

June 2, 1925.

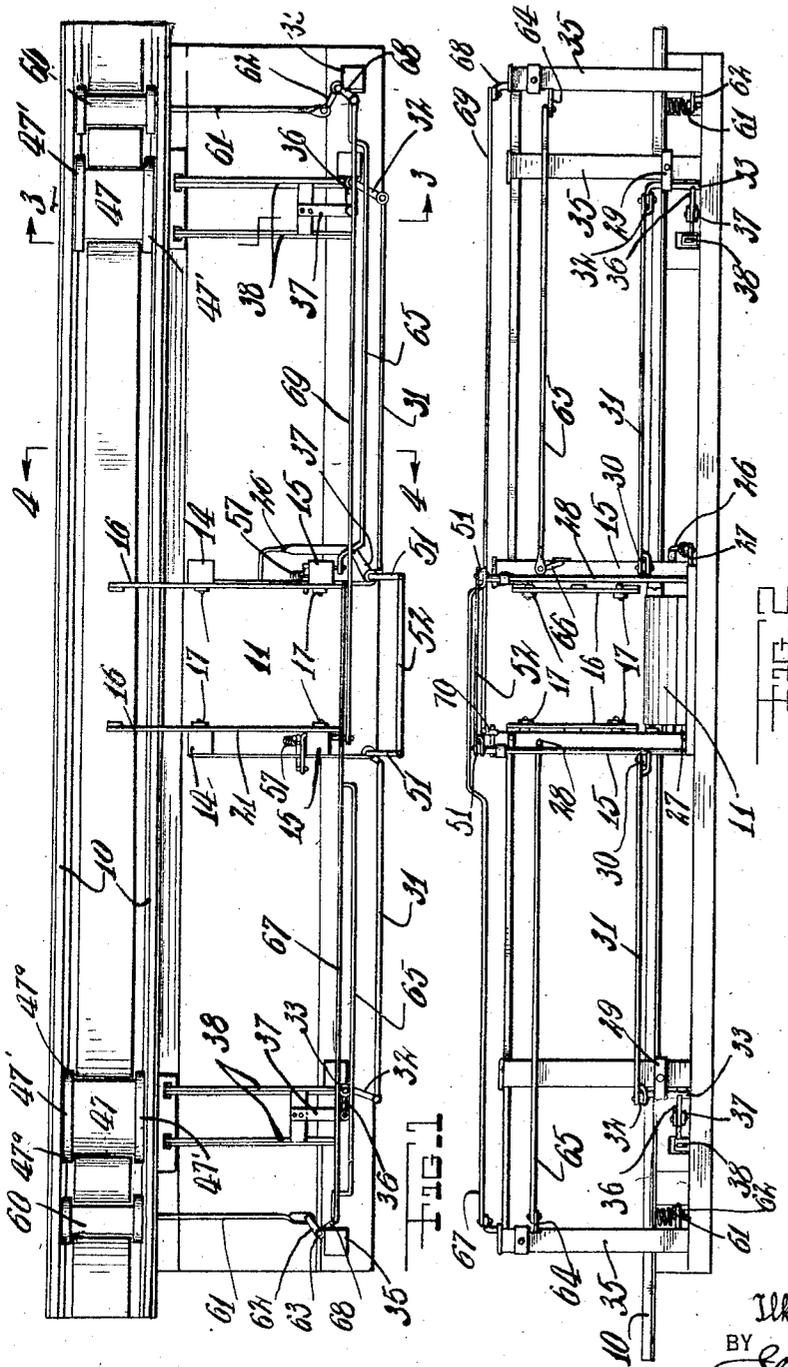
1,540,469

I. HARMATA

CATTLE GUARD FOR RAILROAD TRACKS

Filed July 17, 1924

3 Sheets-Sheet 1



INVENTOR
Ilko Harmata
BY *Robert H. Polach*
ATTORNEY

Jun 2, 1925.

