

No. 684,159.

Patented Oct. 8, 1901.

W. C. WOOD.
RAILWAY CROSSING STRUCTURE.

(Application filed Mar. 30, 1901.)

(No Model.)

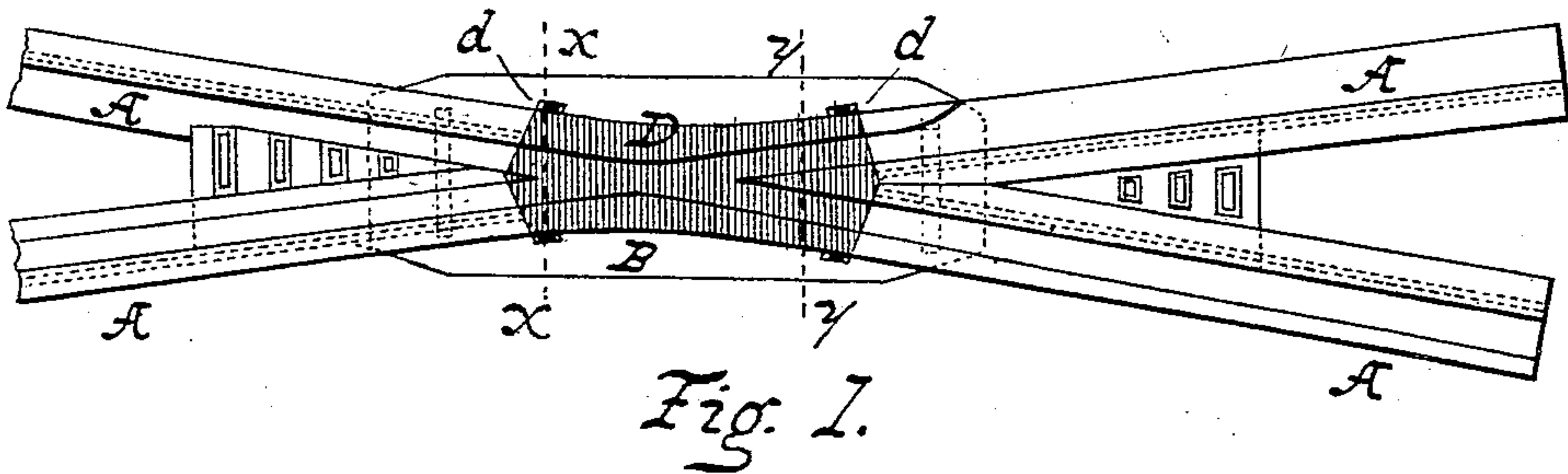


Fig. 1.

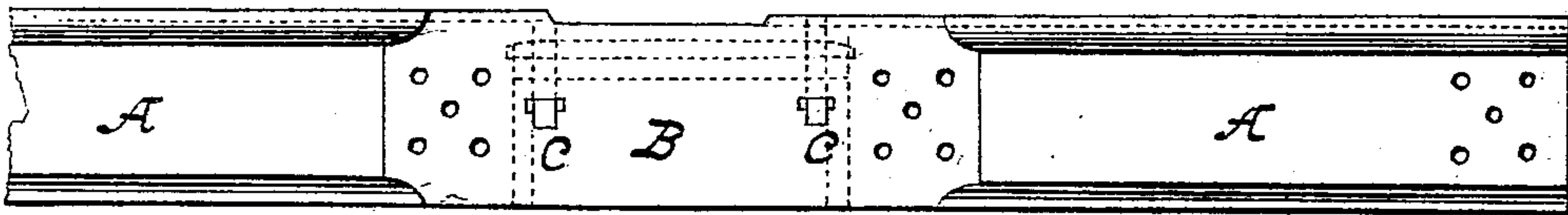


Fig. 2.

