

No. 707,604.

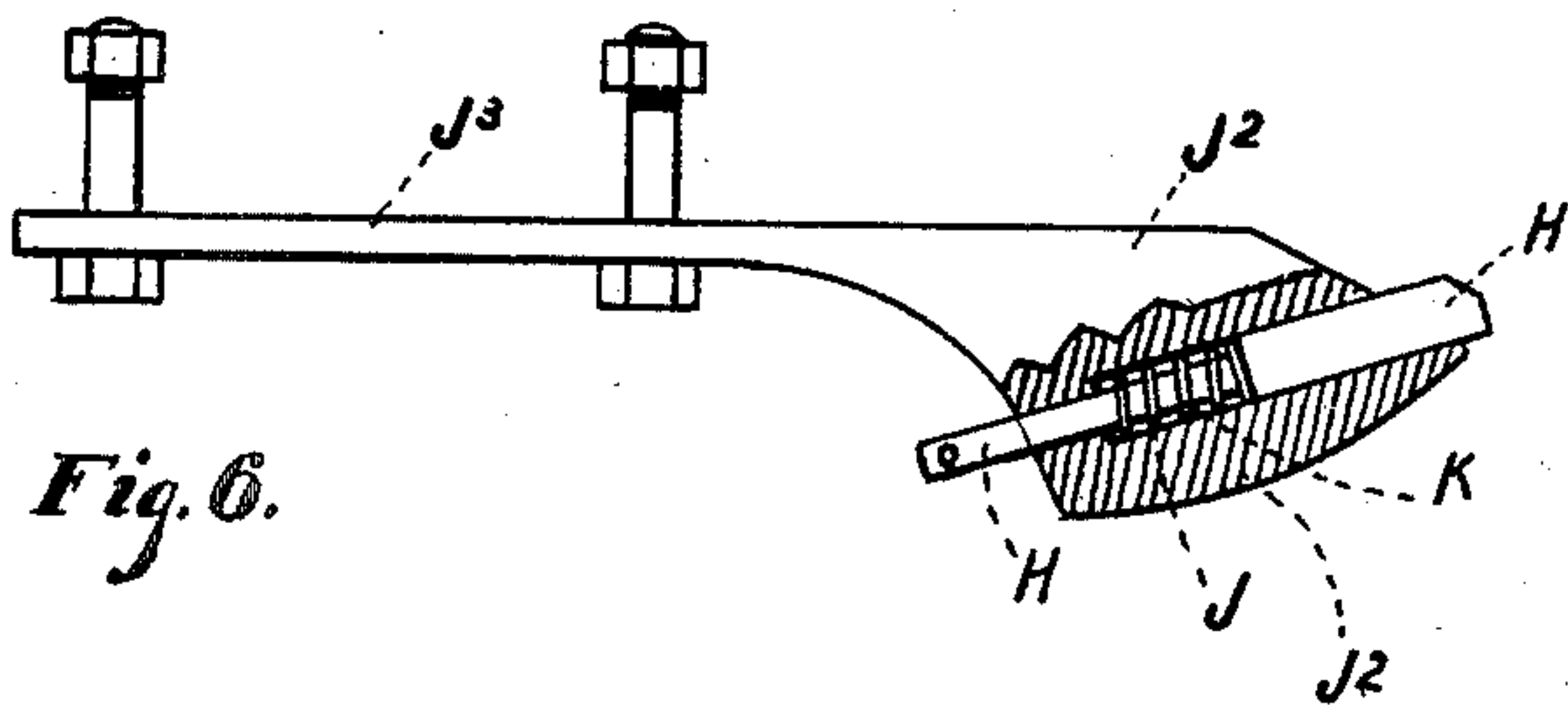
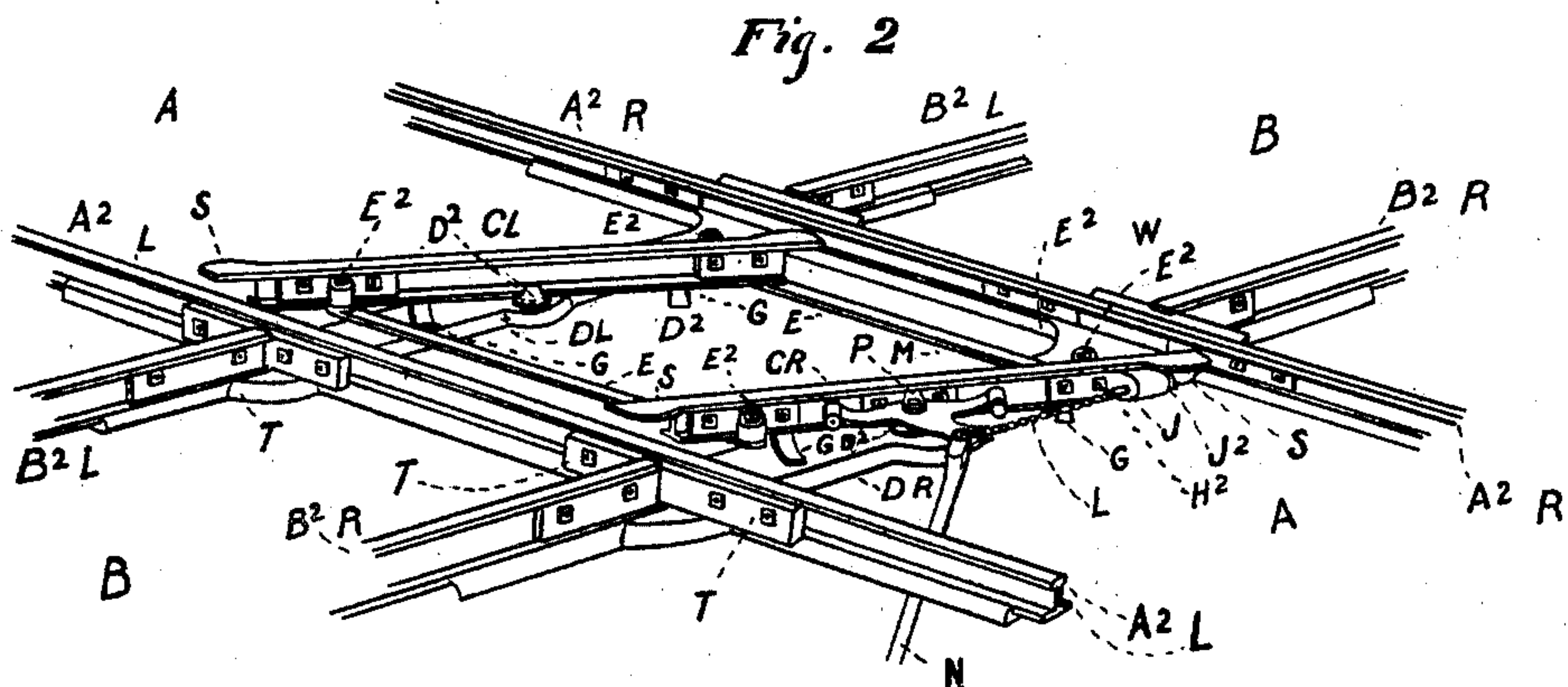
