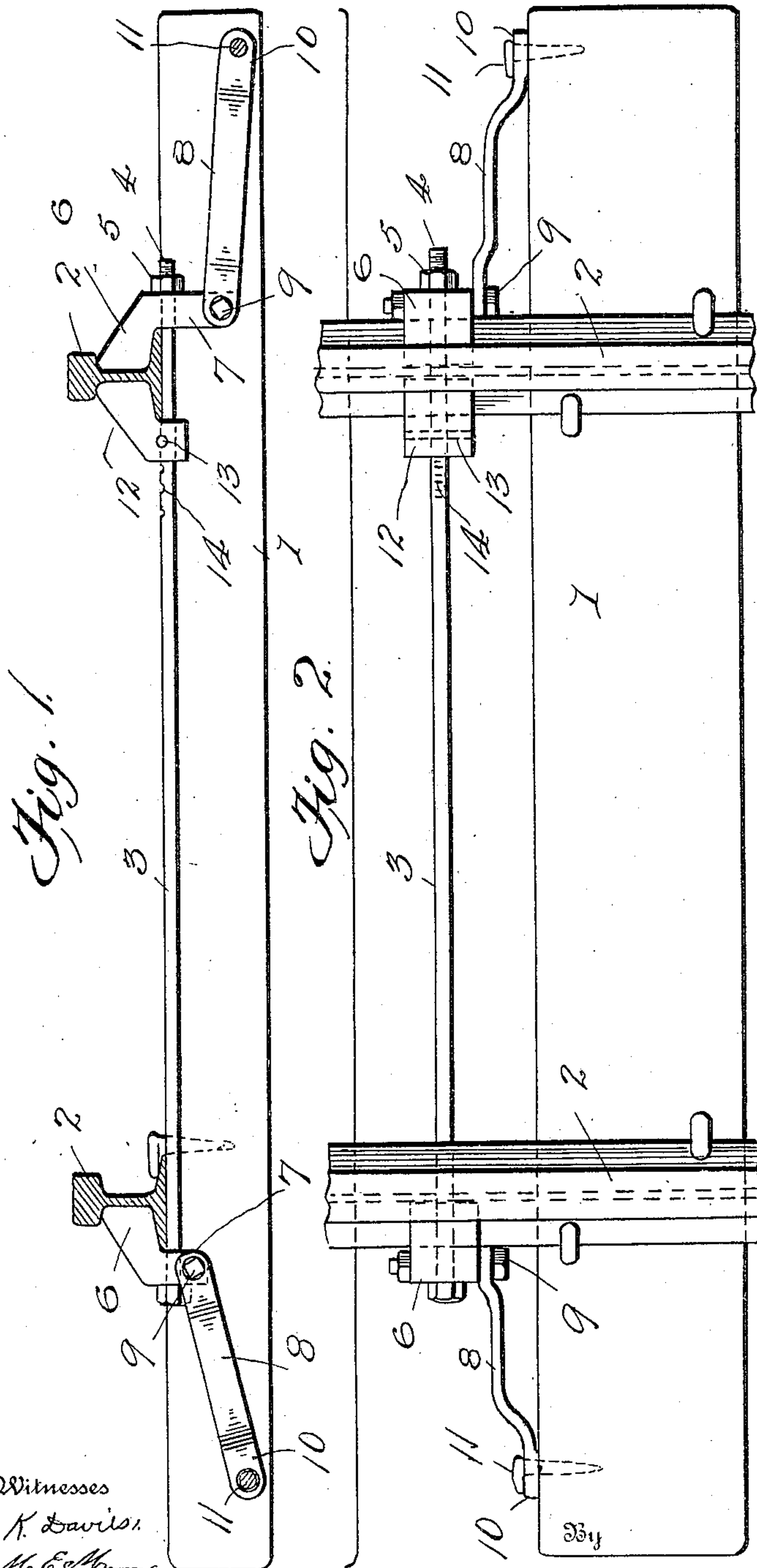


No. 877,759.

