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J. F. SMITH.

GUARD RAIL CLAMP.

APPLICATION FILED APR. 29, 1905.

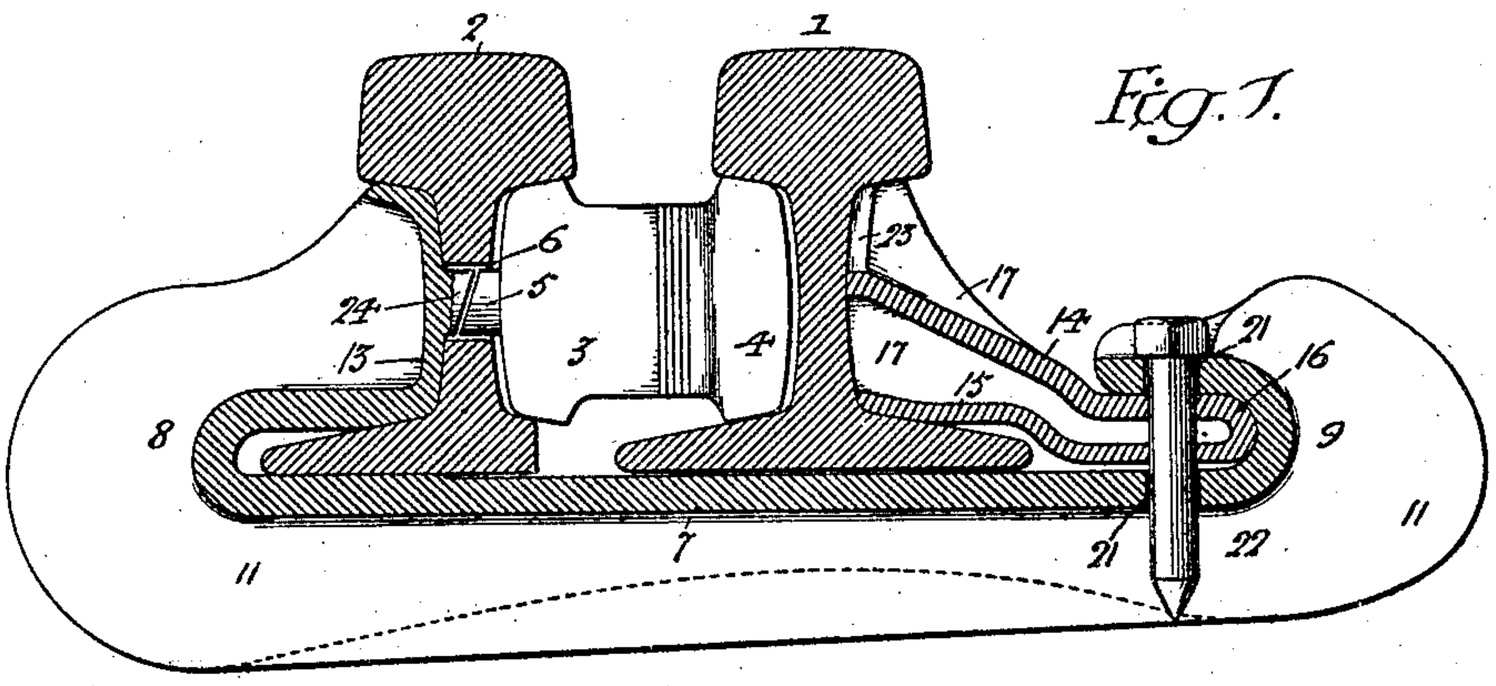

Fig. 1.