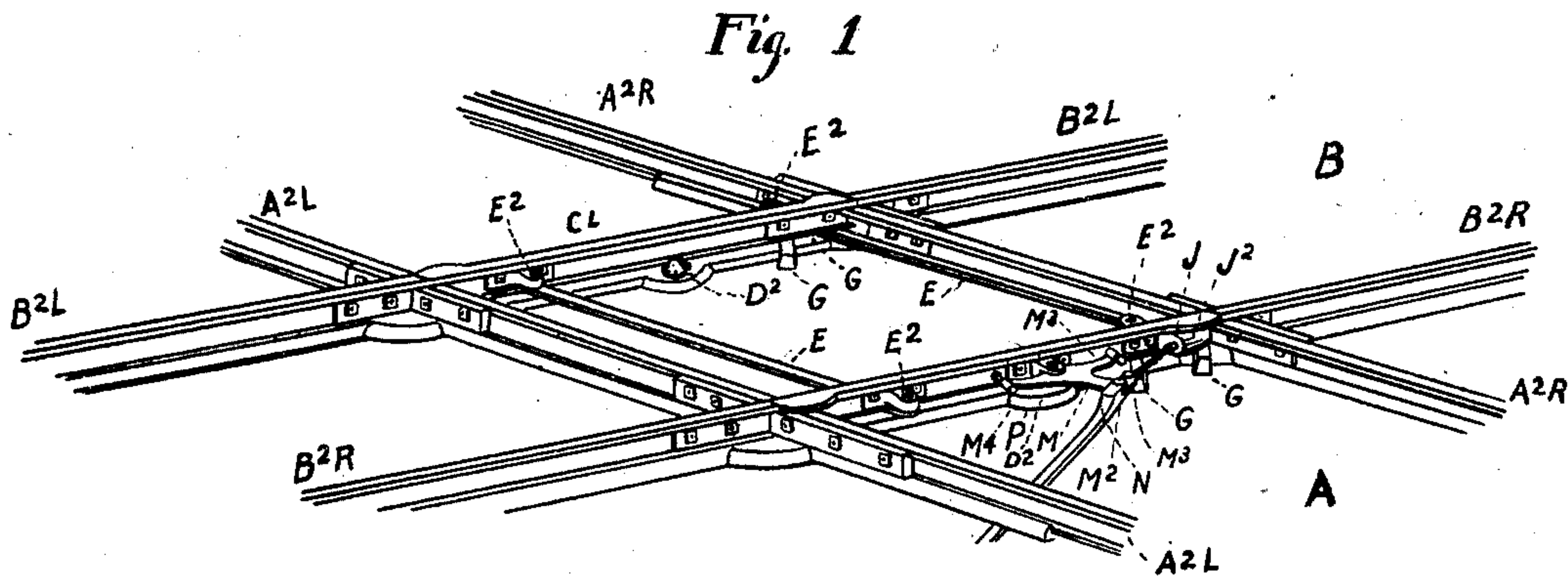
Patented Aug. 26, 1902.

