

No. 817,325.

PATENTED APR. 10, 1906.

J. JOYNSON.
RAIL CHAIR AND JOINT COMBINED.
APPLICATION FILED JULY 31, 1906.

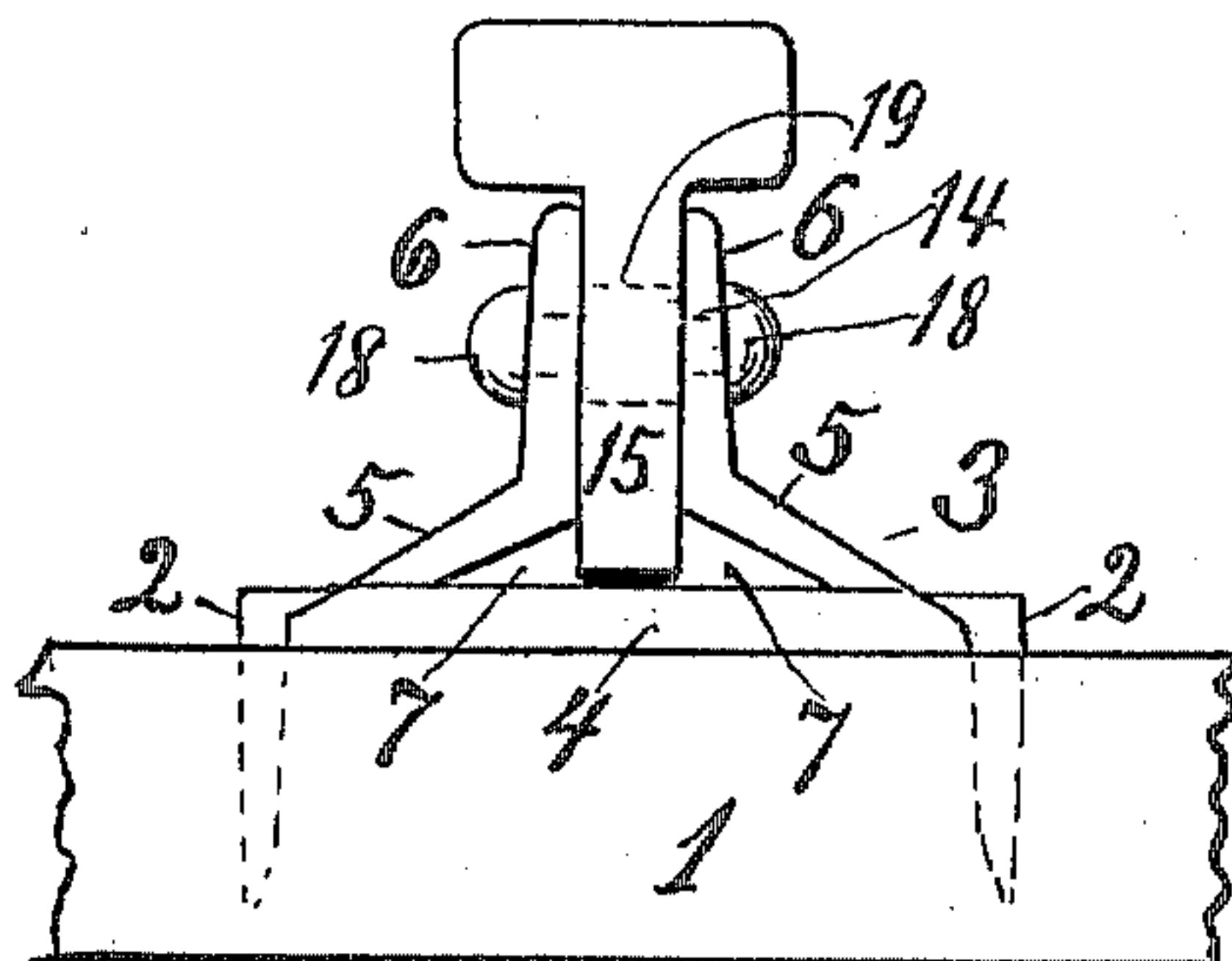


FIG. 1.

