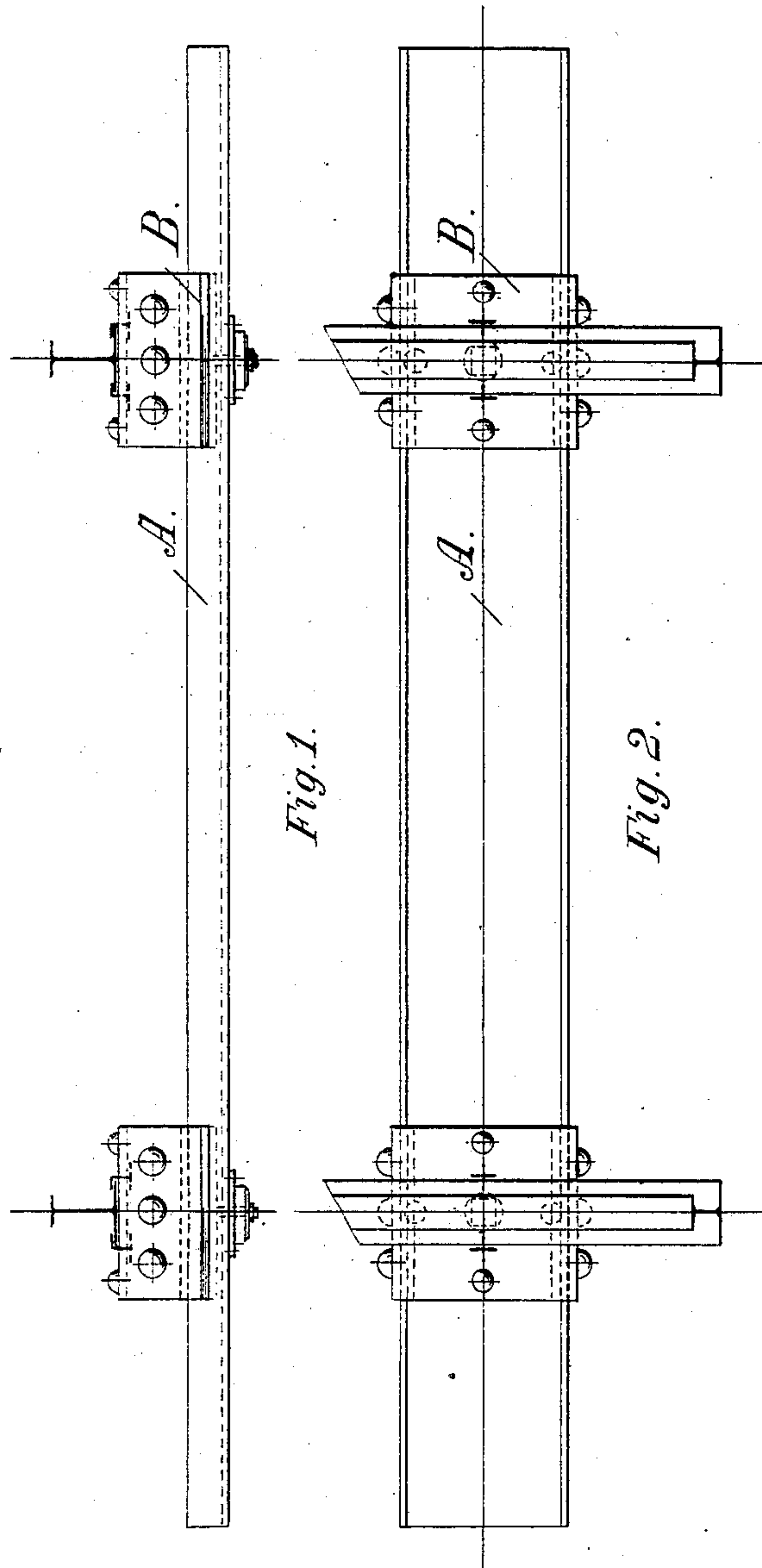


G. MACKAY.
METAL RESILIENT RAILWAY TIE.
APPLICATION FILED MAY 4, 1908.

904,629.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.



Witnesses

Wm. A. Johnson
Frank J. Tellefsen
G. M. Del.

