

J. F. McGHEE.

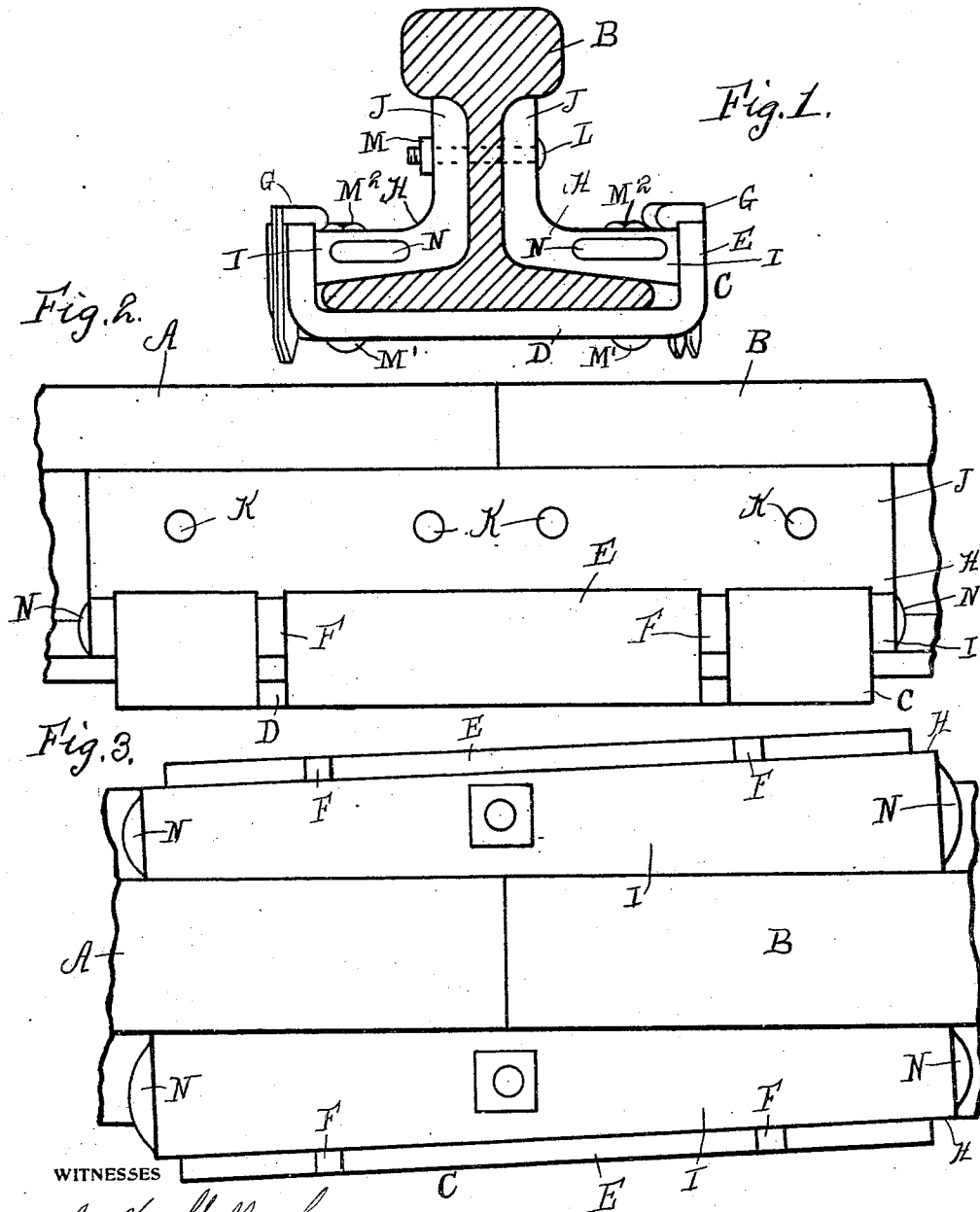
RAIL JOINT.

APPLICATION FILED APR. 8, 1909.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

935,394.