C. LEIENDECKER.
RAILROAD CROSSING AND SWITCH FOR SAME.

(Application filed Apr. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3

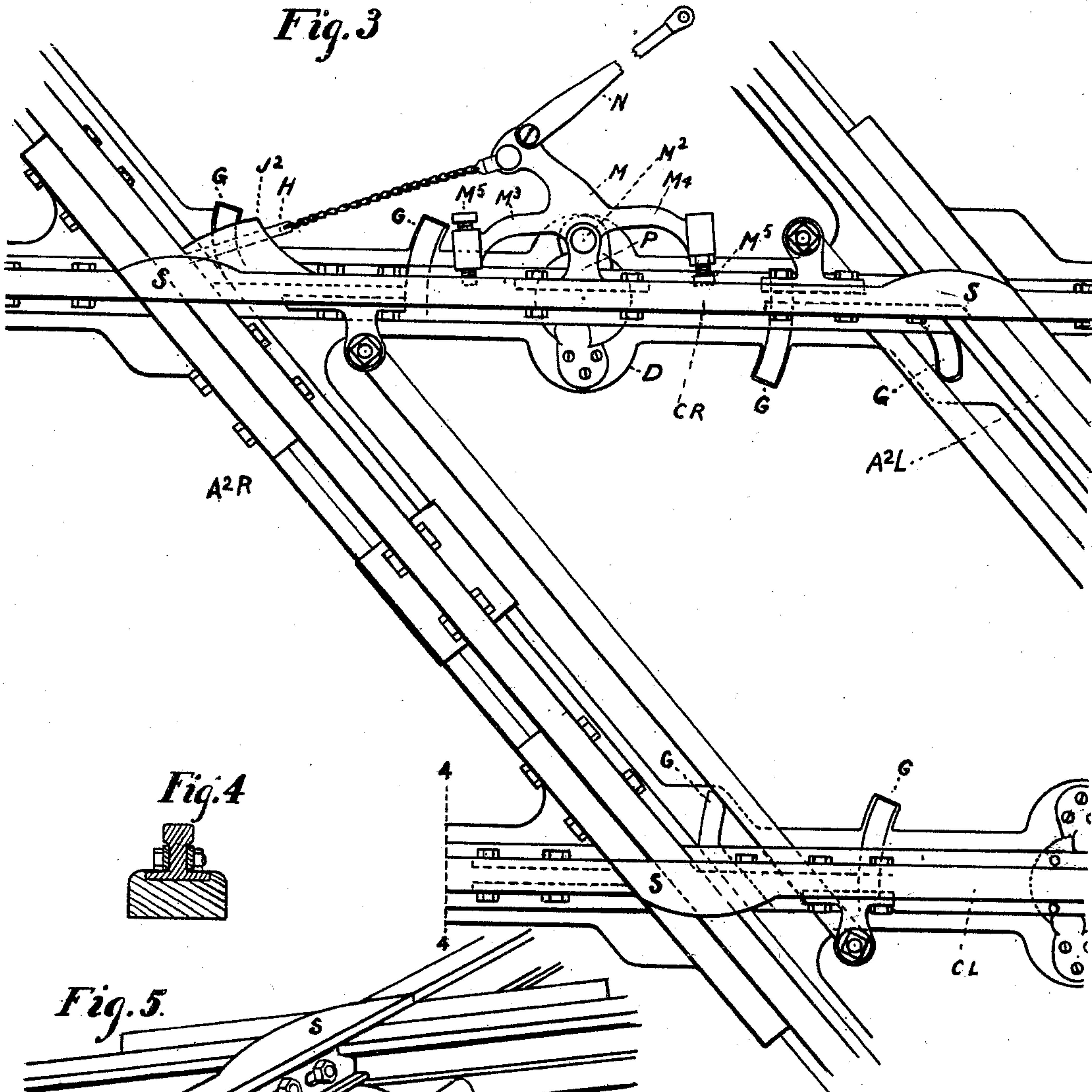


Fig. 4

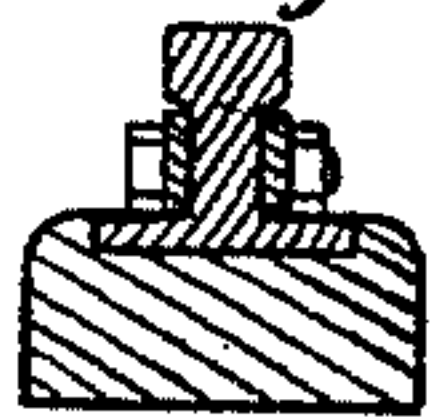
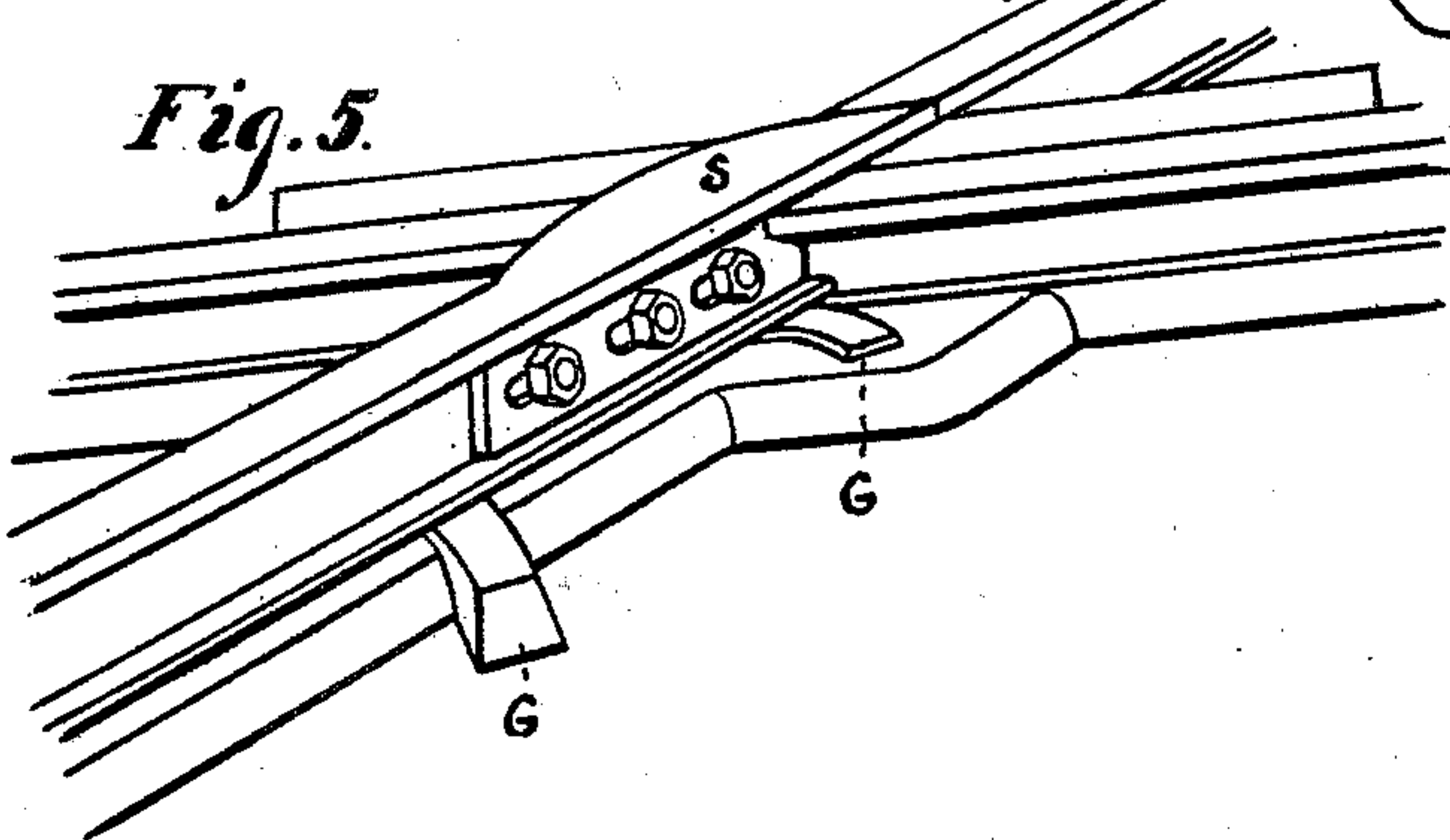


