J. B. DUNLAP.

RAILROAD CROSSING.

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1,000,590.

Patented Aug. 15, 1911.

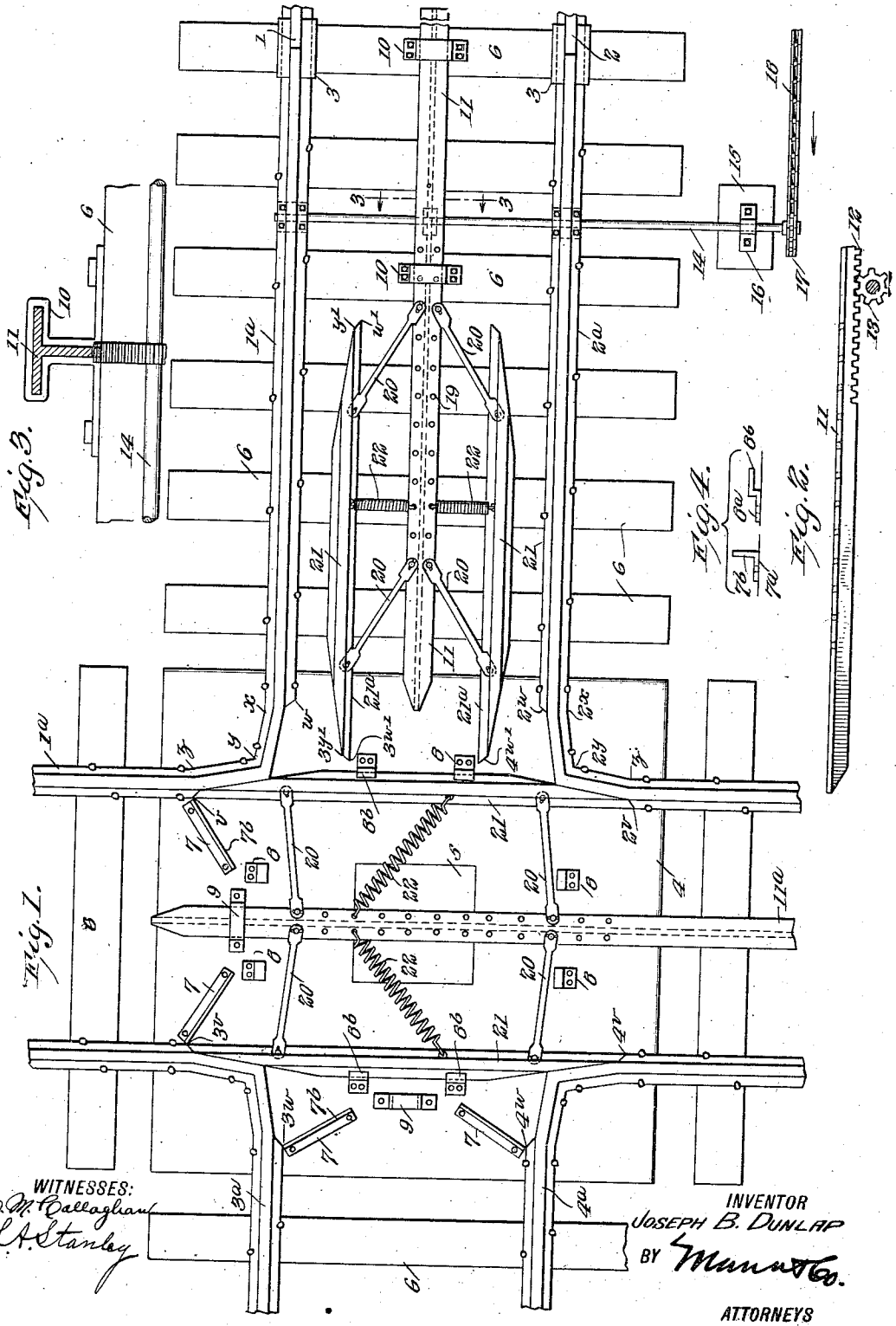

Fig. 3.

