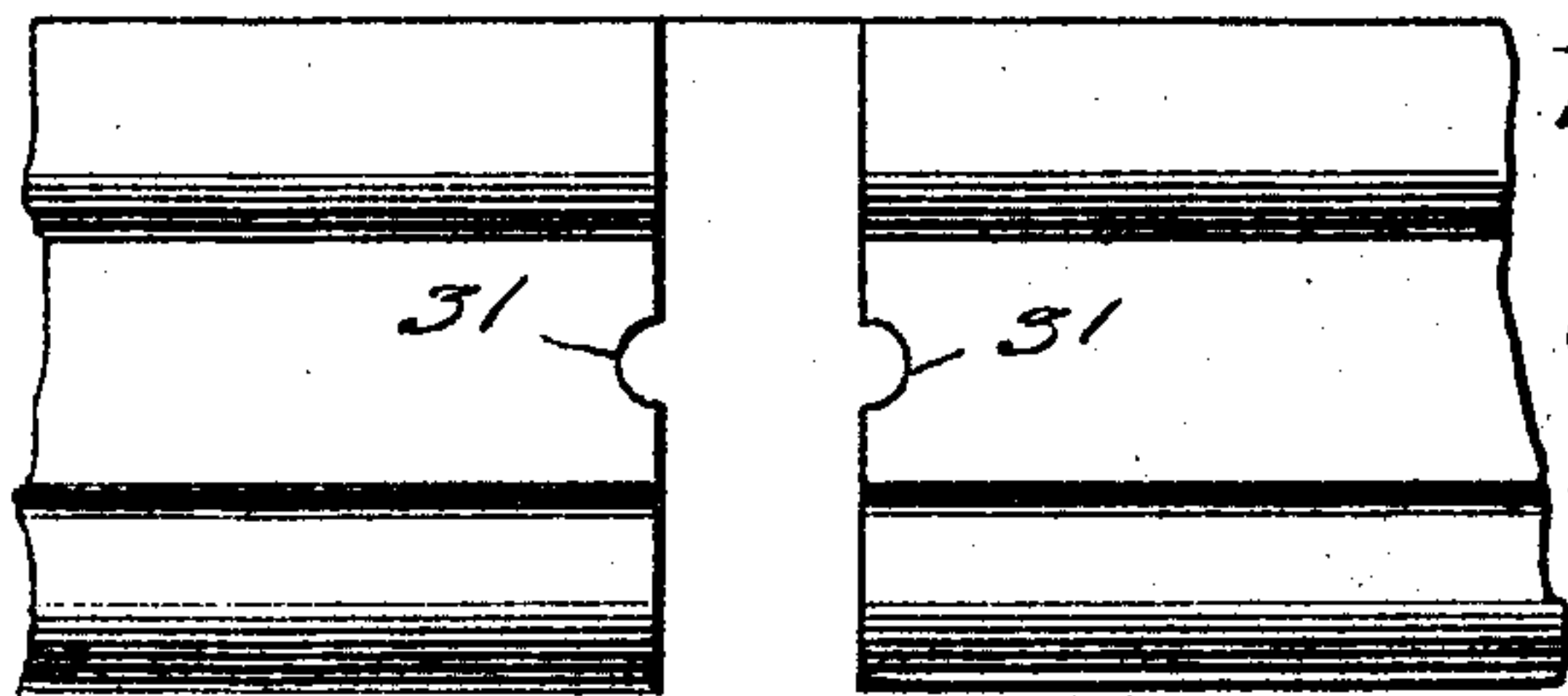