Fig. 5



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UNITED STATES PATENT OFFICE.

CHARLES LEIENDECKER, OF LAWRENCEBURG, INDIANA.

RAILROAD-CROSSING AND SWITCH FOR SAME.

SPECIFICATION forming part of Letters Patent No. 707,604, dated August 26, 1902.

Application filed April 12, 1901. Serial No. 55,444. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEIENDECKER, a citizen of the United States, and a resident of the city of Lawrenceburg, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Railroad-Crossings and in Switches for the Same, of which the following is a specification.

The several features of my invention and the various advantages resulting from their use conjointly or otherwise will be apparent from the following description and claims.

In the accompanying drawings, making a part of this application, Figure 1, Sheet 1, represents in perspective a railroad-crossing and switch illustrating my invention, the switch being closed and adapting one track of the crossing to be used. Fig. 2, Sheet 1, represents in perspective the same crossing and switch, the latter being open and adapting the other track of the crossing to be used. Fig. 3, Sheet 2, is an enlarged plan of a large part of such crossing. Fig. 4, Sheet 2, represents a vertical transverse section taken in the plane of the dotted line 4 4 of Fig. 3, that face of the section being seen which faces toward the left in Fig. 3. Fig. 5, Sheet 2, is a view in perspective of one of the details of my invention on the same scale as Fig. 3. Fig. 6 is a view, partly in elevation and partly in section, illustrating the preferred construction of the bolt for locking the switch and of the spring for actuating the bolt.

In the preferred form of my invention as here shown there is one track A whose rails may be said to be continuous so far as the operation of my invention is concerned. The right-hand rail of this track is indicated by the character A²R, and the left-hand rail thereof by the character A²L. The continuity of each of these rails is readily seen in Fig. 2. The track that crosses track A is indicated by the character B, and the left-hand rail thereof is pointed out by the character B²L and the right-hand rail by the character B²R. In the track B²L there is a movable section CL, and in the track B²R there is a movable section CR. Each of these sections CR and CL is between the opposite rails A²R and A²L of track A, and each of these sections is suitably supported and pivoted at D². The two sections are connected