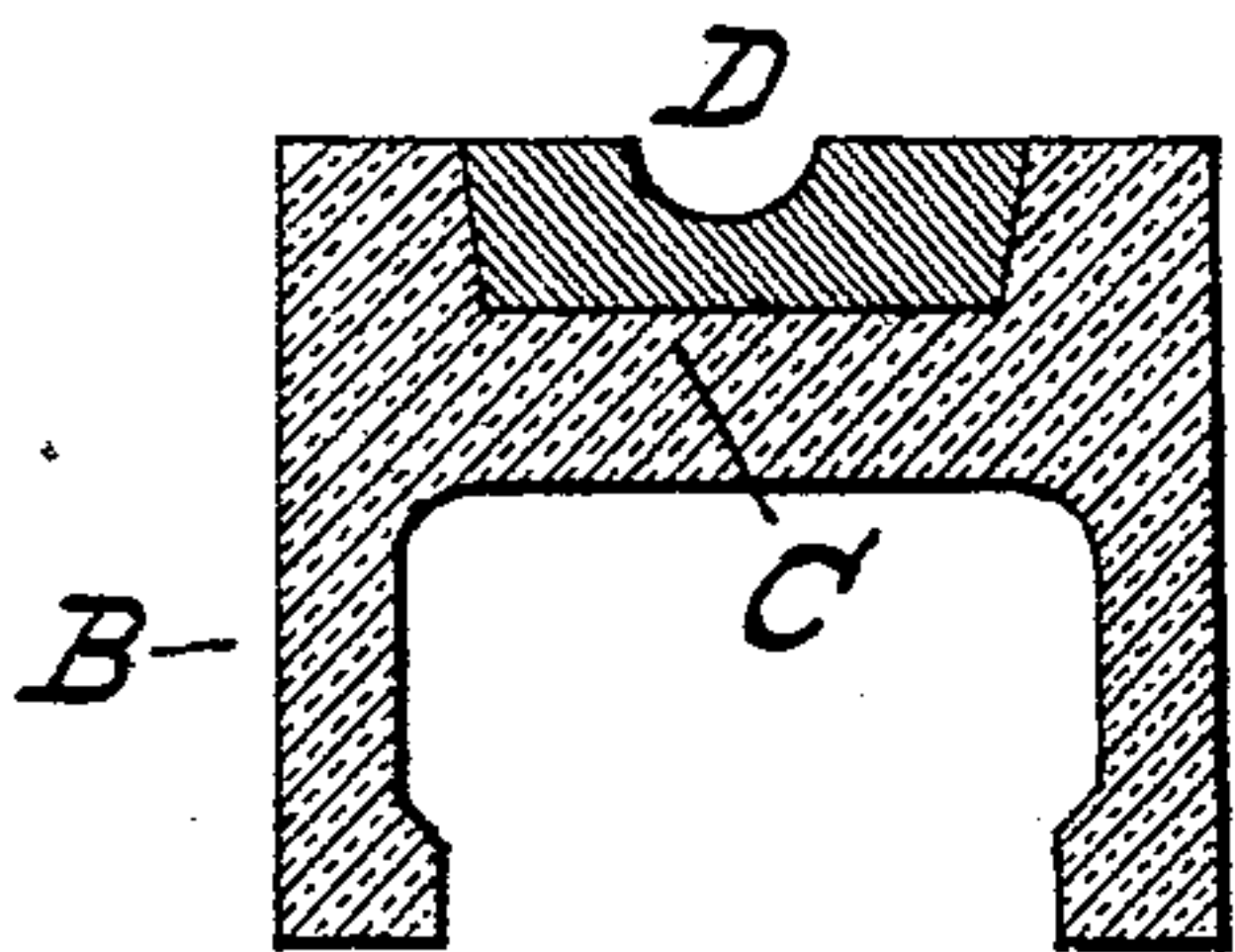


Fig. 3.

