

No. 662,017.

Patented Nov. 20, 1900.

H. O'SHEA.
TRACK STRUCTURE.

(Application filed Dec. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.

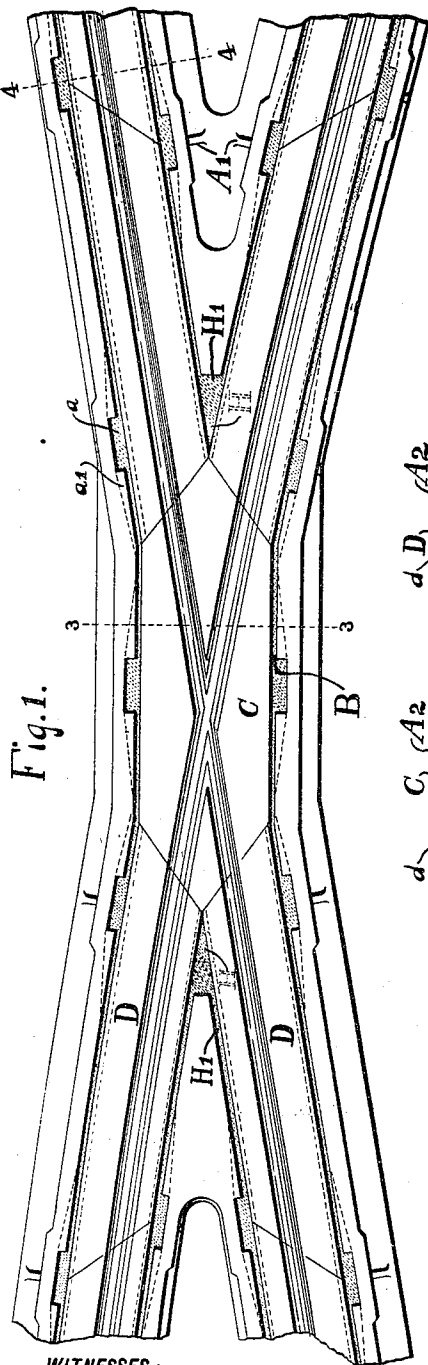


Fig. 1.

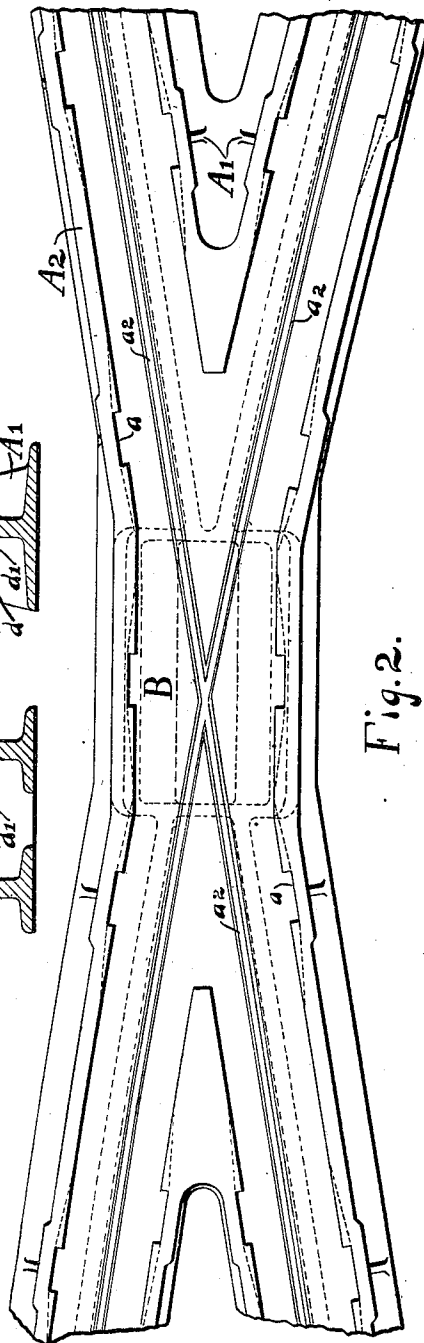


Fig. 2.

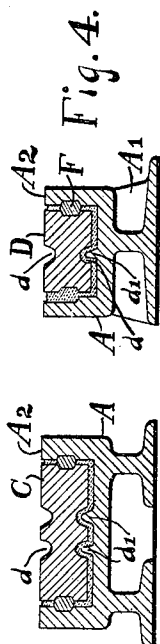


Fig. 3.