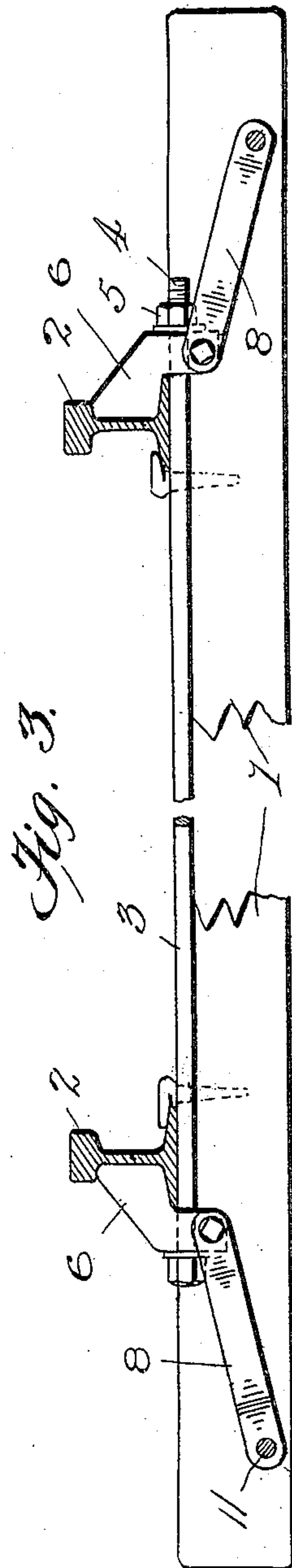
PATENTED JAN. 28, 1908.