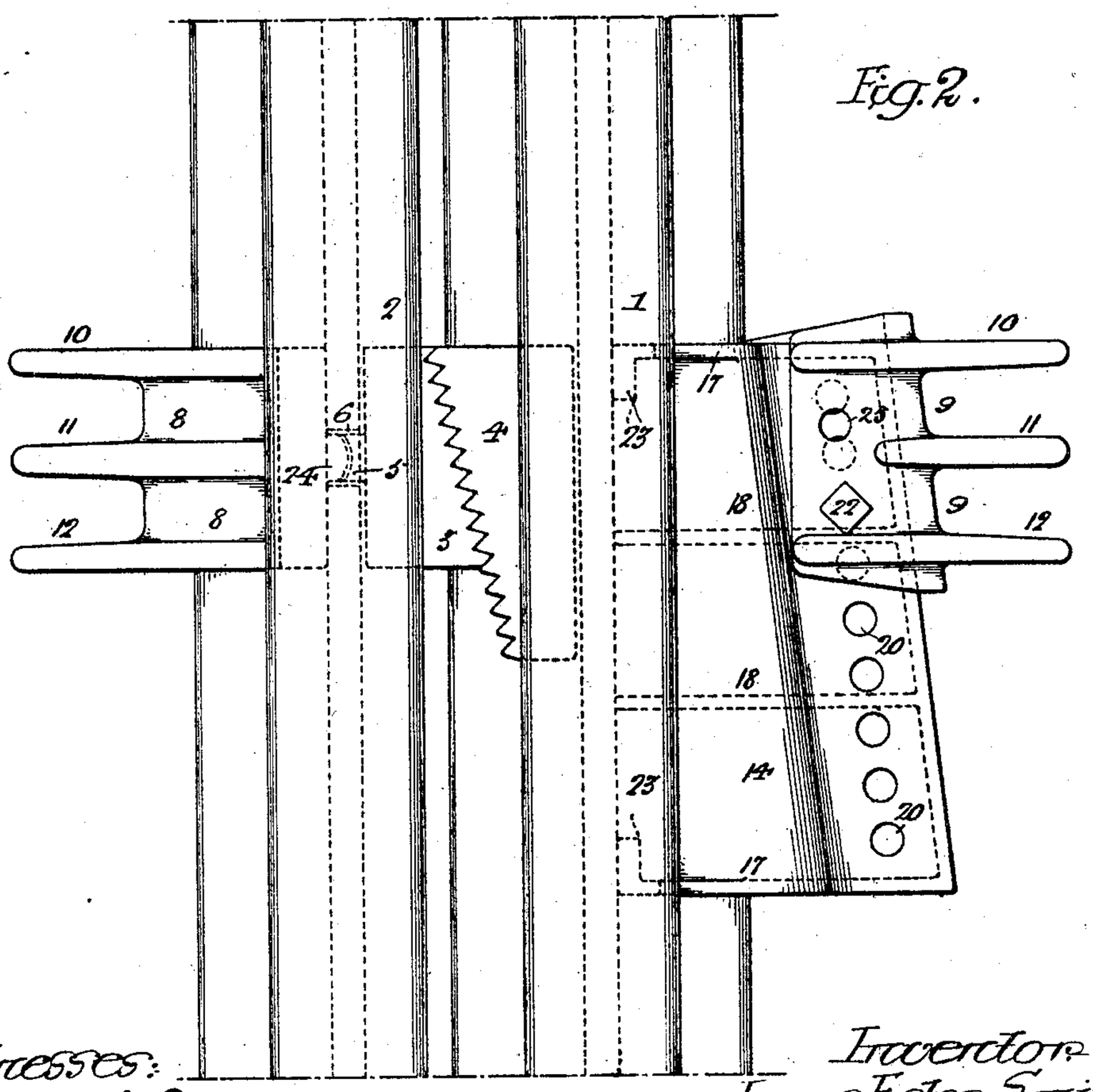

Fig. 2.

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GUARD-RAIL CLAMP.

No. 795,737. Specification of Letters Patent. Patented July 25, 1905.

Application filed April 29, 1905. Serial No. 258,095.

To all whom it may concern:

Be it known that I, JAMES FOSTER SMITH, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Guard-Rail Clamps, of which the following is a specification.

The object of my invention is to provide a guard-rail clamp possessing maximum strength and a minimum number of parts and which does not rely upon the presence of a cross-tie for securing in position the adjustable rail-engaging member of the clamp.

In the accompanying drawings, Figure 1 is a transverse section, partly in elevation, of a guard-rail clamp constructed in accordance with my invention; and Fig. 2 is a plan view of the same.