1,540,469

I. HARMATA

CATTLE GUARD FOR RAILROAD TRACKS

Filed July 17, 1924

3 Sheets-Sheet 2

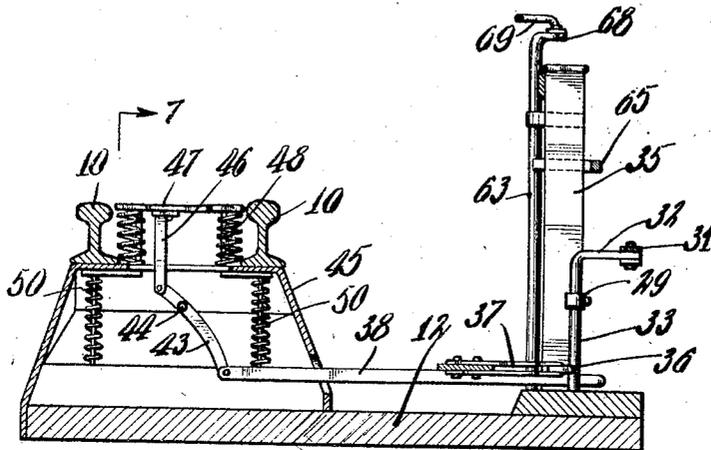


FIG. 3

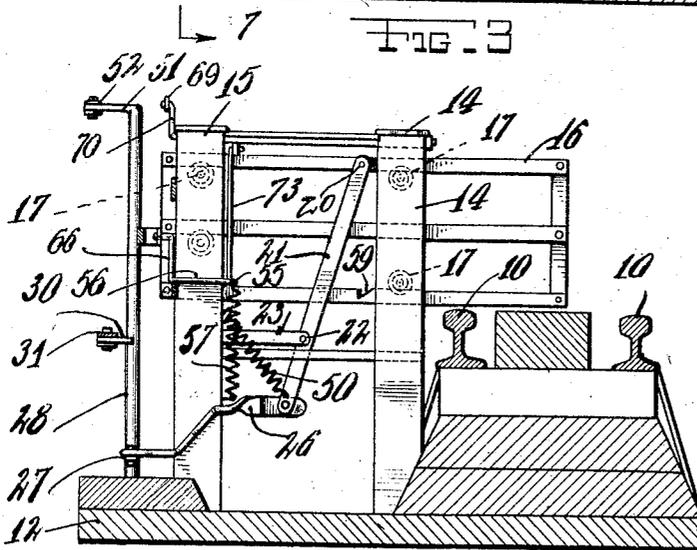


FIG. 4

INVENTOR
Iko Harmata
BY *Colton J. Holack*
ATTORNEY

June 2, 1925.

