

(No Model.)

2 Sheets—Sheet 1.

C. K. HAYNES & W. L. KLINCK.
TORPEDO SETTING DEVICE.

No. 533,354.

Patented Jan. 29, 1895.

Fig. 1.

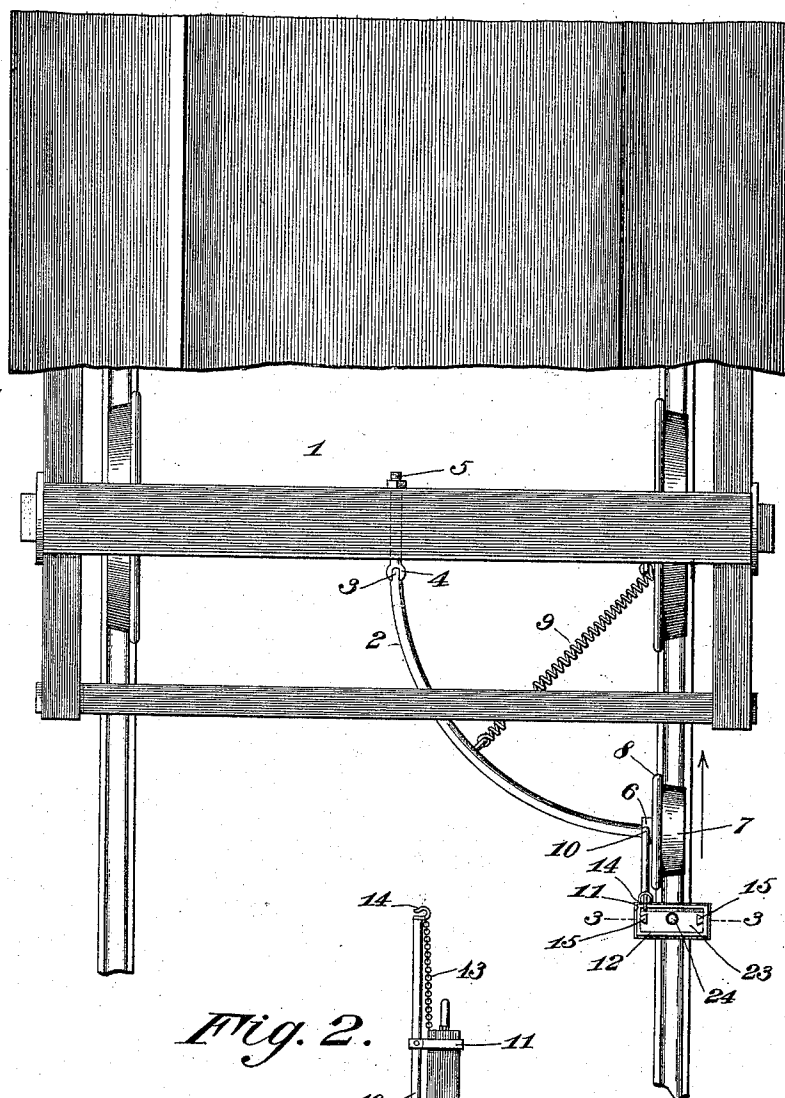
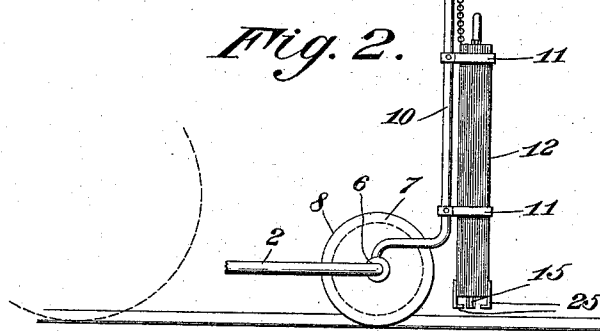


Fig. 2.



Inventors

Witnesses

E. H. Monroe

By *their* Attorneys.

*Charles K. Haynes and
William L. Clinck.*

Chas Snow Geo

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Fig. 3.

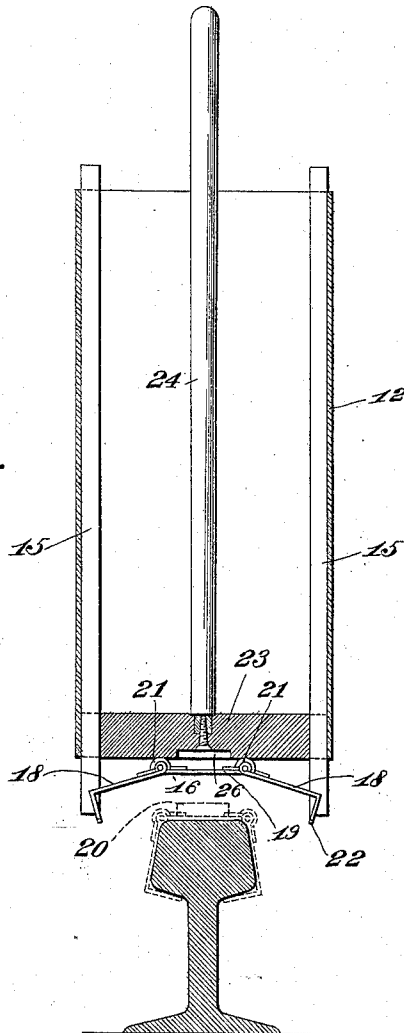


Fig. 4.

