

No. 744,289.

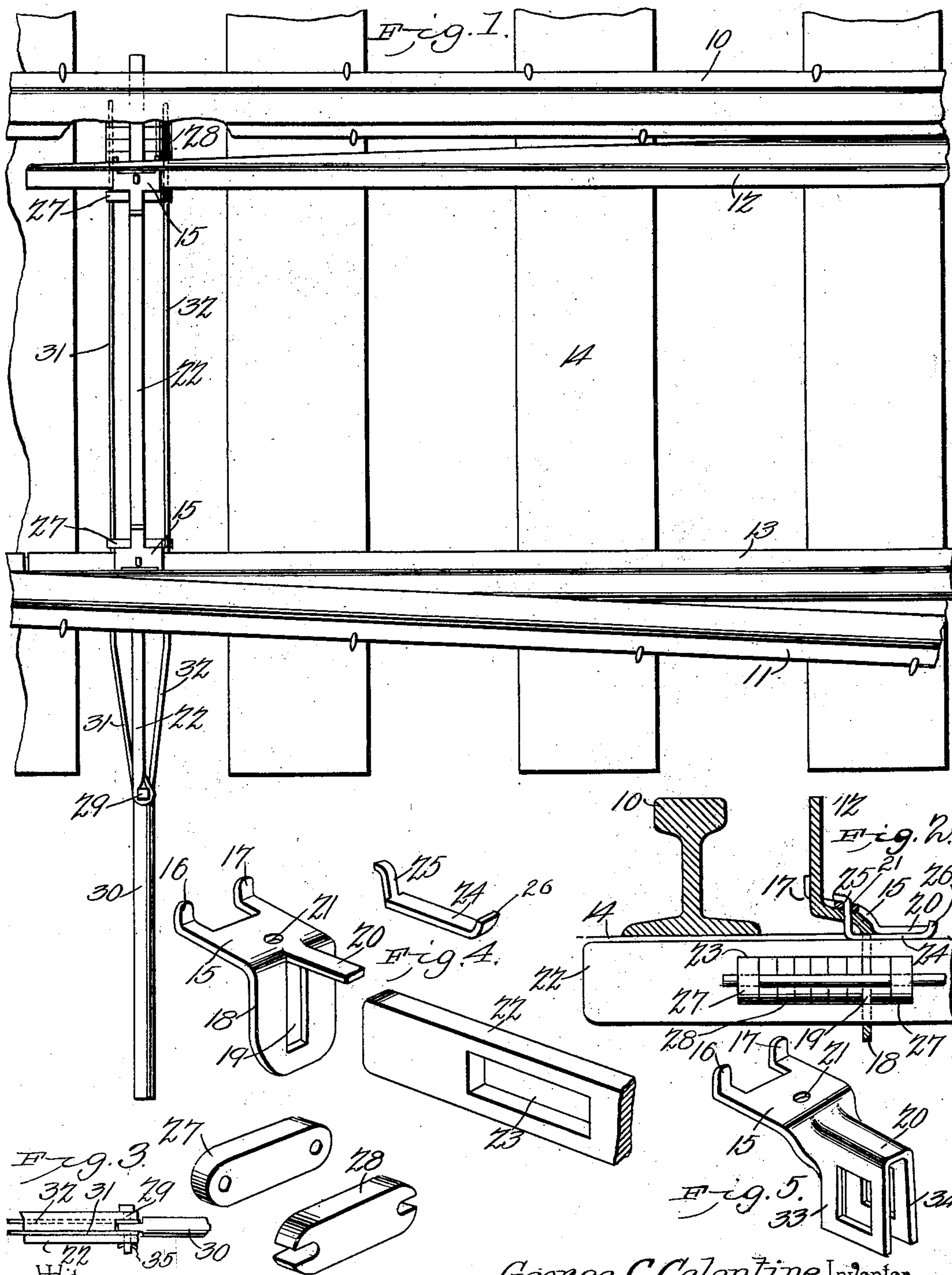
PATENTED NOV. 17, 1903.

G. C. CALENTINE.
RAILROAD SWITCH.

APPLICATION FILED FEB. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
E. J. Stewart
C. H. Woodward.

