

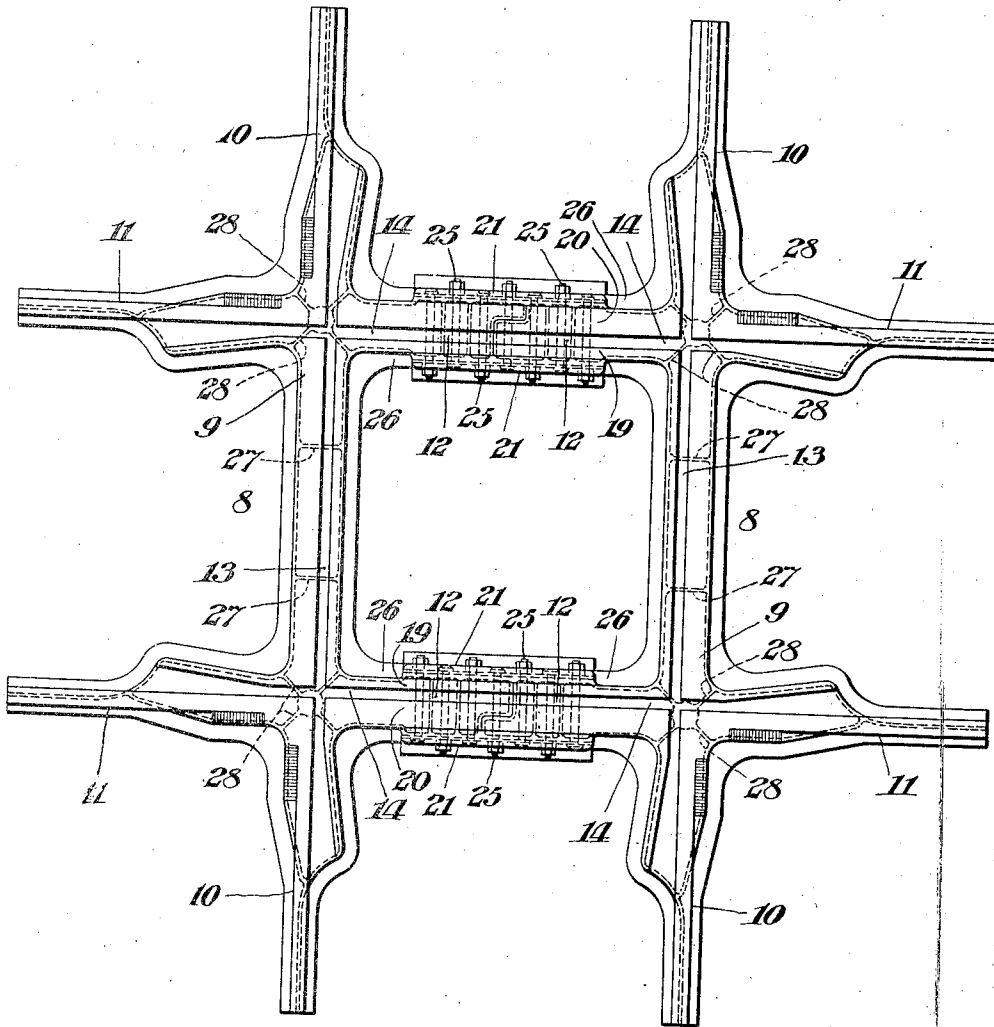
C. A. ALDEN.
RAILROAD CROSSING.
APPLICATION FILED OCT. 5, 1912.

1,058,933.

Patented Apr. 15, 1913.

2 SHEETS-SHEET 1.

Fig. 1.



