

No. 719,215.

PATENTED JAN. 27, 1903.

H. C. HARRAR.
CAR REPLACING FROG.
APPLICATION FILED MAR. 31, 1902.

NO MODEL.

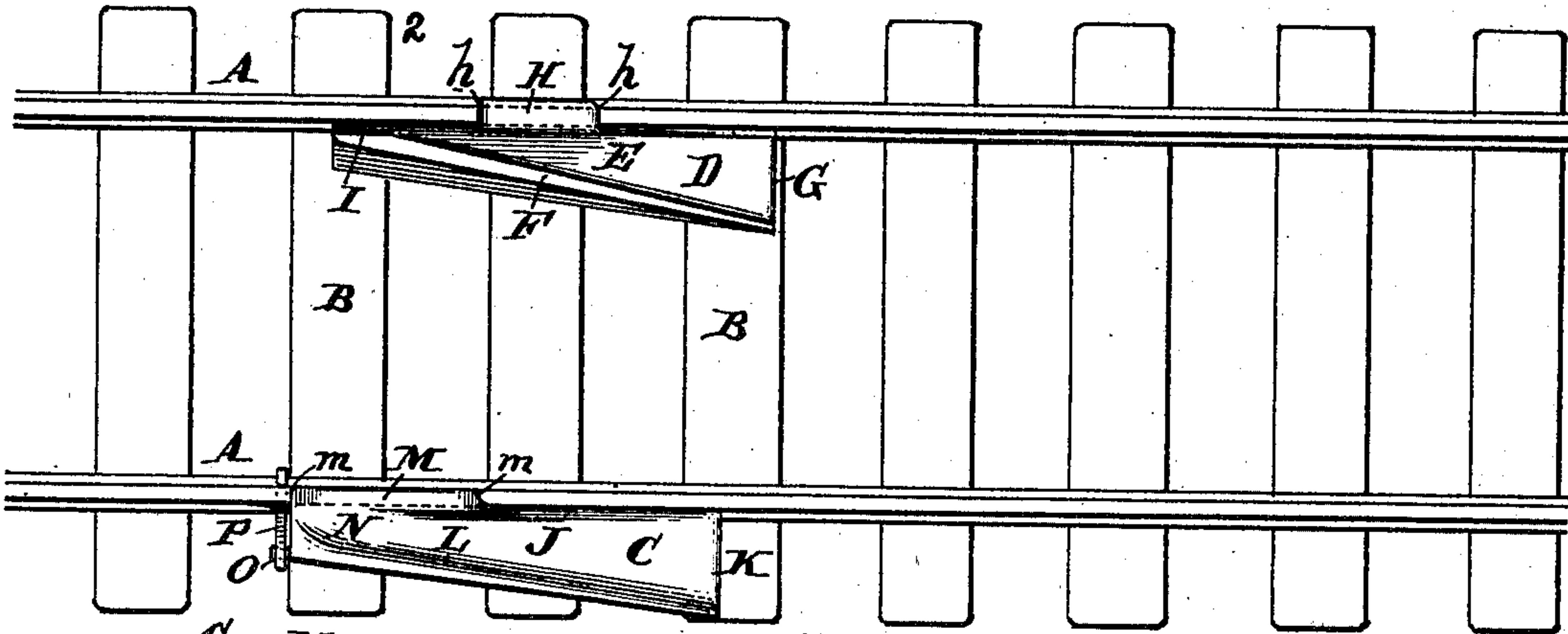


Fig. 1

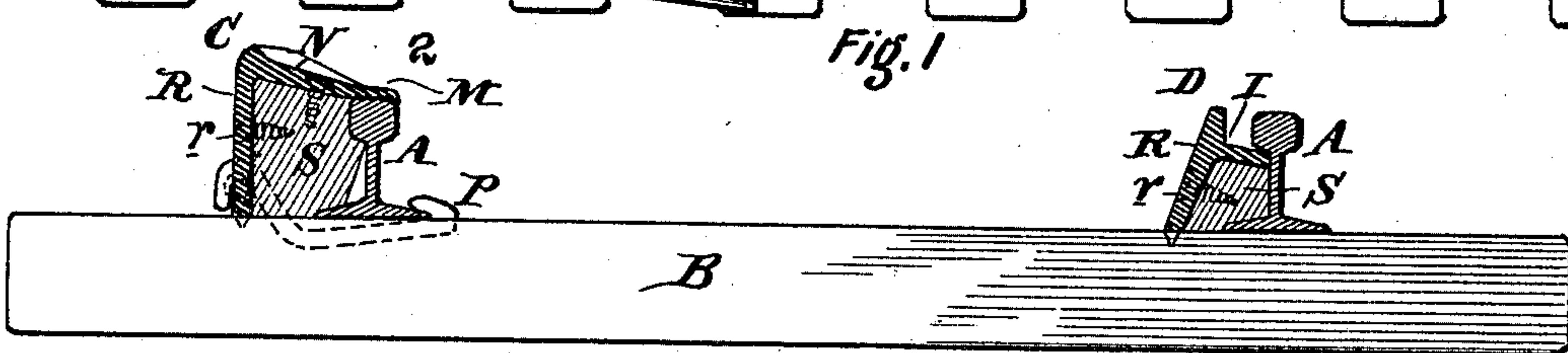


Fig. 2

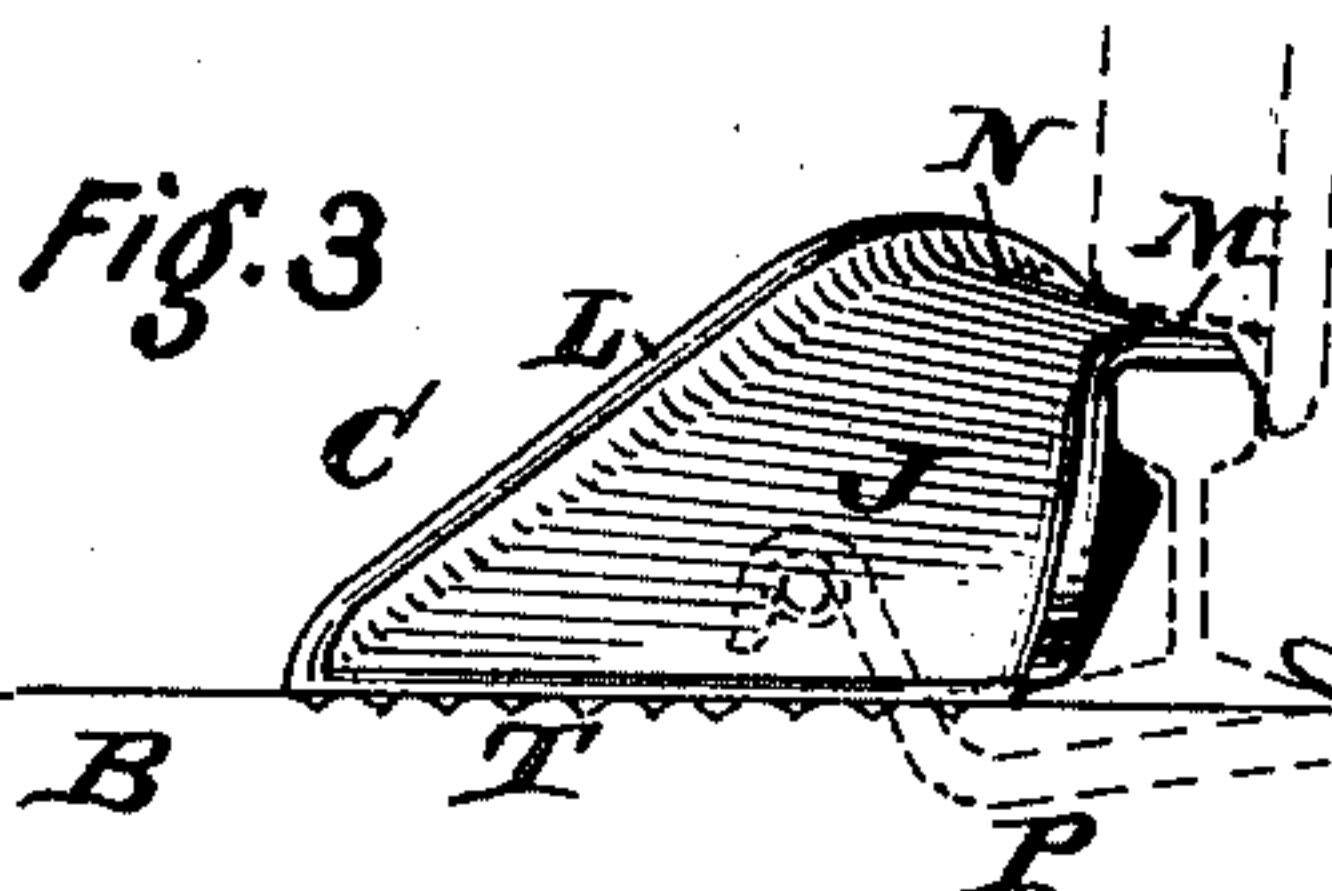


Fig. 3

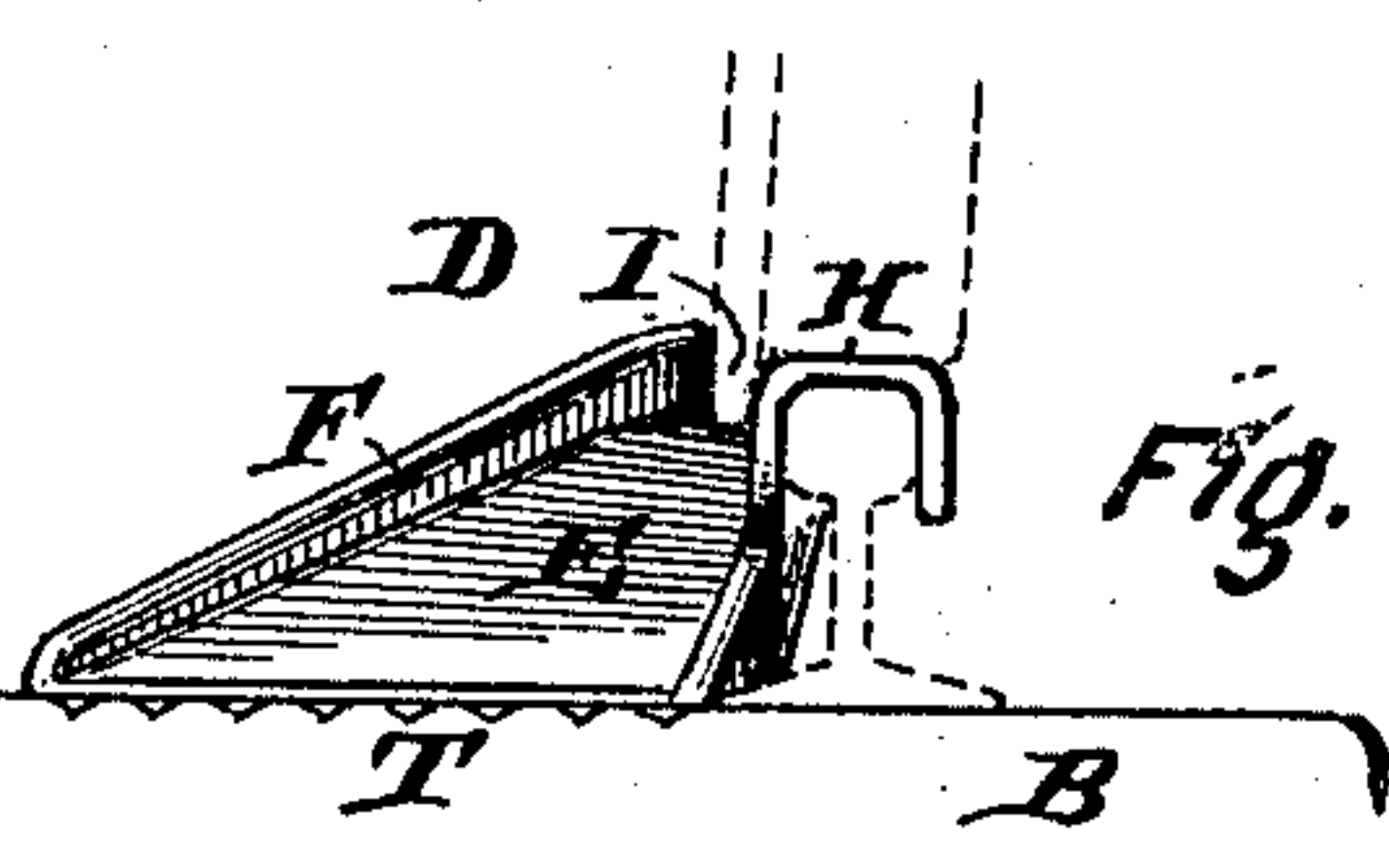


Fig. 5

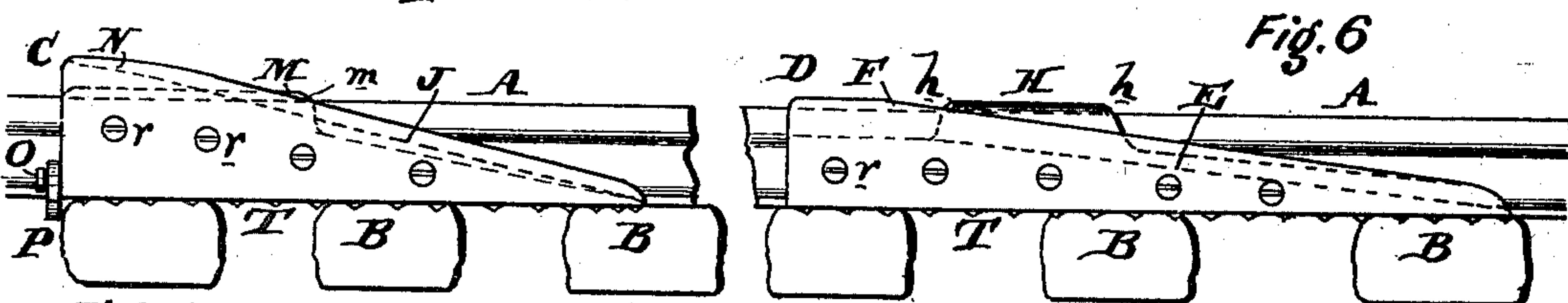


Fig. 4

Fig. 6

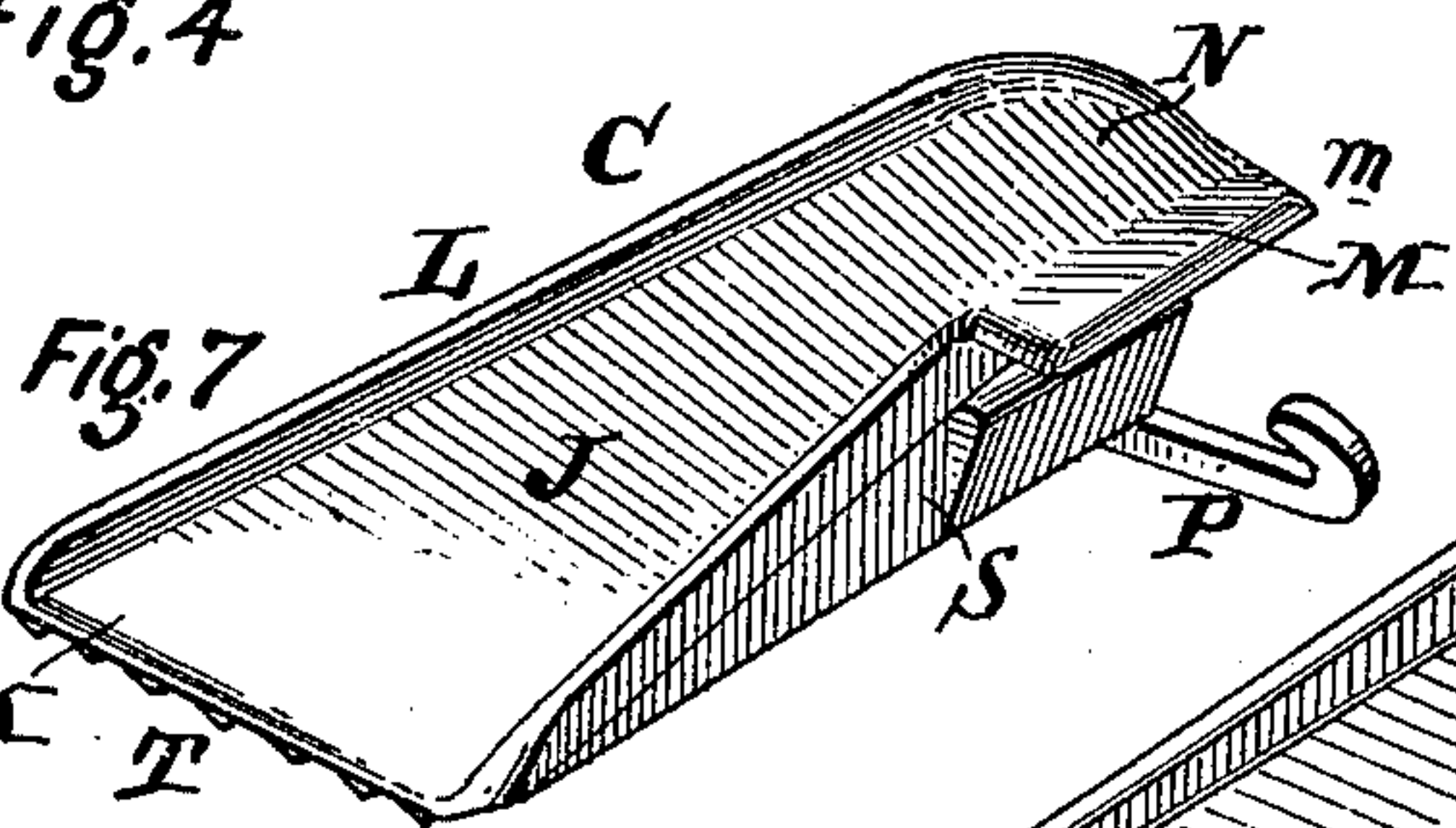


Fig. 7

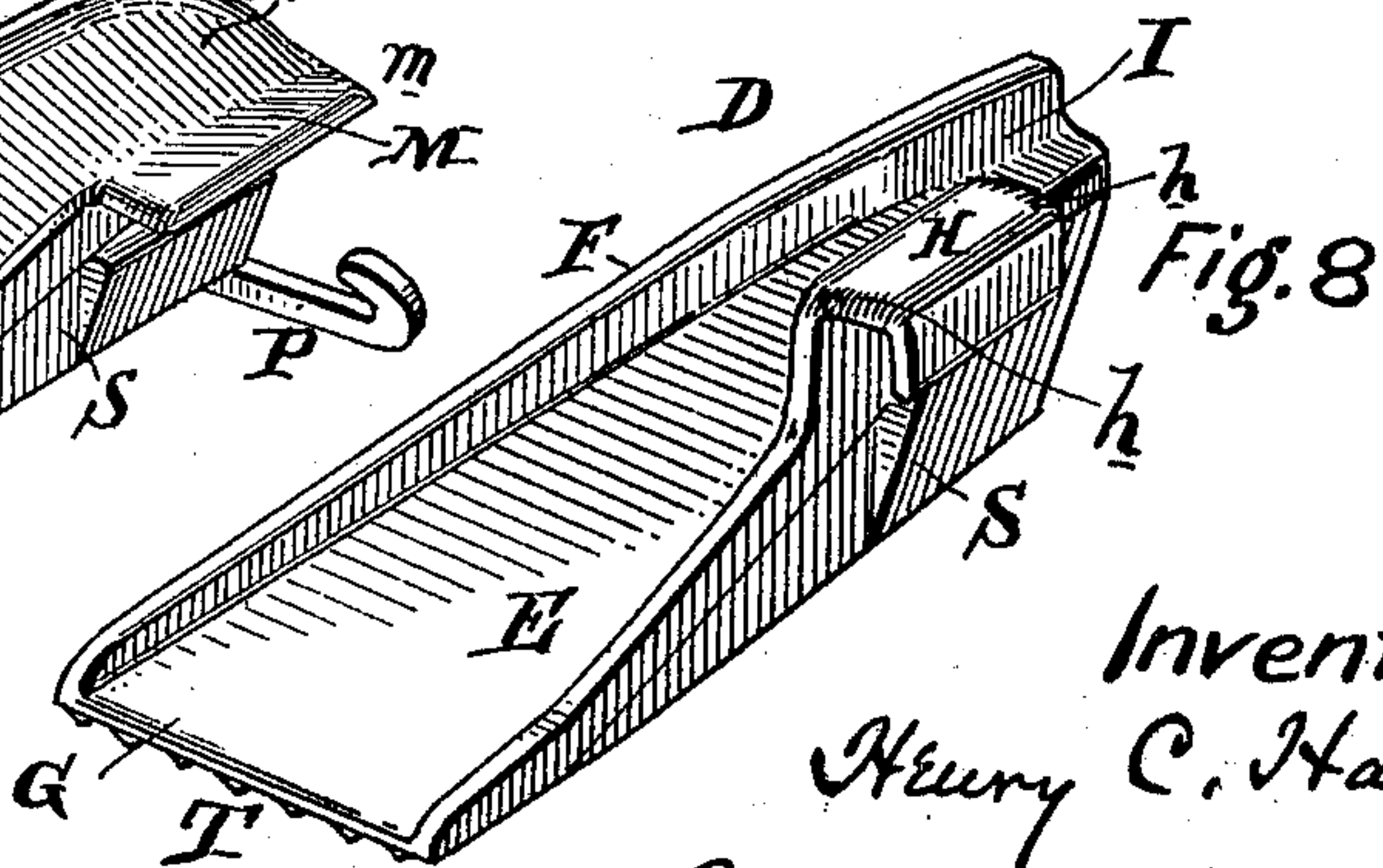


Fig. 8

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UNITED STATES PATENT OFFICE.

HENRY C. HARRAR, OF COLMAR, PENNSYLVANIA.

CAR-REPLACING FROG.

