H. H. SPONENBURG.

RAIL STAY.

APPLICATION FILED OCT. 20, 1910.

998,589.

Patented July 18, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

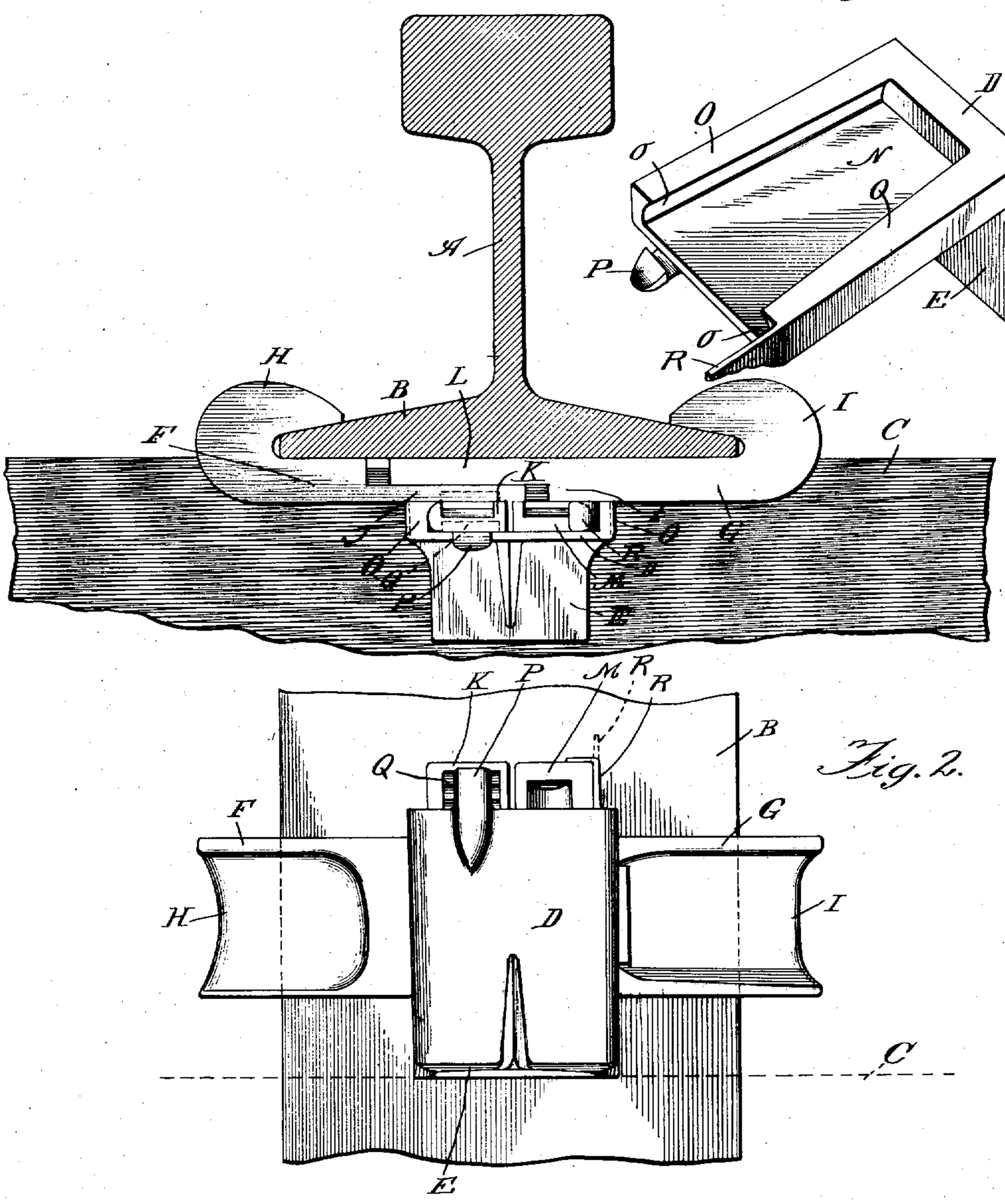

Fig. 2.

Fig. 3.

Witnesses:

Ira E. Perry

P. H. Truman

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2 SHEETS—SHEET 2.

Fig. 4.

