No. 789,278. PATENTED MAY 9, 1905.

O. HOFFMANN.

RAILWAY CONSTRUCTION.

APPLICATION FILED JAN. 18, 1905.

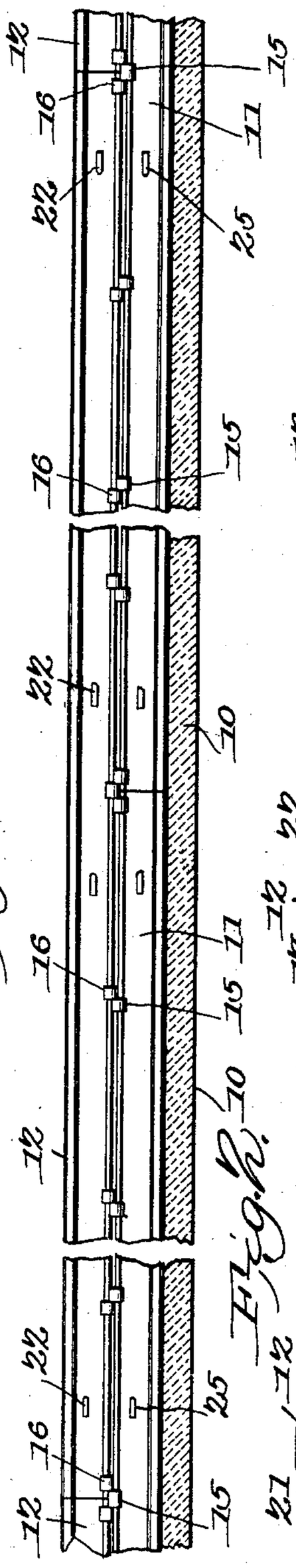

Fig. 1.

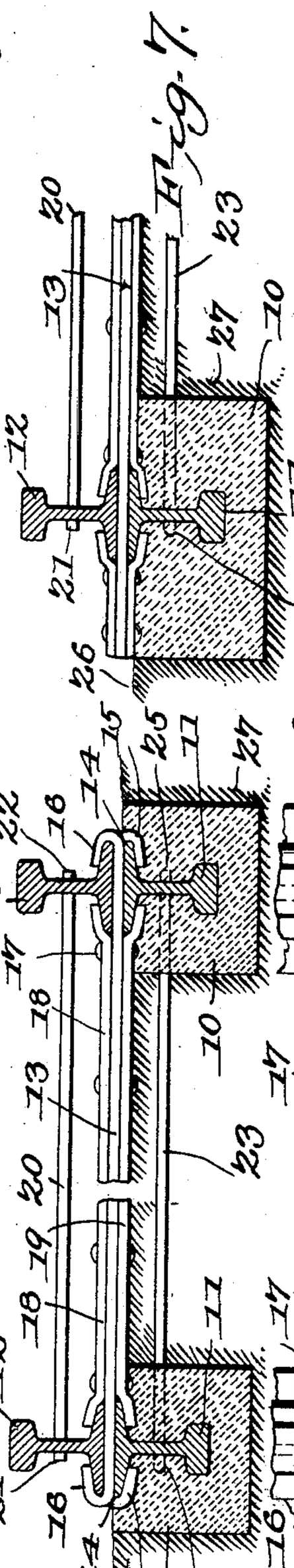

Fig. 2.

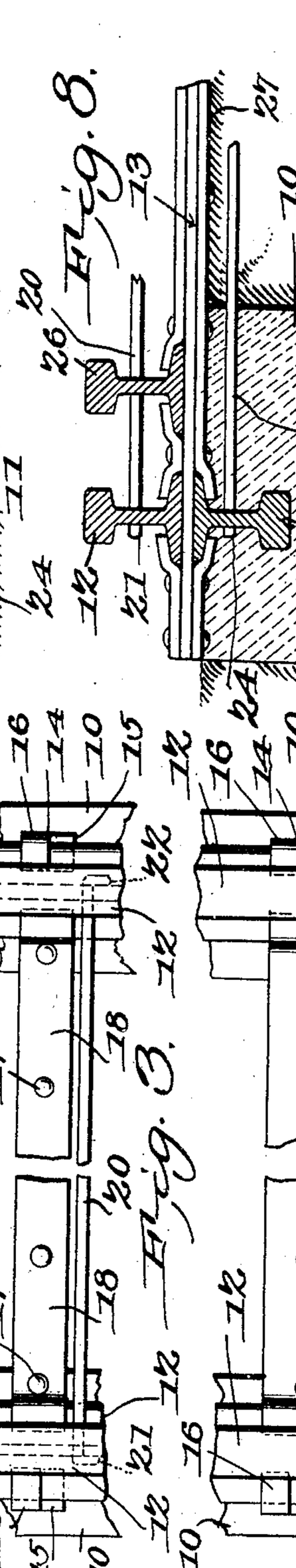

Fig. 3.

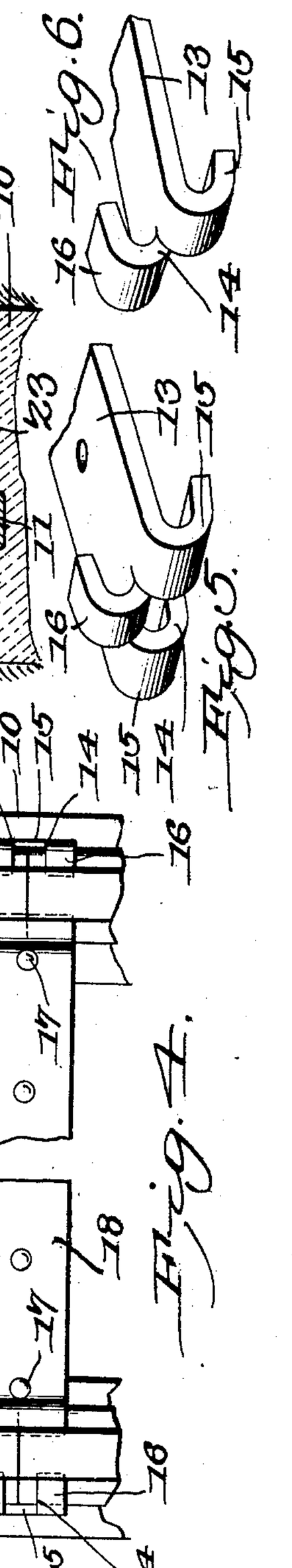

Fig. 4.