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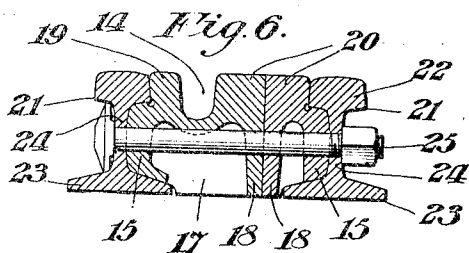
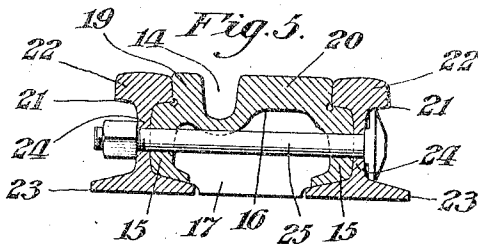
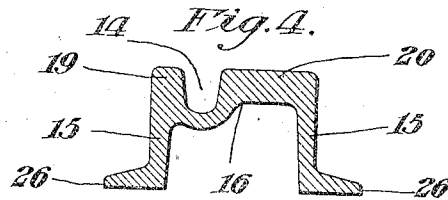
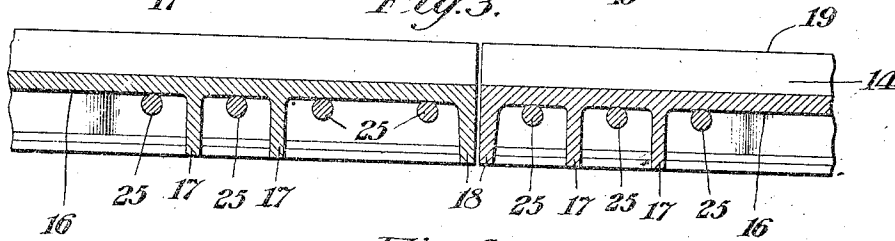
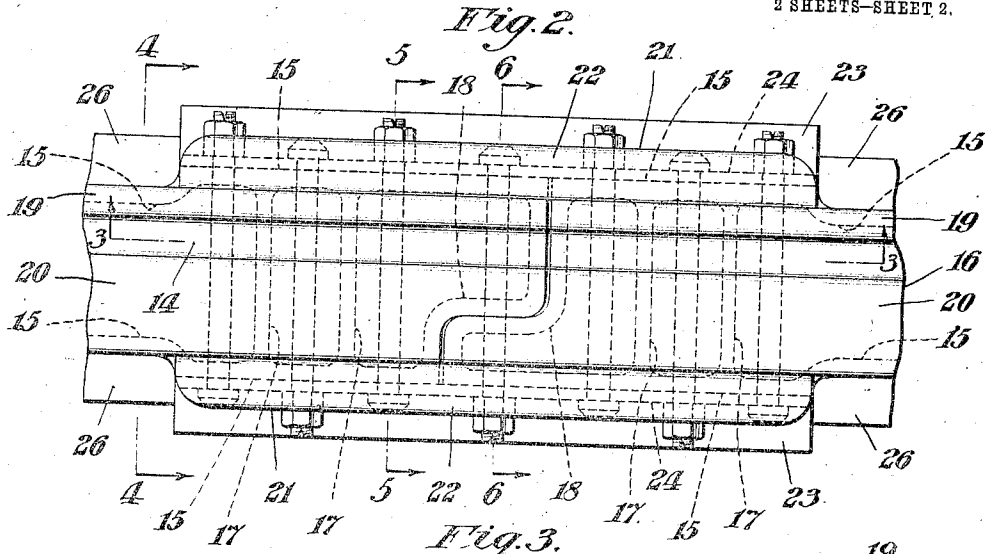
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

CHARLES A. ALDEN, OF STEELTON, PENNSYLVANIA.

RAILROAD-CROSSING.

1,058,933.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed October 5, 1912. Serial No. 724,014.

To all whom it may concern:

Be it known that I, CHARLES A. ALDEN, a citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a specification.

This invention relates to that class of railroad crossings in which the main body portions of the crossing are provided with intersecting grooves to receive wheel-flanges, and in which the main body portions are formed of manganese steel castings and are provided with connecting arms extending toward each other, and in which means are provided to secure the connecting arms together.

The object of the invention is to provide a novel, strong and durable railroad crossing of this class, in which the desired strength in the castings may be obtained from a smaller quantity of metal than heretofore and in which the metal may be properly distributed throughout the parts of the castings, to insure the best results.

A further object of the invention is to construct the parts of the castings so that the work and cost of finishing the machined parts thereof may be simplified and reduced.

A further object of the invention is to provide a strong and durable means for securing the connecting arms of the castings together.