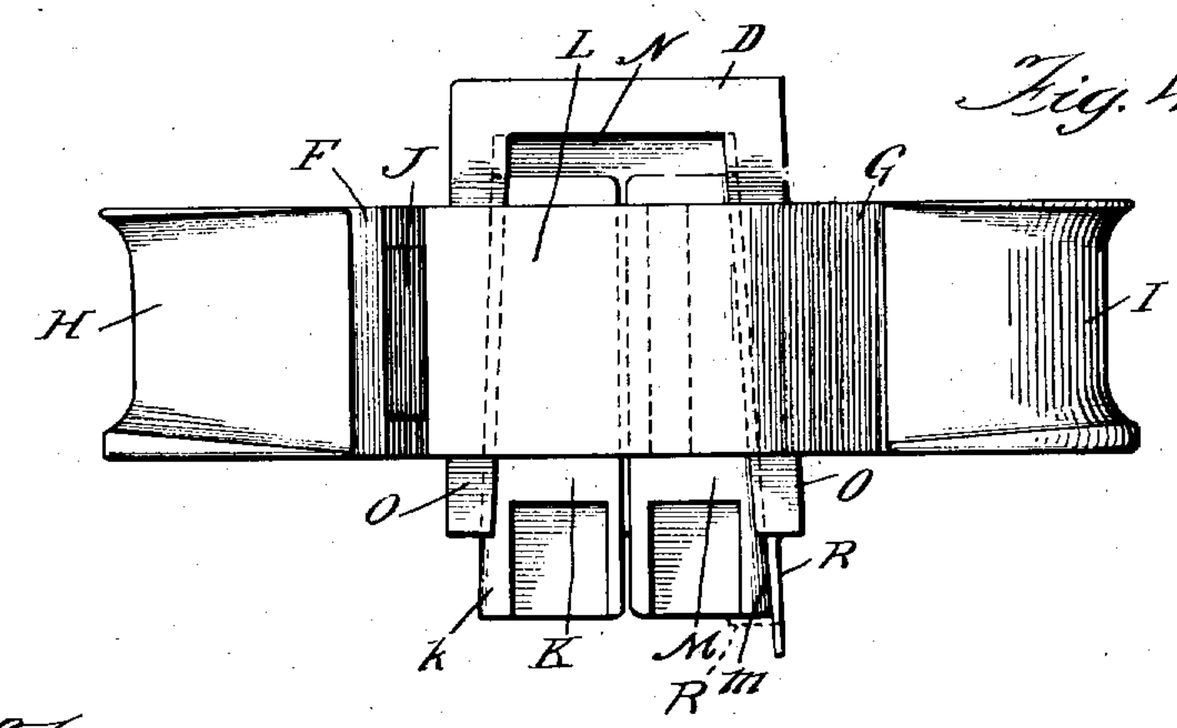


Fig. 5.

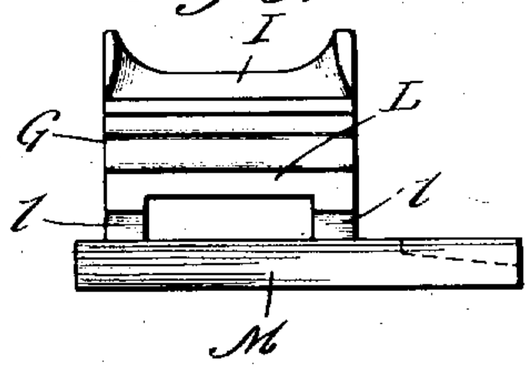


Fig. 6.

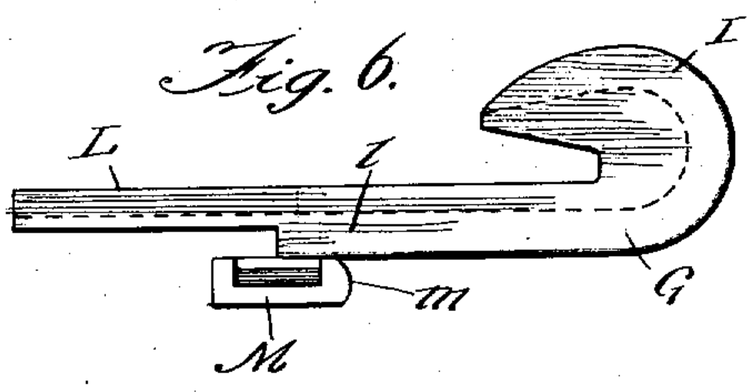


Fig. 8.