Fig. 7.

Fig. 8.

Fig. 6.

Fig. 5.

Witnesses

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No. 789,278. Patented May 9, 1905.

UNITED STATES PATENT OFFICE.

OTTO HOFFMANN, OF NEW ALBANY, INDIANA.

RAILWAY CONSTRUCTION.

SPECIFICATION forming part of Letters Patent No. 789,278, dated May 9, 1905.

Application filed January 18, 1905. Serial No. 241,657.

To all whom it may concern:

Be it known that I, OTTO HOFFMANN, a citizen of the United States, residing at New Albany, in the county of Floyd and State of Indiana, have invented a new and useful Railway Construction, of which the following is a specification.

This invention relates to the construction of the road-beds of railways, and has for its object to improve the construction and increase the durability, strength, and jar or concussion resisting qualities of structures of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the same consists in certain novel features of construction as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the invention is not necessarily limited thereto, as various changes in the shape, proportions, and general assemblage of the parts may be resorted to without departing from the principle of the invention or sacrificing any of its advantages.

In the drawings thus employed, Figure 1 is a side elevation of a portion of a railway road-bed constructed according to the improved means with the track-rails in position thereon. Fig. 2 is a transverse section enlarged. Fig. 3 is a plan view of one of the intermediate transverse tie members and one of the tie-rods. Fig. 4 is a plan view of one of the tie members disposed at the joints between the rails. Figs. 5 and 6 are enlarged perspective views of the clamping ends of the tie-plates. Figs. 7 and 8 are sectional details of modified forms of the construction.

The improved construction embraces bed portions 10, of concrete, disposed longitudinally of the road-bed, with railway-rails 11 embedded therein in inverted position, with their tie-flanges flush with the upper surface of the concrete bed and spaced apart to correspond to the track-rails (represented at 12) and superposed above the same. The opposite track-rails are connected to each other and also to their respective bed-rails by tie-plates 13, having longitudinal clefts 14 in the ends, with the tongues released by the clefts ent in opposite directions, one portion, 15, embracing the outer edges of the tie-flanges of the bed-rails and the other portion, 16, embracing the outer edges of the tie-flanges of the track-rails. Attached, as by rivets or bolts 17, to the tie-plates are clamps 18 19, embracing the inner edges of the tie-flanges of the respective bed and track rails. At suitable intervals the track-rails are united by transverse tie-rods 20 passing through the vertical webs of the rails and "clenched" outside the same by bending the ends of the rods laterally, as at 21 22, and similar tie-rods 23 are secured in like manner, as at 24 25, in the vertical webs of the bed-rails 11, as shown in Figs. 1, 2, and 3. By this construction it will be obvious that a very solid and substantial road-bed is produced which is rigidly supported in position and the track-rails firmly and immovably connected thereto and able to effectually resist all the various and severe strains to which they will be subjected.

The bed-rails may be formed from old, discarded, and worn or broken rails, which will serve the purpose equally as well as new rails and be much less expensive. The concrete portions will generally be embedded in the usual "ballast" material, (represented at 27.)

In Fig. 7 a modified construction of the tie-plate and clamp-plates is illustrated, which may be employed under some circumstances, if required; but this would not be a departure from the principle of the invention.

In Fig. 8 is shown the manner in which the guard-rails 26 will be connected in position.

The tie members 13 and their attachments may be disposed at as frequent inter-

vals as may be required to secure the requisite strength and as many of the rivets 17 may be employed as required.

Having thus described the invention, what is claimed is—.

1. In railway construction, a rail-stringer formed of a bed of concrete having railway-rails embedded end to end therein in inverted position with the tie-flanges flush with the surface of the concrete bed, and means for securing the track-rails upon said tie-flanges with the joints between the adjacent ends of the track-rails spaced between the joints at the adjacent ends of the bed-rails.

2. In railway construction, rail-stringers formed of spaced beds of concrete having railway-rails embedded therein in inverted position and disposed end to end with the tie-flanges of the bed-rails flush with the surface of their respective concrete beds, the track-rails disposed with their tie-flanges above the tie-flanges of the bed-rails, tie-plates extending between said bed-rails and track-rails and with longitudinal clefts at the ends with the portions of the plates at opposite sides of the clefts bent in opposite directions for embracing the outer edges of the tie-flanges of the bed-rails and track-rails, and clamp-plates connected to said tie-plates and engaging the inner edges of the tie-flanges.

3. In railway construction, rail-stringers formed of spaced beds of concrete having railway-rails embedded therein in inverted position and disposed end to end with the tie-flanges of the bed-rails flush with the surface of their respective concrete beds, the track-rails disposed with their tie-flanges above the tie-flanges of the bed-rails, tie-plates extending between said bed-rails and track-rails and having means for coupling to the tie-flanges of the respective rails, and tie-rods extending through the vertical webs of the opposite track-rails at suitable intervals and secured to the same by bending laterally exteriorly of the webs.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

OTTO HOFFMANN.

Witnesses:
JOHN H. STOTSENBURG,
MARY E. RICHARDS.