

F. M. TIBBOTT.

RAIL JOINT.

APPLICATION FILED SEPT. 6, 1911.

1,020,166.

Patented Mar. 12, 1912.

3 SHEETS—SHEET 1.

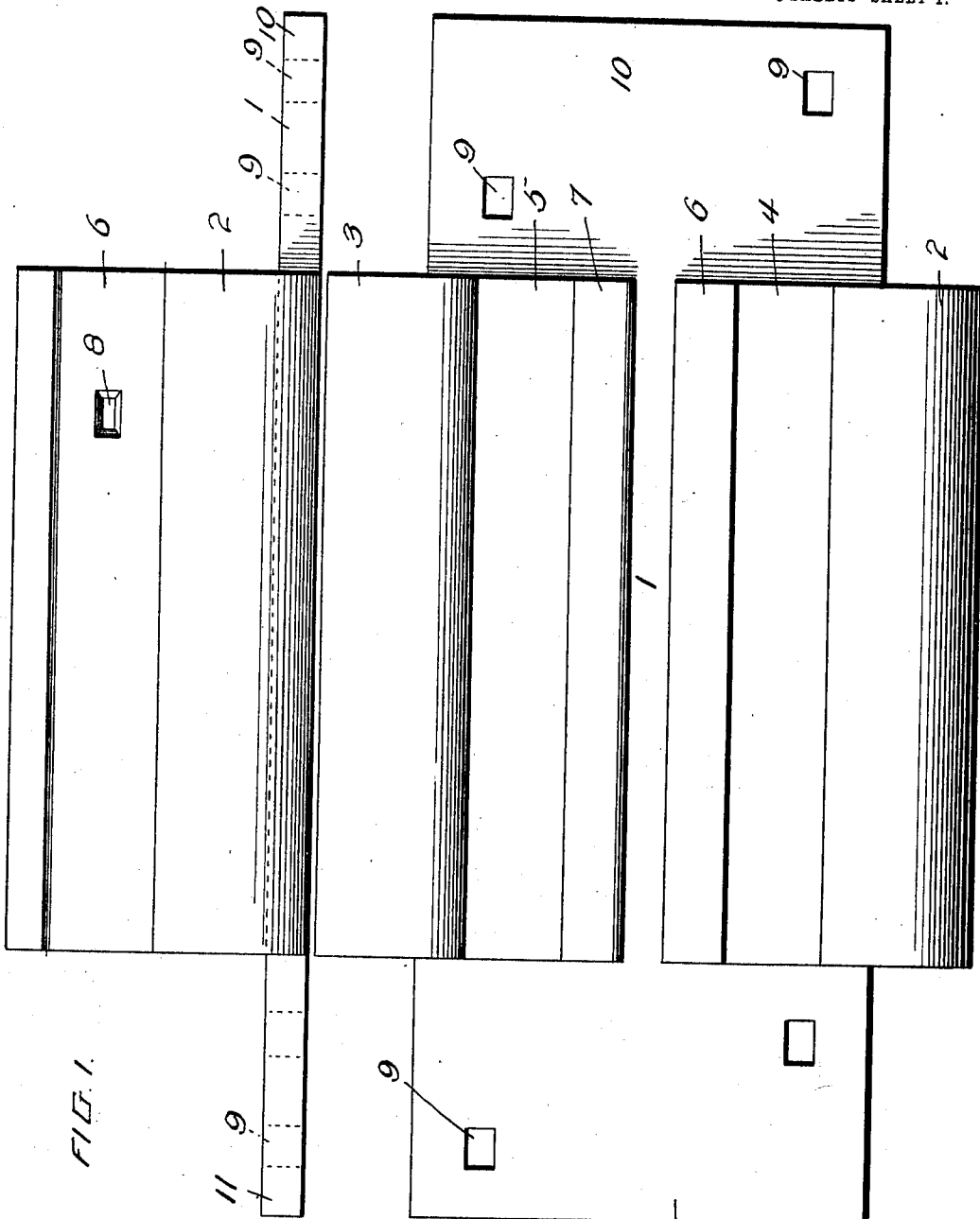


FIG. 1.

FIG. 2.

WITNESSES:

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2 SHEETS—SHEET 2.

