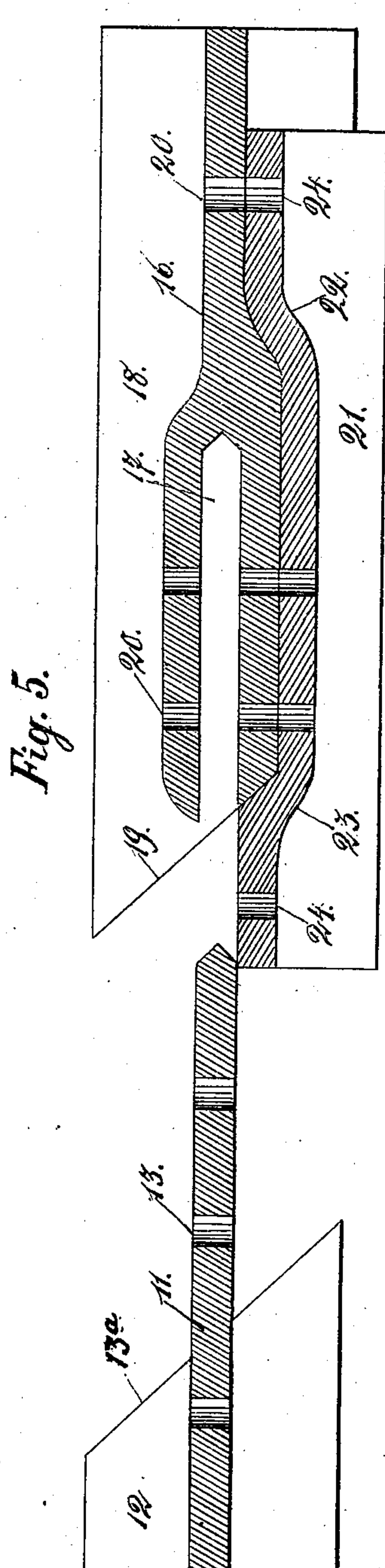
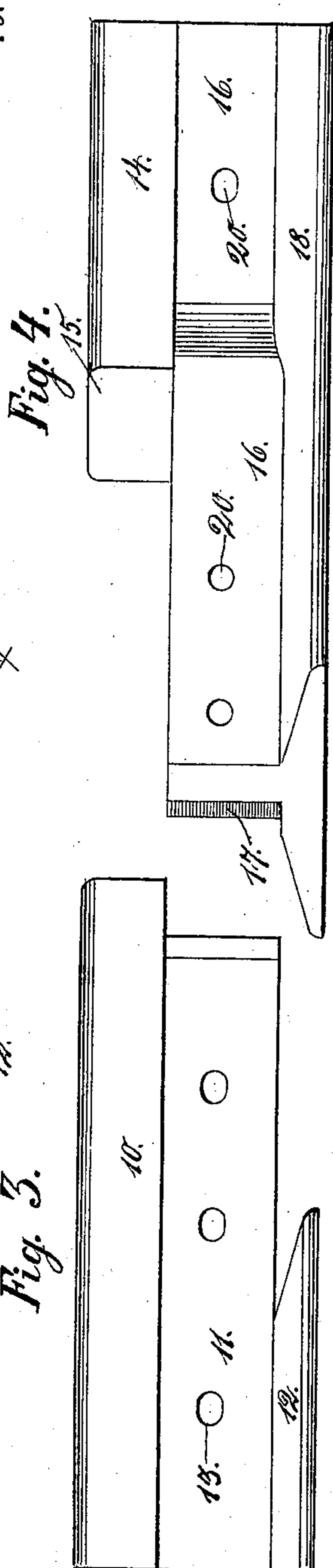
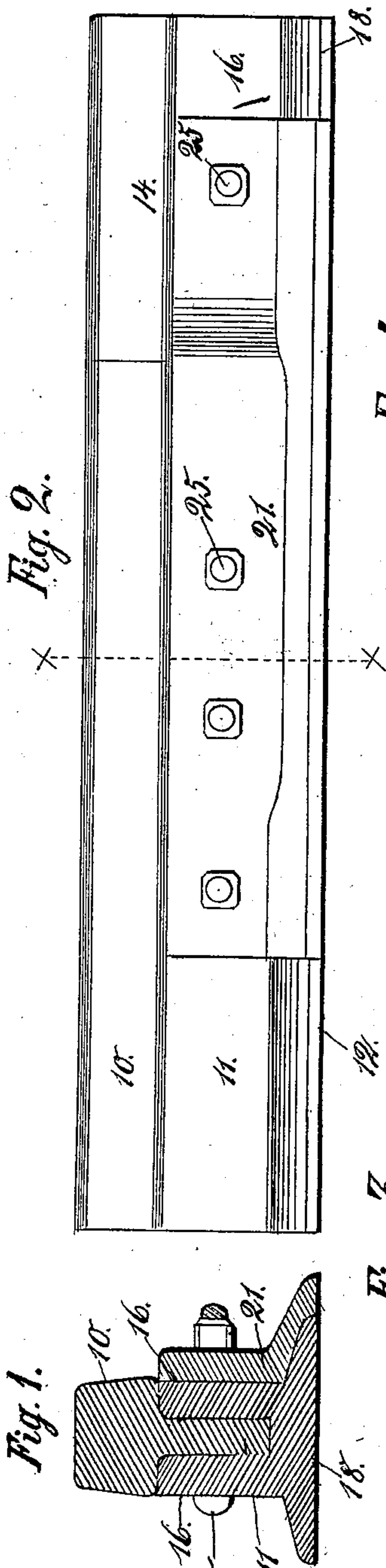


No. 688,430.

Patented Dec. 10, 1901.

E. M. McCLEARY.
RAILWAY RAIL JOINT.
(Application filed Apr. 8, 1901.)

(No Model.)



