

No. 725,833.

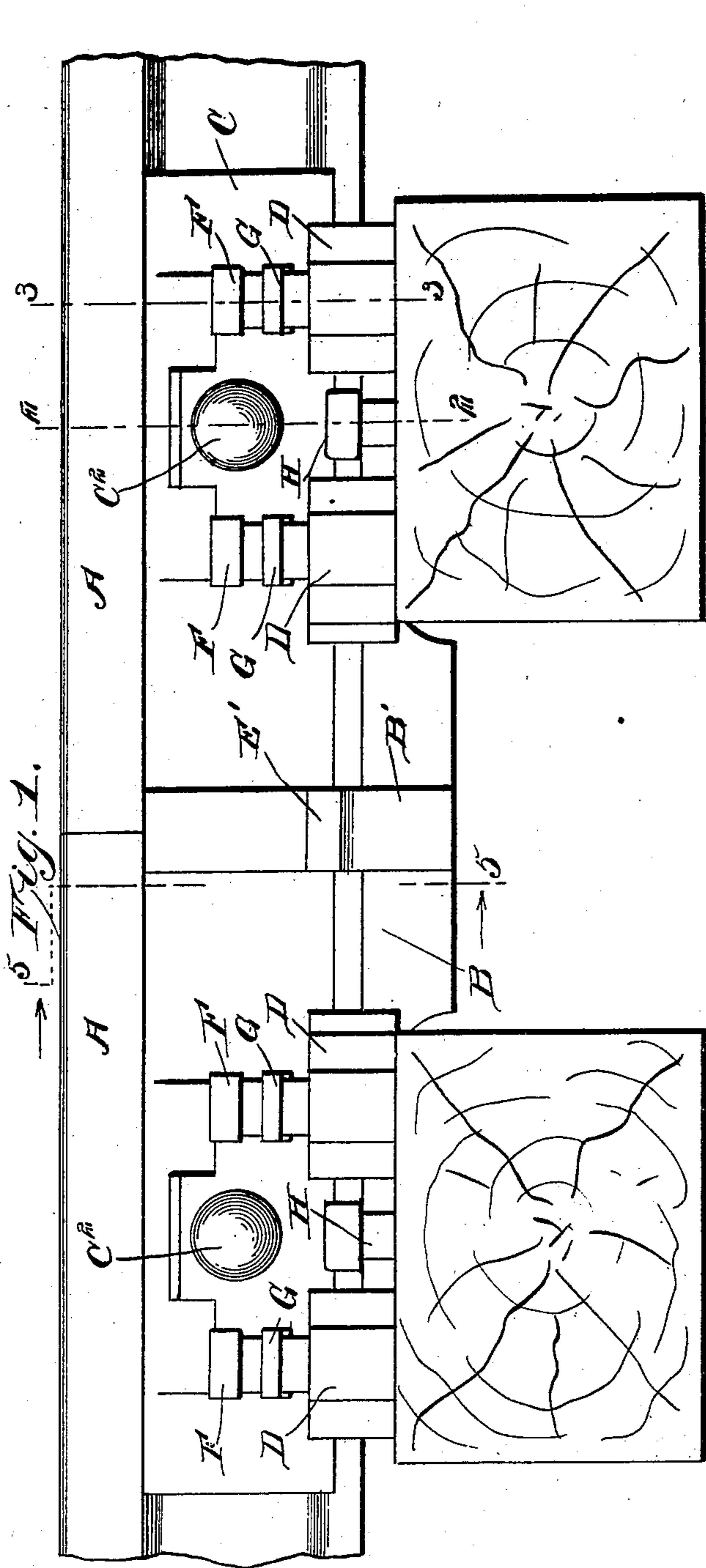
PATENTED APR. 21, 1903.

J. H. FOWLER.  
RAIL JOINT.

APPLICATION FILED SEPT. 9, 1902.

NO MODEL.