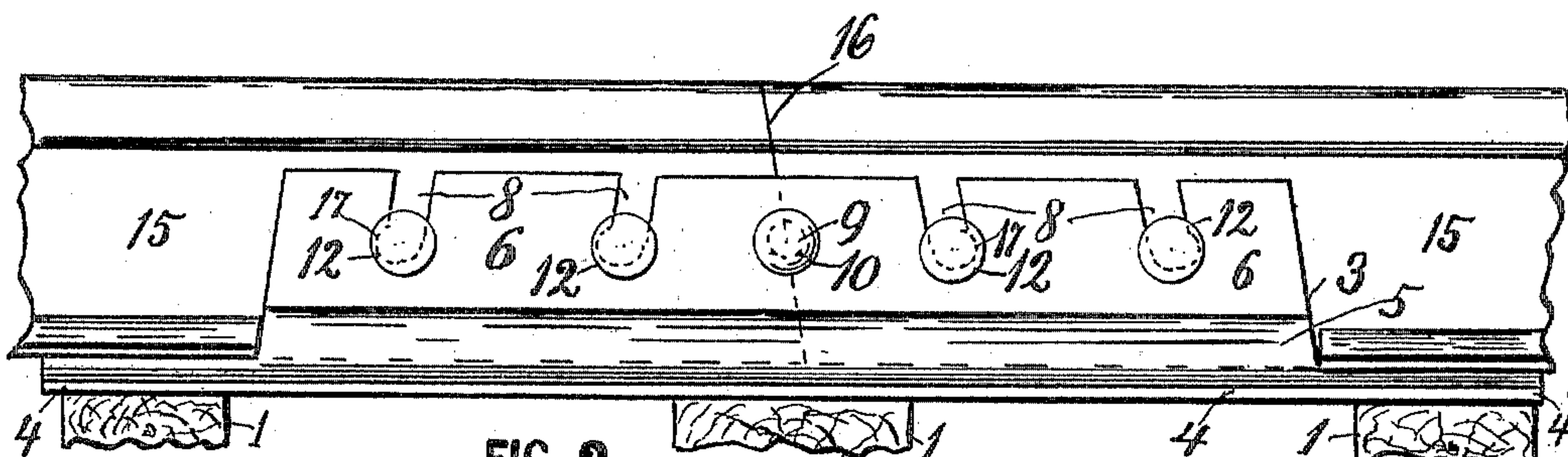


FIG. 2.

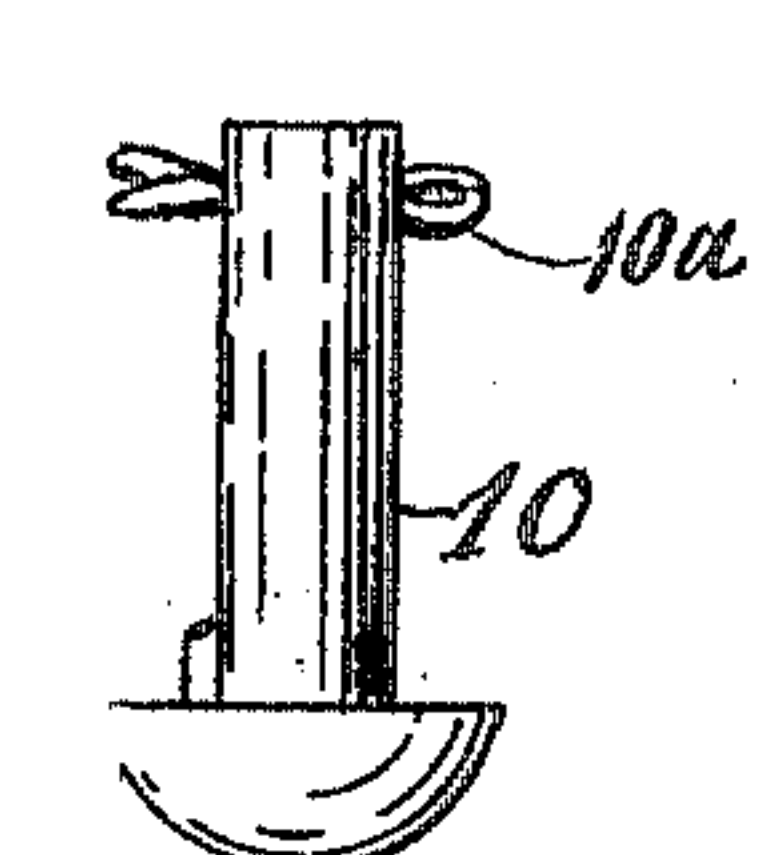


FIG. 5.