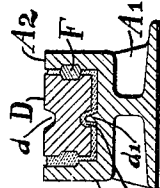


Fig. 4.

WITNESSES:

G. M. Powell.
M. E. Sharpe.

INVENTOR

Henry O'Shea
BY
Geo. H. Parmelee
his ATTORNEY.

No. 662,017.

Patented Nov. 20, 1900.

H. O'SHEA.
TRACK STRUCTURE.

(Application filed Dec. 28, 1899.)

(No Model.)

2 Sheets—Sheet 2.

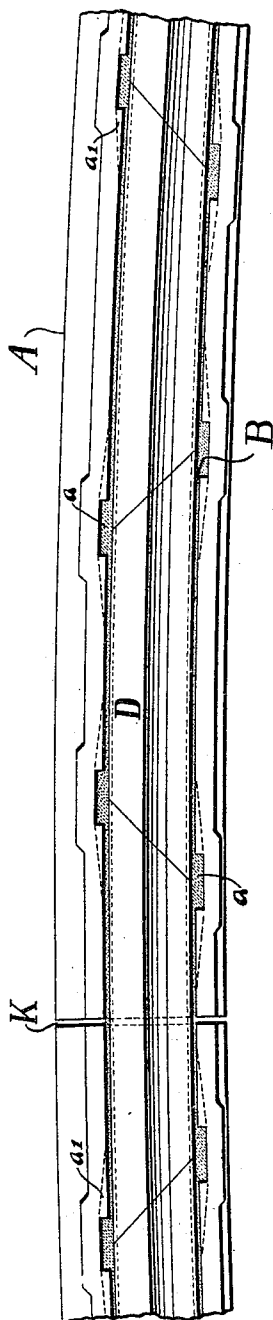


Fig. 5.

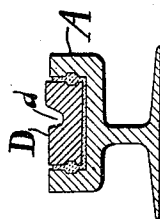


Fig. 6.

WITNESSES:

G. M. Powell.
M. E. Sharpe.

INVENTOR

Henry O'Shea

BY

Geo. H. Parmelee,

his ATTORNEY.

UNITED STATES PATENT OFFICE.

HENRY O'SHEA, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE
LORAIN STEEL COMPANY, OF PENNSYLVANIA.

TRACK STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 662,017, dated November 20, 1900.

Application filed December 28, 1899. Serial No. 741,808. (No model.)

To all whom it may concern:

Be it known that I, HENRY O'SHEA, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Track Structures, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to certain new and useful improvements in railway-track construction, and more especially to those portions of such tracks which are subject to greatest wear, such as curves, frogs, crossings, &c.

The object of my invention is to provide a track structure which is strong and durable and in which the rail-tread or wheel-bearing members are so constructed and arranged that when badly worn they may be removed and replaced or reversed without disturbing the track-bed or the adjacent pavement.

With this object in view my invention consists in a track structure of the novel construction hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a frog or crossing embodying my invention. Fig. 2 is a similar view with the wheel-bearing or tread members removed; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, a section on the line 4 4 of Fig. 1; Fig. 5, a plan view of a portion of a curve embodying my invention; and Fig. 6, a view similar to Fig. 4, but showing a non-reversible wheel-bearing or tread member.

The frog or cross (shown in Figs. 1, 2, 3, and 4) consists of a body or supporting member A, preferably of cast-iron and comprising a central portion and wing portions branching therefrom, as shown. In the central portion is formed a pocket B, which is designed to seat a reversible wear or intersection plate C, which is preferably of the character described and claimed in my pending application, Serial No. 736,134, filed November 7, 1899—that is to say, a plate of hardened steel of similar construction upon both faces and symmetrical with respect to its longitudinal axis, so that it may be used with either side uppermost. The branching portions of the struc-

ture are formed with web and foot portions A', (see Fig. 4,) similar in cross-section to the corresponding portions of an ordinary rail, to which the structure may be connected by means of ordinary splice-bar joints, and with open-top box-like or pocket upper portions A².