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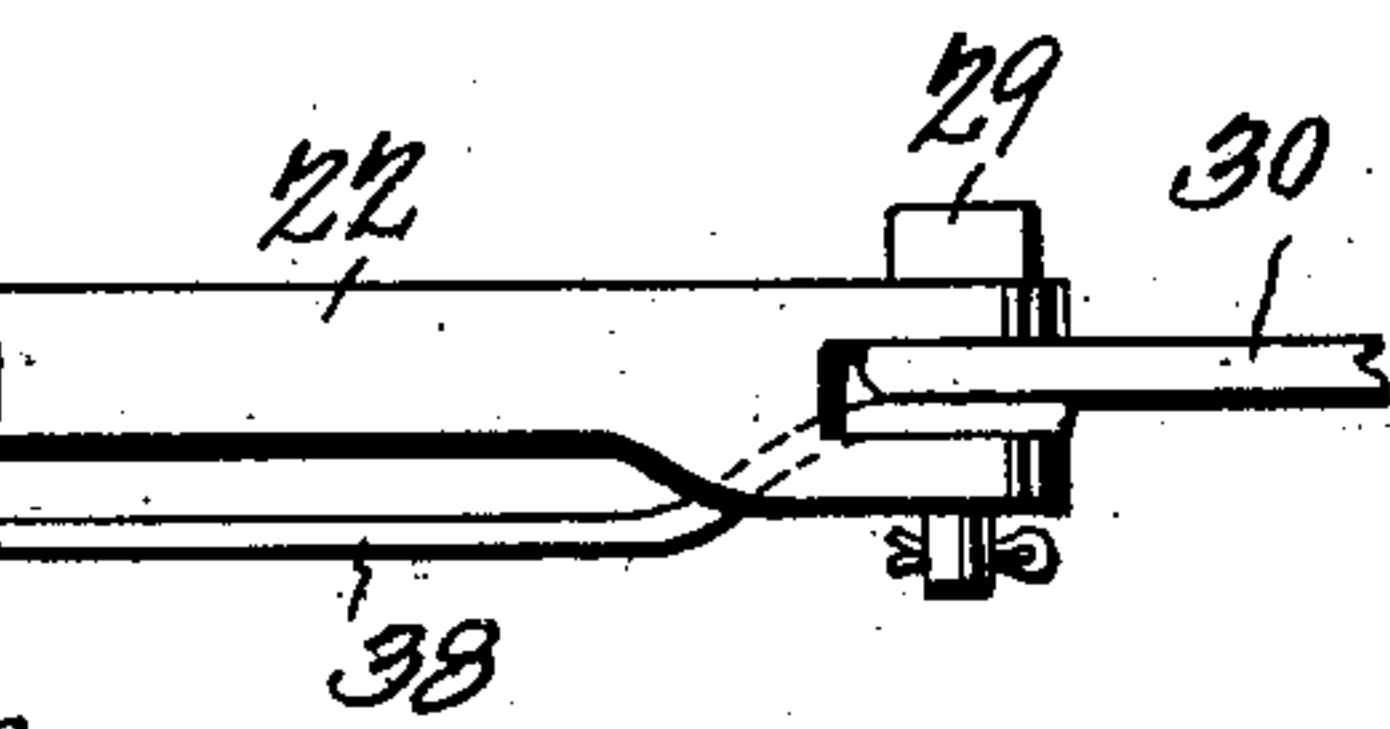
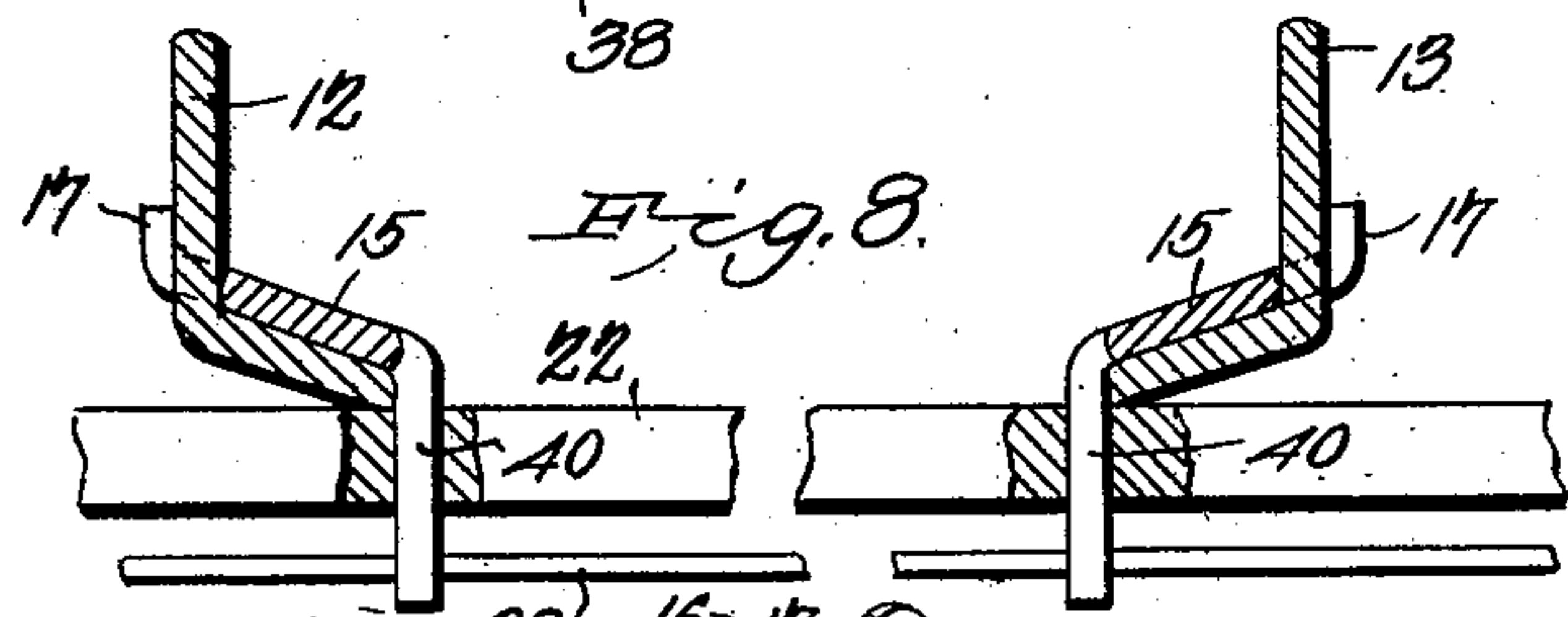