A. J. COOVER.
RAILROAD TRACK BRACE.
APPLICATION FILED APR. 24, 1907.

2 SHEETS—SHEET 1.



Witnesses
C. K. Davis,
M. E. Moore



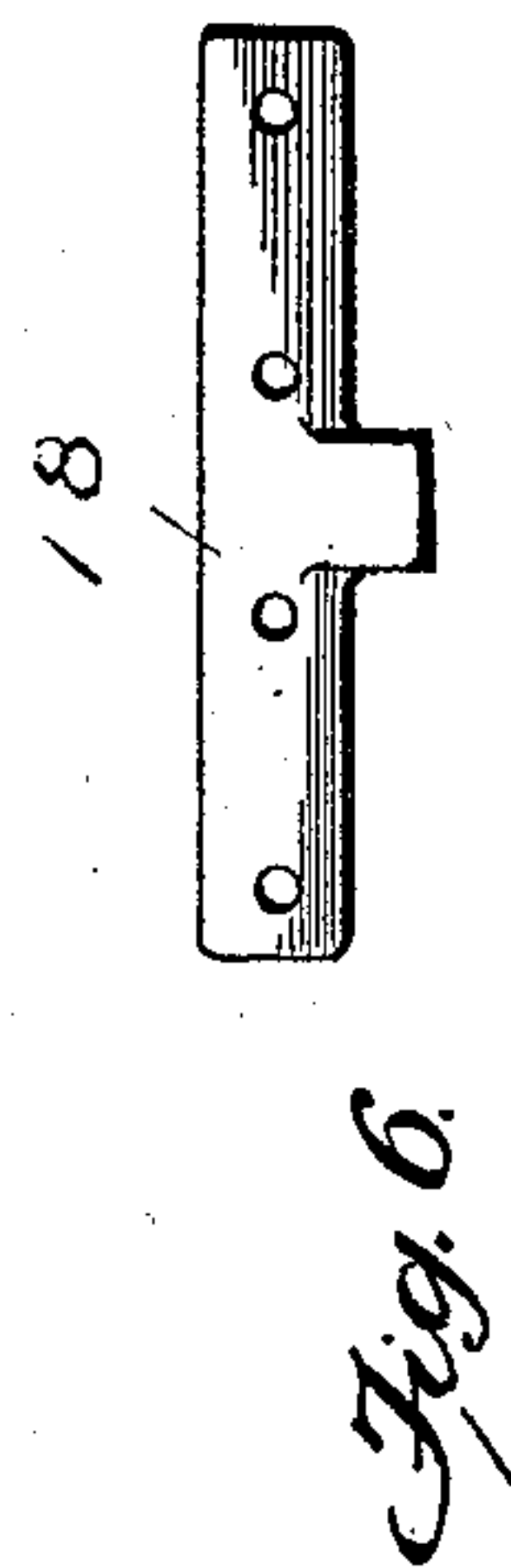
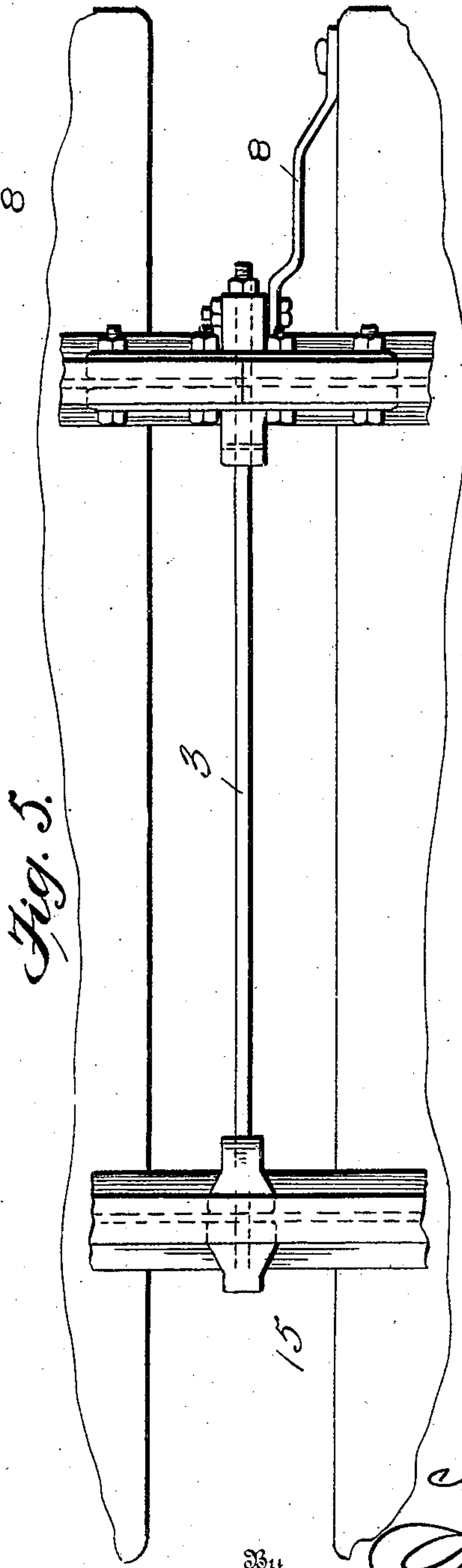
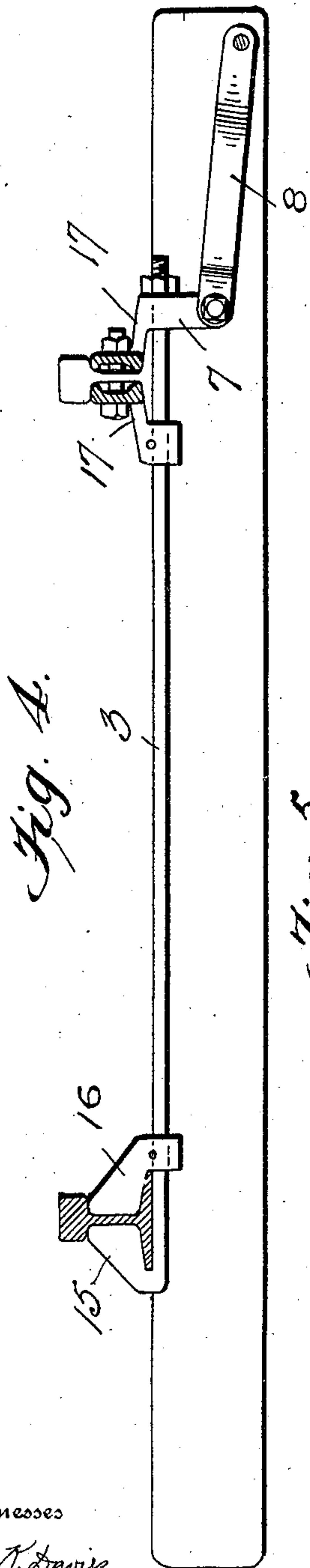
Inventor
Amos J. Coover
Attorney
M. E. Moore