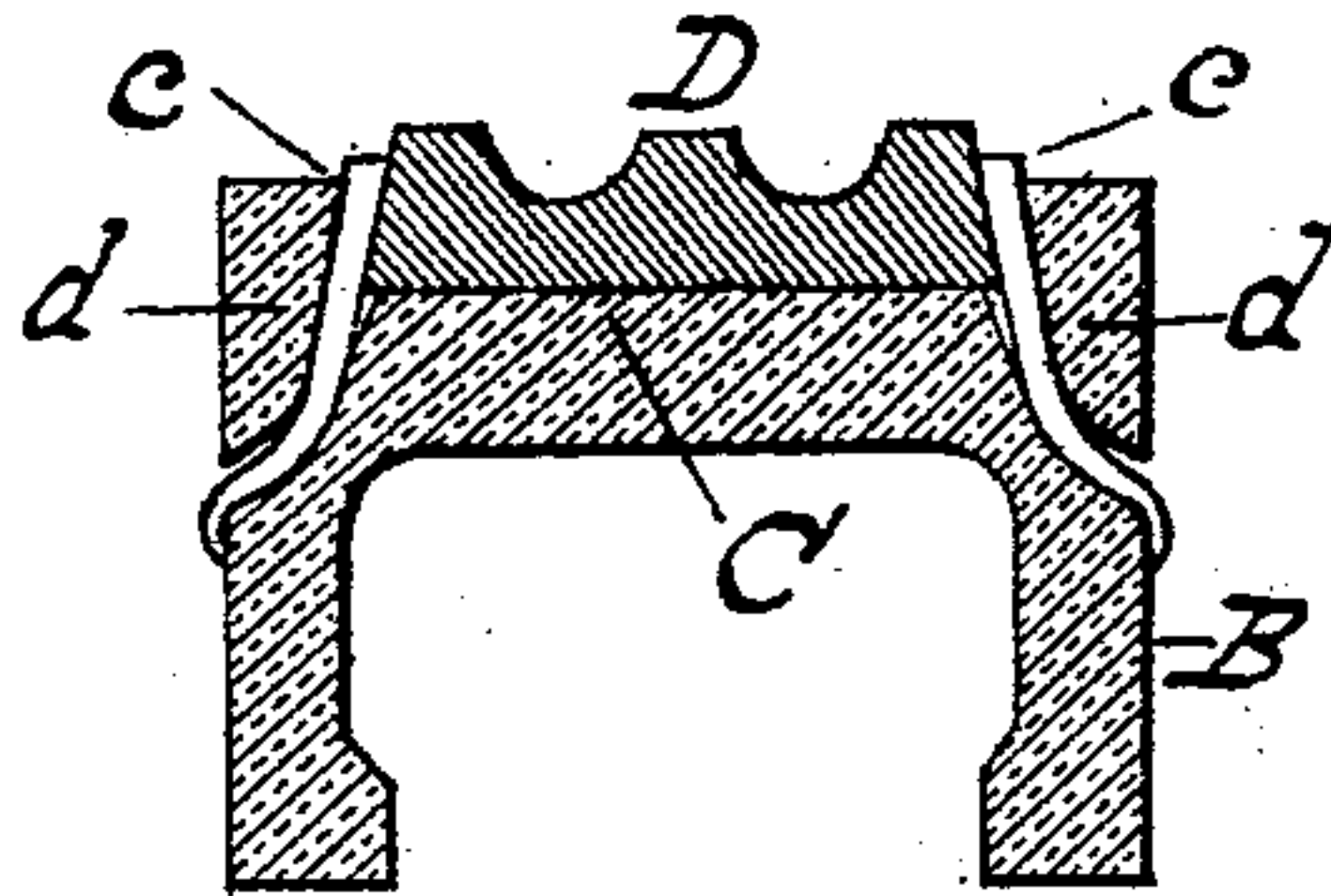


Fig. 4.