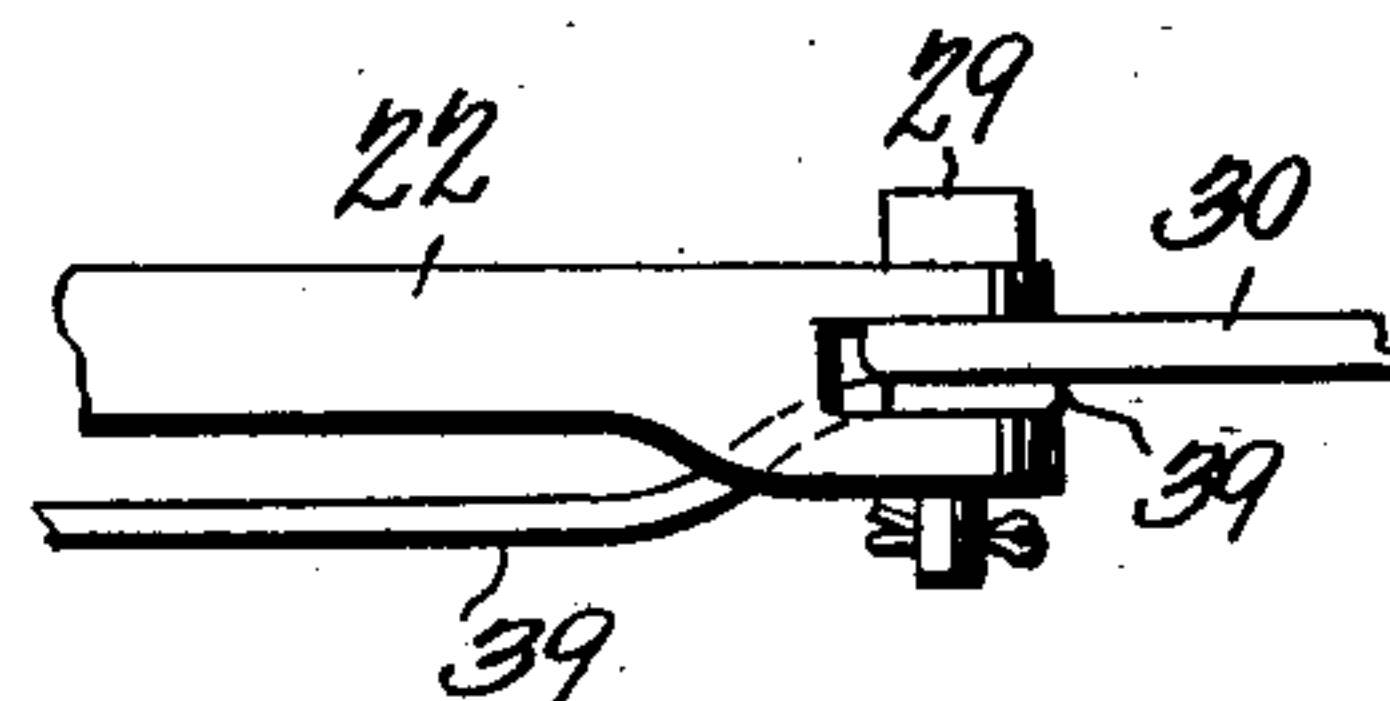
