(No Model.)

E. W. COUGHLIN.

RAILROAD SWITCH.

No. 520,302. Patented May 22, 1894.

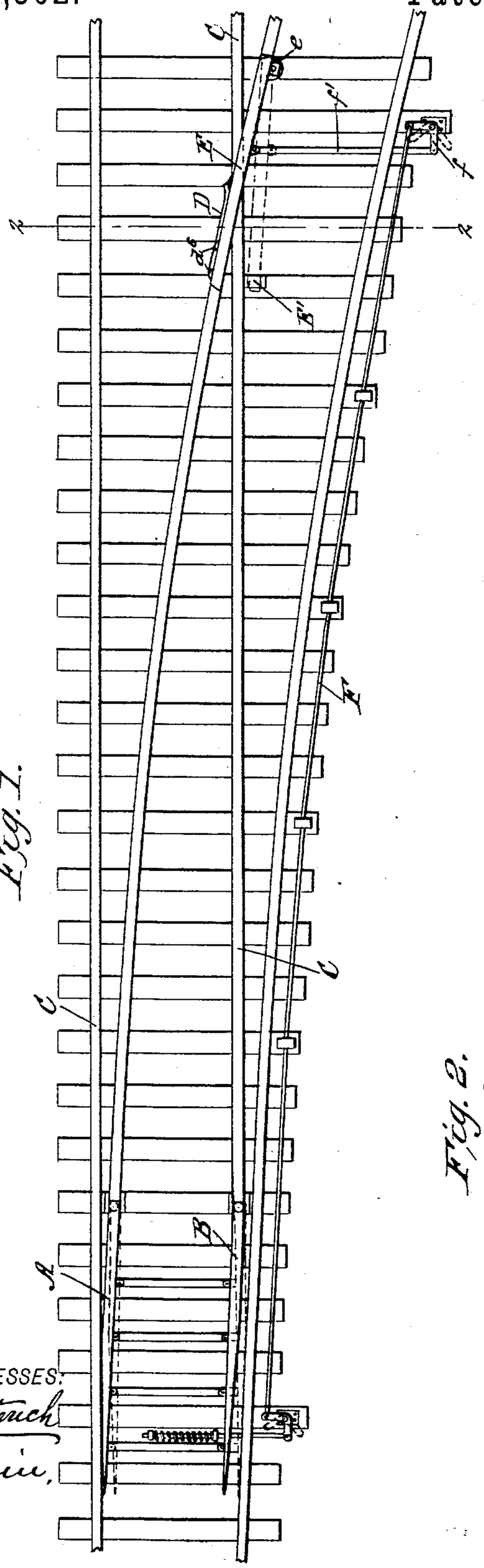

Fig. 1.

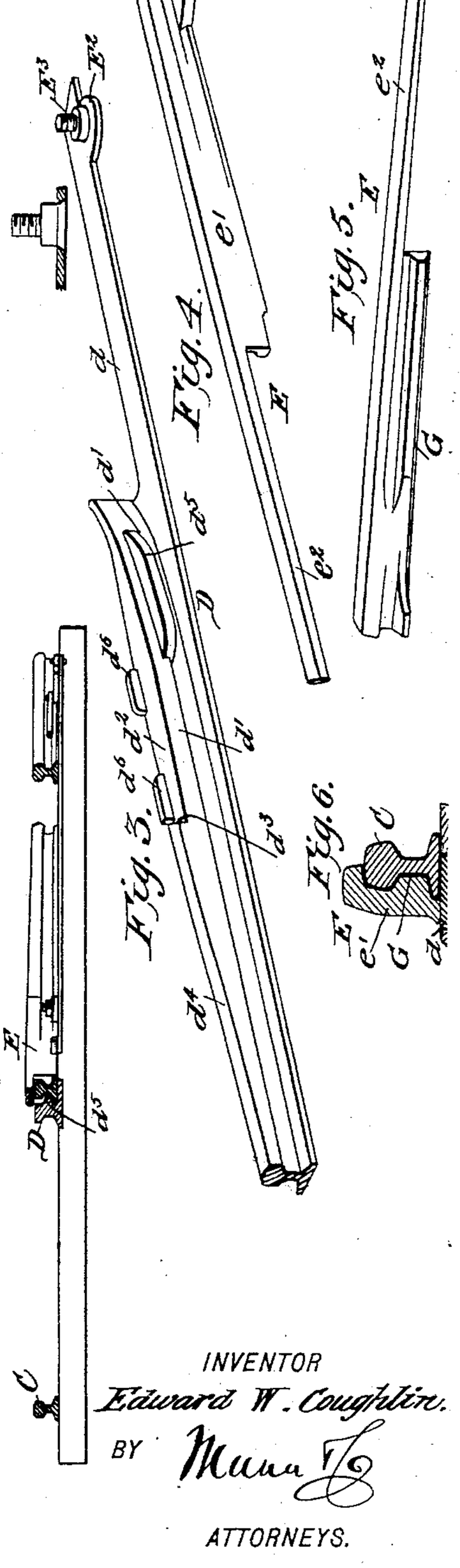

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

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RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 520,302, dated May 22, 1894.

Application filed February 2, 1893. Renewed December 30, 1893. Serial No. 495,263. (No model.)