SPECIFICATION forming part of Letters Patent No. 719,215, dated January 27, 1903.

Application filed March 31, 1902. Serial No. 100,662. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. HARRAR, of Colmar, Montgomery county, State of Pennsylvania, have invented an Improvement in Car-Replacing Frogs, of which the following is a specification.

My invention has reference to car-replacing frogs; and it consists of certain improvements fully set forth in the following specification and shown in the drawings forming a part thereof.

The object of my invention is to enable the derailed car-truck to be lifted and guided into position upon the rails by means of suitable frogs which shall not interfere with the free passage of the underailed trucks when the car is pulled over said frogs.

In carrying out my invention I provide the two rails with adjustable and detachable frogs of such shape that the wheels of the truck will be gradually elevated and moved laterally to ultimately come into alinement with the rails. The inside frog, or that between the rails, has an inclined bed, the lower edge of which is flared or widened where it reaches the ties, and on one side the frog is provided with a hooked flange for fitting snugly over the rail and on the other side with an upright oblique flange not quite reaching the rail for forcing the wheel-flange toward the rail when the wheel is being elevated. The other or outside frog is also inclined on its upper surface and made with a flared lower edge for receiving the wheel; but in this case the inclined guiding-surface is also laterally inclined, especially at the top, to cause the wheel to travel toward the rail and tend to freely ride over it into position upon it. This frog has an upper overlapping guiding-flange resting upon the top of the rail; but it preferably does not extend down upon the inside of the rail, as that would interfere with the wheels running upon the rails, since there is not sufficient space between the flange of the wheel and rail to permit it. This frog may be clamped to the rail by suitable means. To hold the frogs in position when in use, I prefer to provide the lower edges thereof with serrated or toothed portions, which under the weight of the truck and car are forced into the surface of the ties and held thereon against slipping.

The above features, as well as those of more detail constituting my invention, will be better understood by reference to the drawings, in which—

Figure 1 is a plan view of a track with my improved frog devices applied thereto. Fig. 2 is a cross-section of same on line 2 2. Fig. 3 is a front elevation of the outside frog, showing the position of the rail in dotted lines. Fig. 4 is a side elevation of same. Fig. 5 is a view similar to Fig. 3 of the inside frog. Fig. 6 is a side elevation thereof. Fig. 7 is a perspective view of the outside frog, and Fig. 8 is a perspective view of the inside frog.

A represents the rails. B represents the ties. C is the outside frog, and D is the inside frog. In practice it is desirable that the inside frog is somewhat in advance of the outside frog to compensate for the oblique position usually assumed in the derailed truck when arranging for replacing it upon the rails. It is not essential, however, that one frog should be in advance of the other.