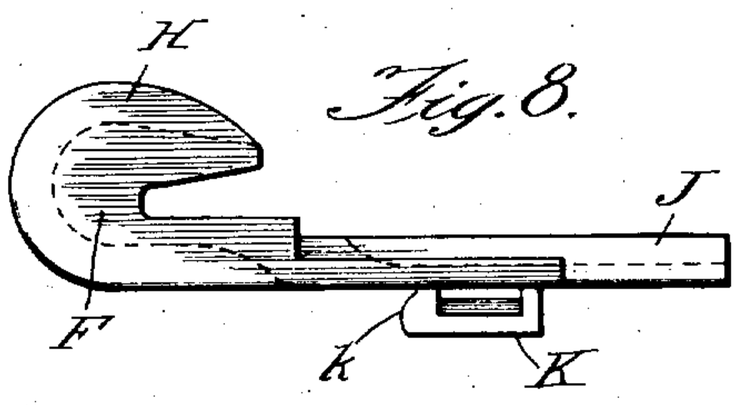
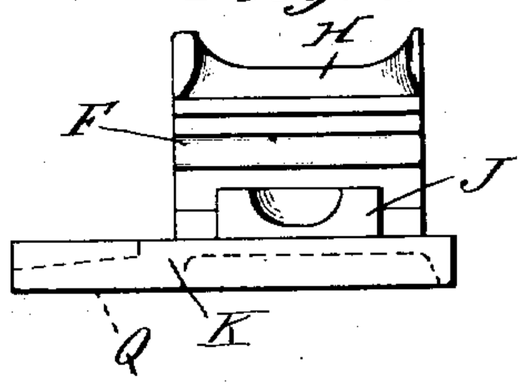


Fig. 7.



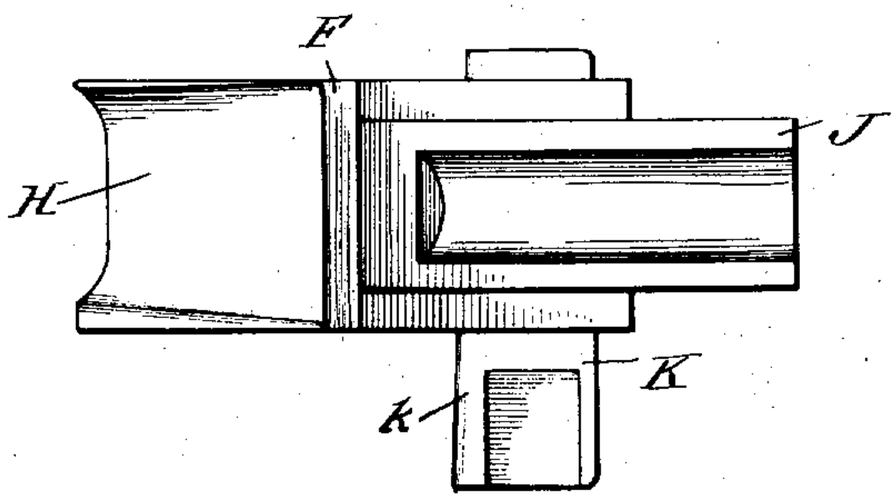


Fig. 9.

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UNITED STATES PATENT OFFICE.

HIRAM H. SPONENBURG, OF GURNEE, ILLINOIS, ASSIGNOR TO OTTO R. BARNETT, OF CHICAGO, ILLINOIS.

RAIL-STAY.

998,589. Specification of Letters Patent. Patented July 18, 1911.

Application filed October 20, 1910. Serial No. 588,152.

To all whom it may concern:

Be it known that I, HIRAM H. SPONENBURG, a citizen of the United States, residing at Gurnee, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Rail-Stays, of which the following is a specification.

My invention relates to a rail stay, and has for its object to provide certain novel and improved constructions and devices, relating to rail stays which will be hereinafter described and claimed.

