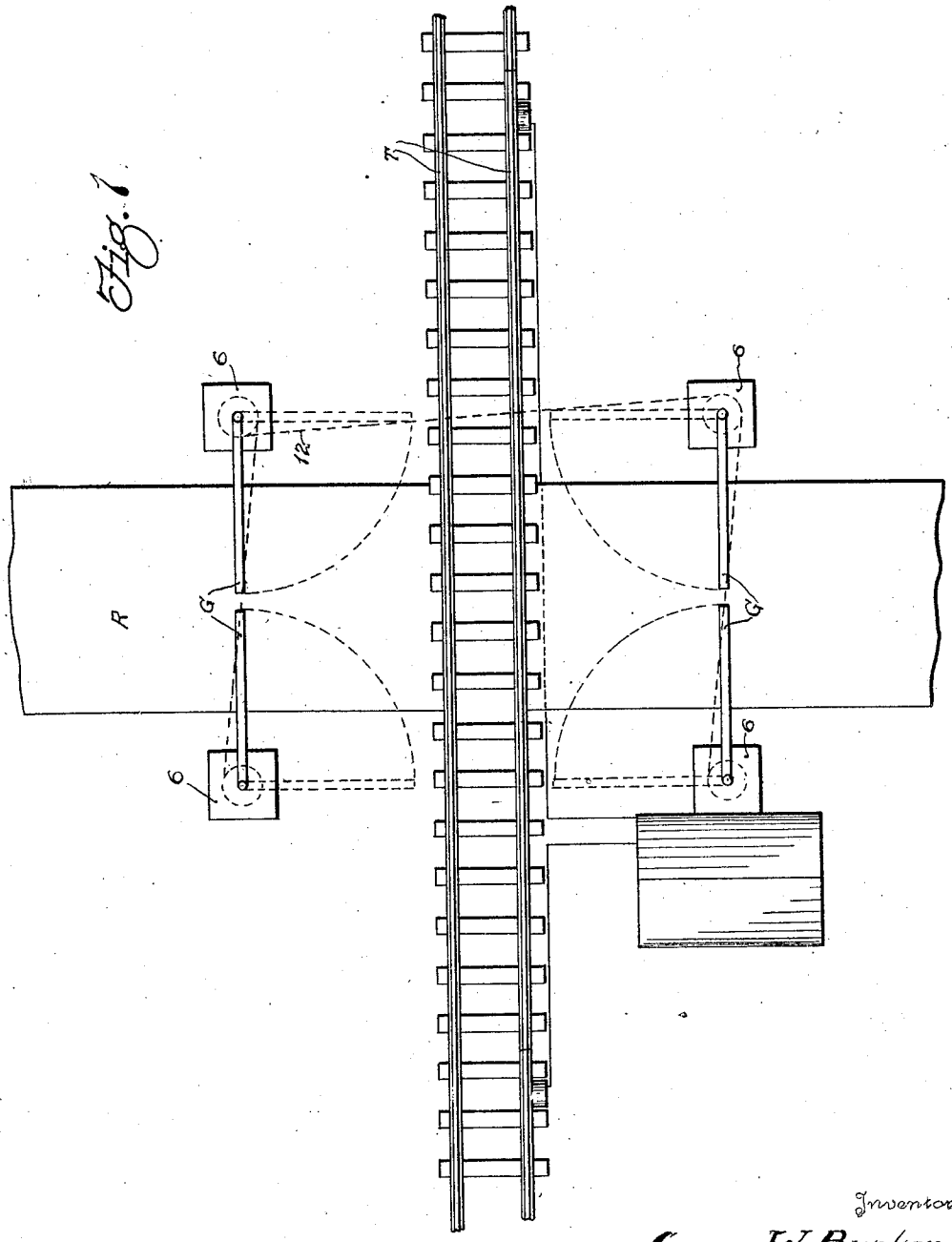
Nov. 2, 1926. 1,605,167

G. W. BUNKER ET AL

RAILROAD CROSSING GATE

Filed Dec. 19, 1924 2 Sheets-Sheet 1

Fig. 1.