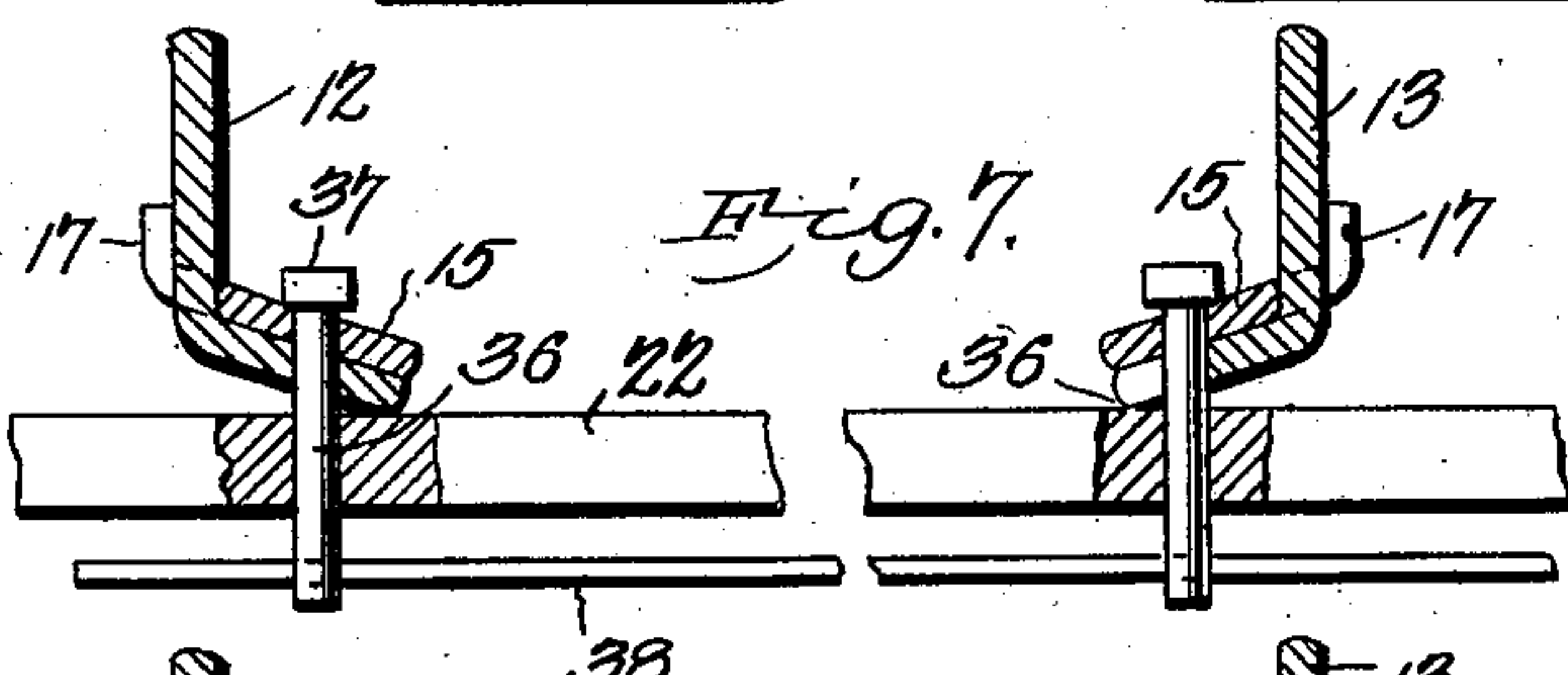
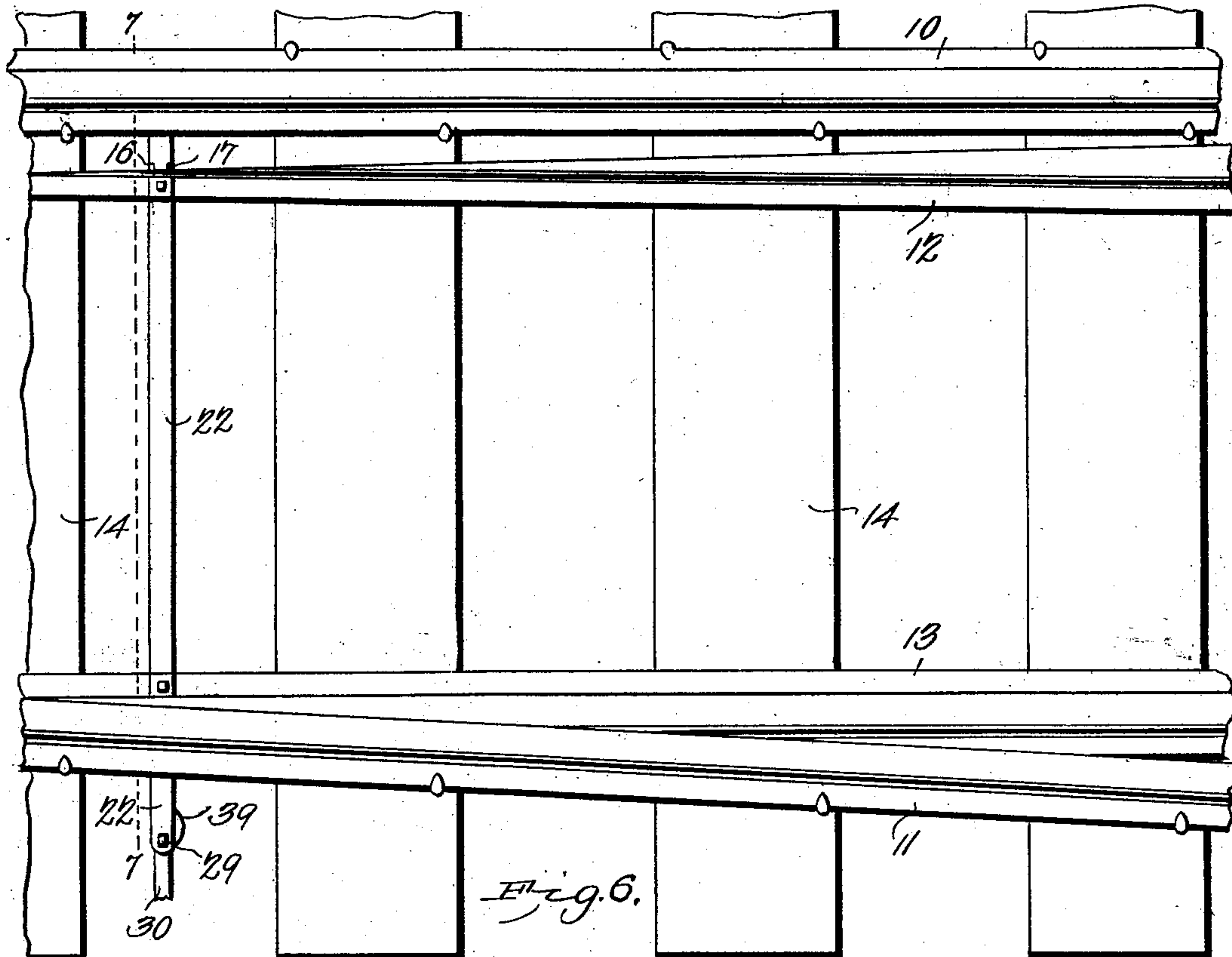