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2 SHEETS—SHEET 2.



Witnesses
Chas. T. Davis
M. E. Coover

By

Inventor
Amos J. Coover
Attorney

UNITED STATES PATENT OFFICE.

AMOS J. COOVER, OF MEDWAY, OHIO.

RAILROAD-TRACK BRACE.

No. 877,759.

Specification of Letters Patent.

Patented Jan. 28, 1908.

Application filed April 24, 1907. Serial No. 370,056.

To all whom it may concern:

Be it known that I, AMOS J. COOVER, a citizen of the United States, residing at Medway, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Railroad - Track Braces, of which the following is a specification.

My invention relates to improvements in railway track braces, and has for its object the provision of a brace or tie rod which will serve to prevent spreading of the rails and which at the same time will serve to securely anchor the track to the ties.

A further object of the invention is the provision of anchoring and bracing means for railway track which will be of strong, simple and durable construction, and which will be entirely practical and efficient in every particular.

With these and other objects in view, my invention consists essentially of a tie rod extending between the rails, rail braces mounted on the tie rod, and means for anchoring the braces in position.

The invention further consists of a rail tie and brace embodying certain other novel features of construction, combination and arrangement of parts substantially as disclosed herein and illustrated in the accompanying drawings, in which:

Figure 1, is a side elevation of a railway tie with the rails and my improved rail brace in position thereon. Fig. 2, is a top plan view of the same, and Fig. 3, is a broken side elevation of a slightly modified form of the brace, which is designed to be used on straight stretches of track. Figs. 4, 5 and 6, are views of modifications of the invention.

While the invention is primarily designed for use on curves where a great lateral strain is thrown upon the rails, to prevent spreading or displacement of the rails, it is also desirable for use in connection with straight stretches of track to serve as an additional securing means for the track and to prevent spreading.

In the drawings: the numeral 1, designates the railway tie upon which the rails 2, are mounted and spiked down in place as usual. The brace consists of a tie rod 3, preferably threaded at each end as at 4, to receive the fastenings or nuts 5, and upon the ends of this rod are mounted the angular blocks or braces 6, which are held closely confined against the outside of the rails by means of the end fastenings on the rod. These

brace blocks are loosely mounted on the rod and have their inner faces each shaped to conform to the shape of the side and base of the rail so as to make close engagement therewith. Depending from the outer edge of the brace blocks are the lugs or extensions 7, which extend straight downward. Links 8, are secured by bolts 9, to the lower extremity of the depending extensions on the brace blocks, and the lower ends of the links are provided with offset securing portions 10, which are fastened to the side of the tie by a spike or other fastening 11. The depending extensions on the braces may be anchored to the tie as shown by means of a link, the fastening may be passed directly through the depending extension and into the tie, or the lower end of the brace may be anchored independent of the tie by means of a cable or chain attached to a stake or other stationary object. It will thus be seen that the brace blocks are fulcrumed upon the tie rod and by means of the link or other fastening they exert a leverage force against the outside of the rail to hold the same in place. On straight stretches of track, the leverage brace blocks are fulcrumed to exert equal leverage against the two rails, but at curves where the greatest weight and lateral pressure is borne by the outside rail the brace block to the outer rail is formed with a longer depending extension than the inner brace, so that the leverage power of the outer brace block is consequently greater and the outer rail is thus enabled to withstand the greater strain without spreading. This system of leverage blocks and spacing or tie rods also relieves the spikes and other fastenings of a great amount of strain. At curved portions of the track it is also desirable to anchor the inner side of the outer rail as well as the outer side of the same, and this is accomplished by means of an additional brace block 12, which is mounted on the tie rod and secured thereon in close engagement with the inner face of the rail by means of the pin fastening 13, which passes through the brace and engages one of the series of grooves 14, in the side of the rod. This additional brace block which is clearly shown in Fig. 1, may also be secured on the tie rod by means of a wedge, nut or other suitable fastening as desired.

