(No Model.)

2 Sheets—Sheet 1.

S. H. STUPAKOFF.

DETECTOR RAIL.

No. 588,503. Patented Aug. 17, 1897.

FIG. 1.

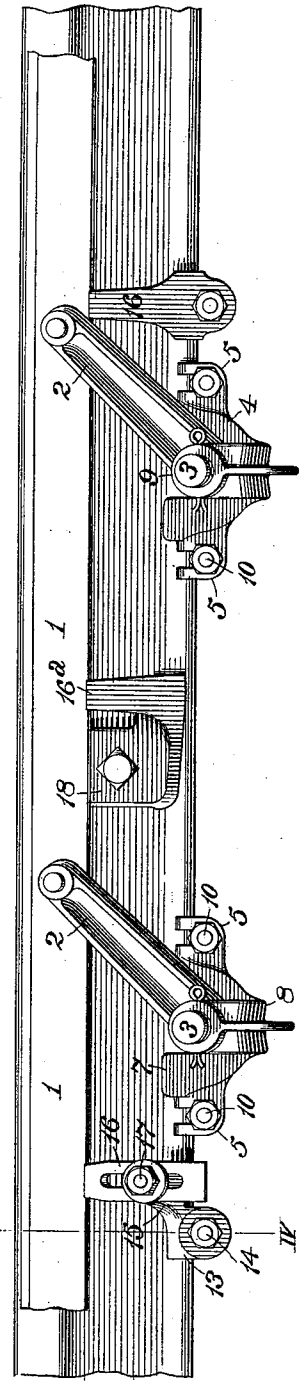
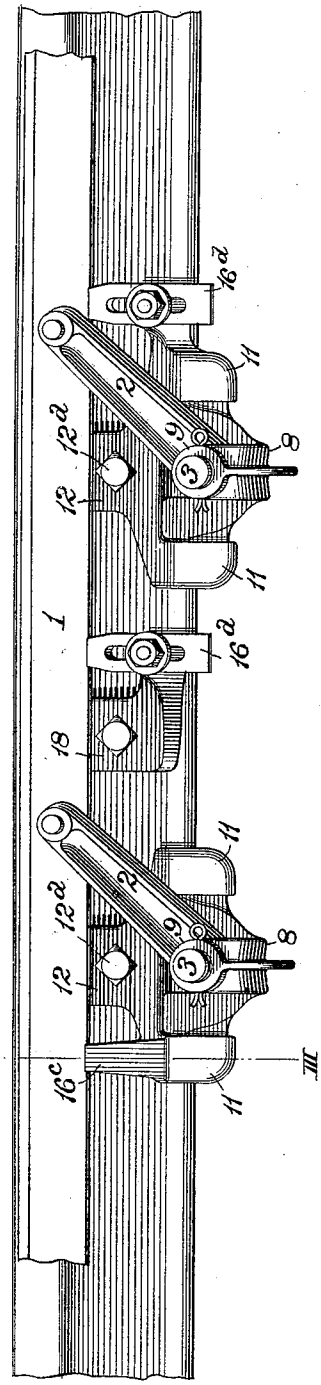


FIG. 2.



WITNESSES:

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F. E. Gaither

INVENTOR.

Simon H. Stupakoff

by Dennis B. Wolcott

Att'y.

(No Model.) 2 Sheets—Sheet 2.

S. H. STUPAKOFF.

DETECTOR RAIL.

No. 588,503. Patented Aug. 17, 1897.

FIG. 3.

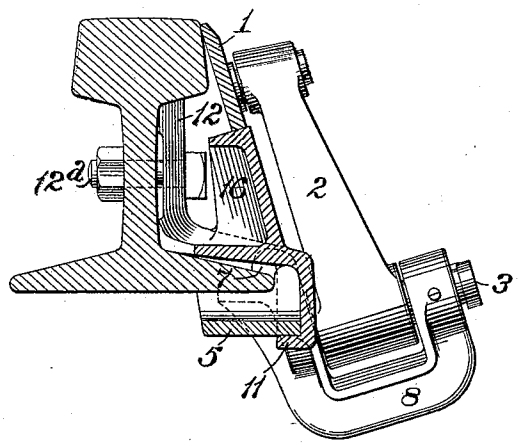


FIG. 4.