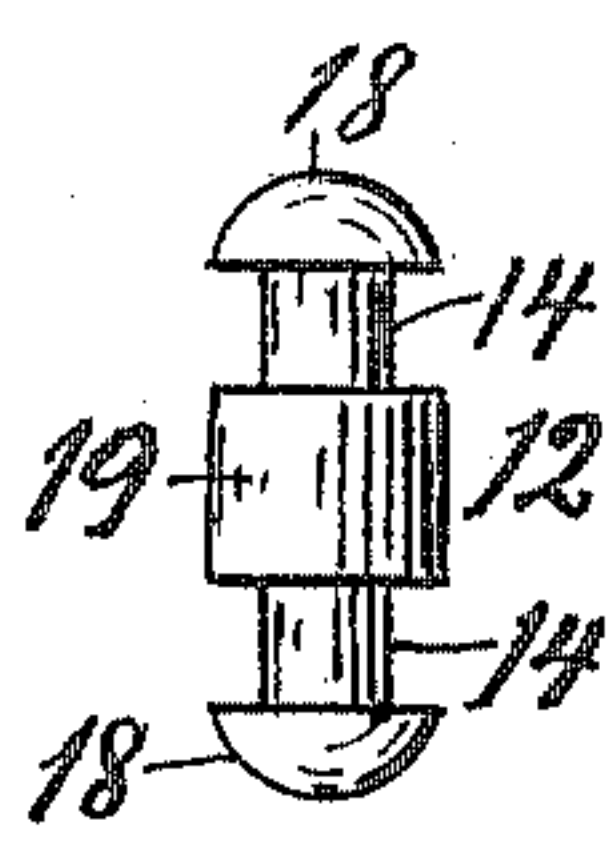


FIG. 6.