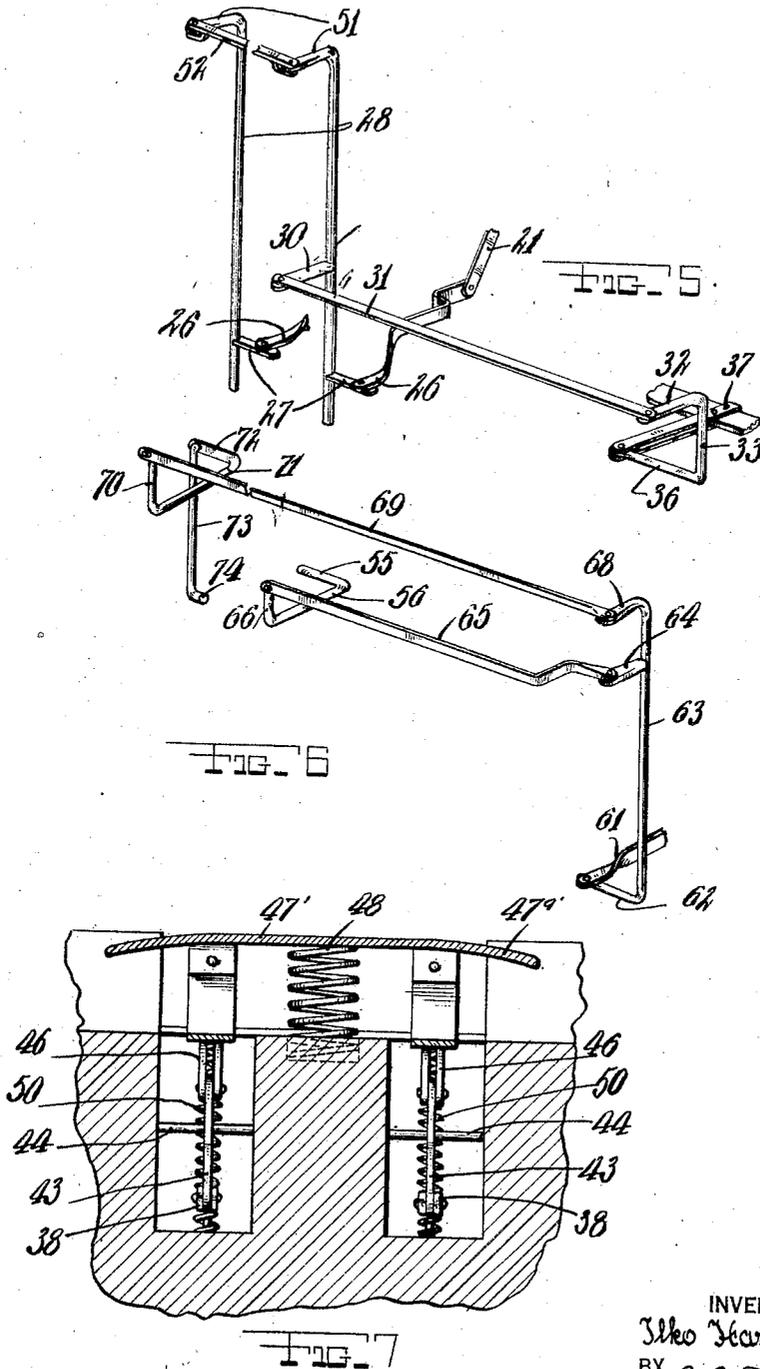
I. HARMATA

1,540,469

CATTLE GUARD FOR RAILROAD TRACKS

Filed July 17, 1924

3 Sheets-Sheet 3



INVENTOR
Ilo Harmata
BY *J. A. Holschlag*
ATTORNEY

UNITED STATES PATENT OFFICE.

ILKO HARMATA, OF WILKES-BARRE, PENNSYLVANIA, ASSIGNOR OF ONE-FIFTH TO
BRONISLAW WASZKAL, OF WILKES-BARRE, PENNSYLVANIA.

CATTLE GUARD FOR RAILROAD TRACKS.

Application filed July 17, 1924. Serial No. 726,460.

To all whom it may concern:

Be it known that I, ILKO HARMATA, citizen of the United States, residing at Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Cattle Guards for Railroad Tracks, of which the following is a specification.

This invention relates generally to cattle guards such as are placed at railroad crossings to prevent cattle from wandering onto the tracks, and which present barriers extending transversely of the tracks.

The present invention has for an object the provision of a novel form of cattle guard which comprises a pair of gates which normally remain in position closing the entrance to the tracks from the roadway, and are moved to one side by the approaching train and then restored to operative position by the train after the latter has passed the crossing.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawings is a plan view showing my improved cattle guard applied to a railroad crossing.

Fig. 2 is a side view thereon.

Fig. 3 is a transverse vertical sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a like view taken on the line 4—4 of Fig. 1.

Figs. 5 and 6 are detail perspective views showing the various operating and connecting elements in their relation to one another.

Fig. 7 is a detail sectional view taken on the line 7—7 of Fig. 3.

In the drawings the reference numeral 10 indicates a pair of track rails, while an intersecting roadway or path is indicated generally at 11. Fixed in the ground or a bed element such as 12, at opposite sides of this roadway are two pairs of posts, the posts nearer the track being numbered 14 and the posts remote from the track being numbered 15. Slidably mounted on these posts are the gates 16 which extend transversely to the track rails and may be conveniently constructed of the vertical and horizontal mem-

bers suitably fixed together. To slidably support these gates the posts 14 and 15 have grooved rollers 17 mounted thereon on which the top and bottom horizontal members of the gate rest. These gates have pivotally attached thereto as at 20 the upper ends of levers 21 which are fulcrumed as at 22 a short distance from their lower ends to rigid projections 23 on the posts 15. The two levers 21 are connected together to operate in unison as will be presently set forth, while at a suitable distance on each side of the roadway 11 is a train operable device for rocking the levers and thereby opening the gates. Each of these devices is connected to the lever that operates the gate on its own side of the roadway, the operating movement being transmitted to both gates. It will be understood that the parts about to be described are in duplicate, one on each side of the roadway. Each lever has connected to its lower end one end of a link 26 which extends transversely of the track and is connected at its opposite end to an arm 27 fixed to a vertical rock-shaft 28, this shaft being located near the post 15 and being supported at its lower end in the base element 12 and near its upper end by a bearing element 29 attached to the post, the arm 27 being connected to the shaft adjacent the lower end of the latter. Projecting from this shaft 28 at a distance above its lower end is another arm 30 to which is connected the link 31 which extends along the track a suitable distance and is connected at its other end to an arm 32 on the upper end of a shorter vertical rock shaft 33 which extends upward adjacent, and is supported by bearing members 34 fixed to, another post 35 positioned at the side of the track at a distance from the roadway 11. A second arm 36 projects from the shaft 33 and has connected thereto one end of a rod 37 which is attached at its opposite end to a slidable frame member 38 which extends inward under the track rails and is connected at its inner end to one end of a bell crank lever 43 which is fulcrumed as at 44 in a housing under the track. This lever 43 is attached at its opposite end to the lower end of a rod 46 fixed to and depending from a depressible member 47 positioned between the two rails of the track and adapted to be depressed by the train ap-