3 SHEETS—SHEET 1.

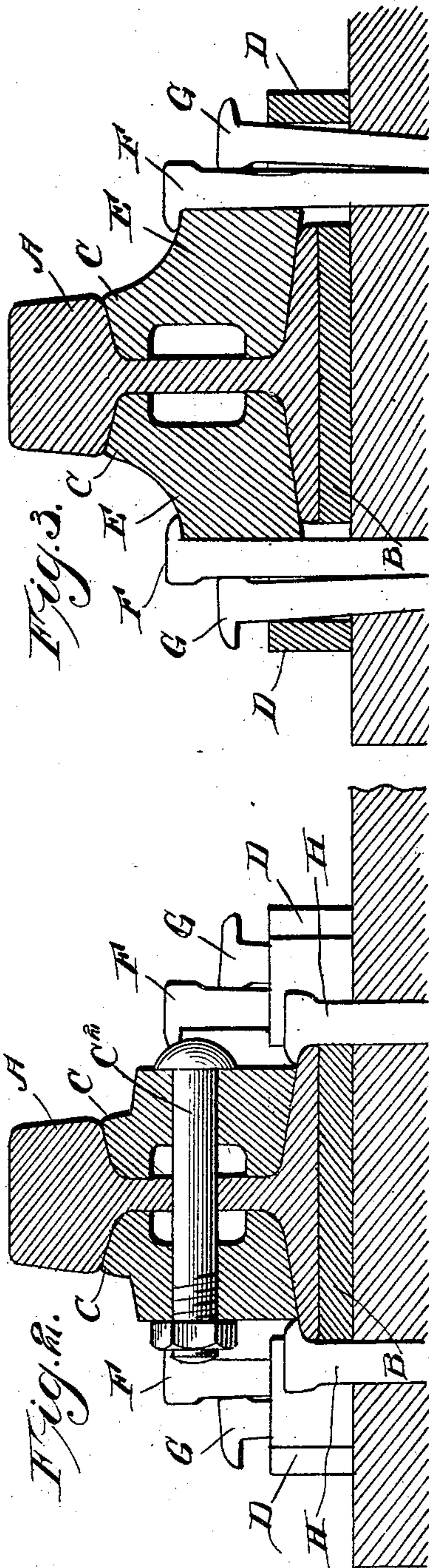


Witnesses

Witnesses  
Louis D. Heinrichs  
L. H. Morrison

By His Attorney

Inventor.  
*John H. Fowler*  
Orney  
*Wm. H. Williams*



