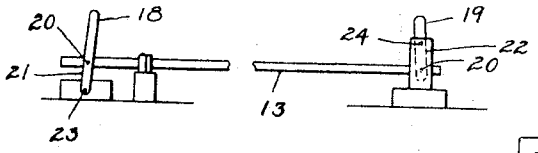


Fig. 5

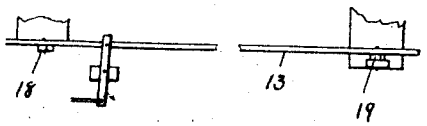


Fig. 6

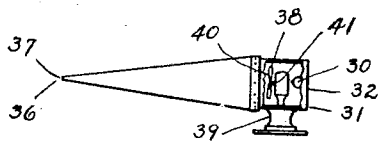


Fig. 7

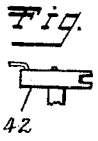
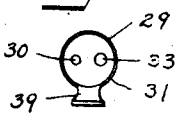
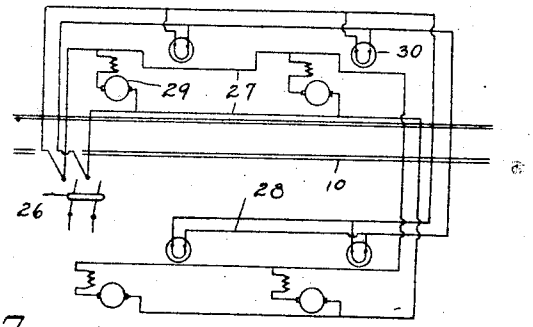


Fig. 8





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Patented Mar. 2, 1926. 1,575,248

UNITED STATES PATENT OFFICE.

JEREMIAH ANDY, OF NEWINGTON, CONNECTICUT.

CROSSING GATE.

Application filed June 12, 1924. Serial No. 719,681.

To all whom it may concern:

Be it known that I, JEREMIAH ANDY, a citizen of Italy, residing at Newington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Crossing Gates, of which the following is a specification.

My invention relates to improvements in crossing-gates, of the form that is used at railroad crossings, at the intersection of a highway with a railroad, and involving automatic movement responsive to the movements of a train or car and the object of my improvement is to produce a gate in the form of an inflated structure having flexible and collapsible side walls of fabric or rubber or the like and that is adapted when in the operating condition to be extended over the highway, in a manner analogous to a gate, and that can be brushed aside without serious consequences in case of accidental forcible contact therewith, means being provided effecting the inflation at the proper time.

In the accompanying drawings:—

Figure 1 is a side elevation of a crossing-gate structure embodying my invention and installed at a railroad crossing, part of a locomotive being also shown.

Figure 2 is a plan view of the same on a reduced scale.

Figure 3 is a fragmentary view on an enlarged scale showing part of the locomotive and the trip arm that is carried by the same.

Figure 4 is a side elevation of the control rod and adjacent parts.

Figure 5 is a plan view of the same.

Figure 6 is a diagram of the electrical connections.

Figure 7 is a side elevation of the switch-operating arm.

Figure 8 is a side elevation of one of the gate structures.

Figure 9 is a rear elevation of the same.

My improved crossing-gate is shown as applied to a railroad having a single track 10 and the operation is effected responsive to movement of the locomotive 11 along the same by the cooperation of a trip-arm 12 that is carried by said locomotive 11 with a control-rod 13 that is supported for longitudinal movement and positioned at the side of the track 10.

The trip-arm 12 is normally positioned substantially vertically; is supported from the locomotive 11 by means of a pivot structure 14; has a pair of balancing-positioning springs 15 operatively connected to the upper end 16; and has the lower end 17 free and positioned outward of the rails of the track 10 so as to be adapted to contact with and operate the control-rod 13.

The springs 15 provide for resiliency of operation and serve to restore the trip-arm 12 to the normal upright position after such slight displacement as may follow from contacting with the cooperating contacting points or trips on the control-rod 13.