proaching the roadway 11. This member 47 is normally retained in raised position by means of the coiled expansion springs 48 located thereunder. This member 47 comprises a central plate located between the rails and having on opposite sides a pair of shoes 47' which have curved ends 47^a. These shoes are engaged by the flanges of the wheels of the passing train. Connected at one end to the lever 21 and at its opposite end to the adjacent post 15 is a coiled tension spring 50 which normally urges the gate to closed or operative position. To cause the two gates to move in unison each shaft 28 has fixed to its upper end an arm 51 these arms being connected together by a link 52. The gate is retained in retracted position while the train is passing by means of a latch arm 55 projecting from a horizontal rock spindle 56 mounted on the post 15, the arm 55 having attached thereto one end of a coiled tension spring 57 whose opposite end is connected to the post 15. This spring 57 urges the latch arm against one of the rails of the gate, this rail having in its upper edge a notch into which the latch arm drops when the gate is drawn back.

To lift this latch, and thereby allow the spring 50 to return the gate to normal position, after the train has passed the crossing, I provide the following means: Located between the track rails, adjacent the depressor member is a like member 60 which is connected by similar means to one end of another transverse rod 61 that is connected at its opposite end to an arm 62 on the lower end of a vertical rock shaft 63 also supported by the post 35. Projecting from this shaft 63, between its ends, is another arm 64 to which is attached one end of a link 65 which extends along the track and is attached at its other end to an arm 66 projecting upward from the spindle 56 to which the latch is fixed. By this means the latch on the near gate, that is the gate on the same side of the roadway, is lifted. To lift the latch of the gate on the other side of the roadway, a third arm 68 projects from the shaft 63 at the upper end of the latter and has connected thereto one end of a link or rod 69 which extends along the track and is connected at its other end to an arm 70 fixed on a rock spindle 71 mounted on the adjacent post 15. This spindle 71 has fixed thereto a second arm 72 to which is attached the upper end of a rod 73 that has an offset 74 on its lower end that engages under the latch arm. This rod 73 may be guided by suitable eye members fixed to the post 15 through which the rod passes.

In the operation of my improved cattle guard, an approaching train depresses the member 47, movement being imparted to arm 30 and link 31 the adjacent gate through the parts 46, 43, 42, 37, 36, 33, 32, to the

rock-shaft 28 on the adjacent or near side of the roadway; motion being imparted from the rock-shaft to the adjacent gate 16 through the parts 27, 26, and 21, while motion is imparted to the rock-shaft on the other side of the roadway through the parts 51 and 52. The gates are thereby drawn back, or retracted, and when they reach their retracted positions the latch arms 55 engage in the notches 59 in the gates and hold the latter in the said position. After the train has passed the crossing or roadway the depressor member 60 is engaged and the latch arms 55 are lifted, the rocking of the shaft 63 by the rod 61 causing a direct lifting action on the latch of the adjacent gate through the parts 64, 65, 66 and lifting the latch on the other gate through the parts 68, 69, 70, 71, 72, 73 and 74. When the latches are lifted the springs 50 throw the gates forward. I have here shown the gates as arranged to be normally projected only part way across the track, it being understood that the device may be duplicated on both sides of the track.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent of the United States is as follows:—

1. In a railroad track, a pair of gates normally extending across said track and spaced along the latter from one another, supporting elements on which said gates are slidably mounted, depressible devices located adjacent the track rails remote from the respective gates, operative connecting means between the said devices and the respective gates, and connecting elements leading between the said gates whereby the same are caused to be operated in unison.

2. In a railroad track, a pair of gates normally extending across the track and spaced along the latter from one another, supporting elements on which said gates are slidably mounted, depressible devices located adjacent the track rails remote from the respective gates, a rock shaft mounted adjacent each gate to which the respective devices are operatively connected, operative connections between the said rock shafts and the respective gates, and connecting means leading between the said rock shafts whereby the latter are caused to be moved in unison upon depression of either of said devices.

3. In a railroad track, a pair of gates normally extending across the track and spaced along the latter from one another, supporting elements on which said gates are slidably mounted, depressible devices located adjacent the track rails remote from the respective gates, a rock shaft mounted adjacent each gate to which the respective devices are operatively connected, operative connections between the said rock shafts

and the respective gates, and connecting means leading between the said rock shafts whereby the latter are caused to be moved in unison upon depression of either of said devices, latches for holding the gates in open position, resilient means urging said gates to closed position, and other depressible devices located adjacent the track rails and each operatively connected to both of said latches for releasing the latter. 10

In testimony whereof I have affixed my signature.

ILKO HARMATA.