Fig. 4.

Fig. 6.

Fig. 7.

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RAILROAD-CROSSING.

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To all whom it may concern:

Be it known that I, JOSEPH B. DUNLAP, a citizen of the United States, and a resident of Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a specification.

My invention relates to improvements in railroad crossings, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to provide a crossing which obviates the usual jars incident to the passage of a train over the crossing. I accomplish this object by providing movable track sections, which may be so moved as to complete the track in either direction, so that the tread of the wheels may move on a continuous bearing surface.

A further object of my invention is to provide a crossing of the kind indicated in which there are two sets of movable track sections so located that when one set is in use to provide a continuous track, the other set may be retracted.

A further object of my invention is to provide simple means for accomplishing the objects named.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application in which—

Figure 1 is a plan view showing one embodiment of my invention, Fig. 2 is a side view of one of the slidable guide bars, Fig. 3 is an enlarged section along the line 3—3 of Fig. 1, looking in the direction of the arrows, and Fig. 4 shows an end view of a cam plate and of a retaining plate.

In carrying out my invention, I provide the ordinary track rails, such as those shown at 1 and 2 at the right of Fig. 1. These track rails abut, and are secured to, corner rails 1^a and 2^a respectively by means of the fish plates 3. The construction of the corner rail forms one of the main features of my invention. As will be seen from Fig. 1, it is bent outwardly at x at a slight angle. At y it is bent again at a greater angle, and at z it is bent once more. The opposite ends of the corner rail 1^a, therefore, serve as portions of both crossing tracks. The inner base flange of the rail 1^a is cut away between the points w and v and at these latter points the flange has a beveled or inclined surface. The rail 2^a on the opposite side is similarly bent at the points 2^x, 2^y and 2^z, and is provided with similar beveled flange portions 2^w and 2^v. The corner rail members 3^a and 4^a are formed in precisely the same manner.

In order to form a support for the corner rail members and for the slidable rail sections, I provide a plate 4, which is made, preferably, of steel, or other suitable material. This plate is provided with a rectangular opening 5 at its center. The corner rail members 1^a, 2^a, 3^a and 4^a are secured to this plate in any suitable manner, the ends of the L-shaped corner members resting upon, and being secured to, the ties 6.

At the points v, 3^v, 3^w and 4^w, are disposed cam plates 7 of the shape shown in Figs. 1 and 4. These plates consist of a base 7^a and an upright portion 7^b, the latter constituting the cam member, as will be hereinafter explained. These plates are riveted to the base plate 4 and incline inwardly toward the center of the crossing as shown. At the inner ends of each of the plates 7 are secured the Z-shaped retaining plates 8, which consist of a base portion 8^a and a raised flange 8^b. Between the retaining members 8 are guide members 9, which are also riveted to the plate.

In alinement with the guide member 9, on one track, are similar guide members 10, which are secured to the ties 6. The shape of these guides is clearly shown in Fig. 3. Arranged to slide in the guides is a T-shaped bar 11, such as that shown in Fig. 2, whose lower side is provided for a portion of its length with rack teeth 12, arranged to engage a pinion 13 on a shaft 14. This shaft 14 is supported on a plate 15 in bearings 16, and is provided at its end with a sprocket wheel 17 arranged to be actuated by a chain 18, which runs to a switch tower, or other convenient operating place, not