WITNESSES

S. M. Gallagher.
H. G. Burton

INVENTOR

James F. McGhee

BY

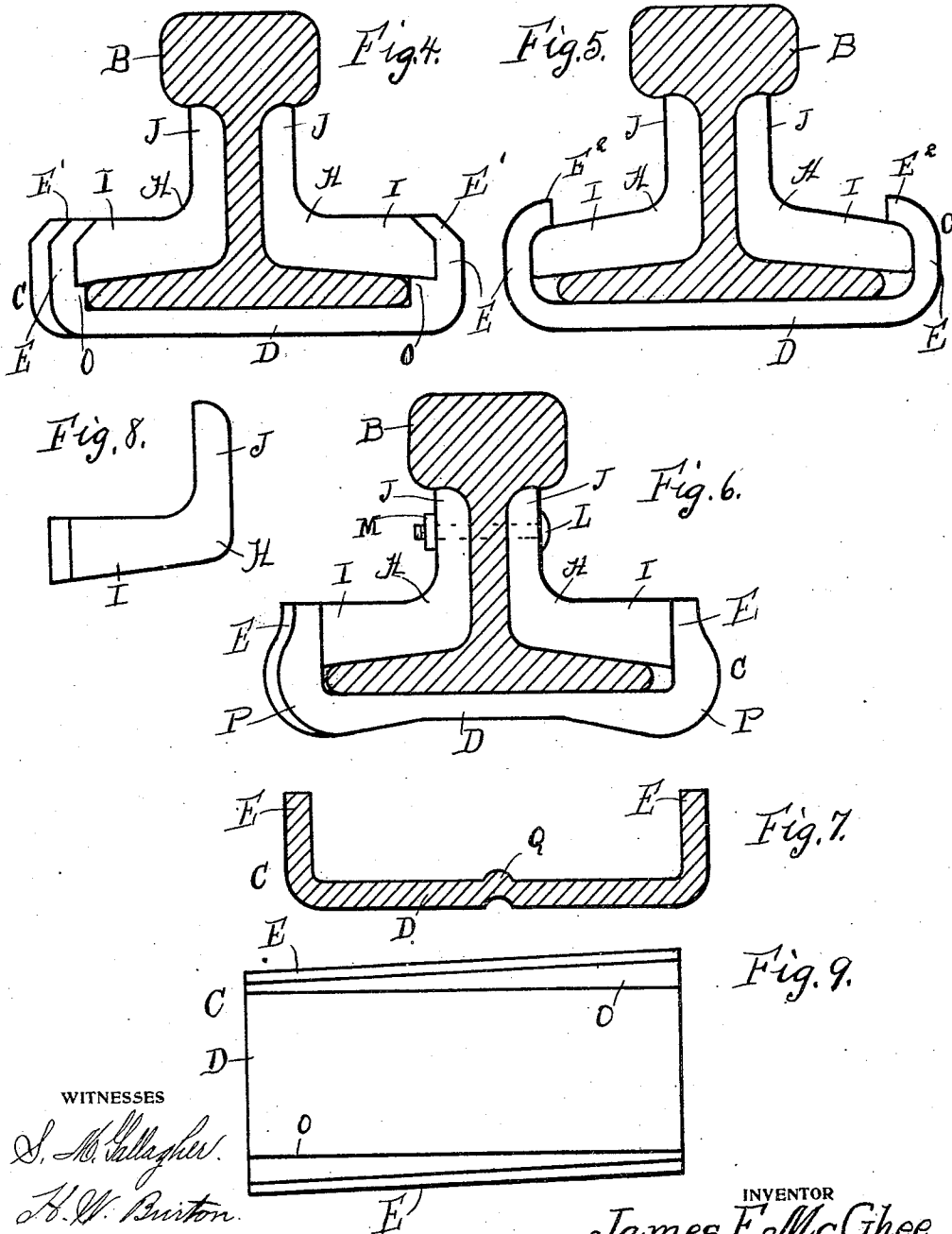
W. P. Williams

ATTORNEY

J. F. MCGHEE.
RAIL JOINT.
APPLICATION FILED APR. 8, 1909.

935,394.

Patented Sept. 28, 1909.
2 SHEETS—SHEET 2.



WITNESSES

S. M. Gallagher.
H. W. Burton.

INVENTOR

James F. McGhee
BY

W. P. Williamson

ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES F. MCGHEE, OF CAMDEN, NEW JERSEY.

RAIL-JOINT.

935,394.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed April 8, 1909. Serial No. 488,595.

To all whom it may concern:

Be it known that I, JAMES F. MCGHEE, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented a certain new and useful Improvement in Rail-Joints, of which the following is a specification.

My invention relates to a new and useful improvement in rail joints, and has for its object to provide an exceedingly simple and effective device of this character, by means of which the ends of two rails may be joined together in an efficient manner with or without the use of bolts.

Another object of my invention is to provide a rail joint which will require no change in the present rails.

A still further object of my invention is to provide a rail joint in which the fish plates will be wedge shape so that when the joint is placed in position it may be loosened or tightened to any desired degree.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is an end view of a rail joint made in accordance with my improvement. Fig. 2, a side elevation thereof. Fig. 3, a plan view. Fig. 4, an end view of a slightly modified form of my invention. Fig. 5, a similar view of a still further modified form of my invention. Fig. 6, a similar view of another form of my invention. Fig. 7, a sectional view of a chair showing a means formed therewith for preventing the ends of the rails passing the center point of the chair when expanding. Fig. 8, an end view of one of the wedge shaped plates. Fig. 9, a plan view of a modified form of chair.

In carrying out my invention as here embodied, A and B represent the meeting ends of two rails.

C is a chair adapted to rest upon one or more ties and this is so formed as to produce a bottom D and upwardly extending flanges E, in which may be formed the openings F, if found desirable, for the reception

of the spikes G, said spikes adapted to be driven into the ties, the heads thereof resting upon the wedge shaped fish plates H, which have a wedge body portion I and upwardly extending flanges J, said flanges adapted to rest against the web of the rails and extend upwardly in proximity to the head of the rail, thus forming a strong and efficient brace. In the upwardly extending flanges of said plates are formed the bolt receiving openings K, through which pass the bolts L, said bolts also passing through the web of the rail, and having threaded on their outer ends the nuts M whereby said bolts may be held in place.

