

T. COSGROVE.  
COMBINED RAIL JOINT AND TIE PLATE.

(Application filed Oct. 8, 1901.)

(No Model.)

Fig. 2.

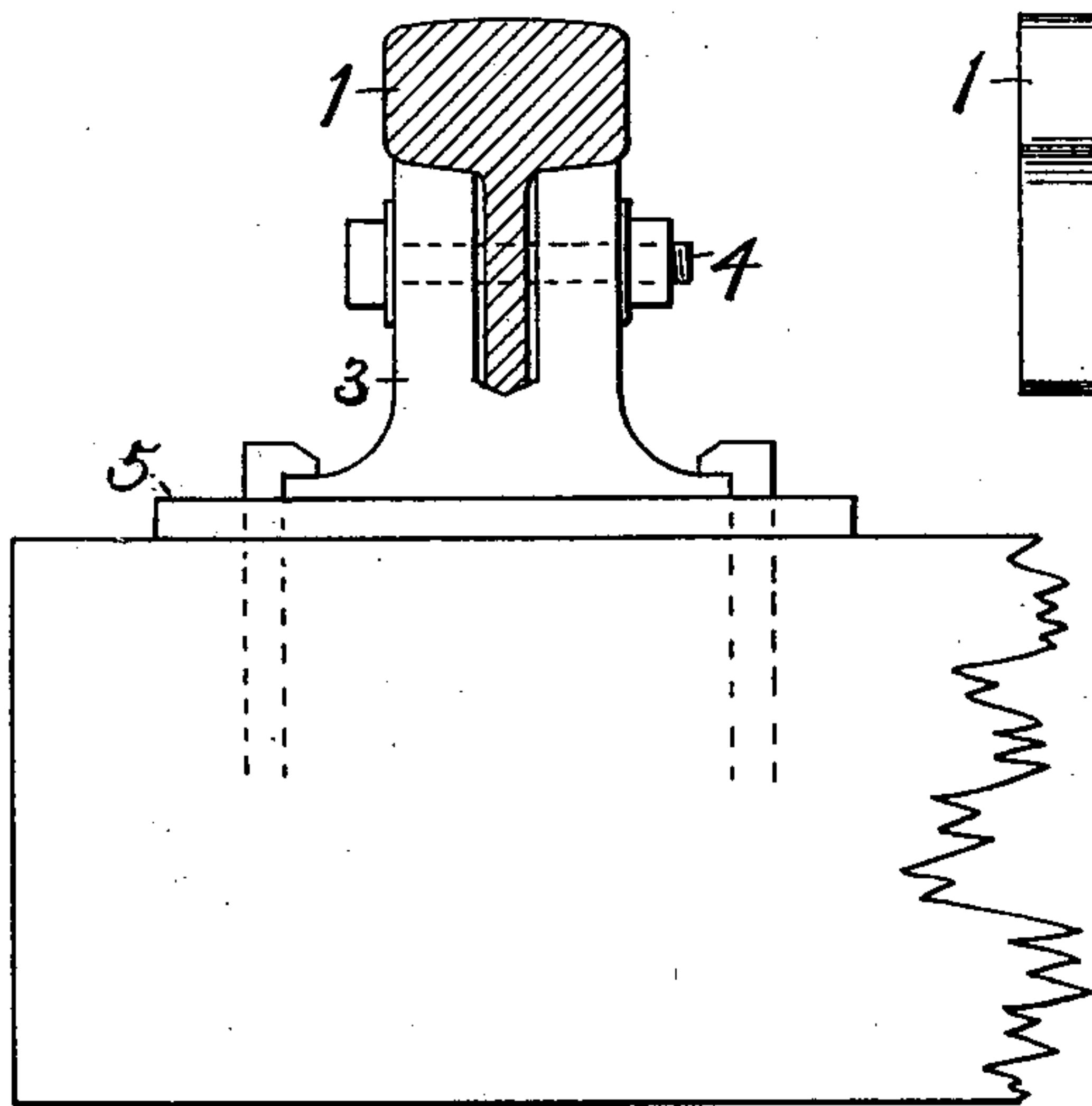


Fig. 4.