shown. The bar 11 is perforated along its top at 19 to permit the pivotal attachment of the links 20. The outer end of these links is pivotally attached to the inner flanges 21^a of the movable rail sections 21. A spring 22 is provided between each of the movable rail sections and the bar 11. At the points w' and $3^{w'}$ the rail is beveled slightly toward its center, while from the points y' and $3^{y'}$ it is beveled at a greater angle toward the outer side of the rail. All the other movable rail sections are similarly constructed.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. Let us consider the effect of the movement of the sprocket chain 18, which, as stated before, runs to a switch tower, not shown. If the chain be actuated to move in the direction shown by the arrow, the pinion will be caused to revolve, and the bar 11 together with the movable track members 21 will be pushed forwardly. If the movable track sections 21 of the crossing track were not in the way, as shown in the figure, then the bar 11 would proceed across the plate 4, entering the guide 9. The point $3^{w'}$ of the right-hand rail member would strike the flange 7^b of the cam 7, while the point $4^{w'}$ would strike the cam of the opposite side of the track. Continued pressure would force the movable rail sections 21 apart, and since they are connected by the parallel links 20, the sections would finally spread so as to complete the track. This is precisely what has happened in the case of the crossing track. It will be noted that the slidable sections, which have been carried forwardly by the bar 11^a, have been forced against the corners of the bent corner rail sections, in such a manner as to make a continuous track at the crossing. It is, of course, understood that the bar 11^a is equipped with the actuating apparatus, such as that shown at the right-hand side of the figure for the other track. When the chain is rotated in the opposite direction, the bar will return to its original position and the springs 22 will draw the movable tracks into their inoperative position. It will thus be seen that either track can be made continuous from the switch tower by the operation just described. In order to prevent the track sections from moving, and in order to give them a firmer backing the retaining flanges 8 are provided, which, as shown in the figure, allow the outer flange members of the movable rail sections to enter underneath, thereby retaining the rails in a fixed position. In the figure I have shown the bar 11^a pushed forward, so as to make its track continuous. This bar may be withdrawn, as stated, and the bar 11 may be pushed forward, so as to make its track continuous. When the latter is pushed forward the end of the movable track section indicated by w' will then abut the beveled portion of the flange of the corner rail at w, while on the other side the point $3^{w'}$ will abut the point 3^w.

I do not confine myself to any particular dimensions, since it is obvious that the dimensions may vary. In order to provide for an adjustment of the movable track sections 21, I use a plurality of holes 19 in the bar 11 so as to connect the links 20 at any desired position along the bar.

I claim:

1. In a railway crossing construction, bent corner rails, a pair of slidable rail sections disposed between the rails of each track, and means for sliding each pair of rail sections to bridge the gap between the opposite corner rails, thereby providing a continuous crossing.

2. In a railway crossing construction, four bent corner rails, a pair of slidable rail sections disposed between the rails on each track, a slidable bar, means pivotally securing said slidable rail sections to said bar, and cam members disposed near the crossing and adapted to be engaged by said slidable rail sections for forcing the latter into alinement with the main rail.

3. In a railway crossing construction, a pair of movable rail sections disposed between the rails on each track, a slidable bar disposed centrally between the rails of each track, a pair of parallel links between each movable rail section and the bar, a cam plate on each side of the track, and means for moving said bar between said cam plates, the ends of said movable rail sections being arranged to engage said cam plates thereby forcing the movable rail sections apart and into engagement with the corner rail members.

4. In a railway crossing construction, a plurality of corner rails, each comprising a single rail bent outwardly at its center and outwardly on each side of its central portion, and having the flange on the outside of the bend cut away from the angle of the central bend to the angle of the side bends, a supporting body plate for said corner rail members, a pair of movable rail sections having beveled ends arranged to fit in the cut away portions of opposite corner rails to bridge the gap therebetween, means for moving the rail sections into engagement with opposite corner sections, and means for maintaining parallel positions of the movable rail sections at all times.

5. In a railway crossing construction, four corner rail members, a pair of guide members secured between the rails of each track, a slidable bar carried by each side of said guide members, a pair of movable rail sections on each side of said bar, a pair of

parallel links pivotally connecting each of said movable rail sections with said bar, the lower side of said bar being provided with teeth, a pinion in engagement with the teeth of said bar, means for rotating said pinion, a spring connecting each of said movable track members with said bar, and a pair of cam plates adapted to be engaged by the ends of said movable rail sections for forcing the latter outwardly.

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