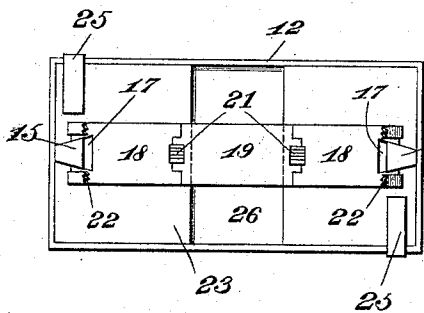
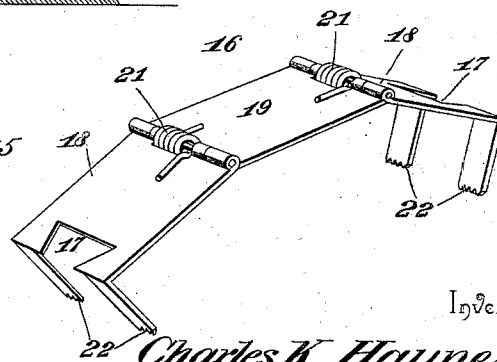


Fig. 5.



Witnesses

E. H. Monroe.

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By their Attorneys.

Inventors

Charles K. Haynes, and
William L. Klinck.

Ca Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES KING HAYNES AND WILLIAM L. KLINCK, OF LYONS, NEW YORK.

TORPEDO-SETTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 533,354, dated January 29, 1895.

Application filed September 17, 1894. Serial No. 523,256. (No model.)

To all whom it may concern:

Be it known that we, CHARLES KING HAYNES and WILLIAM L. KLINCK, citizens of the United States, residing at Lyons, in the county of Wayne and State of New York, have invented a new and useful Torpedo-Setting Device, of which the following is a specification.

Our invention relates to an apparatus for setting torpedoes upon a rail-road track from a moving train, for rear end signals and other purposes, and the objects in view are to provide means for supporting and carrying the torpedo before application to the rail, such means serving to clamp the rail and also serving to prevent displacement of the torpedo before it is properly set.

A further object of the invention is to provide means for preserving a uniform position of the chute, whereby torpedoes may be set with accuracy while the train is rounding curves.

Further objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

In the drawings: Figure 1 is a plan view of the apparatus, applied in the operative position to a coach, a portion of the rear end of the latter being indicated. Fig. 2 is a side view of the chute and immediate connections. Fig. 3 is a vertical section of the chute, on the line 3—3 of Fig. 1. Fig. 4 is an inverted plan view of the chute. Fig. 5 is a detail view, in perspective, of the clamp or holder.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In Fig. 1 we have illustrated a part of the rear end of a car, of which 1 designates the rear truck, and to one of the transverse beams of this truck is loosely or pivotally connected the front end of a supporting-arm 2, forming a part of the setting apparatus. The attachment of the supporting arm to the truck-beam is preferably by means of a universal joint, as interlocking eyes 3 and 4, formed respectively upon the contiguous ends of the arm and a bolt 5, which extends through said beam. The supporting-arm is arc-shaped and is provided upon its rear, laterally-extending end with a bearing spindle 6 upon which is

mounted the guide-wheel or roll 7, having an inner flange 8 similar to those on ordinary car-wheels. Any suitable means for holding the guide-wheel in proper operative position with relation to the rail may be provided, but an effective arrangement is shown in Fig. 1, in which a spring 9 is attached to an intermediate part of the arm and is fixed at the other end to a suitable part of the truck. This spring has a tendency to swing the rear end of the supporting-arm outward, and the flange on the inner side of said wheel bears against the inner surface of the tread of the rail and prevents disarrangement.

Rising from and supported by the rear end of the above described arm is a vertical standard or bar 10, provided at intervals with guiding keepers 11 in which is slidably mounted the chute 12, the latter being held at the desired elevation by means of a flexible connection 13, which may be a chain, attached at one end to the upper end of the chute and at the other end to the upper end of the standard. Said connection is engaged with a hook 14 on the upper end of the standard, and by engaging different links therewith the distance of the lower end of the chute from the plane of the rail treads may be varied. When the apparatus is not in use the chute may be elevated by means of the chain or other connection and secured out of the way.