by connecting-rods E E, parallel to each other. One end of each rod is connected by its pivot E² to the section CR, and the other end of each rod is pivotally connected by its pivot E² to the section CL. As is obvious from the foregoing description, when one of these sections is moved on its pivot the other section is moved on its pivot, and the two sections move parallel. Thus when the switch they represent is open they are parallel, and when the switch they represent is closed they are parallel and always at the same distance apart. These sections are, as mentioned, respectively supported by the basal pieces DL and DR; but preferably between the section above and its basal piece below and fixed upon the basal piece are runway-bearings G, which enable these sections CR and CL to be the more readily operated with a minimum of friction. These bearings elevate the sections CR and CL above their respective basal pieces DR and DL. One end of each of the connecting-rods E passes through this space and is pivotally connected to the adjacent section on its outer side at E². The object of this last-specified construction is to have the rods and rails in proper relation to the center, so that both ends of the movable rail will move the same distance. Such is the preferred form of the connection; but the pitmen may be otherwise pivoted to the rail-sections. The sections when their switch is closed are duly locked into position. A suitable lock is shown in Fig. 3 and consists of the bolt H and a recess J, located in the sleeve or part J² and adapted to receive this bolt. A spring K is fixed so as to elastically move the bolt forward toward and into the recess when permitted to do so. A suitable connection L is provided to draw the bolt and disengage it from its locking connection. The part J² is preferably provided with an extension J³, whereby it may be bolted to the rail. In the fixed mechanism, as rail A²R or a projection thereon, is a recess W, adapted to engage with the locking end of the bolt H when the latter is advanced. Inasmuch as the switch will in most instances be operated by mechanism at points not on the track itself, I provide the following means:

M is a lever connected to one of the sections CL or CR. To the free end M³ of this le-

ver is pivotally connected a connecting-rod N. Due movement of this rod back and forth in the direction of its length operates the lever M. I connect the bolt H with means for moving the sections, and to this end I preferably employ a connection H², at one end fastened to the bolt and at the other end to the lever M, so that the draft upon the rod N shall operate to withdraw the bolt and also to move the sections out and open the switch. In order to give the lever sufficient play, so that when moved it can withdraw the bolt H, which it could not do if rigid with the section to which it is connected, I pivot the lever M at M² to a projection or lug P of the section. I provide the lever with two arms M³ and M⁴, extending in opposite directions and arranged to alternately bear against the section, according as the lever M is moved in one direction or in the other. When the free end of the lever is moved (see Fig. 3) to the right, this movement withdraws the bolt, and then the right-hand arm M⁴ of the lever bears against the section. The section having been already unlocked by the withdrawal of the bolt, the sections will yield to the operation of the lever and will open away and move out of line from the track B, leaving the latter free for passage over it. In closing the switch the lever is moved in an opposite direction, and its arm M³ bears against the section. At the same time the bolt is brought into engagement with the recess J, and the sections are duly locked in position. To enable the proper distance the lever M should oscillate to perform its work to be always obtained and also to be maintained as the parts wear, I provide adjusting devices (preferably screws) M⁵ M⁵, located at the ends of the arms M³ and M⁴ of the lever and arranged to bear against the section. By advancing or retracting one or the other or both of these parts M⁵ the requisite adjustment is quickly and accurately obtained.

One purpose of my invention is to avoid cutting or cross-channeling the rails A²L and A²R of track A. To this end I make the upper surface of the rails B²L B²R of track B somewhat higher than the upper surfaces of the rails of track A. Such elevation of the rails of track B is shown in the drawings at the ends of the movable sections CL and CR of track B. I provide extensions S of the upper portions of these sections, and these extensions when the sections (switch) are closed, as shown in Figs. 1 and 3, so as to use the track B, respectively, bridge the adjacent rails of track A and come close to the adjacent meeting edges of the other parts of the respective rails B²L B²R of track B. Thus when the sections CL and CR are closed the rail B²R CR B²R will be continuous for the tread of the wheels of carriages on track B, and the rail B²L CL B²L will be likewise continuous. In sustaining the weight of the carriages passing over them, especially when loaded, these extensions will be reinforced by

those parts of the rails A²L and A²R which are directly beneath them. To preserve these extensions, render them more durable, and better fitted to sustain the weight upon the wheels of carriages moving on track B, I enlarge the width, as shown. The junction of the rail B²L and B²R with the rail A²L A²R will be preferably strengthened by suitable means—as, for example, the angle-irons T, as shown. Preferably the immediate foundations of these sections and meeting rails are iron and strengthened substantially as indicated.