Inventor

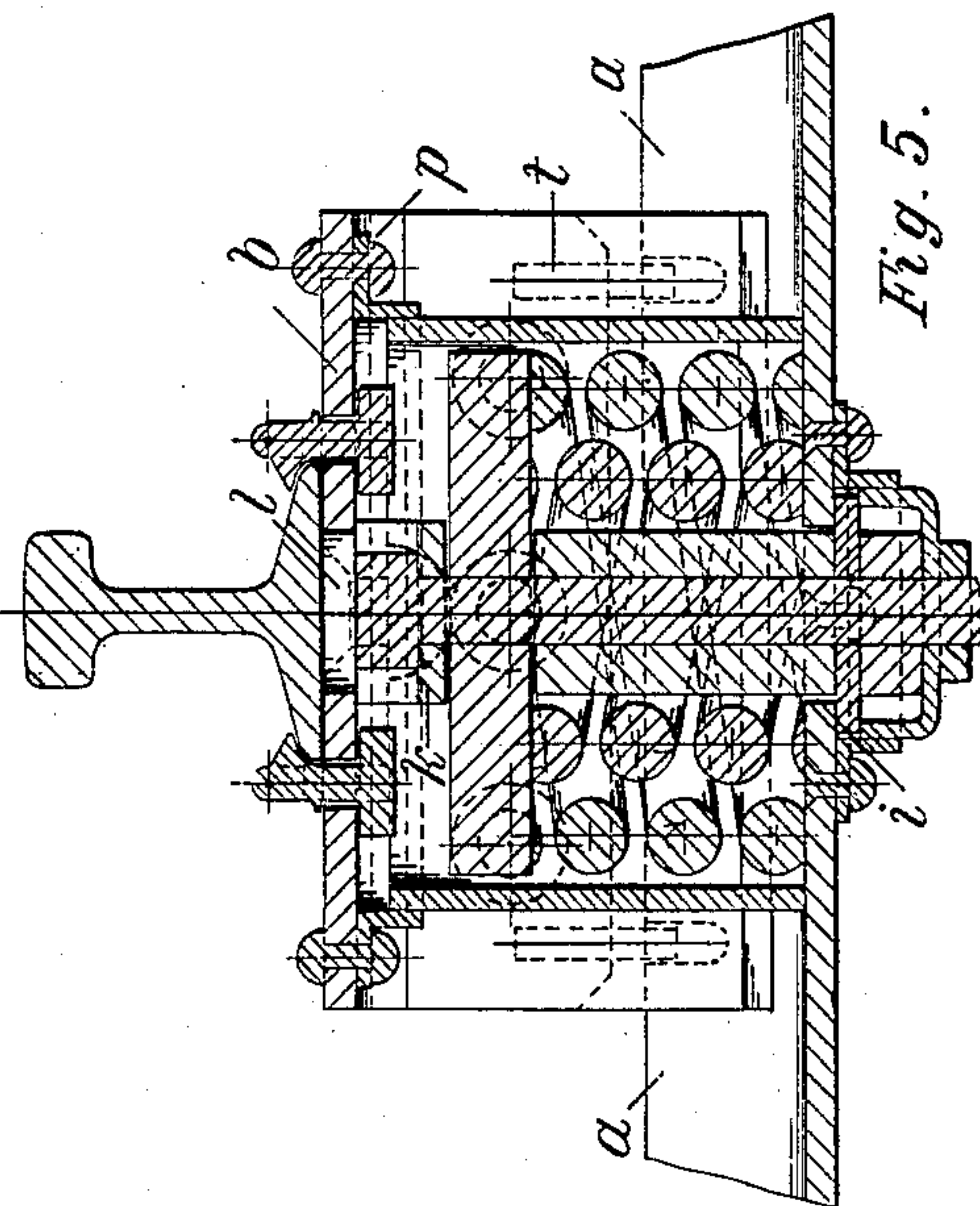