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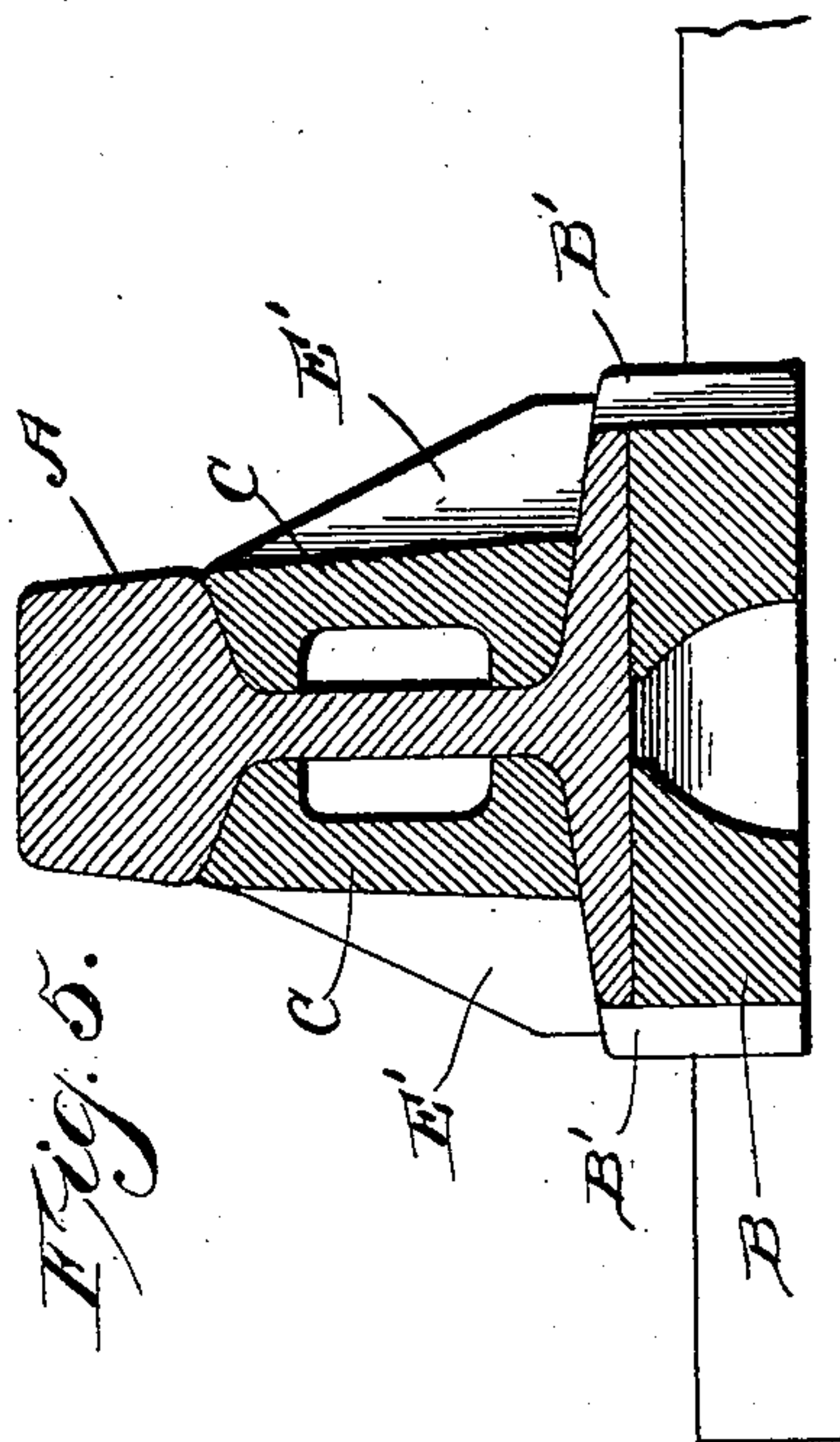
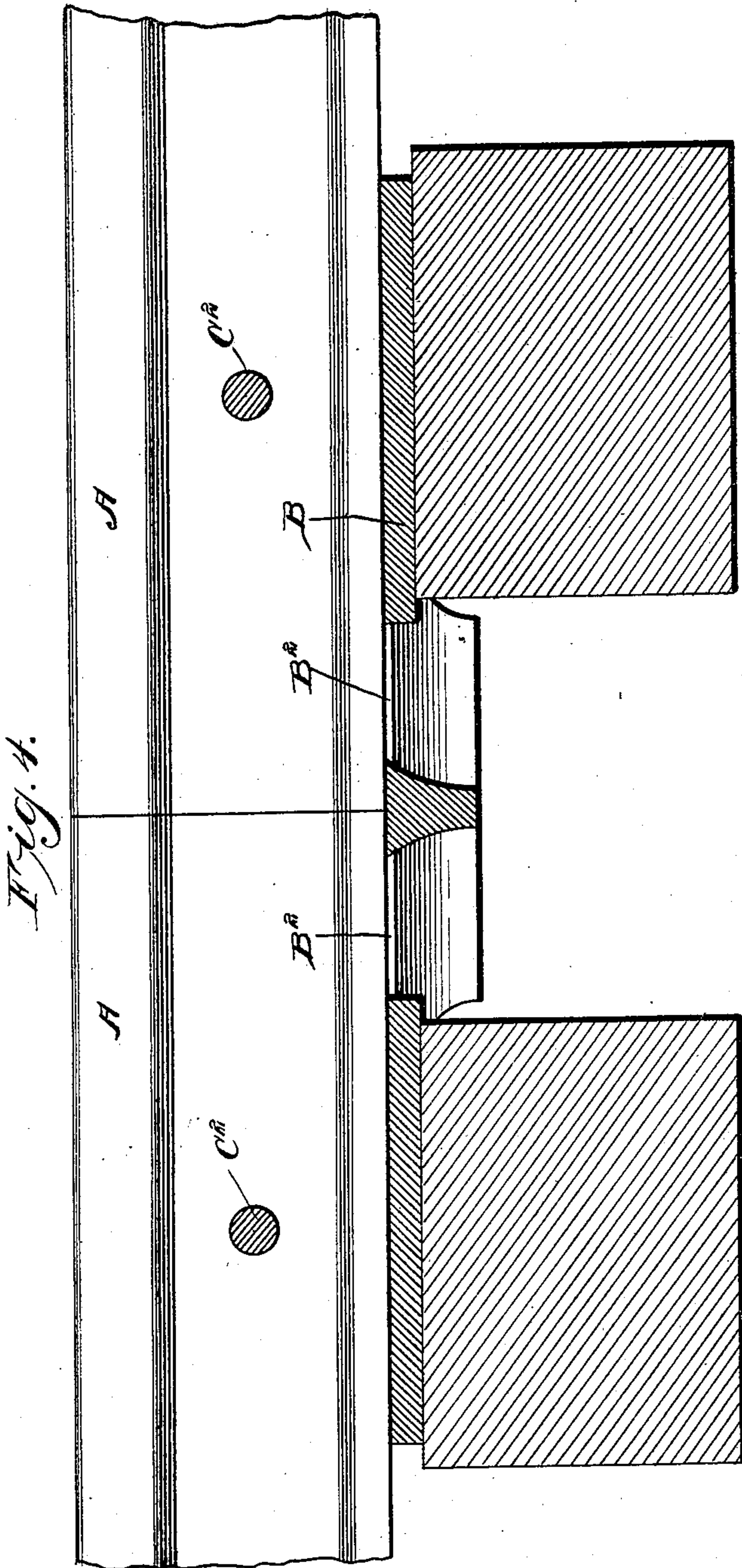
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3 SHEETS—SHEET 2.



