

No. 634,924.

Patented Oct. 17, 1899.

G. A. WEBER.

RAIL JOINT.

(Application filed Apr. 5, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

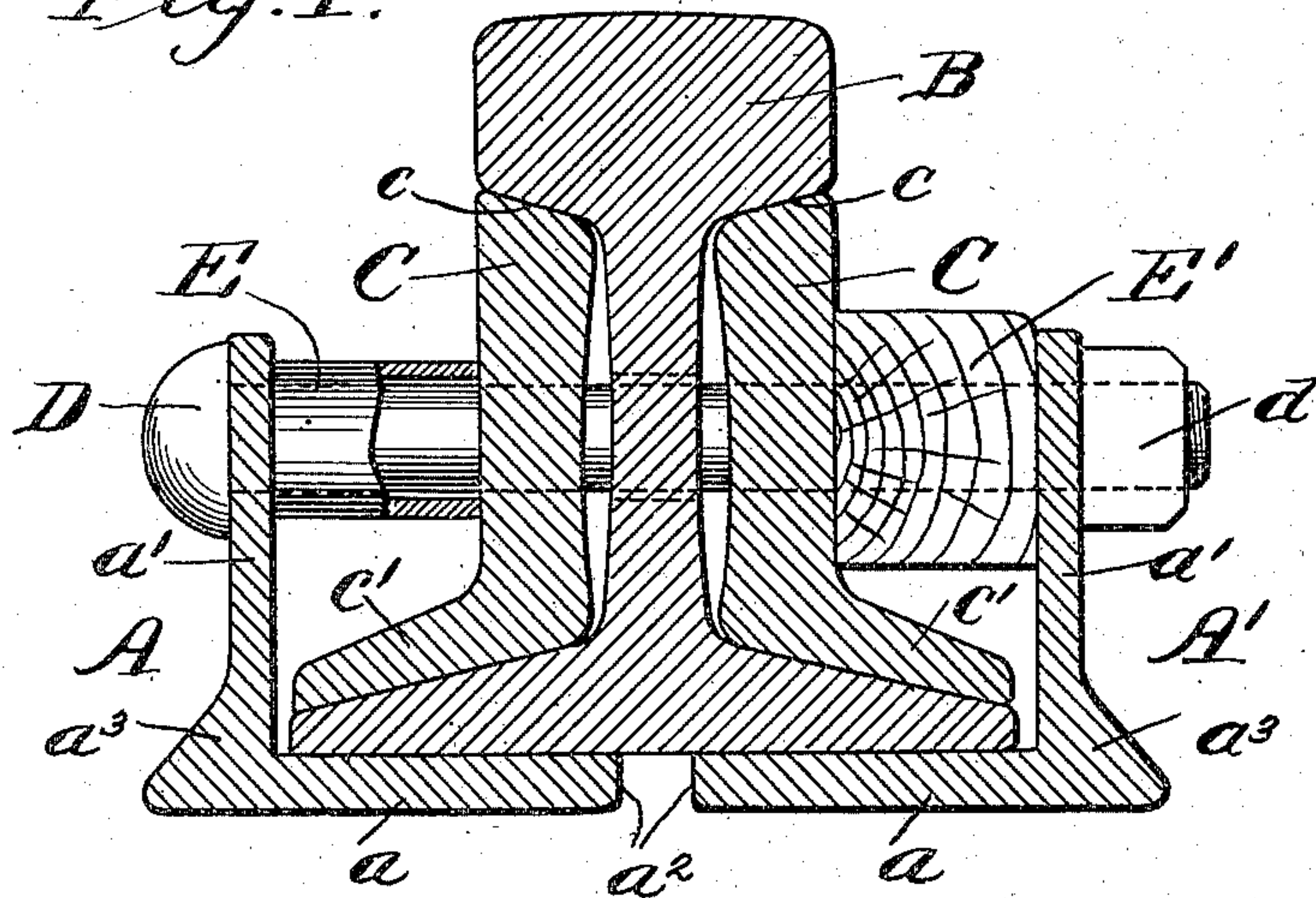
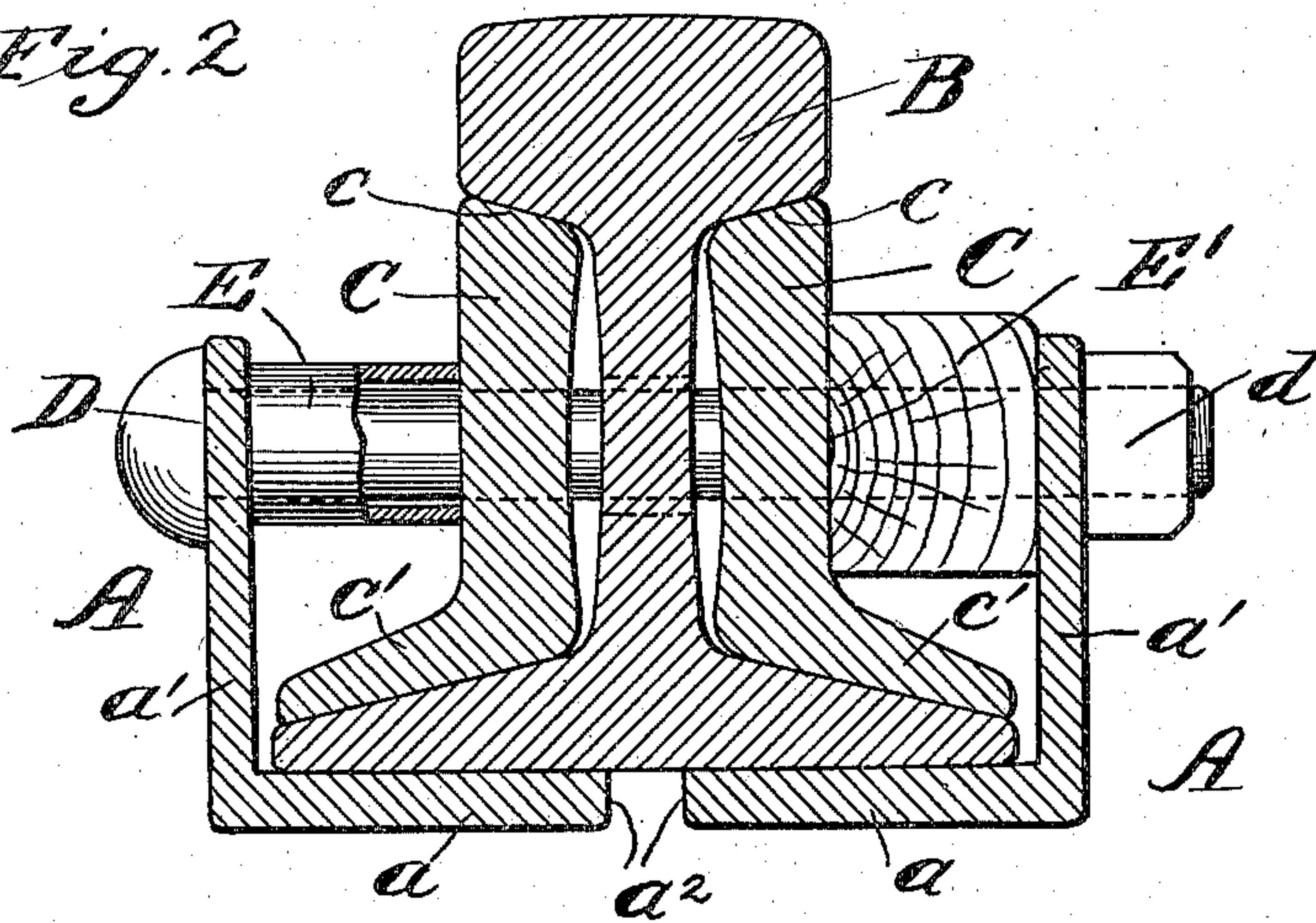