The invention is illustrated, in a preferred embodiment, in the accompanying drawings, wherein—

Figure 1 shows the device, in elevation, attached to a rail which is shown in section; Fig. 2 is an inverted plan view of the parts shown in Fig. 1; Fig. 3 is a view, in perspective, of what is termed the tie abutting member; Fig. 4 is a plan view of the assembled device, omitting the rail; Figs. 5 and 6 are, respectively, side and end elevations of one of the jaw carrying members; Figs. 7 and 8 are similar views of the other jaw carrying member, and Fig. 9 is a plan view of the member shown in Figs. 7 and 8.

Like characters of reference designate like parts in the several figures of the drawings.

Referring to the drawings, A designates a railroad rail of ordinary form, the base of which is designated B.

C is one of the ties on which the rail is laid.

The rail stay, as shown, consists of a tie abutting member D provided with a flange or tie abutment E, and two jaw carrying members F and G formed with the jaws H and I respectively, suitable for engaging the edges of rail base B.

The jaw carrying member F is formed with a tongue J and with a transverse wedge K, the outer edge of which, *k*, is formed on a curve or bevel as shown. The jaw carrying member G is formed with a channeled portion L, the channel being formed on the underside by means of the ribs or flanges *l*; and with a transverse wedge M, the outer edge of which, *m*, is formed on a curve or bevel similar to the corresponding portion of wedge K. The tie abutting member D is formed with a tapered channel N on its upper surface. The ribs or flanges O, constituting the channel are preferably undercut, as indicated at *o*. The parts thus described are assembled by linking the jaw carrying members F and G together, the tongue J of the former entering the channel on the under side of the latter so that it lies over the wedge M; the wedges or slides K and M of the jaw carrying members being then slid into the channel or slide way in the tie abutting member D.

It will be seen that with the parts so assembled, the device may be clamped against the rail base by driving the wedges K, M into the slide way N of the tie abutting member. The tie abutment E of the latter bears against the face of the tie. It will also be observed that with the above described arrangement of parts the tendency of the rail to creep in a direction from the rail stay to the tie which it abuts against will cause a tightening of the jaw carrying members on the rail which results in checking the creeping tendency. This, however, is a supplemental feature as the device is so designed that when the parts are driven with some force, by a sledge for example, upon the rail, a very efficient grip is obtained independent of the self checking tendency just noted.

In devices of this general character considerable difficulty has been experienced because of the likelihood of the device becoming loose after the parts have been driven into place by hand or by the creeping tendency of the rail. This looseness may be due to vibration, to temperature changes, to a reaction in the direction opposite to that of the creep of the rail which is thought to take place immediately after the train has passed over the rails, or to other causes. My invention provides two different devices tending to prevent such loosening; these devices being capable of use either separately or conjointly as may be found necessary or desirable. I first provide a locking mechanism which consists, in the form of rail stay shown, of a tooth P projecting from the edge of the tie abutting member D and a rack or series of teeth Q on the under side of one of the jaw carying members, namely, the member F. The engagement of the tooth with the rack may be made possible either by providing for some looseness between the members D and F, or the tooth itself may be constructed so as to have a certain amount of elasticity. I do not claim in this application either this particular form of locking

mechanism, or broadly speaking means for locking together the relatively movable parts of a rail anchor of this character; this subject-matter being claimed in my co-pending application Ser. No. 619,869, filed April 8, 1911, for rail stays, which is a division of the present application. The present application is confined so far as the locking mechanism is concerned to the form of device which will be now described. The other device for preventing an unclamping movement of the parts of the rail stay is provided by forming one of the members of the stay with a part which is capable of being bent over another of such members. For example, the tie abutting member E is formed at one corner with the relatively thin projecting lug R (Figs. 3 and 4) which is adapted to be bent over upon the end of wedge M on the under side of the jaw carrying member G. It will be readily understood that this position of the part adapted to be bent is somewhat arbitrary.

I do not claim in this application broadly the device for providing one member of a rail stay or anchor with a part adapted to be bent into engagement with another member, as this idea is broadly claimed in my copending application Serial No. 588,150, filed October 20, 1910; the present application in this respect being limited to the use of the part adapted to be bent in the combinations hereafter claimed. It will be understood, however, that in respect to this feature and also in other respects, there might be some change in the form, construction and arrangement of the parts constituting the rail stay without departure from my invention. I therefore do not limit myself to these particulars except as the same are specifically made limitations on certain of the claims herein. It will be obvious that while I have described the stay as abutted against a tie it might bear against any other stationary portion of the road bed. Also that instead of simply bearing against such tie or other element it may be secured or anchored thereto.

