

C. L. HOWARD.
 AUTOMATIC TRAIN CONTROL.
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1,208,560.

Patented Dec. 12, 1916.

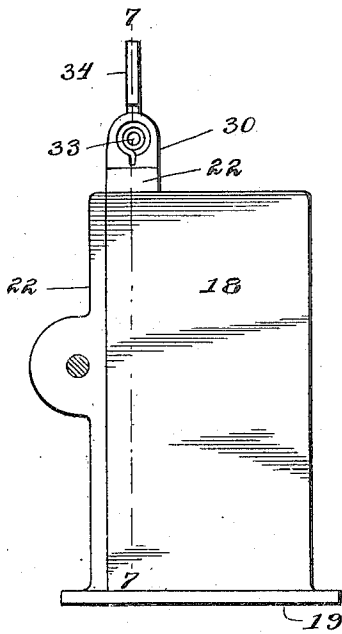


Fig. 1.

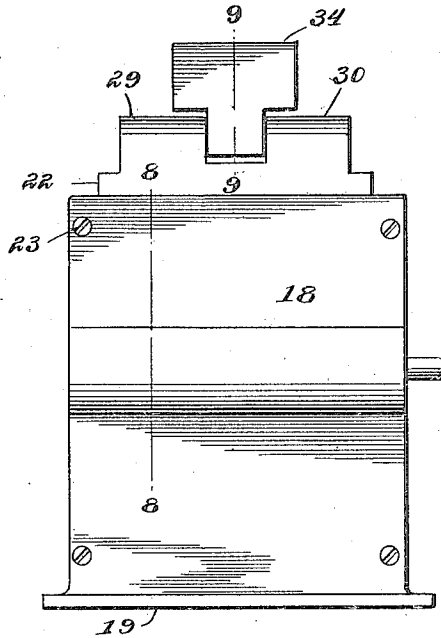


Fig. 2.

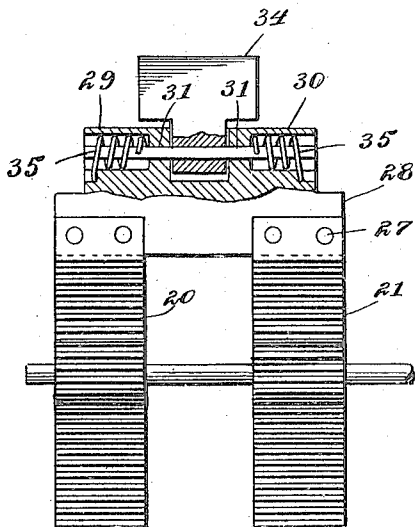


Fig. 3.

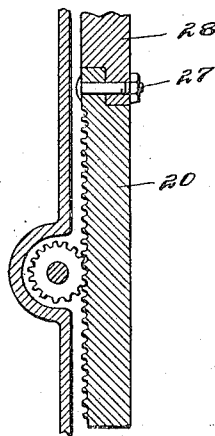


Fig. 4.

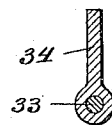


Fig. 5.

Witnesses
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CLARENCE L. HOWARD, OF OTTAWA, KANSAS.

AUTOMATIC TRAIN CONTROL.

1,208,560.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CLARENCE L. HOWARD, a citizen of the United States, residing at Ottawa, in the county of Franklin and State of Kansas, have invented new and useful Improvements in Automatic Train Controls, of which the following is a specification.

This invention relates to an automatic train stopping system in which means is provided for absorbing the shock encountered between the train carried mechanism and the track mechanism, the primary object of the invention being to simplify the track obstacle and at the same time to properly take care of the shock between it and the train carried trip.

Another object of the invention is the novel manner of constructing the mechanism for throwing the movable element of the track obstacle to danger position.

The invention consists in the features of construction, combination, and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:

Figure 1 is an end elevation of the track obstacle. Fig. 2 is a front elevation thereof. Fig. 3 is a sectional view on the line 7-7 of Fig. 1. Fig. 4 is a vertical sectional view showing the cooperation between a gear and a rack bar, and Fig. 5 is a detailed sectional view through the T shaped member.

This track obstacle comprises a support 19 in which is slidably mounted a pair of spaced rack bars 20 and 21. These rack bars are held against displacement by means of a plate 22 detachably secured to the support by means of bolts 23. Supported by this plate is a shaft 24 to which is secured a pair of gears 25 and 26 constantly engaging the teeth of the rack bars. The upper ends of the rack bars are provided with threaded openings adapted to receive the bolts 27 for rigidly securing to the rack bars a plate 28. This plate is provided with spaced projections 29 and 30 each of which being provided with a bore 31 and a cylindrical recess communicating with the latter, said recess being of greater area than said bore. Revolvably mounted in the bore of projection is a shaft 33 to which is secured the T-shaped member 34. Arranged in the recesses of the projection and adapted to normally hold the member 34 in vertical position are coiled springs 35.

From the foregoing description it will be seen that when the shaft 24 is driven in any suitable manner such as by an electric motor, the gears 25 and 26 will be rotated for giving a rectilinear motion to the rack bars 20 and 21. Upon rectilinear motion being given to the rack bars, the T shaped member 34 will be disposed in a danger position and when in this position the spring 35 will be so arranged as to absorb a large amount of the shock created by the impact between the T shaped member 34 and the train carried mechanism.

Having described my invention, what is claimed is:

1. In an automatic train stop, a track obstacle comprising a support, a pair of horizontally spaced rack bars vertically movable in said support, a plate rigidly connecting said bars together, means for giving rectilinear motion to said bars, and a T-shaped member pivotally connected to said plate.

2. In an automatic train stop, a track obstacle comprising a support, a pair of rack bars slidably mounted therein, a plate for holding said rack bars in position, and a T-shaped member pivotally connected to the upper end of said rack bars.

3. In an automatic train stop, a track obstacle comprising a support, a shaft journaled therein, a pair of spaced gears secured to said shaft, means cooperating with said gears for converting the rotary motion of the latter into rectilinear motion, and a T-shaped member pivotally connected to said means.

4. In an automatic train stop, a track obstacle comprising a support, a pair of rack bars movable vertically therein, gear mechanism for sliding said rack bars, a T-shaped member pivotally connected to said rack bars, and springs carried by the rack bars and normally holding said member in a vertical position.

5. In an automatic train stop, a track obstacle comprising a support, a pair of spaced rack bars arranged for vertical slidable movement in said support, means for giving movement to said rack bars, a plate connecting the upper end of said bars together, lugs secured to said plate, a shaft journaled in said lugs, a T-shaped member secured to said shaft, and springs for normally holding said T-shaped member in vertical position.

6. In an automatic train stop, a track
obstacle comprising a support, a pair of
spaced rack bars arranged for vertical slid-
able movement in said support, means for
5 giving movement to said rack bars, a plate
connecting the upper end of said bars to-
gether, lugs secured to said plate, a shaft
journaled in said lugs, a T-shaped member
secured to said shaft, and springs housed
within said lugs and coöperating with said 10
shaft for resiliently holding said T-shaped
member in a vertical position.

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

CLARENCE L. HOWARD.

Witnesses:

W. S. FALLIS,
F. C. DOBSON.

**Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."**