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*L. H. Morrison*

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Inventor  
*John H. Fowler*  
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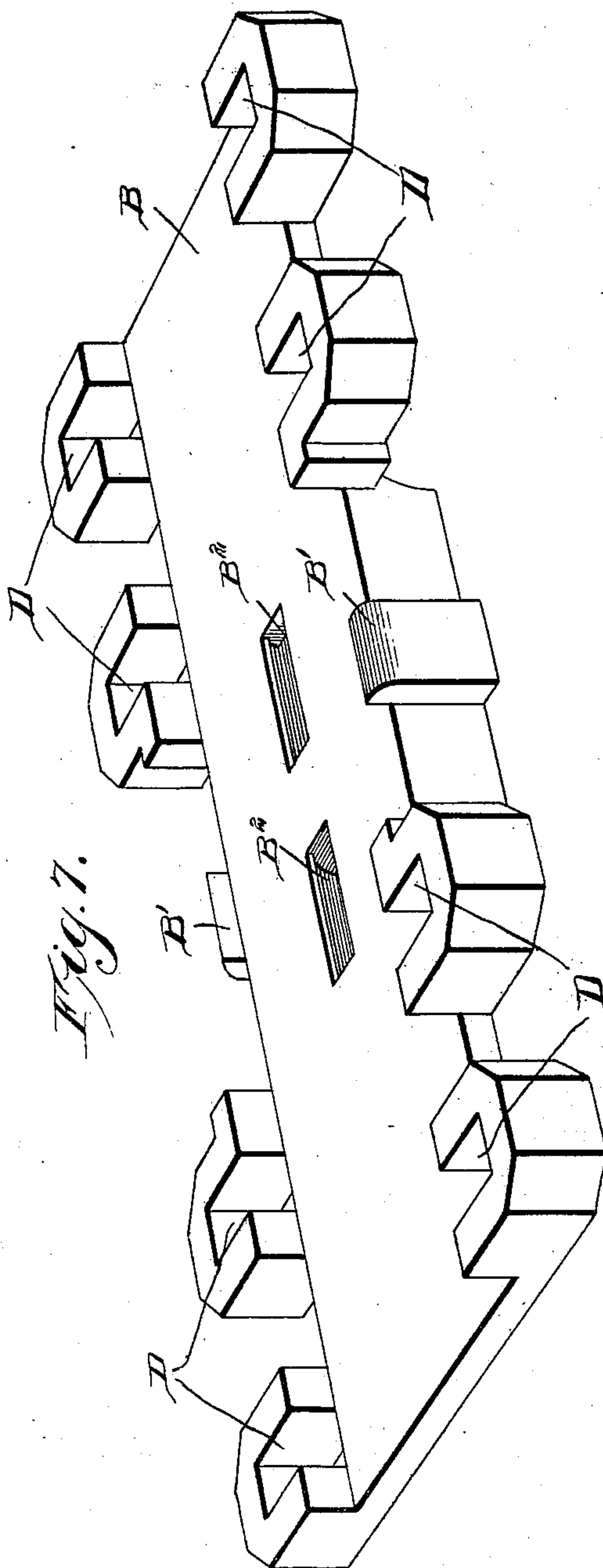
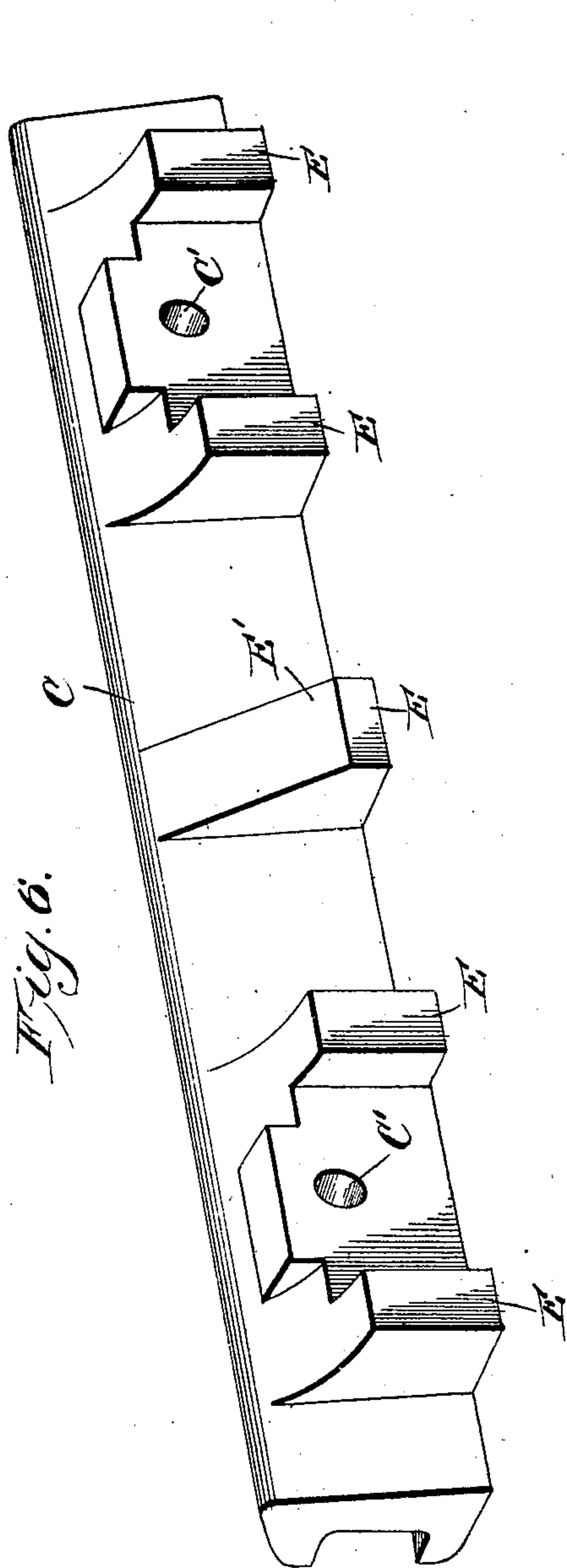
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3 SHEETS—SHEET 3.