The constructions illustrated in Figs. 4, 5 and 6, are designed for use on straight stretches of track. In this instance, one end of the tie rod is prolonged, widened out and

shaped to constitute the integral brace block or shoe 15, which fits closely against the outside of the rail, and a movable clamping block 16, is removably secured on the tie rod to cooperate with the stationary clamping jaw on the end of the rod and the rail is thus securely clamped on both sides. Movable clamping jaws 17, are secured upon the other end of the tie rod in the manner before described to securely clamp the opposite rail. One of these last-named clamping jaws may be provided with the depending lug or extension 7, which may be anchored to the tie by means of the link previously described, or where there is no necessity for anchoring the clamping jaw, a plain clamping jaw may be mounted on the end of the tie rod and the rod then serves the single function of a tie rod to keep the rails properly spaced.

In Fig. 6, is shown an end view of a slightly modified form of the tie rod, in which the integral brace on the end of the rod is widened out laterally to form a fish plate 18, so that the use of fish plates is dispensed with and the rod will serve the double function of rail joint and spacing bar. In Figs. 4 and 5, the movable braces on the end of the tie rod are shown as thus widened out laterally to provide fish plates for securing the adjoining ends of the rails.

From the foregoing description taken in connection with the drawings the many advantages and usefulness of my invention will be readily understood and appreciated and it will be evident that I have produced a practical device which accomplishes all the results herein set forth as the objects of my invention.

I claim:

1. A rail fastening comprising a tie rod, braces mounted thereon having angular extensions, means for clamping the braces against the rails, and means for anchoring the extensions on the braces to cause said braces to exert leverage against the rails.

2. A rail brace and fastening comprising a tie rod, braces confined thereon in close en-

gagement with the rails, said braces having depending leverage extensions, and links securing the leverage ends of the braces to cause said braces to exert leverage against said rails.

3. A rail fastening comprising a tie rod, clamps arranged thereon, means to secure the clamps in close engagement with the rails, one or more of the clamps having leverage extensions, and means for anchoring the leverage extension of the clamp or clamps.

4. A rail fastening comprising a tie rod, braces arranged thereon, means for adjustably clamping the braces against the rails, one or more of the braces having depending leverage extensions, and means for anchoring the said leverage extensions.

5. A rail fastening comprising a tie rod, clamps arranged thereon, means to secure the clamps in close engagement with the rails, the clamps having depending extensions, and means for anchoring the depending extensions of the clamps.

6. A rail fastening comprising a tie rod, clamps on the ends of the rod engaging the outer faces of the rails, means for holding the clamps in engagement with the rails, the clamps having depending leverage extensions, and means for anchoring said extensions to cause the clamps to exert leverage against the rails.

7. A tie rod having an integral widened extension at one end forming a fish plate to engage the outer face of the rail, a clamp to cooperate with said fish plate portion to engage the opposite inner face of the rail, clamps adjustably secured on the opposite end of the rod and means for anchoring one or more of the clamps to the tie or other stationary object.

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

AMOS J. COOVER.

Witnesses:

WM. N. MOORE,
CAROLINE OSBORN.