

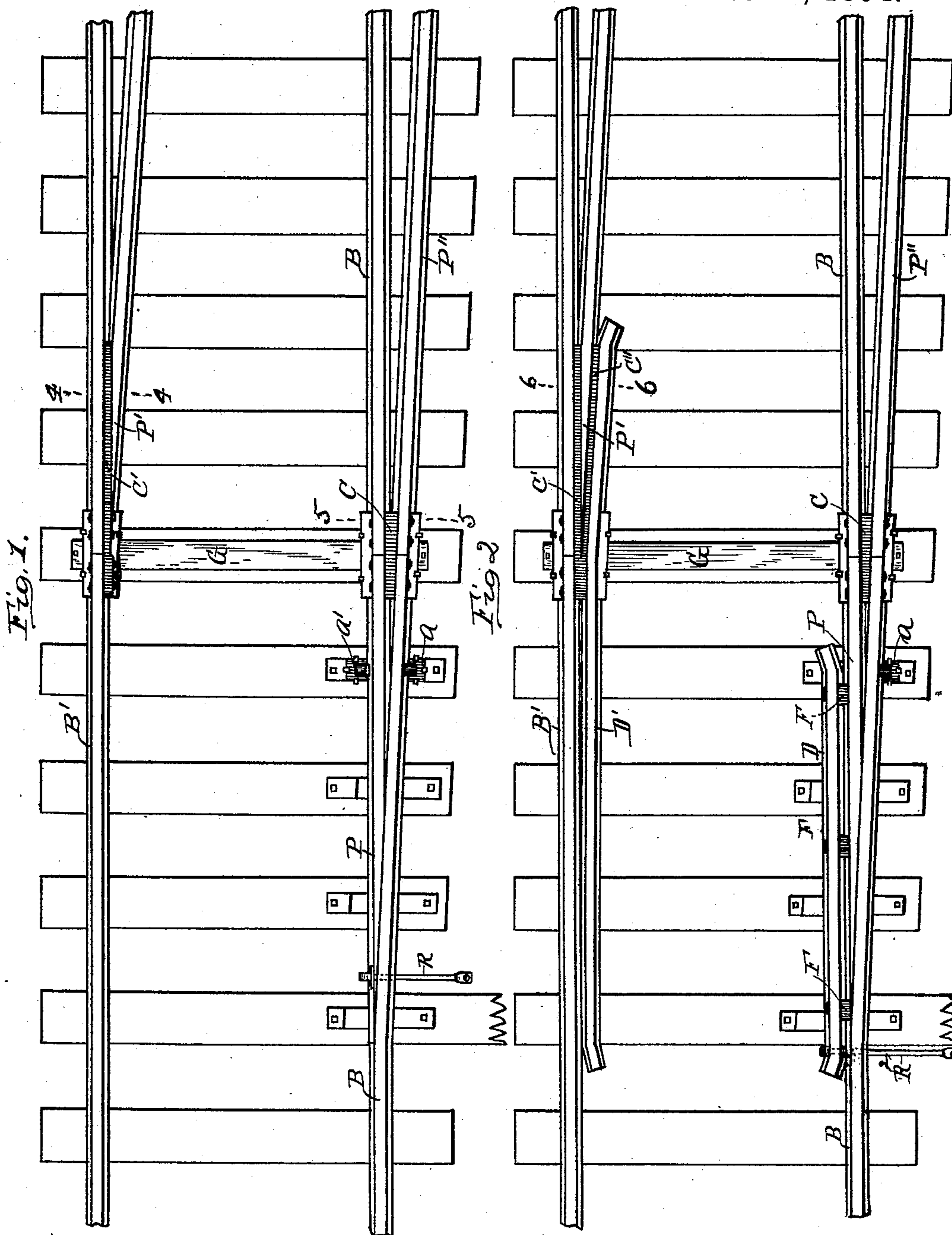
(No Model.)

3 Sheets—Sheet 1.

J. N. BUTCHER.  
RAILWAY SWITCH.

No. 529,245.

Patented Nov. 13, 1894.



Witnesses,  
W. C. Hutchins.  
Wm J. Hutchins.

