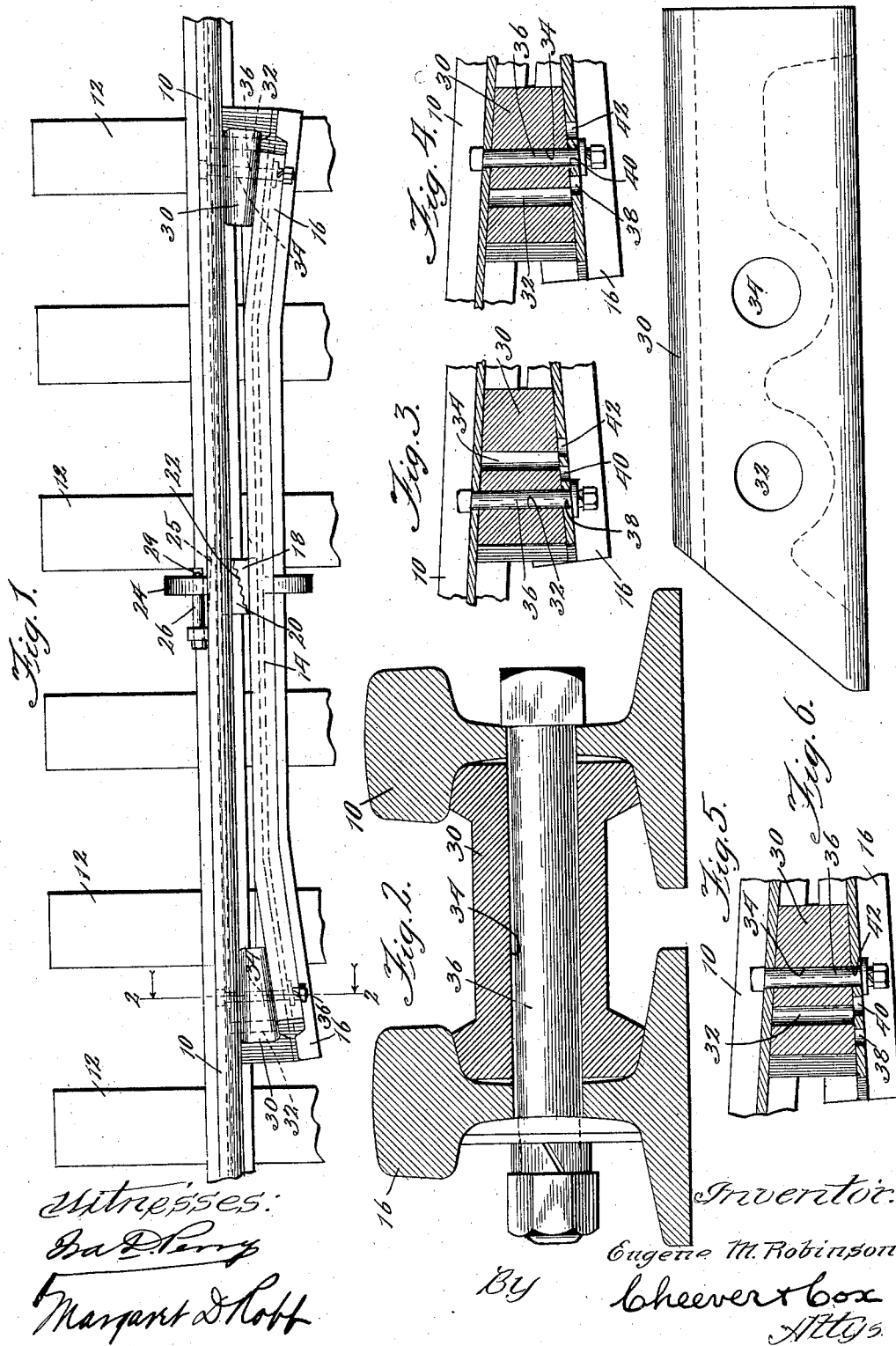


E. M. ROBINSON.
 GUARD RAIL ADJUSTMENT.
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980,440.

Patented Jan. 3, 1911.



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UNITED STATES PATENT OFFICE.

EUGENE M. ROBINSON, OF CHICAGO, ILLINOIS.

GUARD-RAIL ADJUSTMENT.

980,440.

Specification of Letters Patent.

Patented Jan. 3, 1911.