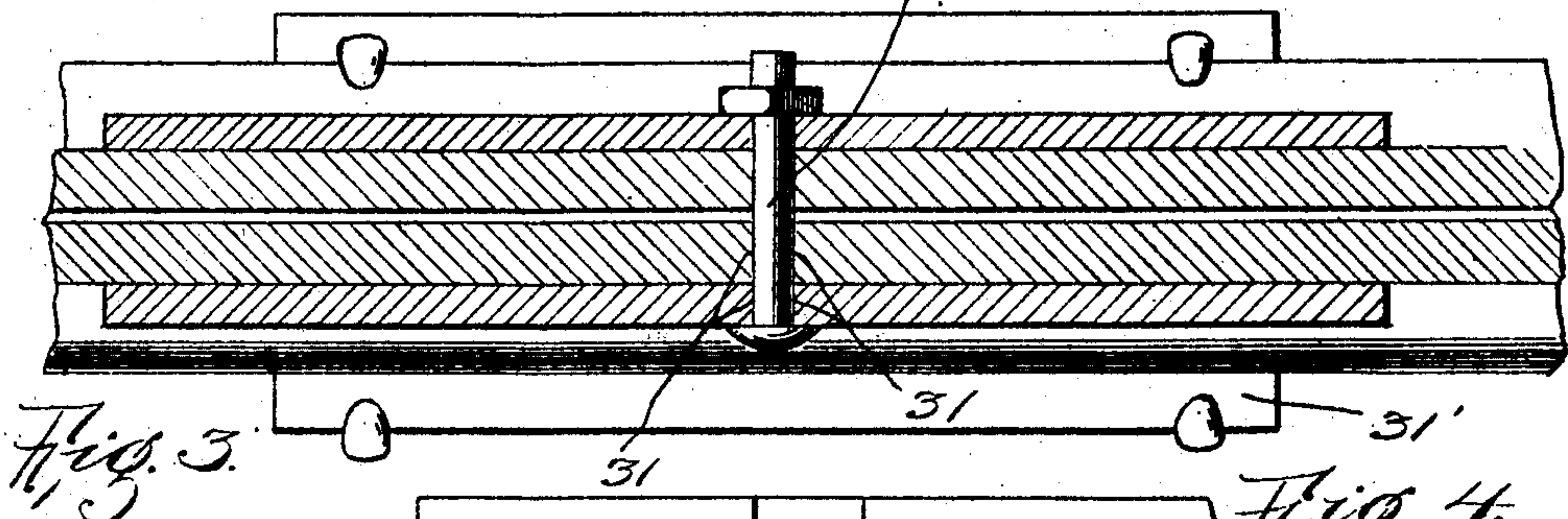
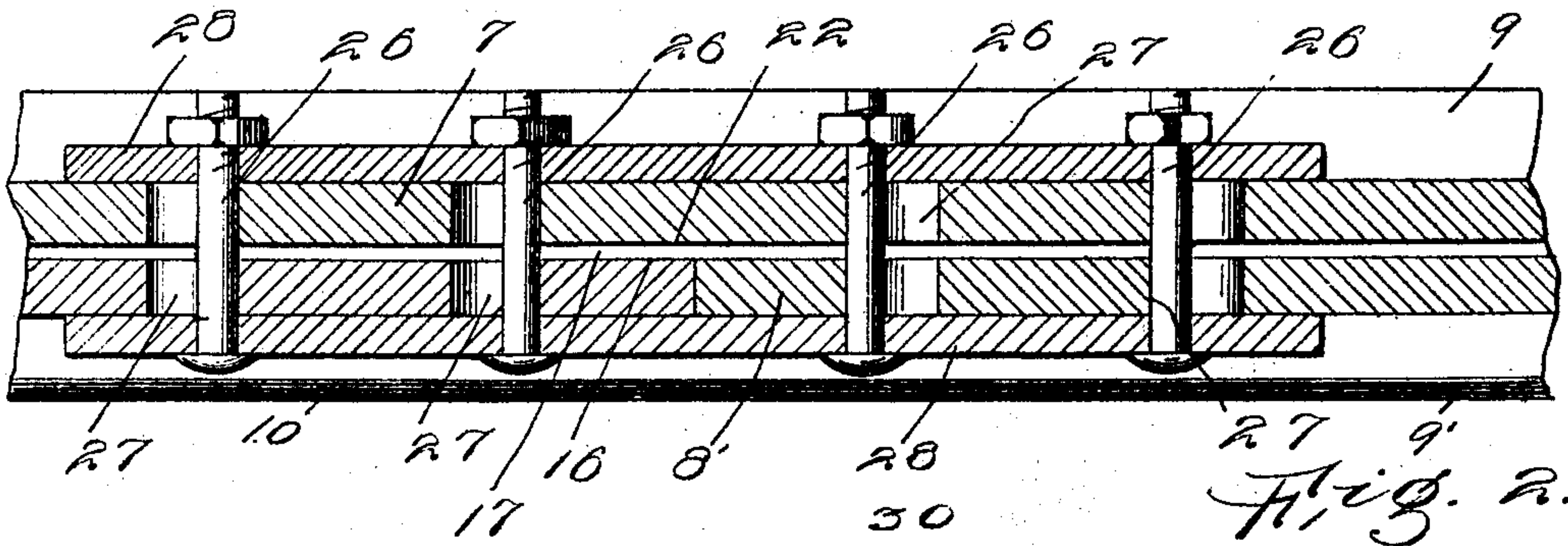