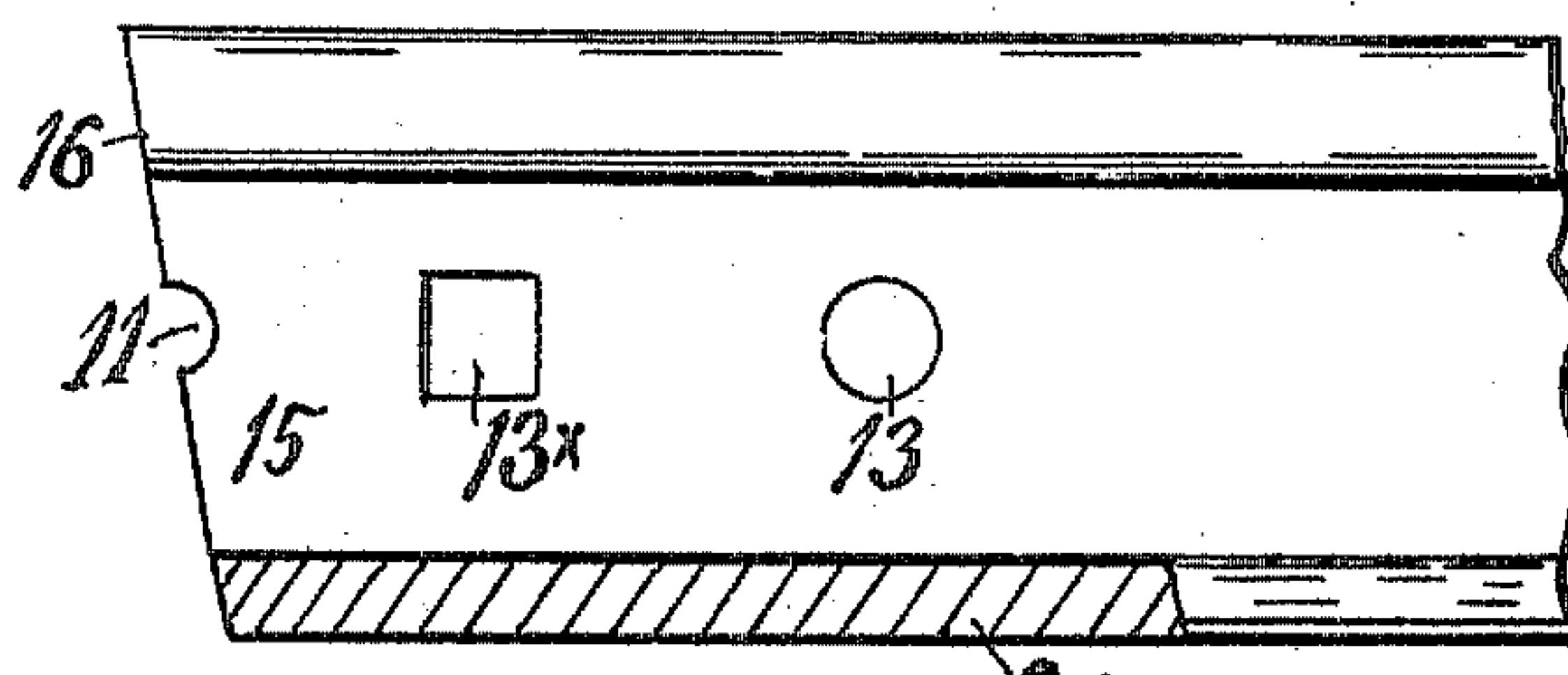


FIG. 3.

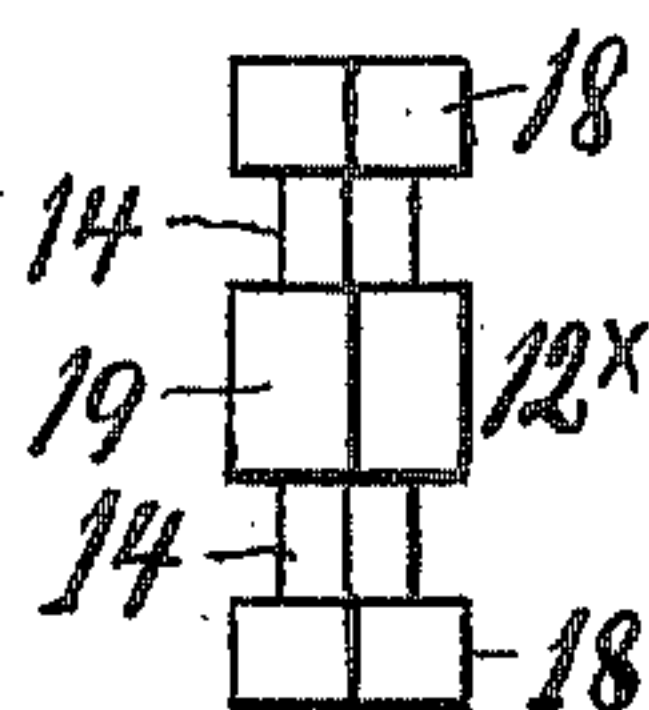


FIG. 7.