Witnesses  
*Louis D. Heinrichs*  
*L. H. Morrison*

Inventor  
*John H. Fowler*  
By his Attorney  
*W. P. Williams*

# UNITED STATES PATENT OFFICE.

JOHN H. FOWLER, OF HUNTINGDON, PENNSYLVANIA.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 725,833, dated April 21, 1903.

Application filed September 9, 1902. Serial No. 122,712. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. FOWLER, a citizen of the United States, residing at Huntingdon, county of Huntingdon, and State of Pennsylvania, 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 a rail-joint which will securely bind the rails together and keep them in perfect alinement and also support the rails at the joint, so as to reduce to a minimum the wear upon the ends of the rails; and a further object of my invention is to provide means whereby the fish-plates can be tightened against the rails if they should become loosened by vibration or wear.

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, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a side elevation of my improved rail-joint; Fig. 2, a section on the line 2 2 of Fig. 1; Fig. 3, a section on the line 3 3 of Fig. 1; Fig. 4, a longitudinal section through the base-plate, the fish-plate being removed; Fig. 5, a section on the line 5 5 of Fig. 1; Fig. 6, a perspective view of one fish-plate; Fig. 7, a perspective view of the base-plate.

A represents the rails, the ends of which rest upon a base-plate B. This base-plate B extends between the ties and rests upon the same.