Inventor.  
Jasper A. Butcher

(No Model.)

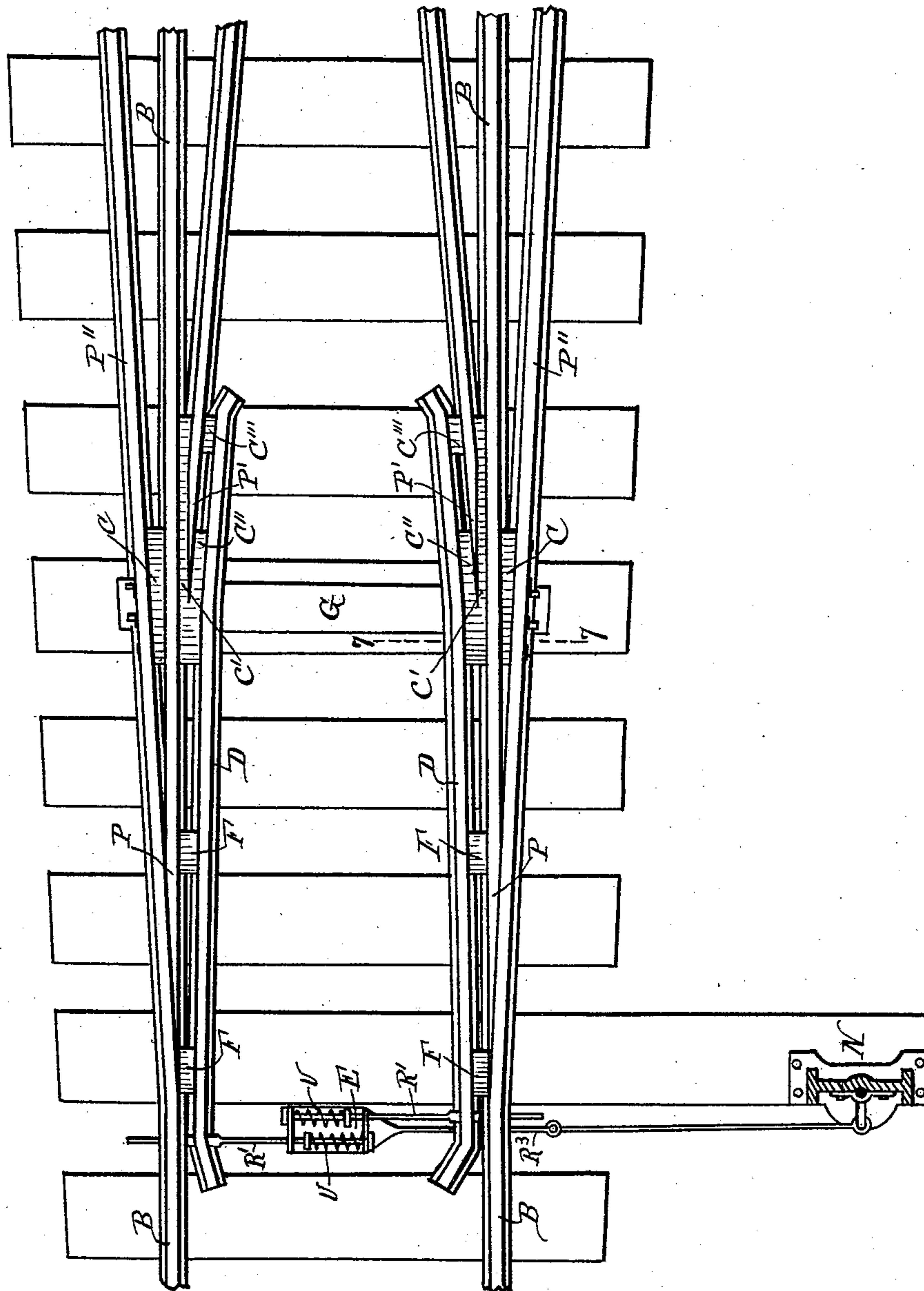
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*Fig. 3.*