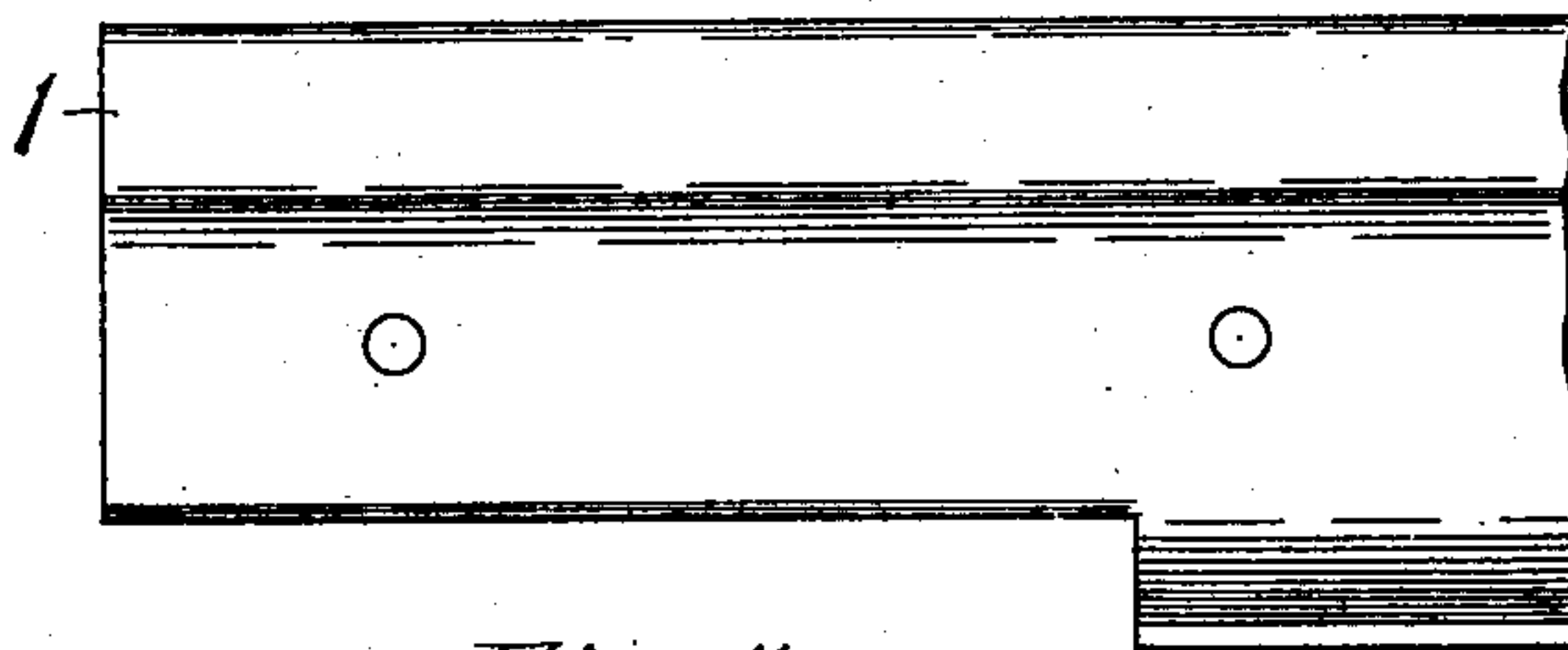


Fig. 5.