Fig. 2



WITNESSES:

*Geo. C. Cruise*

*Donald Campbell*

INVENTOR

GEORGE A. WEBER.

BY *Edwin H. Brown*

HIS ATTORNEY.

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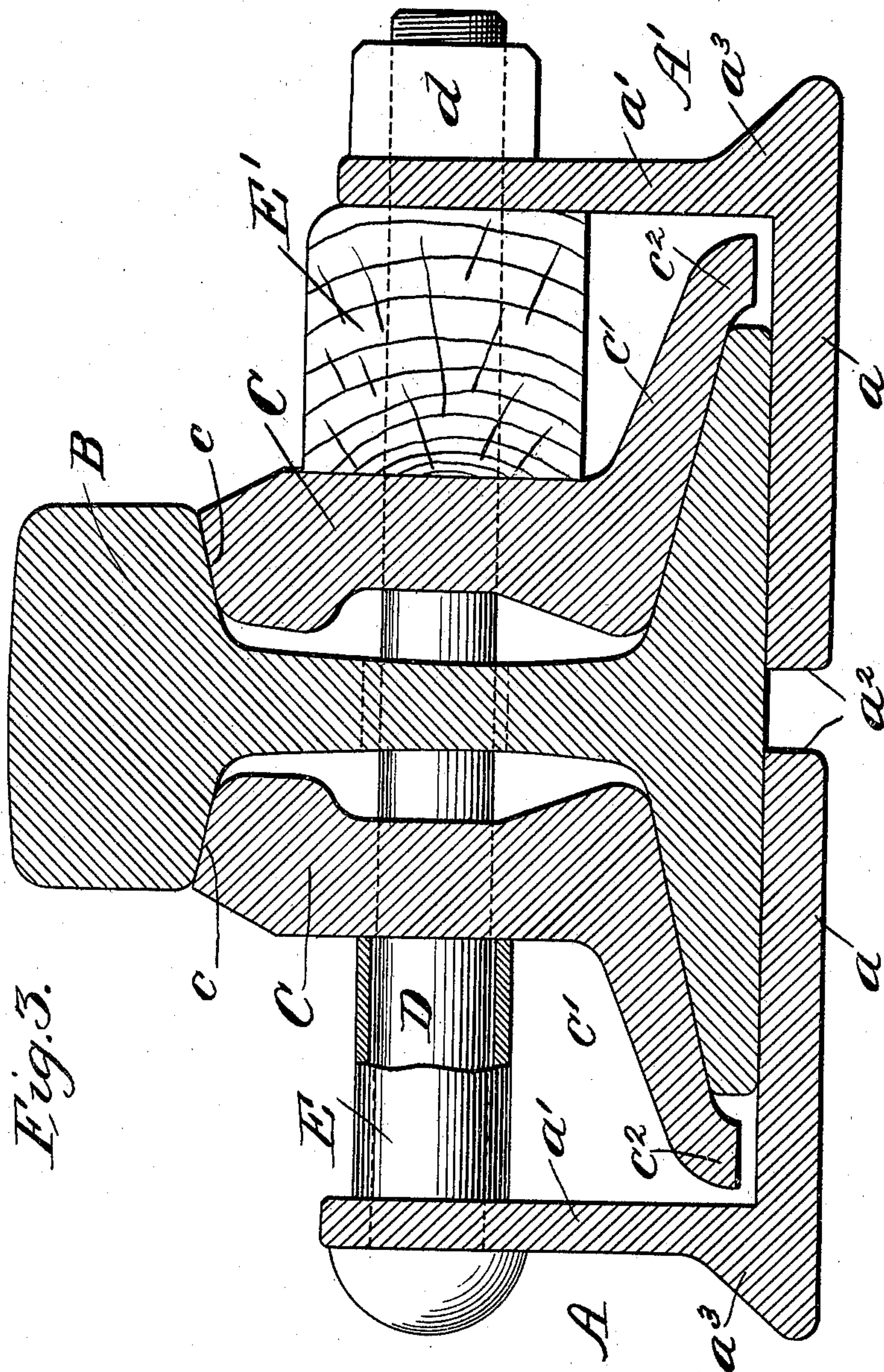


Fig. 3.

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# UNITED STATES PATENT OFFICE.