A further object of the invention is to reduce the number of parts forming joints exposed to the action of wheels passing over the crossing and a further object of the invention is to form lapping tread portions on the connecting arms at the joint between them so that wheels may pass on to the tread portion of one arm before leaving the tread portion of the adjacent arm; all as will be hereinafter fully described and particularly claimed.

In the accompanying drawings, illustrating my invention: Figure 1, is a plan view of a railroad-crossing embodying my invention. Fig. 2, is a plan view, enlarged of the joint between two of the connecting arms. Fig. 3, is a longitudinal section, on line 3—3 of Fig. 2. Figs. 4, 5 and 6 are transverse sections, on lines 4—4, 5—5 and 6—6, respectively, of Fig. 2.

Referring to the drawings, 8, 8 designate two castings formed of manganese steel.

Each casting comprises a body portion 9, arms 10, 10 extending outwardly therefrom in alinement with each other, arms 11, 11 extending outwardly therefrom parallel to each other and arms 12, 12 extending inwardly therefrom parallel to each other and in alinement with the arms 11, 11. The outer ends of the arms 10 and 11 are each shaped in cross section to conform to the cross section of the well known track rail to be secured thereto in any convenient manner and to form continuations thereof, the arms 10 forming continuations of the parallel rails of one line and the arms 11 and 12 forming continuations of each other and of the parallel rails of the cross line.

Formed in the top of the body of each casting 8 is a groove 13 and intersecting grooves 14, the groove 13 extending over the arms 10 and the intersecting grooves 14 extending over the arms 11 and 12, as shown, to receive wheel-flanges as the wheels pass over the crossing.

The connecting arms 12 of one casting 8 meet the connecting arms 12 of the other casting 8 about midway between the body portions 9 and are secured together by means hereinafter described.

Each arm 12 is formed hollow and comprises longitudinally-extending vertical side walls 15, a top wall 16 connecting the upper portions of the side walls 15 and webs or ribs 17 and 18 extending transversely through the space between the side walls 15 below the top wall 16. Formed in the top wall 16 of each arm 12 is the groove 14 continuing from the body portions of the two castings 8 and extending entirely across the crossing, the top wall 16, of each arm 12, providing a guard portion 19 at one side of the groove 14 and a tread portion 20 at the other side of the groove 14, to receive the treads of wheels passing over the crossing. The adjacent ends of the tread portions 20 of two adjacent arms 12 are reduced in width and lap each other, as shown, thus providing a substantially continuous bearing surface for wheels as they roll over the joint between two adjacent arms 12.

The lap joint just described extends throughout the vertical dimensions of the arms 12 so that the entire end of one arm 12 laps the end of the adjacent arm 12. The ribs or webs 17 of each arm 12 extend directly between the side walls 15 thereof, but the rib 18 of each arm 12 follows the lap.

joint between the two adjacent arms and forms an end wall for the arm extending to the bottom thereof, the rib 18 of one arm being adapted to engage the rib 18 of the adjacent arm, as shown.

Arranged on the respective sides of the adjacent ends of the arms of each pair of connecting arms 12 are rails 21 which extend across the joint between the arms. Each rail 21 is shaped like an ordinary railroad rail in cross section, comprising a head 22, a base 23 and a vertical web 24 connecting the head 22 and base 23. These rails 21 may be cut from ordinary track rails. The outer faces of the guard portion 19 and track portion 20 of each arm 12 engage the inner faces of the heads 22 of the joint rails 21; and the side walls 15 of the adjacent end portions of each pair of arms 12 are expanded, as shown, and seated between the heads 22 and bases 23 and against the inner faces of the webs 24 of the joint rails 21.

The adjacent ends of each pair of connecting arms 12 and the joint rails 21 are firmly secured together by transverse bolts 25 extending through the side walls 15 of the arms 12 and through webs 24 of the joint rails 21, clamping the parts firmly together, the central bolt 25 extending through the webs 18 and the lapping portions of the arms 12.

By expanding the side walls 15 of the adjacent ends of the arms 12 where they are engaged by the rails 21 I not only increase the strength of the arms 12 at the joints between them, but I am thereby enabled to conveniently machine those portions of the arms 12 which are fitted to the joint rails 21. By having the webs or ribs 18 of the arms 12 follow the lapped joint between the arms I provide suitable supports for the lapped tread portions 20, and I am enabled to conveniently machine the end of each arm 12 forming the lapped joint.