Witnesses.
L. H. Owing
Henry Mangier.

Inventor Edgar M. McCleary
by Owing & Lane Attorneys.

UNITED STATES PATENT OFFICE.

EDGAR MILTON McCLEARY, OF BOONEVILLE, IOWA.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 688,430, dated December 10, 1901.

Application filed April 8, 1901. Serial No. 54,841. (No model.)

To all whom it may concern:

Be it known that I, EDGAR MILTON McCLEARY, a citizen of the United States, residing at Booneville, in the county of Dallas and State of Iowa, have invented certain new and useful Improvements in Railway-Rail Joints, of which the following is a specification.

The object of my invention is to provide a railway-rail joint of simple, durable, and inexpensive construction in which the abutting rails are firmly held against lateral movement relative to each other even though the bolts for connecting the rails are loosened.

A further object is to provide a joint of this class in which the heads of the abutting rails are cut diagonally and at the point where the heads of two abutting rails meet. The web of the rail upon which the said heads rest is of substantially the same width as the heads themselves, thus preventing the possibility of the sides of the head being broken down by the weight of a train of cars passing over the rails.

A further object is to provide a joint of this class in which only one fish-plate on the outer surface of the rails is necessary.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical transverse sectional view taken on the indicated line $x x$ of Fig. 2. Fig. 2 shows in elevation the abutting ends of two rails provided with my improved joint. Fig. 3 shows in side elevation the end of one of the rails. Fig. 4 shows a like view of a second rail designed to coact with the rail shown in Fig. 3 in producing a rail-joint, and Fig. 5 shows a horizontal sectional view of two abutting rails placed in position adjacent to each other and with the fish-plate at the side of one of the rails.

Referring to the accompanying drawings, I shall first describe the end of the rail illustrated in Fig. 3. The reference-numeral 10 is used to indicate the head of the rail and its end is cut off diagonally. The web of the rail indicated by the reference-numeral 11 is of the ordinary size and shape and termi-

nates directly beneath the head of the rail. The flange of the rail indicated by the reference-numeral 12 is of usual shape and is cut off diagonally at 13 a considerable distance in the rear of the end of the web. In the web 11 are the bolt-openings 13.

The mating rail end (illustrated in Fig. 4) comprises the head 14, cut off diagonally at 15, and the web 16, which differs from the ordinary in that at a point under the head of the rail the web is widened, so that its sides are flush with the sides of the head of the rail, and the web projects some distance beyond the head of the rail and is of the same width to the end. In the widened portion of the web is a vertical longitudinal slot 17, open at the end of the web. A flange-rail (indicated by the reference-numeral 18) is cut off diagonally at 19 directly under the end of the web. The said web is provided with bolt-openings 20. These parts are so arranged that when the abutting ends of the rail-heads will engage and the heads 10 will rest upon the web 16 at the point where it is widened to be flush with the sides of the head. Therefore the head 10 will rest upon a support as broad and firm as itself, and obviously no amount of pounding by the wheels of the train passing over the joint can cause the small end of the beveled portion of the head to be broken down because of the firm base upon which it rests. In devices of this class heretofore having diagonal ends and where the narrow edge of the end had no firm support upon which to rest it is obvious that the said narrow end could be easily broken down by impact of the wheels of a train. Furthermore, the web 11 passes into the slot 17 of the web 16, and thus obviously prevents lateral movements relative to each other. The lower edge of the web 11 rests upon the top of the flange 18, and hence has a firm and solid support.

The fish-plate (indicated by the reference-numeral 21) is of substantially the ordinary shape, except that it is curved at 22 and 23 to conform to the outwardly-bulged web of the rail and is provided with bolt-holes 24.

Assuming that the abutting ends of two rails constructed as above described are brought together, a fish-plate 21 is placed on

the outer surface of the abutting ends of the rails and the bolts 25 are passed through the bolt-holes, the heads of the bolts preferably being on the inside of the rail, so as to leave
5 a comparatively smooth surface on the inside. Obviously the abutting rails will be secured against lateral movement by the web 11 entering the slot 17 of the web 16 and also by the fish-plate 21. Furthermore, the end of
10 the head 10 cannot be bent downwardly by any amount of pounding by car-wheels or the like, because it rests firmly upon the enlarged portion of the web 16, and inasmuch as the end of one rail rests in or on top of the flange
15 of the other rail the rails are not liable to stand in different planes, as they do when the abutting ends are placed on other supports.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. An improved railway-rail joint, comprising in combination, a rail-head 10, cut off diagonally, a web 11 and a flange 12 cut off diagonally at some distance from the end of the
25 web and a rail comprising the head 14, cut off diagonally, the web 16 having its transverse dimension under the end of the head substantially the same as the transverse di-

mension of the head, and said web being projected some distance beyond the head and
30 provided with a vertical, longitudinal slot, and a flange under the web, cut off diagonally at the end of the web, and means for clamping these abutting ends together.

2. An improved railway-rail joint, comprising in combination, a head 10, cut off diagonally, a web 11, and a flange 12 cut off diagonally some distance from the end of the web, an abutting rail, comprising the head 14 cut off diagonally the web 16, the transverse di-
40 mension of which under the cut-off end of the head is substantially the same as the transverse dimension of the head, and said web projecting a considerable distance beyond the end of the head, said web having a vertical,
45 longitudinal slot, designed to receive the web 11, and a flange 18, cut off diagonally directly beneath the end of the web 16, and a plate 21, shaped to fit the contour of the web 16, and to lie parallel at its ends with the
50 webs 16 and 11, substantially as and for the purposes stated.

EDGAR MILTON McCLEARY.

Witnesses:

F. W. KRUSE, Jr.,
CHAS. C. COOK.