D represents the tread or wheel-bearing members, which are seated in the portions A². These members D are rectangular in cross-section and preferably have wheel grooves or flangeways *d* in both upper and lower faces, so that when worn upon one side they may be turned end for end with the other side up and used on that side. The said members are made in sections, as shown, with oblique meeting ends, so that a car-wheel will bear in part on one section before it wholly leaves a preceding section, both ends of each section being cut at the same angle, so that the sections may be used interchangeably and reversibly. The sections are somewhat narrower than the distance between the side flanges of the boxes A², and the latter are formed at intervals with side recesses *a* and key-seats *a'*, extending in opposite directions from said recesses. The sections D have corresponding key-seats *d'*. Keys F are entered at these recesses and are driven in opposite directions into said key-seats. Melted zinc or some other soft retaining material is then poured around said wedges, filling the spaces between the sections D and the sides of the box A². The bottom wall of the box or pocket is also depressed at these points to permit retaining material to flow underneath the said sections. When the latter are made reversible, as is preferred, the key-seats *d'* must be equidistant from their upper and lower surfaces. I also provide on the bottom of the box a longitudinal rib *a*², which extends up into the wheel-groove on the under side of the sections, and thus centers said sections in case the keys should work loose. In the angles of the frog I drive wedges H, which engage the sides of the sections D through cut-away portions of the side walls of the boxes. Behind these wedges retaining material is poured, as indicated at H'. The ends of the inner sections D make a neat fit with the reversible center plate, and their gage-lines respectively aline with the gage-lines of

said plate. By cutting out the retaining material and removing the keys any section D can be removed from its seat or pocket and replaced by a new section or reversed.

5 In this manner a practically new frog may be provided at a small cost without disturbing the road-bed or the adjacent pavement.

In Fig. 6 I have shown a section D as having a wheel-groove in one side only and designed when worn to be removed and replaced by a new section. Instead of casting the body of the structure all in one piece it is obvious that the central portion and the branches may be separately cast and united
15 by suitable joints.

The curve (shown in Fig. 5) is of similar construction to the frog—that is to say, it consists of a supporting member having a box-like seat for the tread-sections D. The latter
20 are curved to correspond to the curvature of the track and are so arranged that their joints overlap or break with the joints in the supporting member, as indicated by the dotted lines in Fig. 5, where K designates the joints
25 between the sections of the supporting member of the structure.

The invention may be readily applied to other track structures, such as right-angle crossings, switch-mates, &c.

30 I do not wish to limit myself to the details of construction and arrangement which I have herein shown and described, as these may be changed without affecting my invention.

Having thus described my invention, what
35 I claim, and desire to protect by Letters Patent, is—

1. In a track structure, the combination with a body or supporting member having an open box-like upper portion, of a wheel-bearing or tread member removably seated therein and formed in sections having oblique ends, substantially as described.

2. In a track structure, the combination with a body or supporting member having an open box-like upper portion, of a wheel-bearing or tread member removably seated therein and formed in reversible sections, substantially as described.

3. In a track structure, the combination
50 with a body or supporting member having an open box-like upper portion, of a wheel-bearing or tread member removably secured therein and formed of sections having oblique ends and a wheel-groove in both their upper and
55 lower surfaces, substantially as described.

4. In a track structure, the combination

with a body or supporting member having an open box-like upper portion formed with a rib or projection on its bottom wall, and a wheel-bearing or tread member removably secured
60 in said box-like portion and having a wheel-groove in both its upper and lower surfaces, the groove in its lower face fitting over said rib or projection, substantially as described.

5. In a track structure, the combination
65 with a body or supporting member having an open box-like upper portion, formed with side recesses at intervals with key-seats communicating with said recesses, and a depressed bottom wall adjacent to said recesses, of a wheel-bearing or tread member formed in separately-removable sections seated in said box-like upper portion, keys in said seats and engaging the tread member, and soft retaining material between said member and the walls of the
70 box-like portion, substantially as described.

6. A railway-track structure consisting of a body-casting formed with a central portion having a pocket therein and arms or branches having box-like seats therein communicating
80 with the said pocket, a wear or intersection plate seated in said pocket, and removable wheel-bearing or tread members in said seats and having gage-lines which aline with those of the said plate.

7. A railway-track structure consisting of a body-casting formed with a central portion having a pocket therein, and arms or branches having box-like seats therein communicating
90 with the said pocket, a wear or intersection plate reversibly seated in said pocket, and reversible wheel-bearing or tread members in said box-like seats having gage-lines in alignment with those of said plate, substantially
95 as described.

8. A railway-track structure, consisting of a body-casting having a central portion formed with a pocket therein, and arms or branches having box-like seats therein which communicate with the said pocket, a wear or intersection
100 plate removably secured in said pocket, rail-bearing or tread members removably secured in said seats, and wedges driven in the angles between adjacent arms or branches and engaging the edges of the wheel-bearing
105 or tread members, substantially as described.

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

HENRY O'SHEA.

Witnesses:

MYRTLE E. SHARPE,
H. W. SMITH.