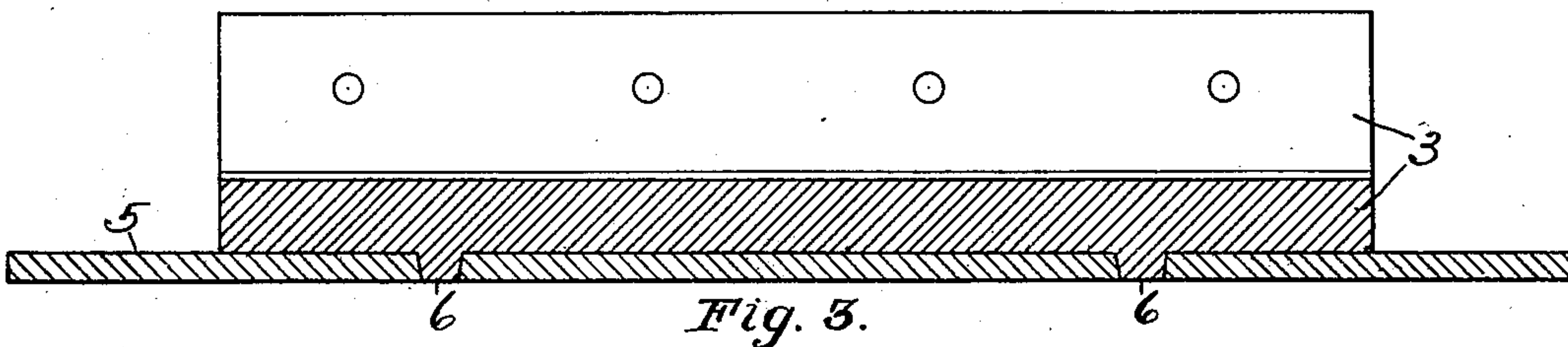
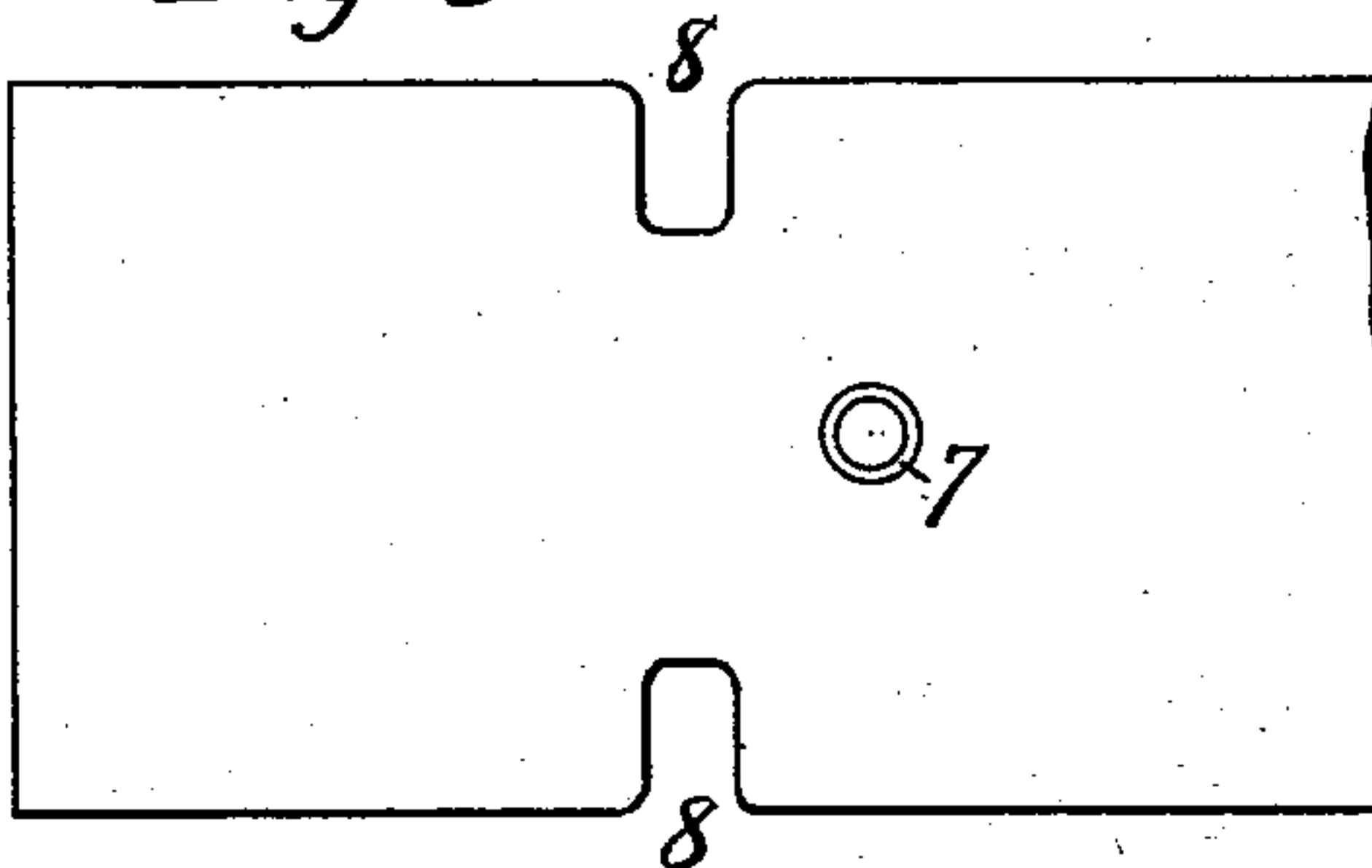


