

(No Model.)

2 Sheets—Sheet 1.

C. HANSEL.
RAILROAD CROSSING.

No. 606,339.

Patented June 28, 1898.

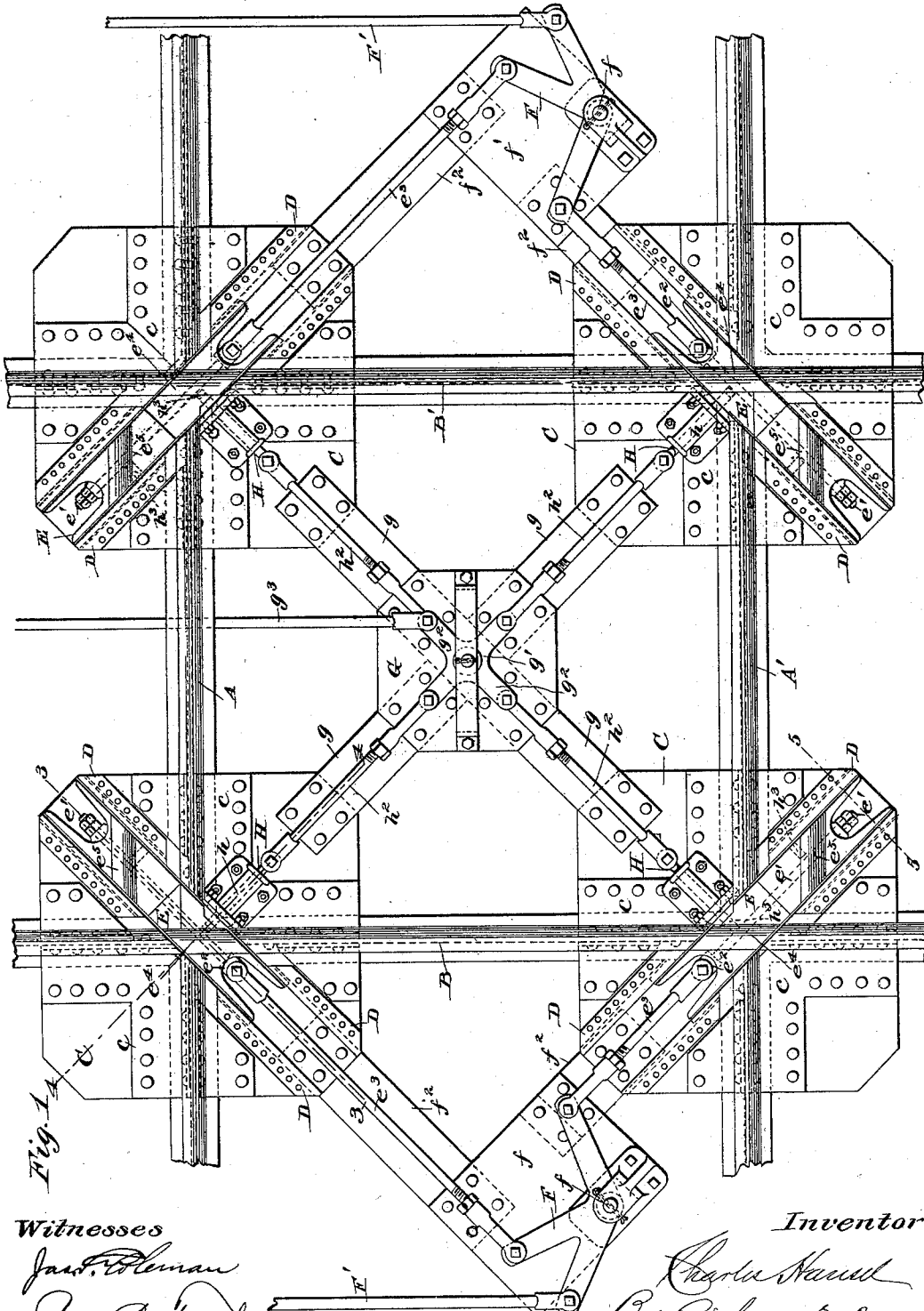


Fig. 1

Witnesses

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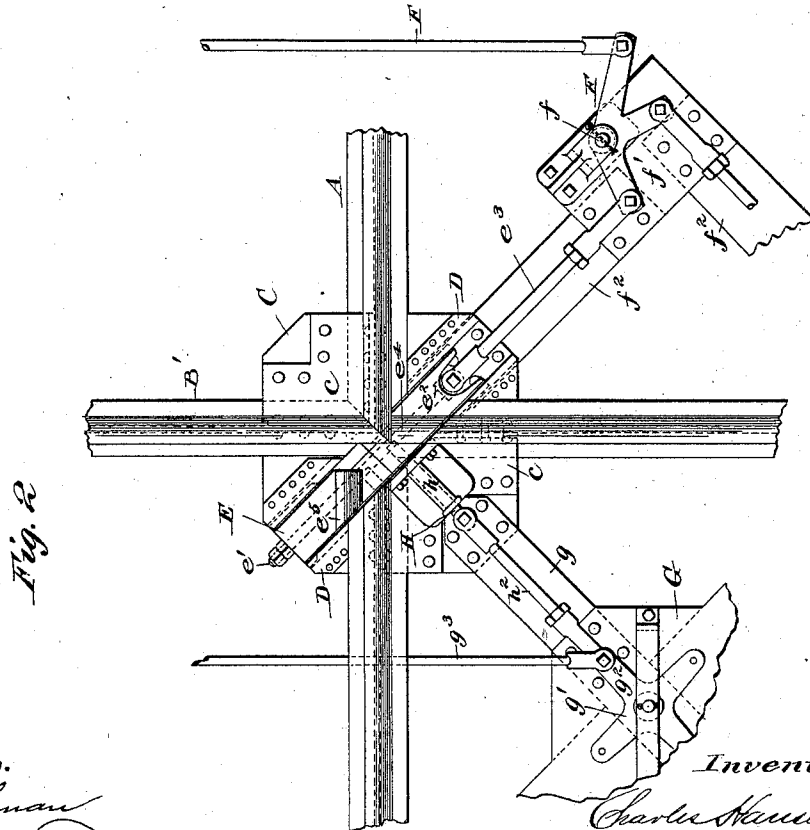
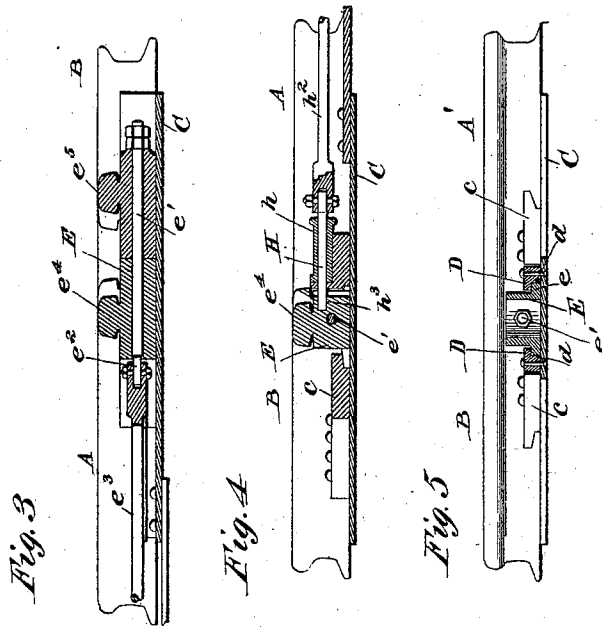
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2 Sheets—Sheet 2.

C. HANSEL. RAILROAD CROSSING:

No. 606,339.

Patented June 28, 1898.



Witnesses.

Just. Coleman
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Inventor

Charles Hansel
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UNITED STATES PATENT OFFICE.

CHARLES HANSEL, OF EASTON, PENNSYLVANIA.

RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 606,339, dated June 28, 1898.

Application filed December 3, 1897. Serial No. 660,609. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HANSEL, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a certain new and useful Improvement in Railroad-Crossings, of which the following is a specification.

My invention is directed particularly to grade crossings of railways or points where the rails of one track cross the rails of another on the same level.

The object of the invention is to simplify crossing construction to the end that it will be more durable, as well as more efficient, and to provide interlocking mechanism in connection with which may be employed suitable signals indicating whether the operation of the crossing mechanism from the tower or other point where the operating-levers are located has been satisfactorily accomplished.

A further object is to so construct the movable parts of the crossing as that they will more completely withstand the rough usage to which they are subjected than the corresponding parts of crossings heretofore employed.