1 represents the main or stock rail of the track, and 2 the guard-rail, these rails being separated to the proper extent by means of interposed filler or separator blocks 3 and 4, which have wedge-like bearing-faces, notched, as usual, to retain the blocks, the block 3 also having a projecting lug 5, which enters an opening 6 in the guard-rail and serves to retain the pair of separator-blocks in proper longitudinal position in respect to the rails. The clamping-yoke 7 has opposite looped ends 8 and 9 and is stiffened by external webs 10, 11, and 12, the looped end 8 of the yoke receiving the outer flange of the guard-rail 2 and terminating in a bearing-plate 13, which contacts with the outer face of the web of the guard-rail and with the under face of the outer portion of the head of said rail, as shown in Fig. 1. The opposite looped end 9 of the yoke presents a longitudinally-inclined bearing-seat for the outer face of the main-rail clamp, which face is correspondingly inclined or beveled, said main-rail clamp consisting of upper and lower plates 14 and 15, connected by an outer loop 16 and stiffened by end webs 17 and by any desired number of intermediate webs 18, two of the latter being employed in the present instance, as shown in Fig. 2. The structure thus comprises a combined clamp and wedge, the inner edges of the plates 14 and 15 and their bracing-webs bearing against the outer portion of the main rail 1 and the outer looped and inclined face of the clamp bearing against the correspondingly-inclined seat formed by the looped outer end of the clamping-yoke, so that longitudinal adjustment of the wedge-clamp in respect to the yoke-plate and rail will cause the inner face of said wedge-clamp to press firmly against the rail, and thereby lock the various elements of the structure in their proper positions.

In order to retain the wedge-clamp in its various positions of longitudinal adjustment, it has formed in it a series of openings 20, and in the upper and lower portions of the looped end 9 of the yoke are formed openings 21 and 25, those in the upper portion being vertically in line with those in the lower portion. Hence when the wedge-clamp is adjusted longitudinally, so that one pair of its openings 20 is in line with either of these pairs of openings 21 or 25, said wedge-clamp can be secured in such position by passing a pin 22 through said openings, as indicated in Fig. 1, the use of spikes or other means engaging a tie and intended to retain the wedging device in place being thus rendered unnecessary.

When one pair of openings 21 or 25 is in line with a pair of openings 20, the other pair of said openings 21 or 25 is midway between two pairs of openings 20, so that finer adjustment is possible than if the openings 21 and 25 were the same distance apart as the openings 20 or if only one pair of openings 21 or 25 were used.

The end webs 17 of the wedge-clamp extend above the top plate 14 of the same, so as to bear against the under side of the outer portion of the head of the main rail 1, and these webs have at their inner ends fillets 23, which serve to stiffen the inner corners of the wedge-clamp and increase the area of bearing of the same upon the web of the rail.

In order to lock the entire clamping structure longitudinally to the rails, the plate which bears upon the web of the guard-rail 2 has an inwardly-projecting lug 24, which enters the opening 6 in the guard-rail, as shown.

The guard-rail clamp forming the subject of my invention comprises but two main parts, both of which are exceedingly strong in construction, and hence well calculated to withstand the strains and rough handling to which they are subjected in practice, the use of any small parts, such as separate wedges or other independent elements other than the locking-pin, being avoided.

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

1. The combination of main and guard rails with a clamping-yoke having at one end a bearing-face contacting with the web and under side of the head of one rail, and at the

other end a loop, and a longitudinally-adjustable wedge-clamp bearing upon the web and under side of the head of the other rail and having its wedge-face directly engaging a corresponding seat in the looped portion of the clamping-yoke.

2. The combination of the main and guard rails and the clamping-yoke, with a wedge-clamp, comprising upper and lower plates, outer connecting-loop and interposed stiffening-webs, substantially as specified.

3. The combination of the main and guard rails and the clamping-yoke, with a wedge-clamp comprising top and bottom plates, and interposed stiffening-webs, the end webs being carried above the level of the top plate so as to bear against the under side of the head of the rail, substantially as specified.

4. The combination of the main and guard rails and the clamping-yoke, with a wedge-clamp comprising top and bottom plates, and interposed stiffening-webs, the end webs being carried above the level of the top plate so as to bear against the under side of the head of the rail, and having fillets at the inner ends for bearing against the web of the rail, substantially as specified.

5. The combination of the main and guard rails, a clamping-yoke having a looped end, and a wedge-clamp engaging said looped end and also engaging one of the rails, said loop and wedge-clamp having openings for the reception of a locking-pin, substantially as specified.

6. The combination of the main and guard rails, a clamping-yoke having a looped end, and a wedge-clamp engaging said looped end and also engaging one of the rails, both the loop and the wedge-clamp having a plurality of openings for the reception of a locking-pin, and the distance longitudinally between the openings of the loop being different from the longitudinal distance between openings of the wedge-clamp, substantially as specified.

7. The combination of the main and guard rails with a clamping-yoke having at one end a bearing for engaging one of the rails, and at the other end a bearing for a wedge-clamp engaging the other rail, the first-mentioned bearing having a lug which enters an opening in the rail with which the plate engages, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES FOSTER SMITH.

Witnesses:
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