Said trips are shown as two in number, as in Fig. 4, and comprise the left trip 18 and the right trip 19. The points or trips 18 and 19 are in the path of the lower end portion 17 of the trip-arm 12 and when they are hit by said tripping lower end portion 17 they are carried along to a limited extent in the direction of movement of the locomotive.

Each of the points 18 and 19 is part of a lever that is adapted to swing back and forth in a vertical plane, said points or trips constituting the upper free ends of said levers. The control-rod 13 is connected by its ends by means of pivotal pins 20 with said levers and operates virtually as an elongated link, whereby the levers and the rod swing back and forth in unison.

Said levers comprise the left lever 21 and the right lever 22 and are normally slightly outwardly inclined, the two being thus slightly though appreciably divergent, whereby the tendency of contact of the tripping-arm therewith is to carry the lever beyond the vertical position. Such will be the tendency responsive to movement of the locomotive in either direction along the track.

The levers 21 and 22 are differently arranged. The left lever 21 is pivotally supported by means of a pin 23 that holds the lower end. As the connection 20 with the control-rod 13 is intermediate the ends 23 and 18 said left lever 21 operates as a lever of the second class.

In the case of the right lever 22 the connection 20 thereof with the control-rod 13 is at the lower end of said lever 22 and the pivotal supporting pin 24 for said lever 22 is intermediate the ends 20 and 19, whereby said lever 22 operates as a lever of the first class.

As described, the levers 21 and 22 serve to operatively support the control-rod 13 and

the individual connections of each with said control-rod 13 may be briefly described as being above the center in the case of the left lever 21 and below the center in the case of the right lever 22. By this arrangement the resulting movement responsive to the approach of a locomotive will be a movement from the left towards the right for the control-rod 13. As the locomotive leaves the crossing the levers are re-set, the movement described being reversed, the locomotive making contact with the lever on the departure side of the crossing and operating to carry the same over from one side of the vertical position to the other.

The control-rod 13 as constructed and arranged is adapted by reason of its limited longitudinal movement to effect the control and operation of various devices and in the present instance is utilized for closing and opening a switch 26, actuated by a lever 42, that controls certain electric circuits.

Such circuits may be designated as a main circuit 27 and the branch circuit 28. The main circuit 27 provides current for the different main gates 29 and the branch circuit 28 provides current for the lamps 30, there being four of each.

Thus there are four housings 31, each in the form of a cylindrical barrel-like structure; having the outer end closed generally by means of a back wall 32; and having said back wall 32 provided with a window-opening 33 through which the light produced by the lamp 30 may be seen. A standard 34 is provided for each of the four signals and which has a platform or table 35 that serves as the support for the gate structure.

The main gate 29 is in the form of an elongated conical structure of thin flexible rubber or water-proofed fabric that in use is inflated and overhangs the roadway or the path of vehicles approaching the crossing, the small end or apex portion 36 being at the inner or in-board side of the support or standard 34. A vent hole 37 may be provided at the apex 36 to allow a limited escape of air. The large end of the main gate 29 connects with the barrel-like housing 31 and in the latter is an electrically-operated blower 38.

The blower 38 may be briefly described as a fan-motor that is supported from the platform 35 by means of pedestal of base 34, the fan-blades 40 being carried by the horizontal shaft of the motor 41. Said motor 41, blades 40, and the lamp 30 are enclosed by the housing 31.

When the motor 41 is energized and operating the effect of the blower is to distend or inflate the conical gate structure 29 so that it will be prominently displayed and will be effective as a signal and also to a certain extent will serve as a gate. Accidental contact with the main gate will move the same from the normal position but will involve no disastrous results.

I claim as my invention:—

In combination with a railroad crossing, a pedestal located at one side of the roadway, a housing supported by said pedestal, a gate supported from one side of said housing for being alternatively projected over the adjacent portion of said highway and supported in pendant position, said gate being in the form of a hollow structure and having a side wall of fabric-like material, and means for providing air under pressure for effecting such projection of the gate.

JEREMIAH ANDY.