GEORGE A. WEBER, OF NEW YORK, N. Y.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 634,924, dated October 17, 1899.

Application filed April 5, 1899. Serial No. 711,784. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. WEBER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My improvement relates to rail-joints.

I will describe a rail-joint and modifications thereof embodying my improvement, and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a transverse vertical section of a rail-joint embodying my improvement. Fig. 2 is a view similar to Fig. 1 and showing a slight modification. Fig. 3 is a view also similar to Fig. 1 and showing still another modification. Fig. 3 is drawn to a larger scale than Figs. 1 and 2.

Similar letters of reference refer to corresponding parts in all of the figures.

A A' represent angle-rail chairs, each having a base  $a$  and a vertical arm or member  $a'$ , adjacent one edge of the base  $a$ . The bases  $a$  of the chairs support the ends of adjacent rails which are to be joined. B represents one of such rails. A chair is placed on each side of the rail ends, as shown, so as to form a channel for the rail ends. The edges  $a^2$  of the rail-chair, however, do not meet. The purpose of this is that when the bolts of the joint are tightened the bases of the rail-chairs will be brought toward each other, thereby at all times providing a firm and solid base for the rail at its ends. At the same time that the angle-chairs are brought together the fish-plates will be firmly wedged between the flanges and heads of the rails, thus providing for a rigid support for the rail ends.

C represents fish-plates, one being located on each side of the rail ends to be joined. The fish-plates are each provided with a head portion  $c$ , which bears against the under side of the rail-head, and with a base portion  $c'$ , which bears on one part of the rail-flange.

D represents a bolt which passes through openings provided in the vertical arms of the angle-chairs, fish-plates, and web of the rail. A nut  $d$  is provided on the end of the bolt for holding the parts together through which the bolt passes. Intermediate the vertical arm

of the rail-chairs and the fish-plates I locate washers. The washers may be either rigid or elastic or I may employ one of each, as shown in the drawings.

E represents a rigid washer, which in this instance is in the form of a sleeve inclosing the bolt, and E' an elastic washer consisting in this instance of wood. Suitable openings are provided in the elastic washer for the bolts D. Instead of wood forming the elastic washers a spiral or other spring may be substituted.

Fig. 1 represents my preferred form of joint. In this form the angle-rail chairs are each provided with a strengthening rib or piece  $a^3$ . This rib or strengthening-piece is provided at that point where the base and vertical arm or member meet. It is located on the outside of the angle formed by the base and vertical arm or member, and it is preferably integral with these two parts.

Fig. 2 shows a modification of the form shown in Fig. 1. In this form of joint the strengthening-rib  $a^3$  is omitted from each angle-chair.

Fig. 3 shows the application of the angle-chairs shown in Fig. 1 to the ordinary form of joint, with the addition, of course, of washers intermediate the fish-plates and vertical arms of the angle-chairs. The bases of the fish-plates employed in the ordinary joint are each formed with the curved end  $c^2$ . In some instances, in the application of the angle-chairs to this form of joint, it may be necessary to have the base  $a$  of each angle-chair wider to provide space between the flange of the rail and the vertical arms or members of the angle-chairs for the curved ends of the fish-plate.

What I claim as new is—

1. The combination of the rail ends, an angle-chair on each side of the rail ends, said angle-chairs each having a base, and a vertical arm or member, the bases of said angle-chairs being beneath the flanges of the rail ends and having a space between their adjacent edges, fish-plates on each side of the rail ends, washers intermediate the vertical arms or members of the angle-chairs and fish-plates and bolts passing through the vertical arms or members, fish-plates, washers and rail ends, substantially as described.

2. The combination of the rail ends, an angle-chair on each side of the rail ends, said angle-chairs each having a base, a vertical arm or member and a strengthening-rib, the  
5 bases of said angle-chairs being beneath the flanges of the rail ends and having a space beneath their adjacent edges, fish-plates on each side of the rail ends, washers intermediate the  
10 and fish-plates, and bolts passing through the

vertical arms or members, fish-plates, washers and rail ends, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE A. WEBER.

Witnesses:

CHARLES J. HOEHNLE,  
GEO. E. CRUSE.