In the drawings, Figure 1 is a plan view of a crossing embodying my invention. Fig. 2 is a similar view of a portion of a crossing, illustrating a modification. Fig. 3 is a sectional detail taken on the line 3 3 of Fig. 1. Fig. 4 is a sectional detail taken on the line 4 4 of Fig. 1, and Fig. 5 is a sectional detail taken on the line 5 5 of Fig. 1.

Referring to the drawings, in which similar letters of reference denote corresponding parts, A A' designate the two rails of what will be herein called for convenience of description the "main" line, while B B' designate the rails of what will be herein called for like reason the "crossing" line. Each of the rails A A' B B' is cut away adjacent to the junction between the rails of the main and crossing lines to permit the operation in such points of junction of sliding rail-blocks, hereinafter described. All four rails at or near the junction-points are preferably mounted upon solid foundations, which are here shown as consisting of base-plates C, to which are secured, preferably by bolts or rivets, angle-irons c c, one edge of each of which overlaps the base of the rail. The angle-irons are also

secured, preferably by bolts or rivets, to the webs of the rails. By this means the parts are rigidly secured in position. Also mounted upon the plates C, and preferably by means of bolts or rivets, are guideways D, of a form in cross-section similar to angle-irons, the adjacent edges of each member of the guideway projecting inwardly to form rabbets d, as best shown in Fig. 5. In each case these guideways, as here shown, extend diagonally across each base-plate C, forming on either side of the rail-junctions ways within which the rail-blocks, now to be described, have sliding movement.