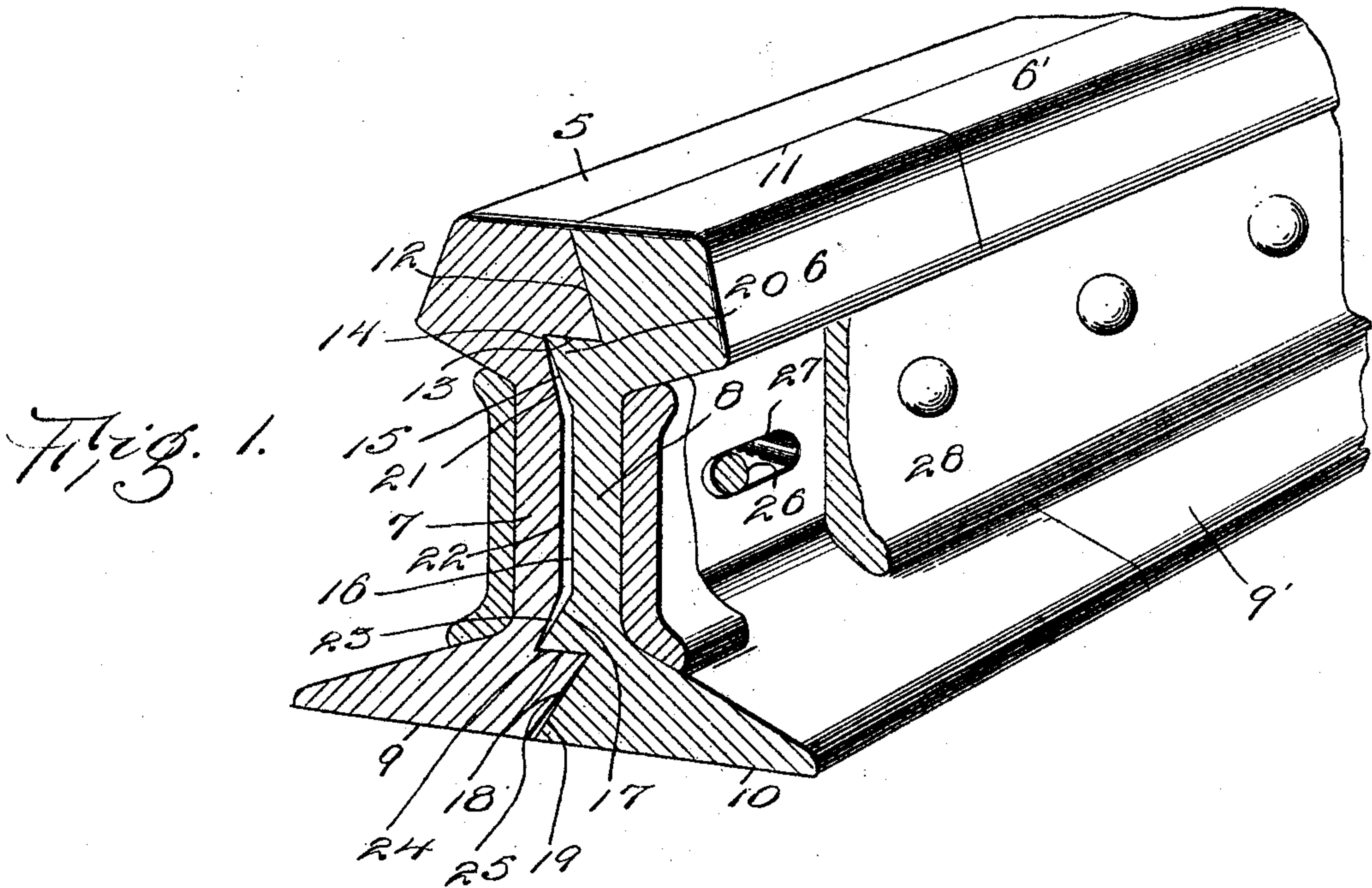