Inventors
George W. Bunker and
Celestia J. Bunker
By Richard B. Owen,
Attorney

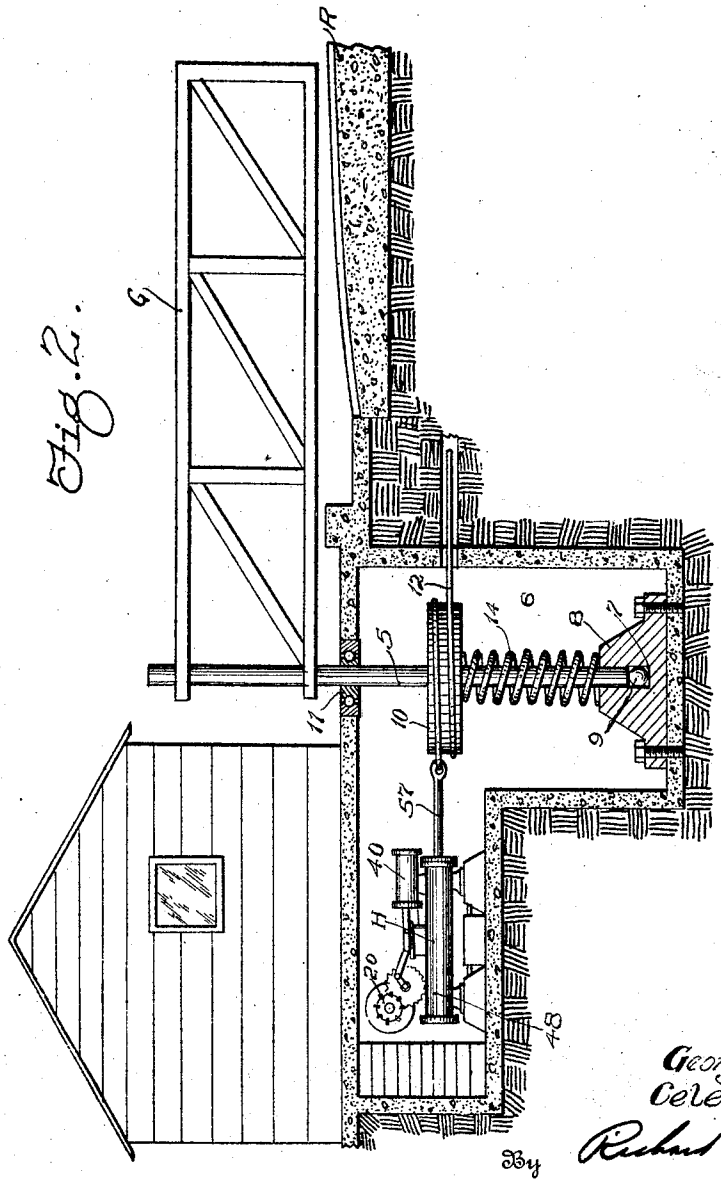
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Fig. 2.



Inventors
George W. Bunker and
Celestia J. Bunker
By Richard R. Owen,
Attorney

Patented Nov. 2, 1926. 1,605,167

UNITED STATES PATENT OFFICE.

GEORGE W. BUNKER AND CELESTIA J. BUNKER, OF DETROIT, MICHIGAN.

RAILROAD-CROSSING GATE.

Application filed December 19, 1924. Serial No. 756,962.

The present invention appertains to railroad crossing gates and has for its prime object to provide a structure whereby the train upon its approach will close the gates across a grade crossing in such a manner as to eliminate the necessity of a watchman.

The invention further contemplates the provision of a device of this nature having a very simple and efficient construction, one which is reliable in operation, durable, not liable to get readily out of order, and well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is a top plan view of a grade crossing showing the general arrangement of the various parts of our invention,

Figure 2 is a section through the crossing showing a gate and the operating means therefor.

Referring to the drawing in detail it will be seen that R represents a road crossing railroad tracks T the same usually being known as a grade crossing. Gates G are suitably arranged in relation to the road R so as to be capable of swinging thereacross as shown in full lines in Figure 1 or substantially parallel alongside thereof as shown in dotted lines in Figure 1. Each gate is mounted to swing with a post 5 that extends below the ground into a waterproof compartment such as is shown at 6. The lower end of the shaft fits into the seat 7 of a block 8 resting on a ball bearing 9. A sheave 10 is keyed to the shaft below the ground and this shaft passes through a suitable bearing 11 at the ground line. A cable 12 is trained about the sheaves 10 of the post 5 so that when the cable is pulled the gates will be moved to a closed position across the road R as shown in Figure 1. Coil springs 14 are disposed about the post 5 so as to return the gates to their open positions when the cable 12 is released. The manner of training the cable about the various sheaves 10 on the various posts is indicated in dotted lines in Figure 1 although, of course, the arragement shown may be varied the present embodiment being disclosed merely by way of example. A hydraulic operating mechanism is indicated generally at H for pulling upon the cable 12. The hydraulic mechanism includes generally a hydraulic cylinder 48 having disposed therein the usual piston, not shown, carrying the piston rod 57 which extends exteriorly of the cylinder and is connected to the cable 12. Mounted upon the hydraulic cylinder 48 and connected therewith is a pump 40 which is driven by means of a suitable motor 20. Upon operation of the pump 40 the piston within the hydraulic cylinder 48 is adapted to be also operated so as to pull upon or release the cable 12.

It will be apparent from the foregoing that we have devised a novel construction of grade crossing gates which will be effective under all conditions and which is not liable to readily get out of order. It will also be apparent that the construction embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while we have in the present instance shown and described a preferred embodiment of it which will give in practice satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described our invention, what we claim as new is:

1. In combination, a gate, a revolvable post on which the gate is mounted, a cable trained about the post, a hydraulic mechanism including a hydraulic cylinder and a pump cylinder, means connecting the cylinders, a piston in the hydraulic cylinder, a rod therefor connected to the cable, and means for operating the pump cylinder so as to move the piston within the hydraulic cylinder so as to pull upon the cable and close the gate, and means to open the gate.

2. In combination, a gate, a revolvable post on which the gate is mounted, a cable trained about the post, a hydraulic mechanism including a hydraulic cylinder, a piston in the hydraulic cylinder, a rod therefor connected to the cable, and means for operating the hydraulic piston so as to pull upon the cable and close the gate, and means to open the gate.

3. In combination, a gate, a revolvable

post on which the gate is mounted, a spring on the post holding the gate normally in one position, a sheave on the post, a cable trained about the sheave, a hydraulic mechanism including a hydraulic cylinder and a pump cylinder, means connecting the cylinders, a piston in the hydraulic cylinder, a rod therefor connected to the cable, and means for operating the pump cylinder so as to move the piston within the hydraulic cylinder so as to pull upon the cable and operate the sheave thereby swinging the gate to a position opposite from that in which it is normally held by the spring.

In testimony whereof we affix our signatures.

GEORGE W. BUNKER.
CELESTIA J. BUNKER.