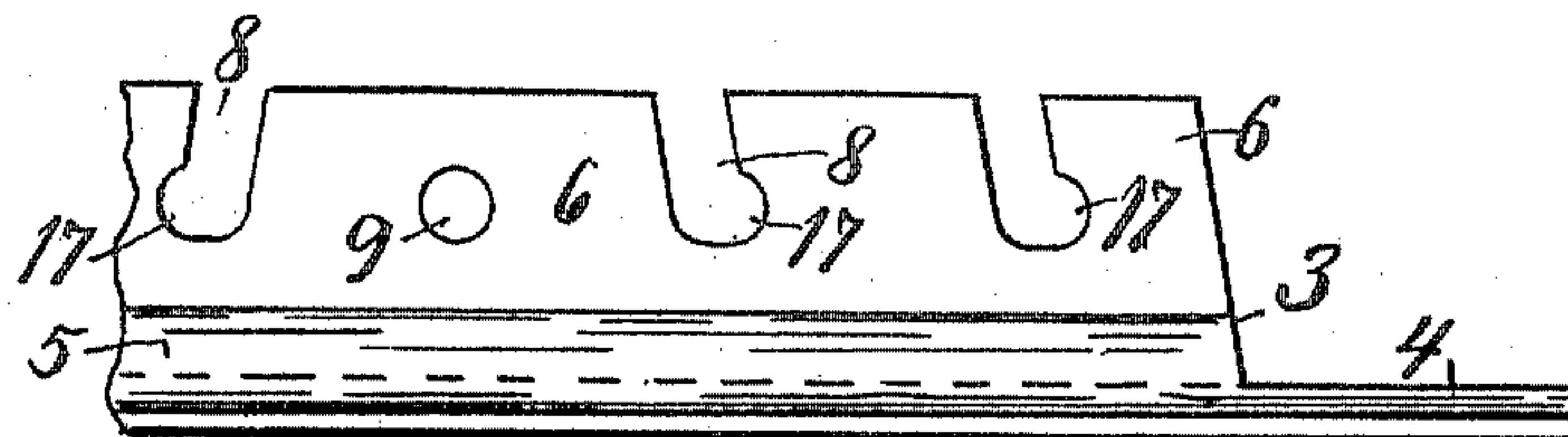


FIG. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE

JOSEPH JOYNSON, OF ROCK SPRINGS, WYOMING.

RAIL CHAIR AND JOINT COMBINED.

No. 817,325.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed July 31, 1905. Serial No. 272,015.

To all whom it may concern:

Be it known that I, JOSEPH JOYNSON, a citizen of the United States, residing at Rock Springs, in the county of Sweetwater and State of Wyoming, have invented certain new and useful Improvements in a Rail Chair and Joint Combined; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to railway chairs and joints, and the object is to provide an improved combined rail joint and chair of an efficient, safe, and durable construction. This and other objects I attain by the novel construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of a rail secured upon a tie with my rail-chair. Fig. 2 is a side elevation of two adjoining rails secured together by my invention. Fig. 3 is a side elevation of the end of the rail above it in Fig. 2. Fig. 4 is a side elevation of a portion of the rail-chair only. Fig. 5 is a detail view of the locking-bolt used in the middle of the rail-joint. Fig. 6 is a detail view of lockers used in place of bolts in the device. Fig. 7 is a modification of Fig. 6.

Referring to the drawings by reference-numerals, 1 designates ties upon which is secured by spikes 2 the rail-chair 3, which is formed integral and consists of a base-plate 4, adapted to be secured upon the ties, inclined flanges 5, adapted to grip over the foot-flanges of a common rail, and projecting upward from said flanges 5 vertical flanges 6, adapted to receive between them the vertical web 15 of any rail, whether it has any base-flanges or not.

In my invention the base-flanges are supposed to be cut away as far as the rails go in between the flanges 6; but in case such a rail has to be joined to a rail having flanges the latter may simply be pushed into the opening 7 and bolted in the usual manner, using the notches 8 for bolt-holes.

As already mentioned, the flanges 6 are provided with notches 8, which incline at the top toward the middle of the chair, where the flanges have the central hole 9 for a single bolt or pin 10, which engages in notches 11 in

the very end of the web of the rail. Said bolt is inserted as a locking-bolt to prevent rising of the rail, while in longitudinal direction the webs are secured by having lockers 60 or nutless bolts 12 inserted in the holes 13 in the web and engaging with their necks 14 in the notches 8. Into this position the rails are dropped before the bolt 10 is inserted and secured by the cotter-pin 10^a.

To facilitate the placing of the rails downward into the chair and to give the rails a slight longitudinal play when they contract and expand, the adjacent ends of the rails are beveled at 16 and the notches 8 are near 70 their bottom enlarged toward the end of the chair they are nearest, as can be clearly seen at 17 in Fig. 4.