No. 795,748.

PATENTED JULY 25, 1905.

C. F. WOLLENBERG.
RAILROAD RAIL.

APPLICATION FILED OCT. 19, 1904.



Witnesses
Amos J. Baldwin
H. H. Baldwin

Inventor
C. F. Wollenberg
Charles Chandler
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES F. WOLLENBERG, OF GRAND RAPIDS, MINNESOTA.

RAILROAD-RAIL.

No. 795,748.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed October 19, 1904. Serial No. 229,137.

To all whom it may concern.

Be it known that I, CHARLES F. WOLLENBERG, a citizen of the United States, residing at Grand Rapids, in the county of Itasca, State of Minnesota, have invented certain new and useful Improvements in Railroad-Rails; and I do hereby 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.

This invention relates to railway-rails; and it has for its object to provide what may be termed a "composite" rail, for the reason that it is formed of two parts or longitudinal members, which are bolted side by side to form a complete rail.

The object of the invention is to provide a rail wherein the side or longitudinal members may be connected to break joints, so that there will be presented a practically continuous surface to the car-wheels to prevent jarring and noise incident thereto.

A further object of the invention is to provide a construction which will prevent sagging of the rails at the joints, which has better sustaining powers because of its strength in the web, which will permit of economical repairs, which will insure a continuous support in the event of the breakage of a portion of the rail, and in which creeping of the rails will be prevented.

Other objects and advantages of the invention will be understood from the following description.

In the drawings, forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a sectional perspective view showing the abutting end portions of two longitudinal sections of the rail and the overlapping portion of an adjacent longitudinal section with fish-plates in place, a portion of one of the fish-plates being broken away to illustrate the elliptical shapes of the bolt-receiving openings in the web of the rail-sections. Fig. 2 is a longitudinal section through the abutting end portions of rail-sections and an adjacent rail-section. Fig. 3 is a view similar to Fig. 2, showing a modification. Fig. 4 is an elevation of end portions of rails shown in Fig. 3.

Referring now to the drawings, a rail will be described as comprising two sections or longitudinal members, which are assembled side by side and in mutual contact in parts with one end of each member or section projecting beyond an end of the other member or section,

so that the projecting end portion of each member or section will break joints with the abutting ends of the other section of the rail and the alining section of the next rail. Two such sections of a rail and an abutting section of an adjacent rail are illustrated. The first-named sections comprise the ball or tread portions 5 and 6, the web portions 7 and 8, and the flange portions 9 and 10, respectively. The abutting section of the next rail comprises the ball or tread portion 6', the web portion 8', and the flange portion 9'.

The webs or web-sections 7 and 8 of the rail-sections are of the same thickness and the tread-surfaces or upper faces of the tread portions 5 and 6 are of the same width, so that the composite rail is divided at its upper face on the central longitudinal line 11. The inner longitudinal face of the ball portion 6 is cut away to form a diagonal face 12, the upper edge of which touches the line 11, while the lower edge is offset therefrom in the direction of the outer face of the ball 6 and rests upon the horizontal shoulder 13. The shoulder 13 extends outwardly from the face 12 beyond the vertical plane through the line 11, the shoulder lying substantially one-half on each side of this plane. From the outer edge 14 of the shoulder 13 said shoulder is cut under on a diagonal line, resulting in a face 15, which is very nearly parallel to the face 12, the face 15 terminating at the upper edge of the vertical inner face 16 of the web 8. From the lower edge of the face 16 the face of the rail-section extends in the direction of the web 7, as shown at 17, the length of the face 17 being the same as that of the face 15 and being at the same angle to the face 16. At the bottom of the face 17 is the horizontal undercut 18 at the upper edge of the diagonal face 19, which is at an acute angle to the face 18 and terminates at the bottom face of the flange 10. The other longitudinal section of the rail has a triangular bead 20, which fits in the angle of the faces 12 and 13, the angle between the faces 13 and 15 entering the angle between the bottom of the bead 20 and the diagonal downwardly-extending face 21, which is at an acute angle to the bottom of the bead greater than the angle between the faces 13 and 15, so that the faces 15 and 21 gradually diverge downwardly and are in spaced relation. The lower edge of the face 21 meets the vertical inner face 22 of the web 7, and at the lower portion of the face 22 is a recess having the diagonal face 23 and the