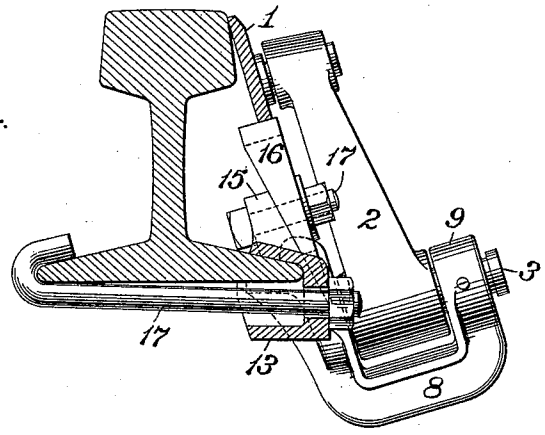
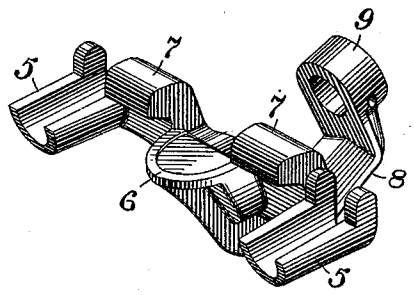


FIG. 5.



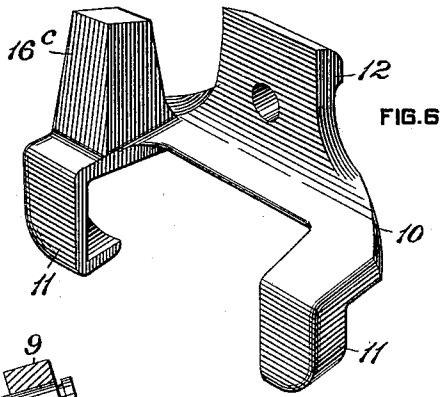
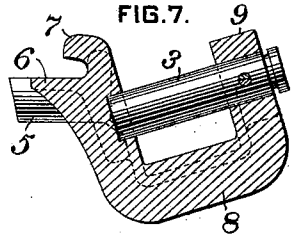


FIG. 6.

FIG. 7.



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UNITED STATES PATENT OFFICE.

SIMON H. STUPAKOFF, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE UNION SWITCH AND SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA.

DETECTOR-RAIL.

SPECIFICATION forming part of Letters Patent No. 588,503, dated August 17, 1897.

Application filed March 29, 1897. Serial No. 629,736. (No model.)

To all whom it may concern:

Be it known that I, SIMON H. STUPAKOFF, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Detector-Rails, of which improvements the following is a specification.

The invention described herein relates to certain improvements in clamps whereby detector-bars may be secured to the rails in proper relation to the switch-points. It is very frequently necessary to arrange the detector-rails on the main rail, against which the movable rail of the switch bears in one of its positions. The hook-bolts heretofore used for this purpose necessitated the notching of the flange-rail for the reception of the hooks in order to place the detector-rail in proper relation to the switch-point and at the same time permit of the required movement of the switch-rail.

The object of my invention is to provide means whereby the detector-rail support can be secured to the main rail without any notching or cutting of its flange, such notching or cutting being objectionable on account of its weakening effect.

In general terms the invention consists in the construction and combination substantially as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a rail having a detector-bar attached thereto by my improved support. Fig. 2 is a similar view illustrating a modification in the manner of securing the supporting-bracket to the rail-flange. Fig. 3 is a transverse section, the plane of section being indicated by the line III III, Fig. 2. Fig. 4 is a similar view, the plane of section being indicated by the line IV IV, Fig. 1. Fig. 5 is a perspective view of the supporting-bracket. Fig. 6 is a similar view of the bracket-clamp, and Fig. 7 is a sectional elevation of the bracket-clamp.