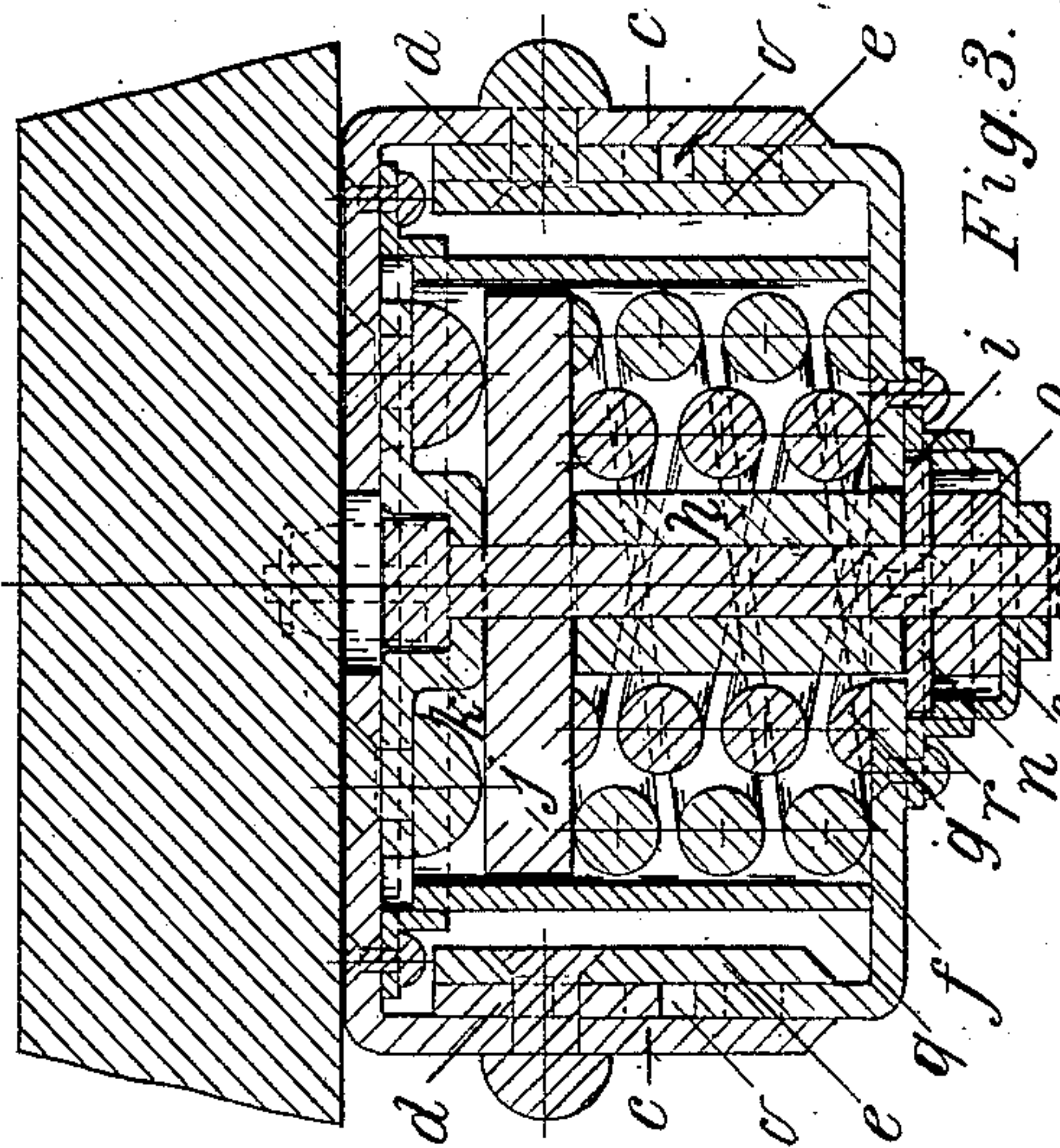
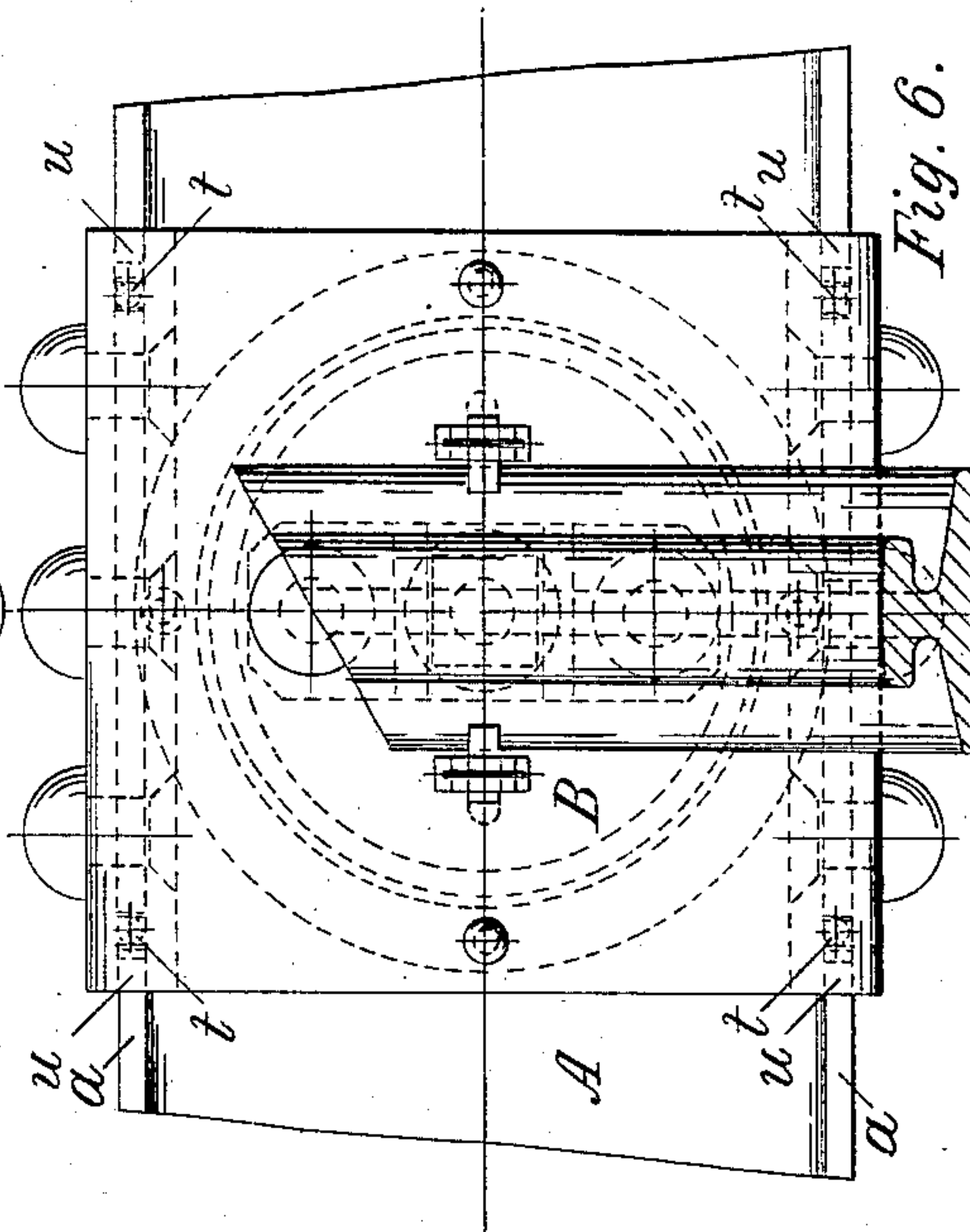