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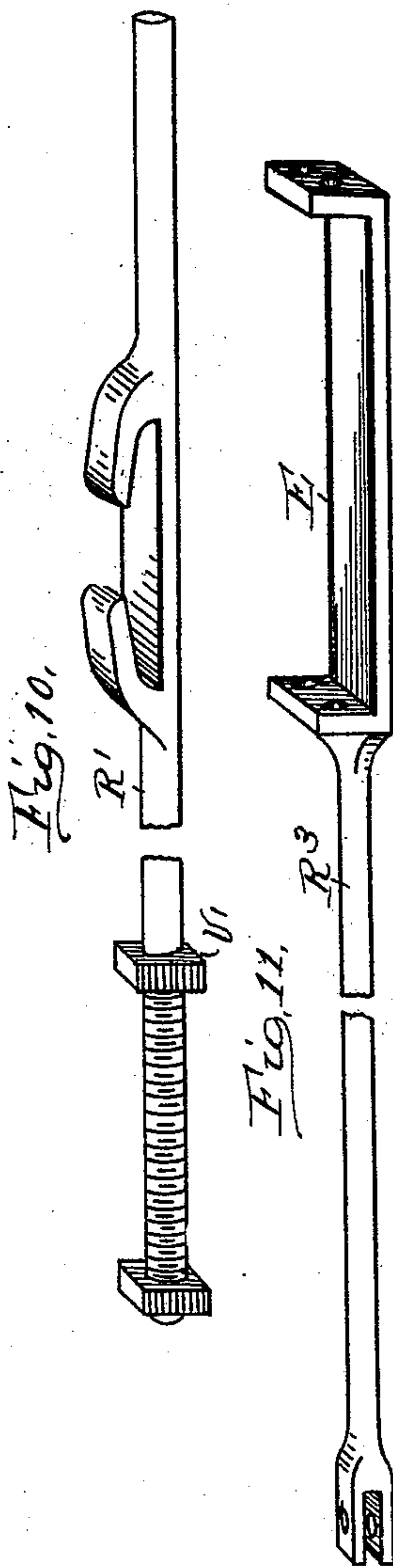
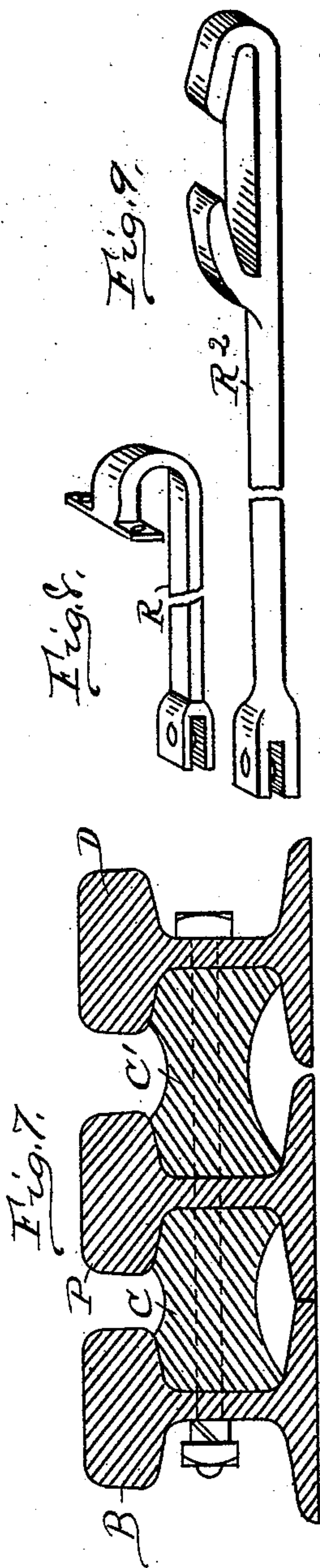
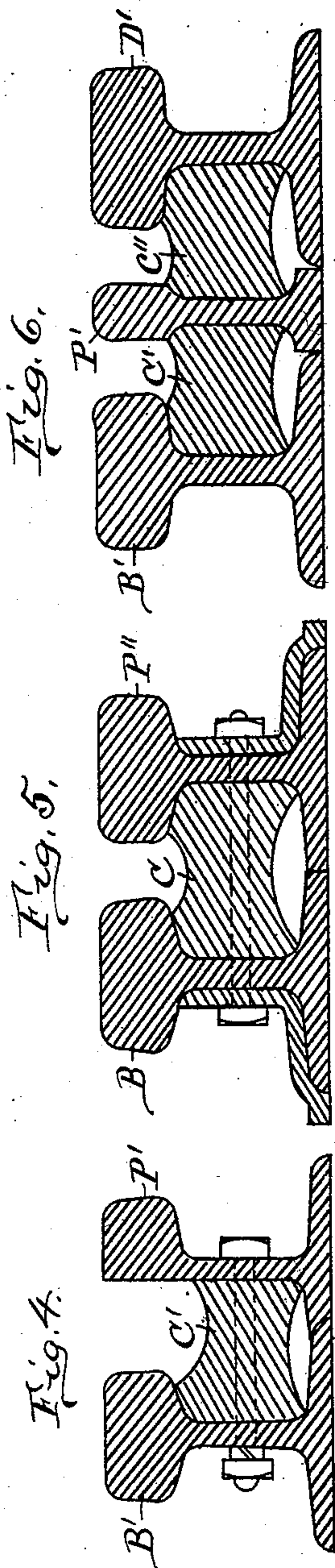
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# UNITED STATES PATENT OFFICE.