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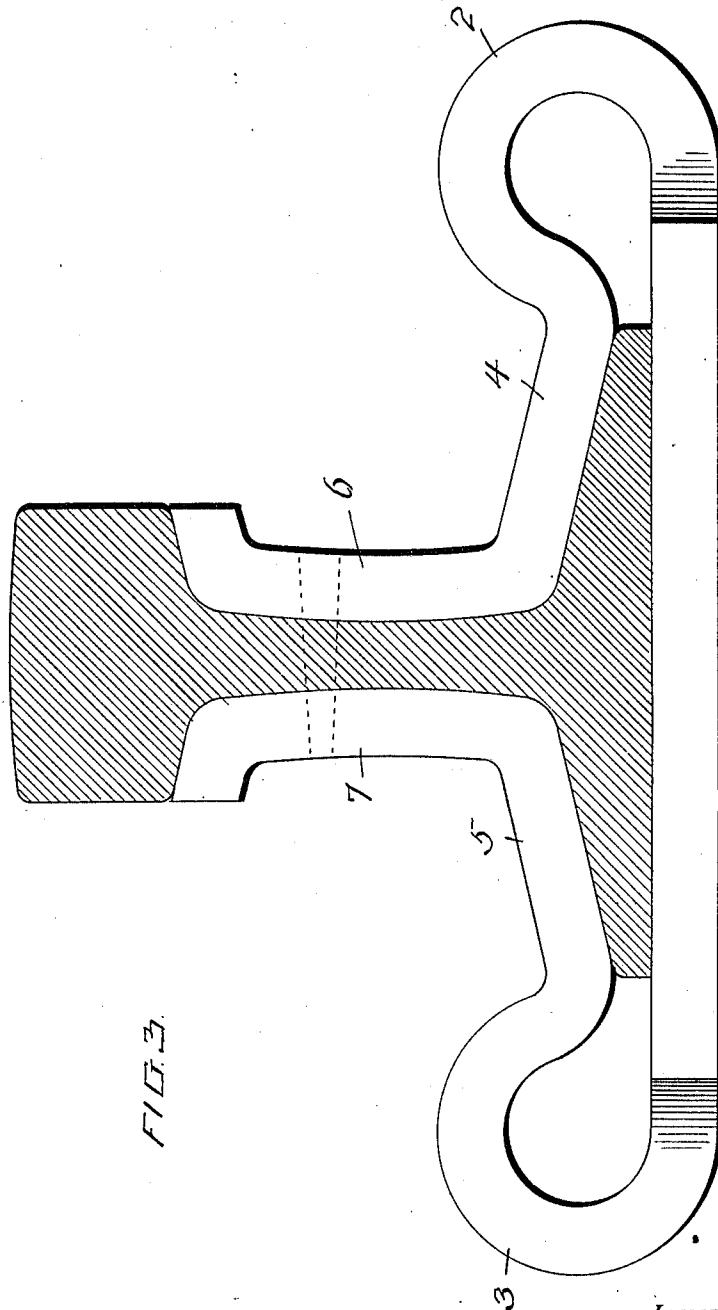


FIG. 3.

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UNITED STATES PATENT OFFICE.

FREDERICK MERRILL TIBBOTT, OF NORFOLK, VIRGINIA.

RAIL-JOINT.

1,020,166.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed September 6, 1911. Serial No. 647,990.

To all whom it may concern:

Be it known that I, FREDERICK M. TIBBOTT, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Rail-Joints; 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.

My invention relates to improvements in rail joints and particularly to that class of joints in which a chair is used, formed of an integral piece of metal, whereby the use of the ordinary bolts and nuts is obviated.

One of the objects of my invention is to provide a simple device by which the rail ends are secured by spring pressure, and kept in alinement and one that can be quickly applied or detached from the rail ends.

My improvements consist in the manufacture of the joints of elastic metal, either by forming them of steel, and then tempering them, or, of wrought iron, and then surface hardening them, so that they have a steel face. By retaining their elasticity they make and keep a tight joint.

Another object is the provision of a rail joint which is efficient and durable, and which can be constructed and sold at a comparatively low cost.

The invention also consists of certain other novel features of construction and combination of parts which will be hereinafter more clearly described and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar numerals of reference indicate corresponding parts in all the figures.