Fig. 9.
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Fig. 10.
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UNITED STATES PATENT OFFICE.

GEORGE C. CALENTINE, OF TACOMA, WASHINGTON, ASSIGNOR OF ONE-HALF TO HENRY HEWIT, JR., CHARLES S. BIHLER, AND JOHN C. DONNELLY, OF TACOMA, WASHINGTON.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 744,289, dated November 17, 1903.

Application filed February 26, 1903. Serial No. 145,280. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. CALENTINE, a citizen of the United States, residing at Tacoma, in the county of Pierce and State of Washington, have invented a new and useful Railroad-Switch, of which the following is a specification.

This invention relates to railway-switches, more particularly to connecting means between the "point-rails" and the operating means, and has for its object to simplify and improve the construction and provide for the ready adjustment of the relative parts and also to facilitate the installation of the switch.

Another object of the invention is to reduce the number of the parts without reducing the efficiency, operativeness, or safety.

Other novel features will appear in the annexed description and be specifically pointed out in the claims.

The device may be applied to either "stub" or "split" switches; but for the purpose of illustration it is shown applied to a conventional form of a split switch, and in the drawings corresponding parts are denoted by like designating characters.

Figure 1 is a plan view of the "point" end of an ordinary split switch with the improvements applied. Fig. 2 is a cross-section, enlarged, of one side of the connecting means. Fig. 3 is a detail side view of the coupling to the switch-rod. Fig. 4 represents the parts forming the coupling of the point-rails disconnected. Fig. 5 is a perspective view representing a modification in the construction of the coupling-clip. Fig. 6 is a view similar to Fig. 1, illustrating a modification in the construction. Fig. 7 is an enlarged sectional detail on the line 7 7 of Fig. 6. Fig. 8 is a view similar to Fig. 7, illustrating another modification in the construction. Fig. 9 is a perspective view of the form of clip shown in the modification shown in Figs. 6 and 7. Fig. 10 is a perspective view of the form of clip shown in the modification shown in Fig. 8.

The main-line rail is represented at 10, the main side-track rail at 11, the side-track point-rail at 12, and the main-line point-rail

at 13, of the usual form and resting upon the ties, (represented at 14.)

The point-rails 12 13 are each formed with spaced perforations through their vertical webs near their free ends and with a similar perforation through the track-flange immediately of the spaced perforations. Clips for coupling the operating-bar to the rail-points are employed, and as these clips and their attachments are alike upon both sides corresponding reference characters are employed for like parts in each. The clips consist of plates 15, preferably of sheet-steel, pressed to shape and formed with spaced studs 16 17, adapted to engage the spaced perforations in the vertical webs of the point-rails, and with depending portions 18, having an aperture 19 and extending lip 20, as shown. Each of the clips also has a perforation 21 registering with the perforation in the tie-flanges of the point-rails. The lugs 16 17 are turned upwardly, so that when inserted through the spaced perforations in the point-rail and the clip moved into engagement with the tie-flange, as shown in Fig. 2, the clips will be thereby "locked" into engagement with the point-rails. The combined operating and connecting bar represented at 22 will pass through the apertures 19 and will also be provided with transverse apertures 23, the latter occurring opposite the apertures 19 and extending upon opposite sides thereof, as shown. Between the tie-flanges of the point-rails and the bars 22 locking-keys 24 are inserted, each key having one end turned upward into a hook 25, passing through the tie-flange perforation and likewise through the perforation 21 in the clip, and with the other end 26 turned up and engaging the outer end of the projection 20, as shown. The hooked lugs 16 17 will be formed to "bind" the clips against the point-rails when the clips are positioned with the part 18 vertical, and then when the key 24 and bar 22 are connected the parts will be firmly bound together and in position to be locked by key-plates inserted through the aperture 23 upon opposite sides of the depending part 18. These key-

plates are of two forms, the end members 27 preferably of uniform thickness and having perforations near their ends and intermediate plates 28 of varying thickness and having open recesses in their ends. By altering the relative positions of the intermediate plates 28 and locating a greater or lesser number of them upon opposite sides of the part 18 it is obvious the relative distances between the movable ends of the point-rails may be altered to any required extent, and by employing a plurality of thin plates any required degree of adjustment may be accomplished. The free end of the bar 22 is forked and provided with aligned perforations through the forked ends and provided with a bolt 29, the forked end and bolt providing for the movable connection of the rod 30, leading from the switch-stand. (Not shown.) Coupled by eyes to the bolt 29 within the forked portion of the bar 22 are two rods 31 32, leading through the perforations in the end plates 27 and likewise through the recesses in the intermediate plates 28 and serving to support the plates in position in the slots 22. By this simple arrangement the point-rails are firmly coupled to each other and likewise adjustably coupled independently to their connecting means, so that they can be very quickly "justified" if by any means they become disarranged to insure the perfect and accurate coaction of all the parts.