JASPER N. BUTCHER, OF MULVANE, KANSAS.

## RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 529,245, dated November 13, 1894.

Application filed July 23, 1894. Serial No. 518,413. (No model.)

*To all whom it may concern:*

Be it known that I, JASPER N. BUTCHER, a citizen of the United States of America, residing at Mulvane, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Railway-Switches, of which the following is a specification, reference being had therein to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figures 1 and 2 are top views of the switch; Fig. 3, a similar view of a double switch; Fig. 4, a cross-sectional view on line 4—4 of Fig. 1; Fig. 5, a similar view on line 5—5 of Fig. 1; Fig. 6, a similar view on line 6—6 of Fig. 2; Fig. 7, a similar view on line 7—7 of Fig. 3, and Figs. 8, 9, 10 and 11 are detailed perspectives of the bridle-bars and connections of the switch.

This invention relates to certain improvements in rail-way switches; and consists in certain novel constructional features of what I have termed a single point, or split, rail switch; which improvements are fully set forth and explained in the following specification and pointed out in the claims.

Referring to the drawings B and B' represent the main track rails of the rail-way, and in all single switch structures the rail B is crooked at the junction of the point rail of the switch and a portion thereof extends to form one switch track rail, as shown at P'', while the opposite track rail B' is straight and continuous, and has secured to its side, in a stationary manner, the opposite switch track rail P', said rail being pointed and held at a certain distance off from the rail B' by means of the filling block C'. The movable point, or split rail of the switch is shown at P and intersects the main track rail B, as shown, and at the junction of such intersection the said rails P and B are tied by means of cross-bolts to the switch track rail P'' with an interposed filling block C placed to hold said rails a proper distance apart, as represented; and in making such securing the rail P is not firmly tied, but permitted to have a limited lateral turning movement.

Braces  $\alpha$  are placed at the outer side of rails P'' to aid in their maintaining a proper position, and braces  $\alpha'$  are placed, against which

the innersides of the rails P engage for proper support, when the said rail is moved to open the switch, which brace may serve to prevent said rail being moved too far.

G is a cross-tie plate placed upon a cross-tie under the said rails at the junctions of the said filling blocks C and C' and is secured, by means of spikes, to the cross tie so placed as to aid in preventing the said rails from spreading.

In Fig. 1, R is a bar connected to the point, or split, rail P, and is adapted to be connected with the usual switch stand mechanism for moving said rail.

I have provided a guard-rail attachment D, to the point rail P, as shown in Fig. 2, blocked off a suitable distance from the side of said rail by means of fillings F and secured by means of cross-bolts, which serves as a guard when the switch is closed, and further imparts strength to the said point rail, and as a means of moving said point rail, when thus provided with the said guard-rail, I have connected said guard-rail end with a single bridle-bar R<sup>2</sup> which likewise connects with the switch-stand mechanism; also, as shown in Fig. 2, I have provided a guard rail D', adjacent rails B' and P' with a filling block C'' placed between it and the point end of rail P' and jointly secured to said rails B' and P' in a stationary manner.