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To all whom it may concern:

Be it known that I, EUGENE M. ROBINSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Guard-Rail Adjustments, of which the following is a specification.

This invention relates to guard rail adjustments for securing the guard rail at the proper distance from the main rail of a railroad track, and particularly for making the necessary adjustment by varying the distance when the guard rail is to be applied to curved track where greater space between rail and guard rail is required.

The object of the invention is to produce such an adjusting device which can be easily and cheaply made and installed, which is not readily liable to get out of order, and is very satisfactory in use.

The invention consists in devices to go in between the main rail and the outwardly flared ends of a guard rail which can be for the purpose of spacing them apart rendered adjustable without the addition of extra shims or other parts.

The invention consists more particularly in the means and arrangement of parts, as hereafter more fully described and claimed.

Figure 1 is a plan view of one railroad rail, the guard rail adjacent thereto, and the adjusting means. Fig. 2 is a transverse sectional view through the line 2—2 of Fig. 1. Figs. 3, 4 and 5 show the adjusting blocks in different alternative positions assumed when different adjustments have been made. Fig. 6 is a side view of the spacing block removed from the remainder of the device.

The main railroad rail 10 is secured to ties 12 laid upon the ground in the ordinary manner. At the side of this rail and also resting upon, but not rigidly secured to the ties, except indirectly in the manner hereafter described, is a guard rail having outwardly bent ends or wings 16, as shown.

Interposed between the central portion of guard rail 14 and main track rail 10 is a common form of spacing device, not here claimed, comprising two wedge shaped blocks 18 and 20 intermeshing with each other in the toothed surfaces 22 in a plane diagonal to the plane of the main rail, the whole being inclosed by the yoke 24 bearing against the outside of the guard rail and the outside of the main rail, made tight by a

wedge or key 25 driven between the clamp and rail, as shown, and held in its longitudinal adjustment or motion by the bolt 26 and the cotter pin 29. Whenever it is necessary to increase or diminish the distance between the main rail and guard rail this device is adjusted in the ordinary manner, well understood in the art. If the guard rail were perfectly parallel to the main rail a plurality of these center adjusting devices could be used at the ends of the guard rail as well as at the center and the problem solved by this invention would not exist. It is, however, customary and desirable, not to say necessary, to have spacing devices between the outwardly flared end of the guard rail and the main rail, and when this is done the problem of increasing the space between the rail and guard rail without adding supplemental spacing devices becomes a serious problem. This problem is solved as follows. Between the main rail 10 and each outwardly flared wing 16, at the end of the guard rail 14, is placed an adjusting block 30 having through it a plurality of parallel holes 32 and 34 a given distance apart, through either of which a bolt, as 36, may be selectively passed. Through the guard rail at the location where the adjusting block 30 belongs are a plurality of parallel holes 38, 40 and 42 at proper height above the bottom of the rail to have bolt 36, when through hole 32 or 34 in the block, also pass through one of these holes in the guard rail. These holes 38, 40 and 42 are not the same distance apart, one from the other, as the holes 32 and 34 in the block are from each other, the result being that by selectively varying both the hole in the block and the hole in the guard rails through which a given bolt 36 is placed, the position of the wedge shaped block 30 with reference to the main rail and the guard rail is necessarily varied longitudinally of them with a consequent variation in the distance between the ends of the guard rail and main rail, this without the addition of any shims or the like. It will also be seen that a much smaller variation in length of adjustment is produced than is possible where the holes in the block and the holes in the guard rail are the same distance center to center, or where there is only one hole in one of the parts and a plurality of holes in the other. In other words, this invention produces fractional adjustments of what would otherwise be a unitary

adjustment. This fractional adjustment is necessary because from a practical commercial standpoint it is not possible in the other methods above described to drill the holes
5 in the parts close enough together to make the necessary degrees of adjustment, without weakening the guard rail and block.

10 In practice only one bolt hole for bolt 36 is drilled in main rail 10, because that hole is not ordinarily drilled until all other parts have been adjusted to proper position. A plurality of such holes may be provided without departing from the invention.

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

In a device of the class described, the com-

bination of a main rail and a guard rail at an angle thereto, a wedge shaped block between them, there being a plurality of parallel holes in one of said rails a given distance apart and a plurality of corresponding holes through the block a different distance apart and a bolt adapted to be selectively passed through rails and block through
20 different combinations of said holes in the rail and block, for the purposes set forth.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

EUGENE M. ROBINSON.

Witnesses:

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