In Fig. 5 a slight modification is shown in the form of the parts 18 20, consisting in extending the part 18 in parallel lines or as downward extensions 33 34 of the wing 20 and forming these extensions with transverse apertures for the key-plates.

In Figs. 6, 7, and 9 another slight modification in the structure is shown, which may be employed where the lateral adjustment is not required, and consists in forming the clamp or clip-plate 15 without the projection 18 (shown in Figs. 2 and 4) and securing the parts by means of a bolt 36, having a head 37 at one end and an aperture in the other end and passing downward through the aperture 21, the registering aperture in the tie-flange, and through an aperture in the connecting-bar 22 and engaging a rod 38 by its aperture beneath the operating-bar, as shown. The rod 38 is extended and connected by an eye (indicated at 39) to the bolt 29, as shown in Figs. 6 and 7, in the same manner as the rods 31 32 are secured.

In Figs. 8 and 10 another slight modification in the manner of forming and securing the clip-plate 15 is shown, consisting in providing the plate with an extension 40, similar to the extension 18, (shown in Figs. 2 and 4,) the former having a perforation 41, through which the rod 38 passes and is secured in the same manner as shown in Fig. 7 and for the same purpose.

These modified forms of the structure may be employed where the lateral adjustment is

not required, but would not be a departure from the principle of the invention, as they operate in substantially the same manner and produce substantially the same results.

The construction is very simple, contains few parts, and does not contain a single screw-bolt, as the only bolt in the device is at 29, connecting the bar 22 to the switch-rod 30, which is secured by a "collet" 35. By this means no danger exists of the parts working loose by the turning backward of nuts, and in devices of this character, which are subjected to very severe jarring and concussions, this is an important advantage.

Having thus described my invention, what I claim is—

1. In a railway-switch, the movable "points" having clips connected therewith, an operating-bar, and a plurality of detachable plates, adapted to be adjustably disposed between said bar and clips to regulate the relative distance between the "points" and between the points and line-rails, substantially as described.

2. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with depending portions having apertures therethrough, an operating-bar passing through said apertures, and a plurality of plates adapted to be adjustably disposed upon opposite sides of the depending portions of said clips to regulate the relative positions of said clips and bar, substantially as described.

3. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with depending portions having apertures therethrough, an operating-bar passing through said apertures, and having transverse apertures, and a plurality of plates adapted to be disposed within the slots in said operating-bar upon opposite sides of the depending portions of said clips, substantially as described.

4. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with depending portions having apertures therethrough, an operating-bar passing through said apertures, and having transverse apertures, a plurality of plates adapted to be disposed within the slots in said operating-bar upon opposite sides of the depending portions of said clips, and means for supporting said plates within said slots, substantially as described.

5. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with depending portions having apertures therethrough, an operating-bar passing through said apertures, and having transverse apertures, a plurality of plates adapted to be disposed within the slots in said operating-bar upon opposite sides of the depending portions of said clips, and having apertures in their ends, and rods passing through said apertures and supporting said

plates in position relative to said bar, substantially as described.

5 6. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with a depending perforated portion, an operating-bar passing through said perforations and coupled to the switch-bar by a pivot-bolt, a plurality of plates adapted to be adjustably disposed between the bar and depending portions of the clips, and rods coupled by one end to said pivot-bolt and connected to said plates and supporting said plates in position relative to said bar, substantially as described.

15 7. In a railway-switch, movable switch-points, clips connected to the switch-points and provided with depending portions having apertures therethrough, an operating-bar passing through said apertures, and having transverse apertures, a plurality of plates adapted to be disposed within the slots in said operating-bar upon opposite sides of the depending portions of said clips, the end plates having perforations and the intermediate plates having end recesses, and tie-rods

passing through the perforations and recesses in said plates and supporting them in position relative to said bar and clips, substantially as described.

8. In a railway-switch, the switch-points 30 having perforations near their free ends through the vertical webs and tie-flanges, clip members having lugs adapted to engage the vertical web-perforations and with a perforation registering with the tie-flange perforation and formed with a depending portion 35 having transverse apertures, an operating-bar engaging said transverse apertures, means for adjustably coupling said bar to said clips, and key-bars having lugs extending 40 through said registering perforations and disposed between said operating-bar and the tie-flanges, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 45 the presence of two witnesses.

GEORGE C. CALENTINE.

Witnesses:

A. F. EASTMAN,
W. R. ANDRUS.