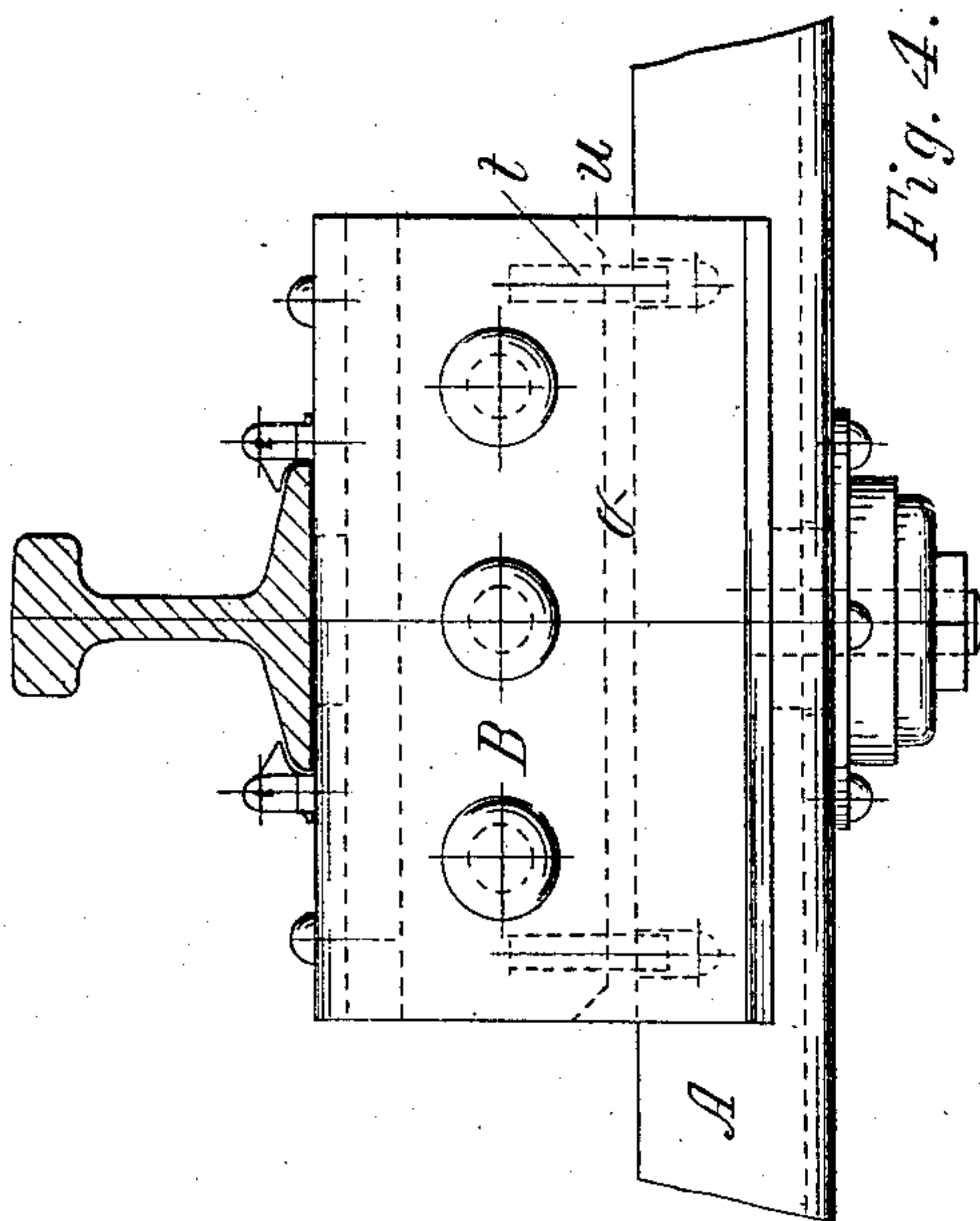
George Mackay.

