

(No Model.)

H. W. HOWELL, Jr.

AUTOMATIC SWITCH.

No. 298,756.

Patented May 20, 1884.

Fig. 1.

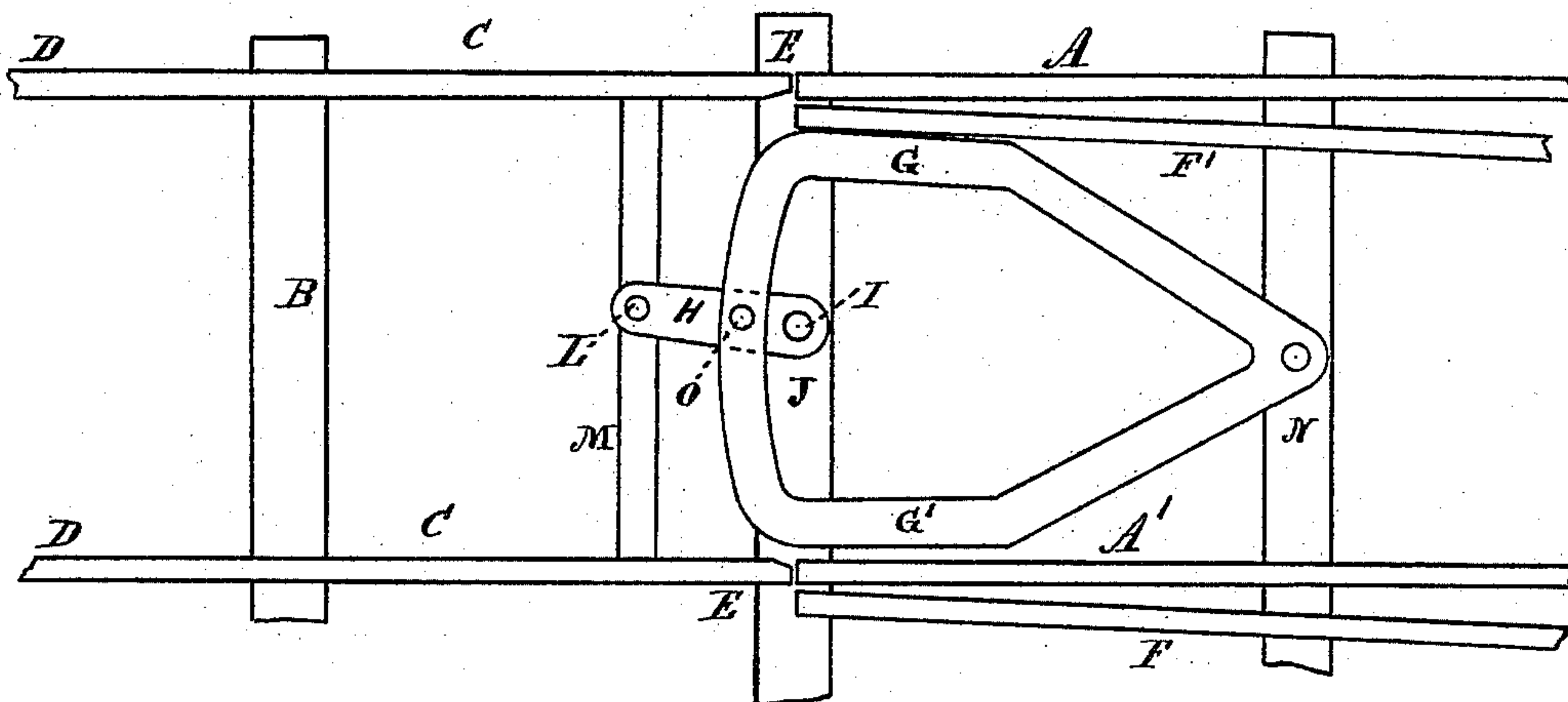
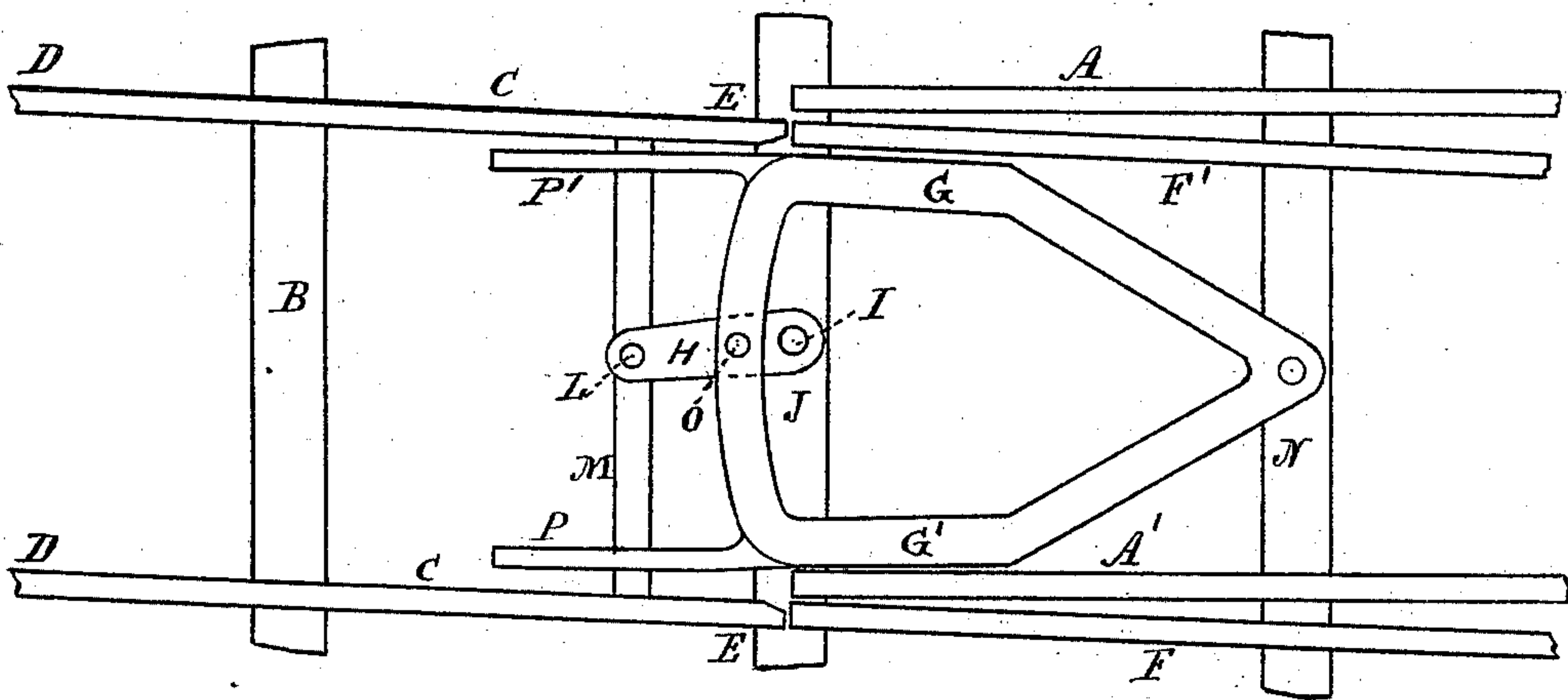