I claim:

1. A rail stay comprising in combination, a tie abutting member, two jaw carrying members, coengaging means on said members which draws the jaw carrying members together when moved toward the tie against which the tie abutting member bears, said jaw carrying members being linked one to the other so that they move together, and means for locking one of said jaw carrying members to the tie abutting member, comprising a part on one of said two last mentioned members which is adapted to be given an angular bend so as to engage said other member.

2. A rail stay comprising in combination, a tie abutting member, two jaw carrying members, coengaging means on said members which draws the jaw carrying members together when moved toward the tie against which the tie abutting member bears, said jaw carrying members being linked one to the other so that they move together, and means for locking one of said jaw carrying members to the tie abutting member, comprising a part on said tie abutting member adapted to be given an angular bend so as to engage said jaw carrying member.

3. A rail stay comprising in combination, a stationary member adapted to abut against a tie and formed with a slideway on its upper surface, a pair of jaw carrying members provided with slides which are received in said slideway; said slides and slideway being formed so as to cause the jaw carrying members to approach each other when they are moved toward said tie.

4. A rail stay comprising in combination, a stationary member formed with a slideway on its upper surface, a pair of jaw carrying members which are linked together and provided with slides which are received in said slideway; said slides and slideway being formed so as to cause the jaw carrying members to approach each other when they are moved in one direction.

5. A rail stay comprising in combination, a tie abutting member formed with a slideway on its upper surface, a pair of jaw carrying members, one of which is formed with a tongue and the other with a groove adapted to receive said tongue, said jaw carrying members being provided with slides which are received in said slideway; said slides and slideway being formed so as to cause the jaw carrying members to approach each other when they are moved toward the tie against which said tie abutting member bears.

6. A rail stay comprising in combination, a tie abutting member formed with a slideway on its upper surface, a pair of jaw carrying members provided with transverse slides which are received in said slideway; one of said jaw carrying members being formed with a tongue, and the other with an opening above the slide thereon; said slideway and slides being formed so as to cause said jaw carrying members to approach each other when moved toward the tie against which said tie abutting member bears.

7. A rail stay comprising in combination, a tie abutting member formed with an undercut slideway on its upper surface, a pair of jaw carrying members provided with slides having beveled edges which are received in said slideway, the slideway and slides being formed so as to cause the jaw carrying members to approach each other when they are moved toward the tie against which said tie abutting members bear.

8. A rail stay comprising in combination,

a stationary member formed with an undercut slideway on its upper surface, a pair of jaw carrying members formed with wedges having their outer edges beveled, and adapted to be received in said slideway, and means for linking said jaw carrying members together.

9. In a rail stay, the combination with a stationary member, of two jaw carrying members having relative movement with respect to said stationary members; said stationary member being provided with a part adapted to be given an angular bend into engagement with one of said jaw carrying members.

10. In a rail stay, the combination with a stationary member of two jaw carrying members having relative movement with respect to said stationary member; said stationary member being provided with a part adapted to be given an angular bend into engagement with one of said jaw carrying members, and means for linking said jaw carrying members together.

11. In a rail stay, the combination with a tie abutting member formed with a tapered undercut channel on its upper surface, of jaw carrying members, one of which is formed with a tongue and the other with a groove adapted to receive said tongue, both being formed with transverse wedges adapted to be received in the channel in said tie abutting member; the tie abutting member being formed with a part adapted to be given an angular bend into engagement with one of said wedges.

HIRAM H. SPONENBURG.

Witnesses:
P. H. TRUMAN,
H. L. PECK.

Correction in Letters Patent No. 998,589.

It is hereby certified that in Letters Patent No. 998,589, granted July 18, 1911, upon the application of Hiram H. Sponenburg, of Gurnee, Illinois, for an improvement in "Rail-Stays," an error appears in the printed specification requiring correction as follows: Page 3, line 11, the word "members" should read *member;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of August, A. D., 1911.

[SEAL.]

F. A. TENNANT,
Acting Commissioner of Patents.

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