The lockers 12 may be cylindrical, as in Fig. 6, or four-cornered, as in Fig. 7, or hexagonal, octagonal, &c., and the holes 13 in the web 15 may be made accordingly, as indicated by round hole 13 and the square hole 13^x in Fig. 3. In either case the principle is to have the locker thick enough at the middle 80 to practically fill the hole in the web and then reduced so as to drop into the notches 8, and finally to provide the lockers with heads 18, which help to clamp the two flanges 6 together, so that they will both unite in resisting side pressure to the rail.

The enlargement 19 at the middle of the locker serves to fill the hole in the web through which the head 18 had to pass, and where said head or heads may be omitted or 90 get broken off, the enlargement 19 will also serve to prevent lateral displacement of the locker.

It will be observed that the base-plate of the chair extends for some distance beyond 95 the flanges 6, so as to support the rail upon ties at a point where the base-flange is not cut away, as it is at 20 in Fig. 3.

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

1. A rail-chair comprising an elongated plate securable upon the ties of the road-bed and having the inclined flanges 5 and the vertical flanges 6 extending upwardly therefrom, 105 said flanges 6 having the notches 8 inclining at the top toward the middle of the flange.

2. A rail-chair comprising an elongated plate securable upon the ties of the road-bed and having the inclined flanges 5 and the vertical flanges 6 extending upwardly therefrom, 110 said flanges 6 having the notches 8 inclining

at the top toward the middle of the flange and being enlarged at the bottom.

3. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having near their ends the base-flanges cut away and in their webs holes corresponding with the said notches, notches in the ends of the webs, nutless bolts or locking members inserted in the holes in the webs and reduced at both sides of the web so as to admit them downward into the notches, and a locking-bolt through the middle of the flanges and through the notches in the adjacent ends of the webs of the rails.

4. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having near their ends the base-flanges cut away and in their webs holes corresponding with the said notches, notches in the ends of the webs, nutless bolts or locking members inserted in the holes in the webs and reduced at both sides of the web so as to admit them downward into the notches, and a locking-bolt through the middle of the flanges and through the notches in the adjacent ends of the webs of the rails, said locking members having heads taking outside the notched flanges.

5. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having near their ends the base-flanges cut away and in their webs holes corresponding with the said notches, notches in the ends of the webs, nutless bolts or locking members inserted in the holes in the webs and reduced at both sides of the web so as to admit them downward into the notches and a locking-bolt through the middle of the flanges and through the notches in the adjacent ends of the webs of the rails, said locking members having heads taking outside the notched flanges, and said notches in the vertical flanges being enlarged at the bottom and inclined at the top toward the middle of the chair.

6. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having near their ends the base-flanges cut away and in their webs holes corresponding with the said notches, notches in the ends of the webs, nutless bolts or locking members inserted in the holes in the webs and reduced at both sides of the web so as to admit them downward into the notches, and a locking-

bolt through the middle of the flanges and through the notches in the adjacent ends of the webs of the rails, said locking members having heads taking outside the notched flanges, and said notches in the vertical flanges being enlarged at the bottom and inclined at the top toward the middle of the chair, the ends of said rails being inclined or beveled substantially as and for the purpose set forth.

7. A rail-chair comprising an elongated plate securable upon the ties of the road-bed and having the inclined flanges 5 and the vertical flanges 6 extending upwardly therefrom, said flanges 6 having the notches 8 inclining at the top toward the middle of the flange, said plate being extended in length beyond the flanges for the purpose set forth.

8. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having adjacent their ends the foot-flanges cut away and in their webs transversely-inserted members adapted to engage in said notches, and suitable means for keeping the web down between said flanges.

9. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having adjacent their ends the foot-flanges cut away and in their webs transversely-inserted members adapted to engage in said notches, and suitable means for keeping the web down between said flanges, said chair also having the spaces 7 for the base-flanges of rails having such flanges, substantially as and for the purpose set forth.

10. The combination with a rail-chair having vertical parallel flanges with notches therein, of rails having adjacent their ends the foot-flanges cut away and in their webs transversely-inserted members adapted to engage in said notches, and suitable means for keeping the web down between said flanges, said means consisting of a bolt through the flanges engaging notches in the ends of the rails and a cotter-pin transversely through said bolt to keep it in place.

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

JOSEPH JOYNSON.

Witnesses:

C. A. MACMILLAN,
GEO. W. ACE.