Referring to the inside frog D, it consists of a metal frame R, which for lightness may be backed with wood S, to which the frame is secured by screws or spikes. In plan the frog is narrow at one end and flares or spreads at the other end G, forming a gradually-contracting floor E, which terminates at the narrow end in a throat I. In side elevation this frog is inclined on its upper surface, the floor E starting at the front edge G on a level with the ties and rising at the throat end and bounded on the side farthest from the rail by the flange F. The other or rail side is provided with a hooked flange H for overlapping the rail A and has its edges with the rail rounded or tapered, as at h, to allow the car-wheels of the following trucks to readily pass over it. The hooked flange H is considerably in advance of the throat portion I, so that when the flange of the wheel is in the throat it is entirely clear of the flange H.

Referring now to the outside frog C, we have in general a somewhat similar shape to the inside frog—namely, in plan it is wide at the entrance edge K, and its floor J is inclined upward toward the narrow end N. This floor is inclined upward, longitudinally considered, and may also be inclined downward toward the rail, transversely considered, so as to

cause the wheel by its own weight and action to travel toward the rail. The outer edge of the floor J may have a flange L to prevent the wheel accidentally slipping off the frog.

5 The upper part N of the floor is quite inclined transversely and at a preferably higher elevation than the rail and extended over the top of the rail, as at M, the forward and rear edges *m* thereof being rounded or chamfered
10 off to enable the wheels of the following trucks to easily pass over them.

The under edges or surfaces of the frogs are provided with teeth or projections T to enter or catch upon the wooden ties and prevent the frogs slipping under the pressure of the truck. To more securely hold the frog C to the rail, I may employ a hook P, adapted to catch upon the lower inside flange of the rail and also upon the pin O on the frog at rear
15 end, as shown. This is advisable, because the part M is not hooked over the rail, as in the case of the part H of the frog D. Any other means for holding the frog to the rail may be used, if desired.

25 It will be noticed that on the transverse line with the throat I of frog D there is no obstruction to the inside of the rail, which might in any way catch upon the flanges of the wheels and prevent their easy replacement, and it will be also seen that where the hook-flange H comes on the frog D there is no corresponding flange on the frog C, so as to offer as little narrowing of the gage of the track as possible. The location of the hook-flange H in advance of the throat I brings it to a position where it does not act upon the wheels of the truck being replaced when the wheels are in position to be received by both rails. Hence it offers no obstruction what-
30 ever.

While I prefer the construction shown, the details may be modified without departing from the spirit of my invention.

45 Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a railway-track, with an inside frog having an inclined floor and lateral upward flange to the floor on the side
50 most distant from the rail to form a narrow throat at its upper end, the floor of which is below the top of the rail, and also having a

hook-shaped flange extending over the rail and above and at a distance from the throat, and an outside frog having an inclined floor
55 terminating at the top in a laterally-inclined surface and extending over the top of the rail.

2. The combination of a railway-track, with an inside frog having an inclined floor and lateral upward flange to the floor on the side most distant from the rail to form a narrow throat at its upper end, the floor of which is below the top of the rail, and also having a hook-shaped flange extending over the rail
60 and above and at a distance from the throat, an outside frog having an inclined floor terminating at the top in a laterally-inclined surface and extending over the top of the rail, and a locking device for locking the outside
65 frog to the rail.

3. In means for replacing cars, an inside frog consisting of a body inclined in elevation and tapered in plan and having an inclined floor extended or widened at the bottom and contracted or narrowed at the top and in which the side farthest from the rail is provided with an upwardly-extending guide-flange and also intermediate of its ends on the rail side with a hook-shaped flange to fit
70 over the rail, and extending above the level of the floor of the throat.

4. In means for replacing cars, an inside frog consisting of a body inclined in elevation and tapered in plan and furnished on its
75 under surface throughout its length with points or projections to take hold of the ties and prevent slipping and also having an inclined floor extended or widened at the bottom and contracted or narrowed at the top
80 and having its floor below the top of the rail and in which the side farthest from the rail is provided with an upwardly-extending guide-flange and also intermediate of its ends on the rail side with a hook-shaped flange at a
85 higher elevation than the floor of the contracted portion to fit over the rail.

In testimony of which invention I have hereunto set my hand.

H. C. HARRAR.

Witnesses:

R. M. HUNTER,

J. W. KENWORTHY.