C represents fish-plates, which fit against the web of the rail upon each side, and these fish-plates are provided with bolt-holes C' in each end through, which bolts C<sup>2</sup> pass through the web of the rails, thus holding the rails against longitudinal movement relative to the fish-plates. The base-plate B is provided upon each side with sockets D, and the fish-plates are provided with projections E, ex-

tending outward, which projections extend a distance in the sockets D, and therefore prevent longitudinal movement of the fish-plates relative to the base-plate. The fish-plates are also provided with a central projection E', extending outward, which when the fish-plates are in place rests upon projections B', extending upward from the base-plate, and the bearing of the fish-plates upon the base-plate is thus equalized. The center of the base-plate B, which lies between the ties and upon which the rails meet, is much thicker than that portion of the base-plate which rests upon the ties, thus strengthening the base-plate at the most important point, and through this central strengthening portion are openings B<sup>2</sup>, which tend to lighten the base-plate, but at the same time do not detract from the strength of the same.

After the rails are in place upon the base-plate and the fish-plates have been bolted to the rails then ordinary railroad-spikes F are inserted through the sockets D next to the projections E and these spikes are driven into the ties. Then ordinary railroad-spikes G are inserted through the sockets outside of the spikes F and are driven into place. These spikes G by being confined between the spikes F and the outer wall of the socket will force the spikes F toward the rails, and the spikes F by being in contact with the fish-plates will bind the fish-plates tightly upon the web of the rails.

H represents spikes driven into the tie between the sockets D and engaging the flange of the rails in the ordinary manner to prevent the rails from rising. It will thus be seen that in this rail-joint the rail by being confined as it is and supported on the base-plate is stronger at the joint than in the balance of the rail, and the rails cannot possibly get out of alinement and the wave of motion communicated to the rails preceding the locomotive is reduced to a minimum, and by means of the tapering keys if at any time the fish-plates or the joint become loose these keys can be removed and the spikes F driven farther into the ties, and then by re-inserting the keys the joint will be tightened, and by supporting the ends of the rails between the ties by the base-plate all danger of



sagging is done away with, and therefore there will be little or no wear upon the ends of the rails.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

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

10 1. In a rail-joint, a base-plate extending between the ties and resting upon the same, the rails resting upon said base-plate and meeting in the center of the same, fish-plates arranged upon each side of the rail and in contact with the web thereof, bolts passing through the fish-plates and also through the web of the rails, sockets formed with the base-plate upon each side of the same, spikes adapted to be driven into the ties through  
15 the sockets, said spikes being in contact with the fish-plates, spikes interposed between the first-named spikes and the outer wall of the sockets, and spikes driven into the ties between the sockets of the base-plate and engaging the flange of the rail, substantially as described.

2. In a rail-joint, the combination of the rails with a base-plate upon which the ends of the rails rest, said base-plate extending  
30 between the ties and resting upon the same, a fish-plate arranged upon each side of the rails and fitting against the web of said rails, bolts passing through the fish-plates and also through the web of the rail, sockets formed with the base-plate upon each side thereof,  
35 projections extending outward from the fish-plates and extending into the sockets some distance, spikes adapted to be driven through the sockets into the ties, said spikes being in contact with the projections extending outward from the fish-plates, spikes inserted between the first-driven spikes and the outer wall of the sockets, and spikes adapted to be driven into the ties between the sockets, the heads of said spikes engaging the flange of the rails, substantially as and for the purpose specified.

3. In a rail-joint, the combination of rails, fish-plates arranged upon each side of the rails and bolted thereto, with a base-plate  
50 upon which the ends of the rails rest, said base-plate extending between two ties and resting upon the same, openings formed through said base-plate, spikes adapted to be driven through said openings into the tie, the inner face of said spikes being in contact with the fish-plates and spikes adapted to be inserted between the first-driven spikes and the outer wall of the openings, as specified.

4. In a rail-joint, a base-plate extending between the ties and resting upon the same, said base-plate being thicker between the ties than that portion which rests upon the ties, and this thickened portion provided with vertical openings formed therethrough, fish-plates arranged upon each side of the rail and in contact with the web thereof, bolts passing through the fish-plates and also through the web of the rails, sockets formed with the base-plate upon each side of the same, projections extending outward from the fish-plates and extending into the sockets some distance, ordinary railroad-spikes adapted to be driven through the sockets into the ties, said spikes being in contact with the projections extending outward from the fish-plates, a second set of ordinary railroad-spikes adapted to be inserted between the first-named spikes and the outer wall of the sockets, spikes adapted to be driven into the ties between the sockets, the heads of the spikes engaging the flange of the rails, projections extending outward from the fish-plates in the center of the same, lugs extending upward from the base-plate upon which said central projections rest, substantially as and for the purpose specified.

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

JOHN H. FOWLER.

Witnesses:

R. A. ORBISON,  
R. E. ISENBERG.