To provide suitable bases for the arms 12 between the ends of the joint rails 21 and the body portions 9 of the castings 8, I provide such portions of the arms 12 with base flanges 26 extending outwardly from the bottoms of their side walls 15, as shown.

I not only form the connecting arms 12 hollow but I also form the body portions 9 and the arms 10 and 11 of each casting 8 hollow and form suitable stiffening ribs 27 and 28 connecting the side walls thereof.

I claim—

1. In a railroad crossing, two manganese steel castings each forming a body portion and an arm extending therefrom to the arm of the other body portion, said arms each having a tread wall and a guard wall between which is formed a continuous groove connecting with intersecting grooves formed in each body portion to receive wheel flanges, a rail laterally adjacent the tread walls of

said arms and extending across one side of the joint between said arms, a rail laterally adjacent the guard walls of said arms and extending across the other side of the joint between said arms, and bolts extending through said arms and said rails and securing them together.

2. In a railroad crossing, two body portions each having an arm extending therefrom to the arm of the other body portion, said arms each having a tread wall and a guard wall between which is formed a continuous groove connecting with intersecting grooves formed in each body portion to receive wheel flanges, the adjacent ends of the tread portions of said arms being reduced in width and lapping each other, the reduced ends of said tread portions having adjoining faces parallel to and between the side faces of said tread portions, a rail laterally adjacent the tread walls of said arms and extending across one side of the joint between said arms, a rail laterally adjacent the guard walls of said arms and extending across the other side of the joint between said arms and said rails and bolts extending through said arms and said rails and securing them together.

3. In a railroad crossing, two body portions each having an arm extending therefrom to the arm of the other body portion, said arms each having a tread wall and a guard wall between which is formed a continuous groove connecting with intersecting grooves formed in each body portion to receive wheel flanges, the adjacent ends of the tread portions of said arms being reduced in width and lapping each other, the reduced ends of said arms having adjoining faces parallel to and between the side faces of said tread portions, a rail engaged with said arms and extending across the joint between them, and means for securing said arms and said rail together.

4. In a railroad crossing, two body portions each having an arm extending therefrom to the arm of the other body portion, each arm comprising side walls and a top wall connecting the side walls and providing a tread portion and a guard portion between which is formed a continuous groove connecting with intersecting grooves formed in each body portion to receive wheel flanges, a rail laterally adjacent said arms and extending across the joint between them, said rail having a head, a vertical web and a base, said arms extending into the space between said head and said base, and bolts extending transversely through said arms and said rail and securing them together.

5. In a railroad crossing, two body portions each having an arm extending therefrom to the arm of the other body portion, each arm comprising side walls and a top wall connecting the side walls and providing

a tread portion and a guard portion between which is formed a continuous groove connecting intersecting grooves formed in each body portion to receive wheel flanges, each arm having a web extending between its side walls and lapping the web of the other arm, and means for securing said arms together, said means including a bolt extending through the lapping portions of said webs.

6. In a railroad crossing, two body portions each having an arm extending therefrom to the arm of the other body portion, each arm comprising side walls and a top wall connecting the side walls and providing a tread portion and a guard portion between which is formed a continuous groove connecting with intersecting grooves formed in each body portion to receive wheel flanges, each arm having a web extending between its side walls and lapping the web of the other arm, the adjacent ends of the tread portions of said arms being reduced in width and lapping each other, the reduced ends of said tread portions having adjoining faces parallel to and between the side faces of said tread portions, the adjacent faces of

the lapping ends of said tread portions being flush with and forming continuations of the adjacent faces of said webs, and means for securing said arms together.

7. In a railroad crossing, two body portions each having a hollow arm extending therefrom to the arm of the other body portion, each arm having an expanded end portion adjacent the expanded end portion of the other arm, and means for securing the expanded portions of said arms together.

8. In a railroad crossing, two body portions each having a hollow arm extending therefrom to the arm of the other body portion, each arm having an expanded end portion adjacent the expanded end portion of the other arm, rails laterally adjacent the expanded portions of said arms and extending across the joint between them, and bolts extending transversely through said arms and said rails and securing them together.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. ALDEN.

Witnesses:

G. S. VICKERY,

WM. M. HENDERSON.