E E designate rail-blocks provided with outwardly-extending flanges e of such size as to snugly fit within the rabbets d of the guideways. I have found it desirable to construct each of these blocks in two parts, as illustrated in Fig. 1, and to firmly secure these together by means of a bolt e', passing centrally therethrough, said bolt being provided at one end with suitable nuts and at the other end with an enlarged head and eye e². Each block carries upon its upper surface two rail-sections, each corresponding to the ball of a rail, and these rail-sections are, as here shown, arranged at right angles to each other, so that when a block is in one of its two positions one rail-ball will be in alinement with one of the rails of the track, making the latter practically continuous, while when the block is in its other position the other rail-ball which it carries will be in line with the rails of the track first named.

Secured to the eye e² of the bolt e' is an adjustable connecting-rod e³, the opposite end of which is pivoted to one of the three arms of a bell-crank lever F, the latter being pivotally mounted at f upon plate f', the latter being preferably bolted or otherwise secured to extensions f² of the base-plate C in order that the foundations not only of the rail-blocks, but also of the operating mechanism therefor, shall be rigid and stable.

The bell-crank levers F are operated from a switch-tower or other suitable point, and to this end I employ connecting pipes or rods, one end of each of which is secured to one of the three arms of the bell-crank lever. In Fig. 1 the rail-blocks are shown as having been shifted by means of the operating pipes

or rods F' , so as to bring the rail-balls e^4 carried by each block into alinement with the rails of the crossing-track, thereby making that track continuous. If it be desired to
 5 make the main-track rails continuous, it is only necessary to give the pipe or rod connections F' the reverse movement, whereupon each rail-block will be caused to slide in its guideways, so as to bring the rail-balls e^5
 10 which it carries into proper alinement. It will thus be seen that the movable parts of the crossing are few and simple. More than this, however, the rail-blocks are so constructed as to receive little, if any, more wear
 15 from the wheels of passing vehicles than the rails themselves. Owing to this feature their useful life is prolonged.

In order that there shall be no doubt as to whether or not the movement of the pipe or
 20 rod connections F' F' has perfectly accomplished the shifting of the rail-blocks so as to make one or the other track continuous before a clear signal may be given to pass train on crossing, I provide interlocking mechanism performing two functions. In the first
 25 place it is impossible to interlock the rail-blocks, save when they are in one or the other of their two positions, and, secondly, when they have been properly located for one or
 30 the other track and the interlocking mechanism has been actuated it is impossible to move the blocks to or toward their other position until the interlocking mechanism be again actuated to withdraw the locking-bolts.

35 Referring particularly to Fig. 1, it will be seen that at about the center of the square formed by the rails of the main and crossing tracks is located a foundation-plate G , preferably secured by means of bolts or rivets to
 40 connecting-plates g , secured to the base-plates C . By this means a rigid and compact foundation for the entire mechanism is provided. Pivotaly mounted upon the central foundation-plate is a spider g' , provided with four
 45 outwardly-extending arms g^2 . To one of these arms is secured, preferably by means of a pivot-pin, an adjustable rod or pipe connection g^3 , running directly or indirectly to the

tower or other point from which the mechanism is operated. Obviously the movement of
 50 the connection g^3 toward or from the spider will partially rotate the latter.

H H designate locking-bolts for the rail-blocks. Each of these is mounted in a housing
 55 h , provided with outwardly-extending flanges which are secured, preferably, by bolts or rivets upon the base-plates C . Each locking-bolt is connected with one of the arms g^2 of the spider g' by means of adjustable connecting-rods h^2 . It is apparent that the partial rotation of the spider g' will impart to the
 60 bolts H a forward or rearward movement, bringing their ends into or out of engagement with the sockets h^3 in the rail-blocks.

What I claim is—

1. In a railroad-crossing, the combination of two lines of intersecting, crossing tracks, base-plates at each intersection to which the tracks are secured, guideways carried by said
 70 base-plates and extending diagonally with respect to the tracks, rail-blocks mounted in said guideways to slide therein, means for moving said blocks into one or another position to make one or the other line of tracks
 75 practically continuous through the crossing, and a locking mechanism for said blocks, substantially as set forth.

2. In a railroad-crossing, the combination of two lines of intersecting, crossing tracks, base-plates at each intersection to which the
 80 tracks are secured, guideways carried by said base-plates and extending diagonally with respect to the tracks, rail-blocks mounted in said guideways to slide therein, means for moving said blocks into one or another position
 85 practically continuous through the crossing, a locking-bolt for each of said blocks, and means for simultaneously moving all of said locking-bolts, substantially as set forth.

This specification signed and witnessed this
 90 30th day of November, 1897.

CHARLES HANSEL.

Witnesses:

EUGENE CONRAN,
 JNO. R. TAYLOR.