The mode in which my invention operates is, no doubt, already understood. Suffice it to say that when the free end of the lever M is drawn away from the bolt H the bolt is disengaged and the sections CL and CR are as a unit (united by the connecting-rods E E) free to be moved. Further movement of these sections in the same direction in which it has been moved operates to turn the sections on their pivots and remove them and their extensions altogether away from the rails of track A. Then the track A is in readiness for carriages to pass upon it. By moving the free end of the lever M in the opposite direction the sections are returned to their first position, and the bolt H engaging the part J² locks the sections securely in place, their ends respectively close to the adjacent rails of track A, and the extensions S will respectively overlap the adjacent portions of the rails of track A. The rails of track B are now continuous and the track is in condition for carriages to pass over upon it.

Where screws are shown in the drawings, bolts may be employed, and vice versa.

It will be understood that one of the advantages of my invention is that the sections consisting of the sections CL and CR and their pitman or rod connections will work at any angle—that is, the figure presented by the sections and their pitmen may be any kind of parallelogram, square or otherwise.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In a construction where tracks cross, track B having rails substantially continuous, track A whose sections of rails between the rails A are pivotally connected to each other by parallel rods, and are adapted to turn together as a unit, and a lock having a bolt H, a sleeve or holder J² therefor, a spring for advancing the bolt, the stationary mechanism the inner side of the stationary rail provided with the recess for engaging the bolt, means for operating the rail-sections located between the stationary rails, and adapted to withdraw the bolt as the rail-sections are opened away from track B, substantially as and for the purposes specified.

2. In a construction where tracks cross, the rail-sections between track A adapted to turn simultaneously, and provided with a locking-bolt adapted to engage a recess of the fixed mechanism, and a pivoted lever having arms

adapted to alternately impinge against the mechanism of the rail-sections, each arm provided with an adjusting device for increasing or shortening its play relative to such fixed mechanism, and a connection between this lever and the locking-bolt whereby a movement of the lever unlocks the bolt, and a continued movement of the lever operates the rail-sections, substantially as and for the purposes specified.

3. In the construction of two tracks crossing one another, the combination of the continuous rails of one and the movable rail-sections of the other, these rail-sections located between the rails of the other track, the rail-sections pivoted at D^2 to their respective beds, connecting-rods E, pivoted to the rail-sections, bearings G on which the sections rest, the connecting-rods each pivoted to one side of one rail-section and to the opposite or farther side of the other section, but one rod being pivoted on the inner side of one rail-section while the other rod is pivoted on the outer side of that section, means for opening and closing the rail-sections, and means for locking and unlocking these sections, substantially as and for the purposes specified.

4. In the construction of two tracks crossing one another, the combination of the continuous rails of one and the movable rail-sections of the other, these rail-sections located between the rails of the other track, the rail-sections pivoted at D^2 to their respective beds, connecting-rods E, pivoted to the rail-sections, bearings G on which the sections rest,

the connecting-rods each pivoted to one side of one rail-section and to the opposite or farther side of the other section, but one rod being pivoted on the inner side of one rail-section while the other rod is pivoted on the outer side of that section, and lever M pivoted at M^2 to the rail, and having arms M^3 and M^4 , each provided with an adjusting-screw M^5 , a bolt H, sliding in sleeve and adapted to engage recess W, of the fixed mechanism, a spring K, for advancing the bolt, a connection H^2 between the bolt H and the sleeve J^2 , substantially as and for the purposes specified.

5. In the construction of two tracks, crossing one another, the combination of the continuous rails of one track and the movable rail-sections of the other, these rail-sections located between the rails of the other track, and pivoted to their respective beds, connecting-rods pivoted to the rail-sections, a bolt H sliding in sleeve J^2 and adapted to engage the recess W located on the inside of the rail A^2 , a spring for advancing the bolt, the sleeve J^2 being provided with the extension J^3 for connecting it to the rail, and means for withdrawing the bolt and moving the sections opening and closing the rail-sections, substantially as and for the purposes specified.

In witness whereof I have hereunto set my hand to this specification in the presence of two subscribing witnesses.

CHARLES LEIENDECKER.

Attest:

W. H. O'BRIEN,
W. E. ENGART.