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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE MACKAY, OF WASHINGTON, DISTRICT OF COLUMBIA.

METAL RESILIENT RAILWAY-TIE.

No. 904,629.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed May 4, 1908. Serial No. 430,683.

To all whom it may concern:

Be it known that I, GEORGE MACKAY, a citizen of the United States, residing at the Ebbitt House, city of Washington, District of Columbia, have invented a New Metal Resilient Railway-Tie, of which the following is a specification.

My invention relates to improvements in railway ties in which a flanged base con-
10 joined with resilient rail-chairs constitute the tie; and the object of my improvement is to obtain a safe, durable and dependable railway tie. I attain this object by the tie illustrated in the accompanying drawings,
15 in which:

Figure 1, shows a full side view of the tie; Fig. 2, a full top view; Fig. 3, a cross section through the chair; Fig. 4, a side view at the chair; Fig. 5, a longitudinal section through
20 the chair; and Fig. 6, a top view at the chair.

The rail-fastening shown is my Patent No. 889471, dated June 2, 1908.

Similar letters refer to similar parts throughout the several views.

25 The base A is an angle-plate with upright flanges *a—a*. The rail-chairs are designated by B—B, each of which is an angle-plate with a top *b*, and turned-down flanges *c—c*. To each chair-flange is attached a center-plate *d*, and an inner-plate *e*, the center-plate not being as deep as the adjoining plates thus forming recesses or slideways *v—v*, in both
30 flanges, to engage the respective flanges *a—a* of the base A. Each chair contains right and left spiral springs *f—g*, one within the other; each chair is secured to the base by a vertical center-bolt *m*, which is introduced through an opening *l*, in the top *b*. The

head is held by the washer *k* which is attached to the top *b*. The center bolt passes 40 through a bearing-plate *j*, supported on the springs, and is fitted with a sleeve *h*, within the springs, the lower end of which works in an opening *i*, in the base A; below the base the bolt-end is provided with a stop-washer 45 *n*, and a nut *o*.

p, is an angle-ring which engages a cylinder *q*, that shields the springs from ballast; engaging angle-rings *r—s*, guard the springs at the opening *i*, in the base A; stud-bolts 50 *t, t, t—t* protect the slideways *v—v*.

The springs—at rest—maintain the recesses or slideways between each chair and the base, and they permit the chairs and the center-bolts to yield and recover when actu- 55 ated by a load on the rails.

The chairs are adjusted and secured to the base by the vertical center-bolt and this bolt controls the limit of their resiliency.

What I claim as my invention and desire 60 to secure by Letters Patent, is:

A metal resilient railway tie comprising a flanged base with resilient rail-chairs; the sides of the chairs being provided with slide-ways to engage the flanges of the base, each 65 of said chairs being secured to the base by a center-bolt, and provided with double springs.

In testimony whereof I have signed my name to this specification in the presence of 70 two subscribing witnesses.

GEORGE MACKAY.

Witnesses:

WM. A. JOHNSON,
FRANK J. TIBBETS.