To all whom it may concern:

Be it known that I, EDWARD W. COUGHLIN, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Railroad-Switches, of which the following is a specification.

My invention is an improvement in railroad switches and particularly in the special construction for switching across the rail of an unbroken main line and has for an object among others to provide means for so bracing the parts by each other at the point of crossing that one cannot be depressed at such point without a corresponding depression of the others so that no matter how great the load upon the joints at the crossing the proper fitting of the joints will be preserved.

The invention consists in the novel constructions and combinations of parts hereinafter described and pointed out in the claims.

In the drawings—Figure 1 is a plan view of a switch constructed according to my invention, the switch being shown open in full lines and closed in dotted lines. Fig. 2 is a cross section on about line 2—2 of Fig. 1. Figs. 3, 4 and 5 are detail views, and Fig. 6 is a detail cross sectional view.

The movable switch rails A and B may be of ordinary construction arranged to move at their ends to and from the main line rails C C as will be readily understood from Fig. 1. The crossing or point where the switch rail crosses the main line rail is composed of two sections D and E which for convenience of reference I shall designate respectively as the base section and the swing section.

The upright portion of the base section D is arranged between the main line rails and has its base plate extended at d to project below the adjacent main line rail and beyond the same sufficiently far to furnish a foundation for the pivoted end of the swing section presently described. This plate d is countersunk in the ties so that its upper face will lie in plane with the under surface of the base plate of the main line rail and the latter rests upon said base plate. At its end opposite said base plate the base section is formed for a short length in cross section of the form of rail used such form extending nearly to the rail to be crossed where the upright portion d' of the section D is cut away at its top to form a seat at d^2 for the swinging end of the swing section, a shoulder d^3 being formed at the juncture of said seat d^2 with the tread portion d^4 of the section D the tread inclining up toward said shoulder d^3 as shown. The base section is provided preferably alongside its upright portion d' with a laterally projecting rib d^5 which fits in the hollow of the main rail and snugly against the tread thereof so that there is practically a solid metal body from the top of the base section to the tread of the main line so that the weight exerted upon the base section will be borne by the main line rail so that the parts will if depressed by the weight move down equally preserving the joints in the desired fitting and equalizing the strains as will be readily seen. At the outer side of the seat d^2 I provide a stop or stops d^6 which may be lugs cast on the section as shown or may be separate lugs properly fixed to the base section, but it is manifest that if desired this stop or stops d^6 might be dispensed with. The swing section E is pivoted at one end at e to the base plate of section D and is formed with the upright or web portion e' and the extended tongue e^2 the latter being movable over the rail and onto the seat d^2 or back clear of the rail as will be understood from Fig. 1. When the tongue is adjusted across the main line rail and onto the seat d^2 it completes the switch. When adjusted back, the tongue e' rests upon a block or stand E′ set to receive it. The swing section is provided on its face next the main line rail with a laterally projecting rib G which when the section E is adjusted against the main line rail fits in the hollow of said rail and locks the swing section from vertical movement. This it will be seen prevents any excess of weight on one end of the swing section from tilting the latter and cocking joints and so serves to secure and retain a close fitting of the joints of the swing section with the base section. A shaft F extended alongside the track has at one end a crank or lever to operate the movable switch rails A and B and is operatively connected at its other end preferably by a bell crank f and link f' with the swing section E so that the switch rails A B and the section E operate together so that when the switch rails are thrown to open or close the

switch the swing section is correspondingly adjusted thus preventing any danger from the adjusting of one of said parts reversely to the other.

It will be understood that the base and swing sections D and E may be made in rights and lefts to suit the position to which they may be applied.

In pivoting the swing section it may be fastened to the base plate d by a bolt but it is preferred to provide a boss or stud E^2 having a threaded stem E^3 above it, the swing section having a lug perforated to fit the stud E^2 and the retaining nut turning on the threaded stem E^3. While the stud and screw stem E^3 may be formed integral with the base plate it is preferred to form them separate and to countersink the base of the stud E^2 in the base plate as shown in the sectional view in Fig. 3.

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

1. The improvement in switches substantially as described consisting of the section having a base plate d and seat d^2 and the swing section pivoted at one end to the base plate and having at its other end a tongue movable onto and off the seat d^2 substantially as set forth.

2. The improvement in switches comprising the base section having a laterally projecting rib d^5, to fit the hollow of a rail and provided with a seat d^2 and the swing section substantially as set forth.

3. The improved switch comprising the base section having a base plate d and upright d' having a seat d^2 and the swing section having a tongue at one end and pivoted substantially as set forth.

4. The combination of the main line rail, the base section D having a base plate d extended below and beyond the main line rail, and also provided with an upright d' having a seat d^2 and the swing section substantially as set forth.

5. The improvement in switches substantially as described consisting of the section D having base plate d upright d' provided at its side with the rib d^5 and at its top with the seat d^2 and the swing section pivoted at or near one end to the plate d and having at its other end a tongue movable onto and off the seat d^2 all substantially as and for the purposes set forth.

6. In a switch substantially as described the combination of the main line rail, the base section having a base plate extended under and beyond the main line rail and provided with a seat for the tongue of the swing section, the swing section pivoted at one end on the base plate of the base section and provided with a tongue and with a rib to fit the hollow of the main line rail, substantially as set forth.

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Witnesses:
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