In said drawings, Figure 1, is a side elevation of my improved joint. Fig. 2, is a top plan view of the same. Fig. 3, is an end view of the joint showing a section of a rail as clamped by the joint.

The joint is made of a single piece of metal and formed in the desired shape. It comprises a base 1, two approximately cylindrical spring portions 2 and 3 located at the sides of said base, two inwardly extending portions 4 and 5, and a plurality of vertically disposed portions 6 and 7. The base is also provided with extensions 10 and

11 which project beyond the ends of the spring portions 2 and 3. These extensions 10 and 11 have the slots 9, 9 through which spikes may pass to secure the joint to the ties. These slots 9, 9 are preferably made staggered.

The usual form of rail chair is fastened to the ties by means of spikes which pass through the main body of the chair, but if such means were used in applicant's device, it would weaken the construction and spring action and it is to avoid such an objection that the extensions 10 and 11 are provided by means of which the chair is spiked to the ties and the chair itself left intact.

In practice a wedge is driven between the vertically disposed portions 6 and 7, expanding the joint a sufficient distance to allow the rail ends to be inserted. When the rails are in position the wedge is withdrawn and the vertically disposed portions 6 and 7 are automatically forced by the pressure exerted by the spring portions 2, 3 into contact with the webs of the rails and with the under surfaces of the heads of the rails, while the parts 4 and 5 contact with the upper surfaces of the bases of the rails, thereby holding the ends of the rails firmly in position, without the use of bolts and nuts or analogous devices.

The joint does not necessarily require any additional means to prevent longitudinal creeping of the rails, other than its own elasticity, but should such additional means be desired they may be provided. For instance the vertically disposed portions 6 and 7 may be provided with tapered slots 8 and a corresponding slot may be provided in the web of the rail near one end of the same, the said slots being made to register, and being adapted to receive a key (not shown) to serve as an additional means for preventing said rails from creeping.

It is obvious that a space should be left between the meeting ends of the rails to allow for expansion and contraction of the metal. Bolts may be used on curves, if desired.

What I claim and desire to secure by Letters Patent is:—

1. A rail joint comprising a chair having a base plate adapted to be secured to the ties and to receive the lower faces of the ends of the rails to be joined, horizontally and vertically disposed members integral therewith, and spring portions interposed

between said base plate and the horizontally disposed members whereby by spring pressure alone the chair may be forced into close contact with the under and upper faces of the bases and with the webs of the rails and hold said rails in position.

2. A rail joint comprising a chair having a base plate adapted to be secured to the ties and to be engaged by the entire lower faces of the ends of the rails to be joined, horizontally and vertically disposed members integral therewith, adapted to engage the upper faces of the bases, and with the webs respectively, of the ends of the said rail throughout the length of the chair, and spring portions interposed between said base plate and the horizontally disposed members whereby by spring pressure alone the chair may be forced into close contact with the under and upper faces of the bases and with the webs of the rails and hold said rails in position.

3. A rail chair comprising a base plate, horizontally and vertically disposed members and spring portions integral therewith, said spring portions tending normally to force the vertically disposed portions into contact with each other, and the horizontally disposed portions into contact with the base plate.

4. A rail joint comprising a chair having a base plate adapted to be secured to the ties and to be engaged by the entire lower faces

of the ends of the rails to be joined, horizontally and vertically disposed members adapted to engage the upper faces of the bases and sides of the webs respectively and the under faces of the heads of the said rails throughout the length of the chair and spring portions interposed between said base plate and the horizontally disposed members whereby by spring pressure alone the chair may be forced into close contact with the under and upper faces of the bases and with the webs and under faces of the heads of the rails and hold said rails in position.

5. A rail chair comprising a base plate, horizontally and vertically disposed members and spring portions integral therewith, said spring portions tending normally to force the vertically disposed portions into contact with each other, and the horizontally disposed portions into contact with the base plate, said base plate being extended beyond the main body of the chair, said extended portion being provided with means for securing it to the ties, whereby the force of the spring pressure parts will not be affected by the means securing the chair to the ties.

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

FREDERICK MERRILL TIBBOTT.

Witnesses:

A. G. BAILEY,

RADEN MADENATEO.