In Fig. 3, I have shown a double switch, viz: switch rails placed to provide a switch track each way from the main track, and in such structure I have represented both main track rails at B each crooked at the junction of the point of the point rail of the switch, and each having a portion thereof extending to form one rail of the switch track rails; each for the switch track rail at its respective side; also each rail B is intersected by a point, or split rail P, each said point rail being placed and equipped with a guard rail D and filling blocks F, similar to that described of the structure shown in Fig. 2, excepting that the ends of said guard rails extend back and over-reach the point end of rails P' and are held off a proper distance from said rails P' by means of filling blocks as shown at C'' and C'''; said rails P' being placed one adjacent the inner side of each rail B, and each placed to form the inner switch track rail of



the two opposite switch tracks. The filling blocks C are placed at each side, between rails B and P'', and also the filling block, C' are placed, at each side, between the rails B and P' as represented.

As a means of moving the said point rails P, of said double switch, a single bridle bar R' is connected to each point guard rail D, which bars each extend to the center of the rail-way track to and oppositely through bearings of a center box E, as shown, each bar having a collar V' (see Fig. 10), which is suitably fixed thereon placed to come, or be stationed between said box bearings, and each said rod R' is further provided with a compression coil spring V sleeved on its end, shouldered at one end against a collar V' and at its opposite end against the inner side of said box bearing adjacent the end of the bar, and also each said bar is provided on its end, outside said box bearing, with a nut, as shown, which serve as stops to prevent the rods withdrawing from said box bearings, and said box E is provided with an extending bar R<sup>3</sup> which is connected with the switch-stand mechanism W, the normal position of the crank of said switch-stand being central, as represented, and in such position the box E is held central between the track rails and each spring V acts to yieldingly hold its respectively connected point-rail P closed, but by moving the switch-stand crank in either direction box E will be likewise moved, and will by reason of a bearing thereof coming, or bearing, against the nut of the end of a bridle bar R' move said bridle-bar with the box, and thus move one point rail to open one side switch, while the opposite point rail will be more firmly held closed by reason of a greater compression tension being given by the moving of box E and hence moving the said spring bearing, of the box, closer to the collar V' of that bar R'. Therefore, it is obvious that, by the construction described, the switch may be constructed either single or double, as I have represented.

In service, when the switch is closed the wheels of a train pass directly along the main track rails; passing over the point switch

rails P; but when the switch is open, which is at such times when the point rail P is moved off from the main track rail B, the flanges of the wheels of a train move in between the said point-rail P and switch track rail P'' and engage, in such passage, or movement, the outer side of said point-rail, which point rail at such times serves as a guard-rail to force the train wheels to keep upon the switch track rail P'' and to draw the opposite wheels, on the opposite rail B', toward the said point-rail P a distance sufficient so they will, as they reach the switch track rail P', ride upon it, and thus leave the said rail B', and move wholly upon the switch track rails.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

1. In combination with the main track rails B—B'; the switch track rails P' and P'', placed as shown, the single movable point rail P, the filling blocks C—C'—C'' and F the guard rails D and D' and the means for moving said point rail in the manner substantially as and for the purpose set forth.

2. In the double rail-way switch described, the combination with the main track rails B, B, and the switch track-rails P'', P''; the stationary point switch track rails P', P', placed adjacent said main track rails; the movable point switch rails P, P; the filling blocks C—C and C'—C' and the means, substantially as described, for moving said point switch rails, in the manner specified.

3. In the double rail-way switch described, the combination with the main track-rails B, B, and the switch track-rails P''—P''; the stationary point switch track rails P', P'; the movable point switch rails P—P; the filling blocks C—C, C'—C', C''—C'', C'''—C''' and F—F; the guard rails D—D, and the means for moving said point switch rails in the manner substantially as set forth and specified.

JASPER N. BUTCHER.

Witnesses:

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