Fig. 3.

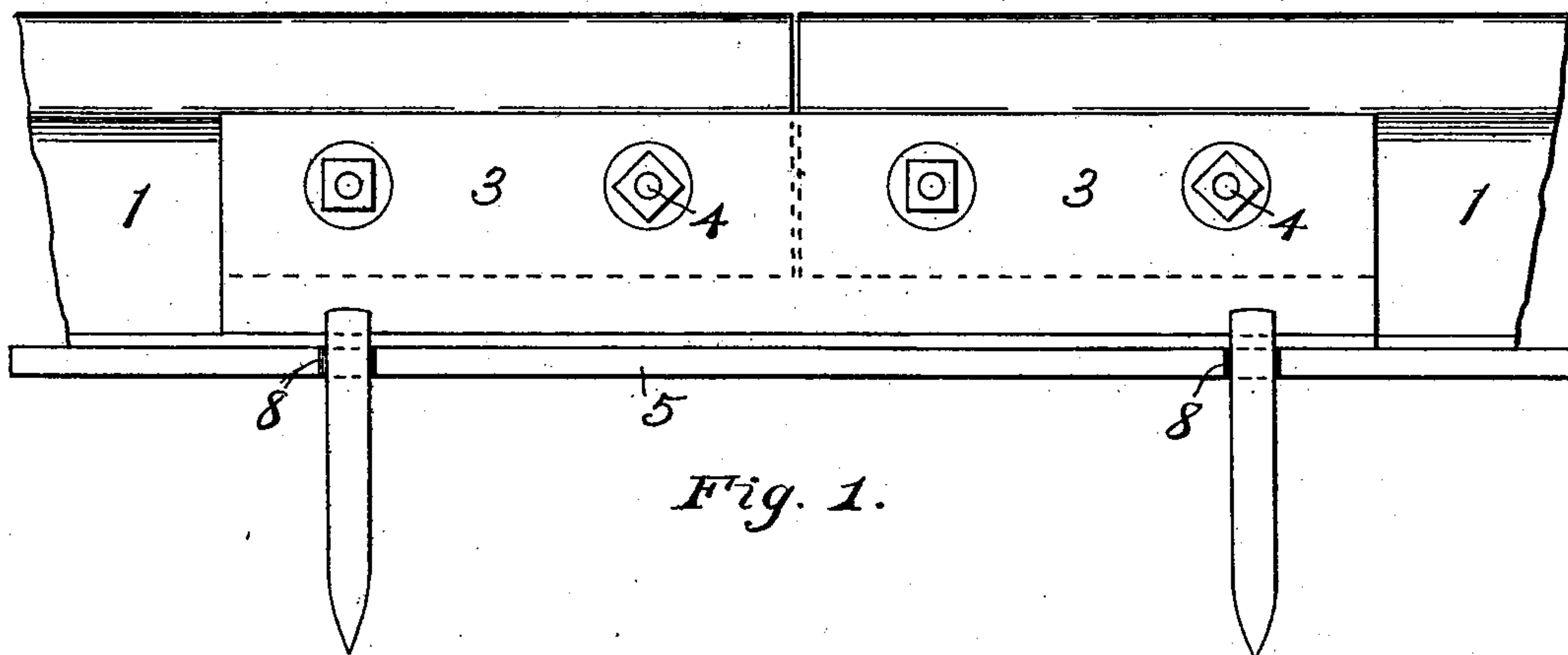


Fig. 1.

Witnesses,

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# UNITED STATES PATENT OFFICE.

THOMAS COSGROVE, OF KANSAS CITY, MISSOURI.

## COMBINED RAIL-JOINT AND TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 701,849, dated June 10, 1902.

Application filed October 8, 1901. Serial No. 77,955. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS COSGROVE, a citizen of the United States, and a resident of Kansas City, in the county of Jackson and State of Missouri, have invented new and useful Improvements in a Combined Rail-Joint and Tie-Plate, of which the following is a specification.

My invention relates to combined rail-joints and tie-plates; and my invention consists in the combination of a one-piece chair with a special tie-plate upon which the chair is mounted, the chair being provided with a longitudinal groove in which the webs of the meeting rails rest, the foot or base of each rail being cut away at the ends to permit the web to enter said groove, all of which will be fully described hereinafter with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my rail-joint and tie-plate, the rails being broken away. Fig. 2 is a transverse section through one of the rails, showing the chair and tie-plate and the end of a tie or sleeper. Fig. 3 is a central vertical longitudinal section of the chair and the tie-plate. Fig. 4 is a side view of the end portion of one of the rails. Fig. 5 is a plan view of one-half of the tie-plate.