In the practice of my invention the detector rail or bar 1 is pivotally connected to the upper ends of a series of two or more arms 2, which have their lower ends loosely mounted upon pins 3, supported upon suitable bearings in the brackets 4. The brackets 4 are formed, as clearly shown in Fig. 5, with semitubular lips 5 and by preference with a bracing-lip 6 intermediate of the semitubular lips 5. These lips are adapted to pass under the flange of the rail, while lugs 7, also formed integral with the bracket and alternating with the lips, pass over the top of the rail-flange. Each of these brackets is provided with an angular arm 8, which has a bearing 9 at its outer end for the reception of the supporting-pin 3 of the arm 2. A second bearing for the inner end of the pin 3 is formed in the body portion of the bracket, as shown in Fig. 7. These brackets may be secured to the rail either by hook-bolts, which pass through the tubular lips 5, as clearly shown in Figs. 1 and 4, or the brackets may be secured in position where there is not sufficient room to employ hook-bolts by means of clamps 10. These clamps are provided with downwardly-projecting tubular flanges 11, adapted to pass over the outer ends of the semitubular lips 5, as shown in Figs. 2 and 3. Intermediate and to one side of the flanges 11 is formed an upwardly-projecting arm 12, adapted to bear against the web of the rail and be secured thereto by means of a bolt 12^a. It will be observed that by the employment of this clamp the inner edges of the rail-flange are left unobstructed and the flange is in no wise weakened, as by notching.

In order to support the detector-bar when in lowered or normal position, suitable stops are secured to the rail or to the clamp 10. When it is desired to employ stops independent of the detector-rail support and where there is sufficient room for the employment of hook-bolts, a bracket adapted to fit over the edge of the rail-flange is secured to the rail by a hook-bolt 14. This bracket is provided with an arm 15, adapted to carry the detector-rail stop 16. This stop or finger 16 is preferably so attached to the arm 15 as to be capable of vertical adjustment. This means of adjustment consists in slotting the stop or finger 16 for the passage of a clamping-bolt 17, as shown in Figs. 1 and 4. In order to prevent any accidental displacement

of the finger or stop from its adjusted position, it is preferred to form the bearing-surfaces of the arm 15 and the stop with opposite inclinations, as clearly shown in Fig. 4, so that after the stop or finger has been clamped in position any blow on its upper end will result in wedging it more firmly in position. The stop is formed with a flat unconfined or unbounded top or bearing surface, so that in case cinder, stone, or other objects should lodge thereon the latter can be readily knocked off or displaced by the detector rail or bar in dropping to its normal position.

When by reason of the location of the detector-rail hook-bolts cannot be employed for securing the stop in position, the stop 16^a is formed integral with a plate 18, adapted to be bolted to the web of the rail, as shown in Fig. 1. In lieu of securing the finger or stop 16^a integrally with the plate 18 it may be adjustably mounted thereon, as shown in Fig. 2.

When the clamps 10 are employed for holding the brackets 4 in position, the stops for the detector-rail may be formed integral therewith, as shown at 16^c, or adjustably mounted thereon, as shown at 16^d.

By reason of the construction and relative arrangement of the lips and lugs 7 of the bracket 4 the same can be produced by casting in a mold without the use of cores. This is an important feature, as this method of manufacturing the brackets greatly reduces the cost of the same.

I claim herein as my invention—

1. A bracket for supporting detector-rails, the combination of semitubular lips and lugs arranged alternately and respectively adapted to pass below and above the rail-flange, with bearings for the pin or shaft supporting the rail-carrying arms, substantially as set forth.

2. The combination of a bracket constructed to engage the edge of a rail-flange and provided with bearings for the pin or shaft supporting the rail-carrying arms, in combination with a clamp adapted to be secured to the web of the rail and to engage projections on the supporting-bracket, substantially as set forth.

3. The combination of a bracket provided with alternating lips and lugs arranged to pass respectively below and above the rail-flange, a clamp provided with flanges adapted to overlap the lips on the bracket, and to be secured to the web of the rail, and a detector bar or rail movably mounted on the bracket, substantially as set forth.

4. The combination of a bracket adapted to be secured to the flange of a rail, a detector-bar pivotally mounted on the bracket, a stop independent of the detector-bar support, and having a plain unconfined or unbounded bearing-surface for the detector-rail and means for clamping the stop to the rail, substantially as set forth.

5. The combination of a bracket adapted to be secured to the flange of a rail, a detector-bar pivotally mounted on the bracket, a clamp and a stop adjustably mounted on the clamp, substantially as set forth.

In testimony whereof I have hereunto set my hand.

SIMON H. STUPAKOFF.

Witnesses:

DARWIN S. WOLCOTT,

M. S. MURPHY.