Attached to the inner surfaces of two opposite walls of the chute, and extending from the top of the chute to a point a short distance below the lower end thereof, are the dove-tail guides 15, and the clamp or holder 16, shown in detail in Fig. 5, is provided with terminal dove-tail notches 17 to engage said guides, whereby the clamp is guided in its downward passage through the chute. The clamp comprises terminal leaves or sections 18 and an intermediate leaf or section 19, to which the terminal leaves are pivotally or hingedly connected. The intermediate section is adapted to carry the torpedo, indicated at 20 in Fig. 3, and springs 21 are arranged at the connected ends of the sections to cause the terminal sections to fold downward when released. The terminal sections are provided at their outer ends with the spurs 22, to engage under the tread of a rail, said spurs being arranged upon opposite sides of the

notches in the ends of the sections. The sides of the notches diverge toward the inner or hinged ends of the sections in which they are formed, and therefore when the clamp is extended to arrange all the sections in a common plane, and is introduced into the upper end of the chute with the notches in the outer ends of the section in engagement with the guides, the springs tend to elevate the center or intermediate section, as shown in Fig. 3. This tendency causes a deflection or inclination of the terminal sections, and thereby causes the sides of the notches to bind against the sides of the guides and thus hold the clamp in a fixed position in the chute. The clamp cannot be moved upward in the chute and it can be moved downward only by pressing upon the center or intermediate section, and therefore, in order to depress said device to place a torpedo we employ a plunger operating in the chute and provided with a stem or handle 24. The extensions of the guides provide for guiding the clamp until after it has left the chute, and when the notches are disengaged from the guides the terminal members of the clamp spring inward and engage the tread of the rail, as indicated in Fig. 3, in dotted lines. In full lines in the same figure the clamp is shown as about to be disengaged. To prevent the displacement of the plunger, as the clamp is discharged, or when the chute is not provided with a clamp, we employ stops 25, which depend from the lower end of the chute. A cavity or recess 26 in the under side of the plunger receives the torpedo when pressure is being applied by the plunger to the clamp, and avoids the danger of a premature explosion.

The operation of the apparatus will be readily understood from the foregoing description, and it will be obvious that the means provided for that purpose hold the chute in the proper position over the rail at all times, whether in rounding curves or otherwise; that the construction is simple and the operation direct and positive; and that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention, we claim—

1. The combination of a chute provided with a suitable guide, a torpedo clamp or holder arranged in the chute and having an interlocking connection with said guide, and means for depressing the clamp or holder, substantially as specified.

2. The combination of a chute provided with opposite cross-sectionally dove-tailed guides, a sectional clamp or holder having a central or intermediate torpedo-carrying section, terminal notched sections foldably con-

nected to the intermediate section, and springs for actuating the terminal sections, the notches in the terminal sections being dove-tailed to fit the guides, and means for applying pressure to the center or intermediate section, substantially as specified.

3. The combination of a chute provided with a guide, a foldable clamp or holder adapted to automatically fold around and engage the tread of a rail when released, said clamp being extended while in the chute and having an interlocking engagement with the guide therein, and means for releasing the clamp from said guide, substantially as specified.

4. The combination of a chute provided with opposite dovetail guides, a clamp or holder comprising an intermediate section, and twin terminal sections hinged to the intermediate section, and provided at their outer ends with dove-tail notches and adjacent spurs, said notches being adapted to engage the guides in the chute when the sections are arranged in an approximately common plane, springs for folding the terminal sections to engage a rail-tread, and a plunger operating in the chute to depress the intermediate section of the clamp, substantially as specified.

5. The combination with a supporting-arm, of a guide-wheel adapted to travel upon the rail, a standard arranged adjacent to said wheel, a chute fitting in guides or keepers on said standard, and means for suspending and securing the chute at the desired elevation, substantially as specified.

6. The combination with a supporting-arm, of a guide wheel to travel on the rail, a standard provided with keepers, a chute fitting in the keepers, a chain connected to the upper end of the chute, and a hook on the standard to engage the chain, substantially as specified.

7. The combination of a pivotal supporting arm connected at one end to the rolling stock, a flanged guide-wheel mounted upon the other end of the arm, a spring for holding the wheel in operative relation with the rail, and a chute supported by said arm, substantially as specified.

8. The combination of a supporting-arm connected by a universal joint with a fixed part of the rolling stock, a flanged guide-wheel mounted on the end of the arm, a standard rising from the supporting arm, a chute attached to the standard, and a spring for holding the supporting-arm in operative position, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

CHARLES KING HAYNES.
WILLIAM L. KLINCK.

Witnesses:

RALPH SHELDON,
WILLARD A. GLEN.