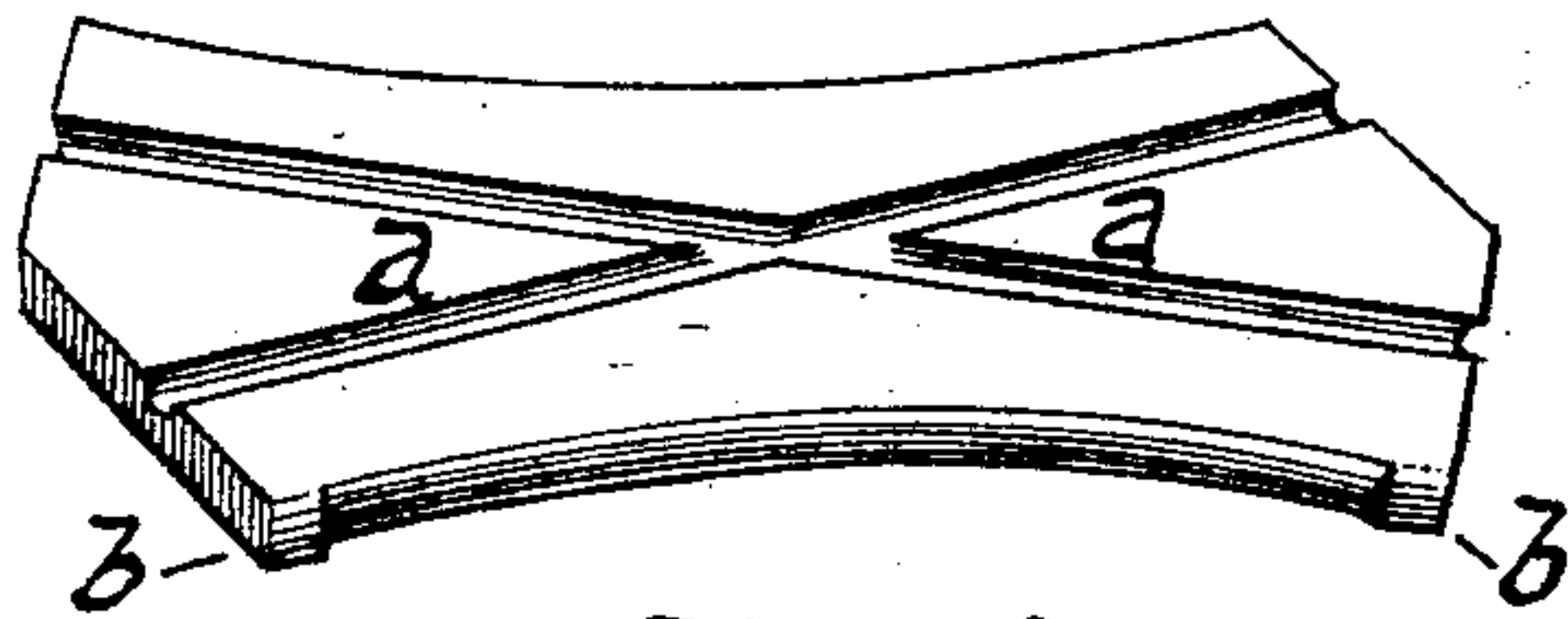


Fig. 5.

WITNESSES:

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RAILWAY-CROSSING STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 684,159, dated October 8, 1901.

Application filed March 30, 1901. Serial No. 53,587. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. WOOD, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Railway-Crossing Structures, of which the following is a specification.

In the operation of railways, particularly such as common to city streets and those known as "trolley-lines," the place of intersection of crossing or converging tracks is subjected to extra wear, and it is the practice to provide a structure therefor comprising a center piece or wearing-plate at the point of intersection combined with sections of rails abutting the plate by casting a body of metal around the whole, binding the rails together in proper alinement with each other, forming a solid frame, and leaving the wearing-plate free for removal to allow of renewal where worn.