At each end of each rail 1 the base or spiking flanges are cut away, as shown in Fig. 4, to permit the web of the rail to be seated in a groove 2 in the chair 3, as shown in Fig. 2. The groove is preferably wider than the thickness of the rail-web, so that heavy paper or other material may be placed in the groove at the sides of the web to prevent looseness or rattling of the rails. The heads of the rails rest on the top of the chair 3, and the bottoms of the webs rest on the bottom of the groove

2, as shown. Bolts 4 pass through the rails and the chair 3, securing the rails in position. The chair 3 is provided with a base of about the same width as the bases of the rails and rests on a tie-plate 5. (Shown in section and in plan in Figs. 3 and 5, respectively.) To hold the chair 3 immovable with respect to the plate 5, studs or bosses 6 are cast on the bottom of the chair and rest in holes or sockets 7 in said plate.

Notches 8 for the spikes are formed in the tie-plate 5, whereby longitudinal movement of the tie-plate is prevented. The foot-flanges of the chair are held down by the spikes, as shown in Fig. 2.

The advantage of the herein-described rail-joint over fish-plates or similar devices is that the chair 3 is one solid piece, which holds the ends of the rails more firmly together than fish-plates, besides relieving the bolts 4 of nearly all strain.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

A rail-joint comprising a tie-plate provided with recesses, a chair having projections entering said recesses, to prevent relative movement therebetween, a longitudinal groove in the top of the chair, the rails having their bases cut away at the ends and the ends of their webs mounted in said groove, and bolts passing through the webs and the chair; substantially as described.

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

THOMAS COSGROVE.

Witnesses:

O. M. VAN DORSTON,  
M. L. LANGE.