Fig. 2.



Witnesses.

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AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 298,756, dated May 20, 1884.

Application filed November 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. HOWELL, Jr., of Elizabeth, Union county, and State of New Jersey, have invented new and useful
5 Improvements in Automatic Switches for Railway-Tracks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this
10 specification, in which—

Figure 1 represents a plan or top view of a section of the main track of a railway and the usual siding-rails with my improvements applied thereto; Fig. 2, a similar view showing the main track broken and one section
15 thereof connected with the siding.

My invention consists in the construction and arrangement, substantially as hereinafter described and claimed, of the automatic mechanism operating the switch-rails in such manner
20 that when the locomotive or cars are approaching on the main track and the movable or switch rails are open, the flange of one wheel will engage with this mechanism and shift the
25 switch-rails so as to bring them in line with and form a continuous straight track, as represented in Fig. 1; or, when the locomotive or cars are approaching on the siding and the movable or switch rails are set in line with
30 the main track, the flange of one wheel will also shift the movable or switch rails so as to bring them in line with the rails of the siding, and thus form a continuous rail with the main track.

35 A in the accompanying drawings represents the fixed or stationary rails of a railway-track laid upon ties B in the usual manner. C C are the movable or switch rails, secured at their ends D in the usual manner, the ends E
40 being free to move back and forth to form a straight or main line of track, as in Fig. 1, or to shift so as to connect with and direct the locomotive or cars to the siding F, as shown in Fig. 2. To automatically shift these switch-
45 rails C C back and forth, as the case may require, levers G G' are placed between the stationary rail A' of the main track and the siding-rail F', so that when the locomotive or car approaches the siding on the main track A
50 A', and the ends E E of the movable or switch rails C C are misplaced and are in line with the siding-rails F F', Fig. 2, the flange of one

wheel will wedge against the outer edge of the lever G', to shift or move the ends E E of the switch-rails C, and thus form a continuous
55 straight track, as in Fig. 1; and when the locomotive or car approaches on the siding F F', and the ends E E of the switch-rails are in line with and form the main track, as in Fig. 1, the lever G, operated by the flange of one
60 wheel, will move the ends E E of the switch-rails, so as to form a connection with and direct the locomotive or car from the siding to the main track, as in Fig. 2. In order to obtain the required movement back and forth of the ends E E of the switch-rails, as hereinbefore described, an intermediate lever, H, is pivoted at I to a cross-tie, J, its opposite end, L, being pivoted to a cross-bar, M, which connects the ends E E of the switch-rails C C, to
70 cause them to move back and forth simultaneously and in unison. To operate automatically this intermediate lever, H, back and forth, as the case may be, to connect the main track with the siding, as in Fig. 2, or to shift
75 the ends of these switch-rails from the siding to the main track, as in Fig. 1, the levers G G' are pivoted thereto at o in a slot, and at the proper distance from the axes I L, to produce the required movements back and forth. 80
These levers G G' are pivoted at one end to the cross-tie N, their opposite ends being pivoted to the intermediate lever, H, hereinbefore described. It will therefore be seen that
85 by this combination of mechanism consisting of the levers G G', the intermediate lever, H, connected to and operating the cross-bar M, the ends of the switch-rails will be moved back and forth, as the case may require, by the flanges of the wheels approaching either
90 on the main track or on the siding, as described.

The levers G G' may be made in one piece, as represented in the accompanying drawings, or separately, and bolted together in any
95 convenient manner.

To shift the switch-rails back and forth in the usual manner by hand, any of the stationary switch-stands in common use may be employed therefor.

To prevent the flanges of the wheels striking the ends of the switch-rails E E, their inner sides are beveled, as shown in Figs. 1 and 2.

If desired, the usual spring may be em-
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ployed to return the switch-rails to their original position after having been moved by the automatic mechanism operated by the flanges of the wheels, as herein set forth.

5 When a spring is employed to return the switch-rails C C to their original position, as in Fig. 1, to again form a straight track for the locomotive or cars after having passed from the siding to the main track, it becomes
10 necessary to retain the switch-rails in line with the siding until the first wheels of the locomotive or cars have passed from the siding to and upon these switch-rails C C, in order that the spring shall not shift these switch-
15 rails before sufficient weight is upon them to prevent their being returned by the spring, and to that end have extended the levers G G', forming projecting bars P P'. The bar P', bearing against the flange of the wheel, main-
20 tains the switch-rails in line with the siding until the first wheels of the truck have passed from the siding to the switch-rails, and sufficient weight is upon these switch-rails to re-

tain them in position until the last wheels have passed from the siding to these switch- 25 rails; and when the locomotive or cars have passed from the switch-rails to the stationary rails of the main track, these switch-rails are free to be operated by the spring, and are returned to and form the straight or main track, 30 as in Fig. 1.

Having thus fully described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination, with the fixed and mova- 35 ble rails of the switch, of the levers G G', connected together to act in unison, as shown, the lever H, mounted on the fixed fulcrum I, and pivoted to the switch-bar, as at L, the connecting-bar of the levers being pivoted to 40 said lever H, between the fulcrum and the pivot L, substantially as set forth.

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Witnesses:

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