My invention relates to a new system of removable wearing-piece and adjustable securing means therefor used in connection with a base or floor of hard metal, such as iron or steel, giving firm and solid support for such wearing-piece, while leaving it free for removal when necessary from the crossing structure.

The improvement is applicable to crossings, points, mates, frogs, and all structures where two or more tracks cross or converge.

Prior to this invention such wearing-pieces have been made removable by projections depending from the under side and perforated to receive holding-keys driven in horizontally. That system is objectionable, as the depending projections are liable to be broken off and there is difficulty of access to the keys when required for manipulation in securing or tightening the wearing-plate. In the present invention these objections are overcome. The projections for holding the keys are dispensed with and keys are used which are inserted from the top and driven downward, thus enhancing the facility for inserting the keys and tightening the wearing-plate whenever necessary, access to the keys being had at any time from the surface of the track.

Referring to the annexed drawings, which illustrate my improvements, Figure 1 is a plan or top view. Fig. 2 is a side view. Fig. 3 is a

cross-section on the line $x x$ of Fig. 1. Fig. 4 is a cross-section on the line $y y$. Fig. 5 is a perspective view of the center piece detached.

In the drawings, A A will indicate sections of rails which, with the cast body portion B, constitute the main frame of the structure. C is a recess in the body portion at the place of intersection of diverging or crossing rails, as the case may be, adapted to receive the center piece or wearing-plate D. The plate is grooved on its upper surface, corresponding to the gage-lines of the rails and forming one or more points a , such as occur in mates, frogs, and other intersections.

In producing the structure I prepare a mold adapted to receive the rail-sections A A, with the wearing-plate D set at the point of intersection of the lines of rails, and cast the body portion B around the parts to bind the whole together. The mold is also adapted in shape to cause the molten metal to flow directly against or upon the wearing-piece, and thus form a solid cast-iron floor for its firm support. The sides of the plate D are tapered downward, as indicated in Fig. 3, to allow it to be easily lifted out of its recess.

To fasten the wearing-plate in position, lugs $b b$ are formed on its sides, preferably at the four corners, and the plate is secured by keys c , arranged in upright keyways d , adjoining said lugs. These keyways are peculiar in shape, being straight in the upright portion, but curved at the lower end, terminating in the sides of the body portion B, as seen in Fig. 4. The keyways are usually formed by setting sand cores of the requisite shape in the mold at the points where the keys are to be located. When the casting is cooled, the wearing-plate is free to be removed for examination of the floor of the recess, which, if found correct, is then fastened securely in place in the recess by driving the keys into the keyways from the top, and when the points of the keys reach the curved portion of the keyway the keys conform thereto, causing a bend therein, which is sufficient to hold them fast in the keyways. As a further security, however, the extremities are clenched, as shown, when finally completing the structure for use.

In case the center or wearing plate should

become loosened from wear, as by concussion or otherwise, it may be tightened up by simply driving the keys farther into the keyways.

5 If desired to remove the center piece at any time, it can readily be done by knocking out the keys from the lower end, first cutting off the clench, when the plate may be taken out and replaced by another without disturbing
10 the track.

In the foregoing improvements I do not restrict myself to details, which may be varied within the invention. In place of using cores to form the keyways the keys may be set in
15 the mold against the center piece, first applying a strong coat of "black wash" to the keys and the molten metal of the binding-body allowed to flow around them.

I claim as my invention—

In a railway switch or crossing structure, 20 comprising a main frame of rail-sections united by a body of cast metal, and having a recess at the point of intersection of the lines of rails, the combination with the body portion and its recess, of a wearing-plate set in 25 such recess, and securing-keys for holding and tightening the wearing-plate, inserted in the top in upright keyways adjoining and in contact with the sides of such plate, the keyways being curved at the lower end to give a 30 holding-bend to the keys when driven from the surface of the track, as set forth.

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Witnesses:

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