If found desirable bolts M' may be passed through the chair C, the plates H and have nuts M² threaded on the upper ends for holding them in place. In using these bolts M' it is found advantageous to so place them that when the ends of the rails meet it is required that a portion of the flange of said rails be cut away. This is done so that when the rails expand they will each move to these bolts and will then be prevented from moving farther, thus when the two rails meet they must meet approximately in the center of the chair.

As the wedge shaped fish plates are to be driven in position I form a projection N on both ends thereof, but which do not extend to the outer edge of said plates, so that as it is gradually mashed down from the blows of a tool it will not extend beyond the edge of the fish plates, thereby never hindering the driving of the same.

In practice the chair C is laid upon the ties and the rail placed therein, at which time one of the wedge shaped fish plates is placed in position, when the other one driven into place, which will form a compact and efficient joint, it being noticed that because of the wedge shaped fish plates the chair C will rest at an angle to the rails.

In my modified form of rail joint as shown in Fig. 4, I bend the upper ends of the flanges E inward, as indicated by E', which will prevent the fish plates and rail from pulling out of the chair in a straight upward direction. When these flanges are bent inward the space between them would be too small to allow the base of the rail to pass between them, should the space between the inside of the flanges be the same width as the base of the rail, but to overcome this

I form the extensions O so that the space between them is equal to the space between the nearest points of the inturned portion of the flanges. This allows the rails to be
 5 placed in position in the chair, at which time the wedge shaped fish plates may be driven in place.

In my modified form as shown in Fig. 5, I form the upwardly extending flanges E in
 10 a rolling or curved shape so that their upper edges will extend inward, as indicated by E² and instead of forming the fish plates in the shape of a wedge I use straight fish plates, and when these are in position a spike must
 15 be driven at both ends to prevent said plates from creeping out of place.

In Fig. 6 I have shown a still further modified form, in which I strengthen the chair by thickening the same along the edge
 20 where the base and upwardly extending flanges join one another, as indicated by P.

In Fig. 7 I have shown a chair having a lug Q formed central thereof so that when the rails expand they will each move to the
 25 center of the chair or until they butt against the lug Q and will then be prevented from moving further, thus when the two rails meet they must do so approximately in the center of the chair.

In Fig. 9 I have shown a chair, the sides of which are formed to produce a wedge shaped space between said sides, and the rails to receive the wedge shaped fish plates.

By the use of my improvement an excellent electric contact is provided between the
 35 rails as the fish plates always fit snugly against the web of said rails, thus doing away with the necessity of using a copper cable.

Of course I do not wish to be limited to the exact details of construction here shown as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

45 Having thus fully described my invention, what I claim as new and useful, is—

1. In a rail joint the combination with the meeting ends of two rails, of a chair so formed as to produce a base and upwardly
 50 extending flanges, said flanges having openings cut therein, wedge shaped fish plates so formed as to produce a wedge body and upwardly extending flanges having bolt receiving openings therein, bolts passing through the bolt receiving openings in the fish plates

and the web of the rails, and nuts threaded on said bolts, as shown and described.

2. In a rail joint the combination with the meeting end of two rails, of a chair so formed as to produce a base and upwardly
 60 extending flanges, said flanges having openings cut therein, wedge shaped fish plates so formed as to produce a wedge body and upwardly extending flanges having bolt receiving openings therein, projections formed on
 65 both ends of the wedge shaped fish plates, bolts passing through the bolt receiving openings and the web of the rails, and nuts threaded thereon.

3. In a rail joint the combination with the meeting ends of two rails, of a chair so formed as to produce a base and upwardly
 70 extending flanges, the upper portions of said upwardly extending flanges being bent inward, said chair being thickened along the
 75 edge where the base and upwardly extending flanges join one another, extensions formed from the inner surface of the chair, and fish plates having a wedge shaped body portion and upwardly extending flanges.

4. In a rail joint the combination with the meeting ends of two rails, of a chair so formed as to produce a base and upwardly
 80 extending flanges, the upper portions of said upwardly extending flanges being bent inward, said chair being thickened along the
 85 edge where the base and upwardly extending flanges join one another, extensions formed from the inner surfaces of the chair, a projection formed from the inner surface of the
 90 base of the chair, and fish plates having a wedge shaped body portion and upwardly extending flanges.

5. In a rail joint, the combination with the meeting ends of two rails, of a chair so
 95 formed as to produce a base and upwardly extending flanges, means for strengthening the chair along the edge where said base and upwardly projecting flanges meet, and fish plates having a wedge shaped body portion
 100 and upwardly extending flanges, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

JAMES F. MCGHEE.

Witnesses:

C. L. STAPLES,
 N. C. OWEN.