horizontal face 24, this recess receiving the longitudinal rib 25, that lies between the faces 17 and 18, with the face 18 upon the face 24. The faces 17 and 23 diverge upwardly, and the faces 16 and 22 are parallel and in spaced relation. From the free edge of the face 24 there extends downwardly the face 25, which diverges from the face 19 and terminates at the bottom face of the base-flange 9. The members of the rail are connected at intervals by means of bolts 26, passed through perforations 27, that are elongated longitudinally of the rail and which permit of longitudinal movement of the sections with respect to each other, the arrangement of certain portions of the inner faces of the sections out of contact reducing the friction between the sections so that under the influence of variations in temperature the independent movements of the rail-sections are not hindered. The contacting horizontal faces of the rail-sections serve to insure the sections jointing sustaining the weight applied thereon. The abutting ends of rail-sections are connected by fish-plates 28, fastened by bolts passed through the plates and the webs of the rails in the usual manner.

In Fig. 3 of the drawings there is shown a modification wherein a single fish-plate is employed only against the abutting portions of rail-sections and is secured in place by a single bolt 30, passed through the central portion of the plate through notches 31 in the abutting ends of the rail-sections and through the web of the rail-section against which said abutting portions lie. Where the ends of rail-sections abut, a supporting-plate 31' is disposed beneath the rail and extends from one tie to the next.

What is claimed is—

1. A composite rail comprising longitudinal sections each including a ball portion, a web portion and a flange portion, one of said sections having a longitudinal recess in the side of its ball portion and a longitudinal bead at the base of its web portion and the other section having a longitudinal bead upon its ball portion engaging the said longitudinal recess and having a longitudinal recess at the base of its web portion in which the corresponding bead of the first-named section is

received, the under faces of the beads and the upper faces of the recesses being arranged upon a horizontal plane with respect to the base portions of the sections.

2. A composite rail comprising longitudinal sections each including a ball portion, a web portion and a flange portion, one of said sections having a longitudinal recess in the side of its ball portion and a longitudinal bead at the base of its web portion and the other section having a longitudinal bead upon its ball portion engaging the said longitudinal recess and having a longitudinal recess at the base of its web portion in which the corresponding bead of the first-named section is received, said rail-sections being out of contact at all points excepting the face of the upper bead and the lower face of said lower bead, the under faces of the beads and the upper faces of the recesses being arranged upon a horizontal plane with respect to the base-flanges of the rail-sections.

3. The combination with abutting longitudinal rail-sections one of said sections having a longitudinal recess in the side of its ball portion, and a longitudinal bead at the base of its web portion, the other section having a longitudinal bead upon its ball portion engaging the said longitudinal recess and having a longitudinal recess at the base of its web portion in which the corresponding bead of the first-named section is received, the under faces of the beads and the upper faces of the recess being arranged on a horizontal plane with respect to the base-flanges of the sections, the said sections having their abutting ends transversely notched, of a longitudinal rail-section overlapping the first-named sections at one side thereof, a fish-plate disposed against the opposite sides of said first-named sections, and a securing-bolt passed through the fish-plate and through the overlapping rail-sections and engaging said notches.

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

CHARLES F. WOLLENBERG.

Witnesses:

I. D. RASSMUSSEN,
W. C. YANCEY.