

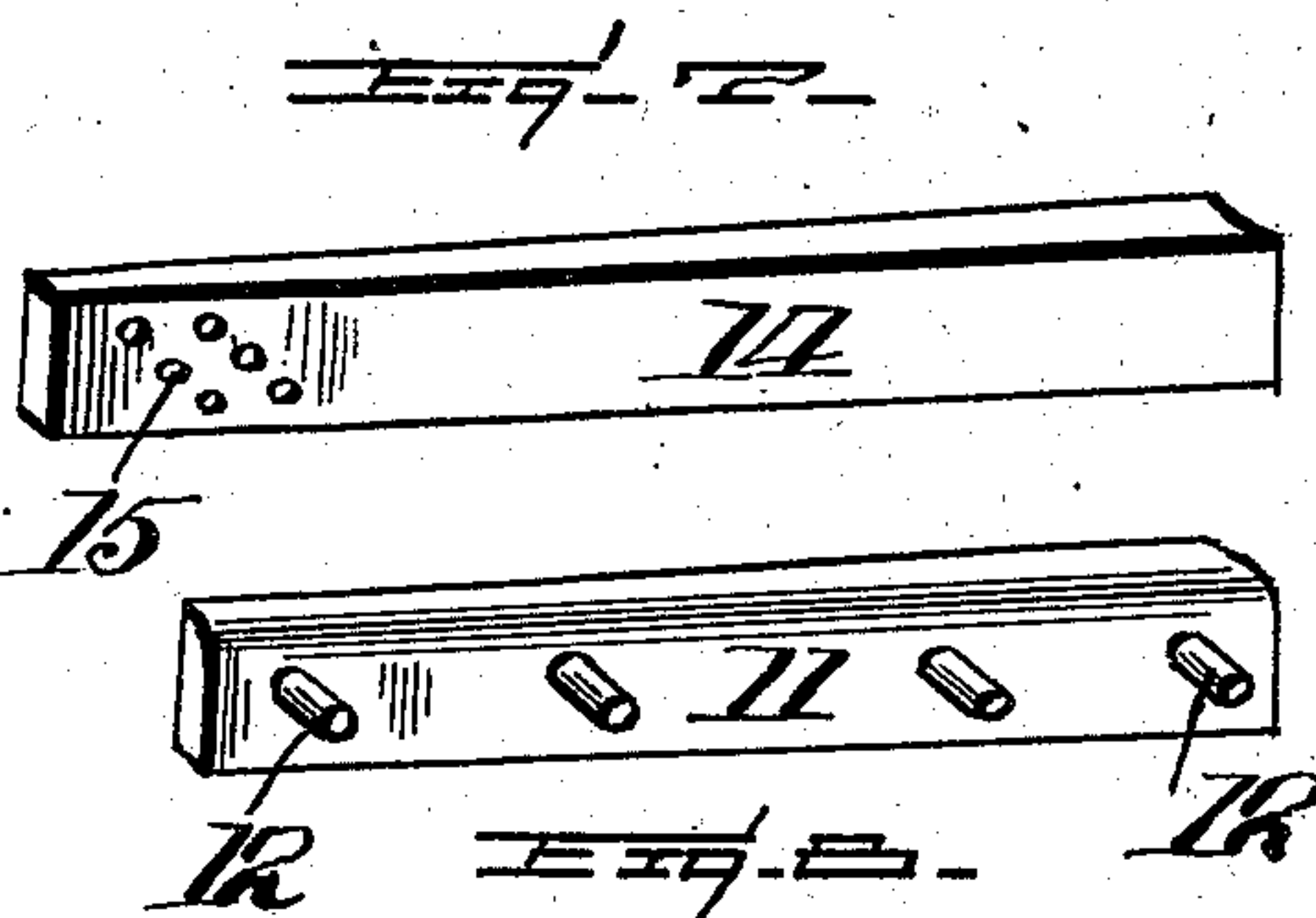
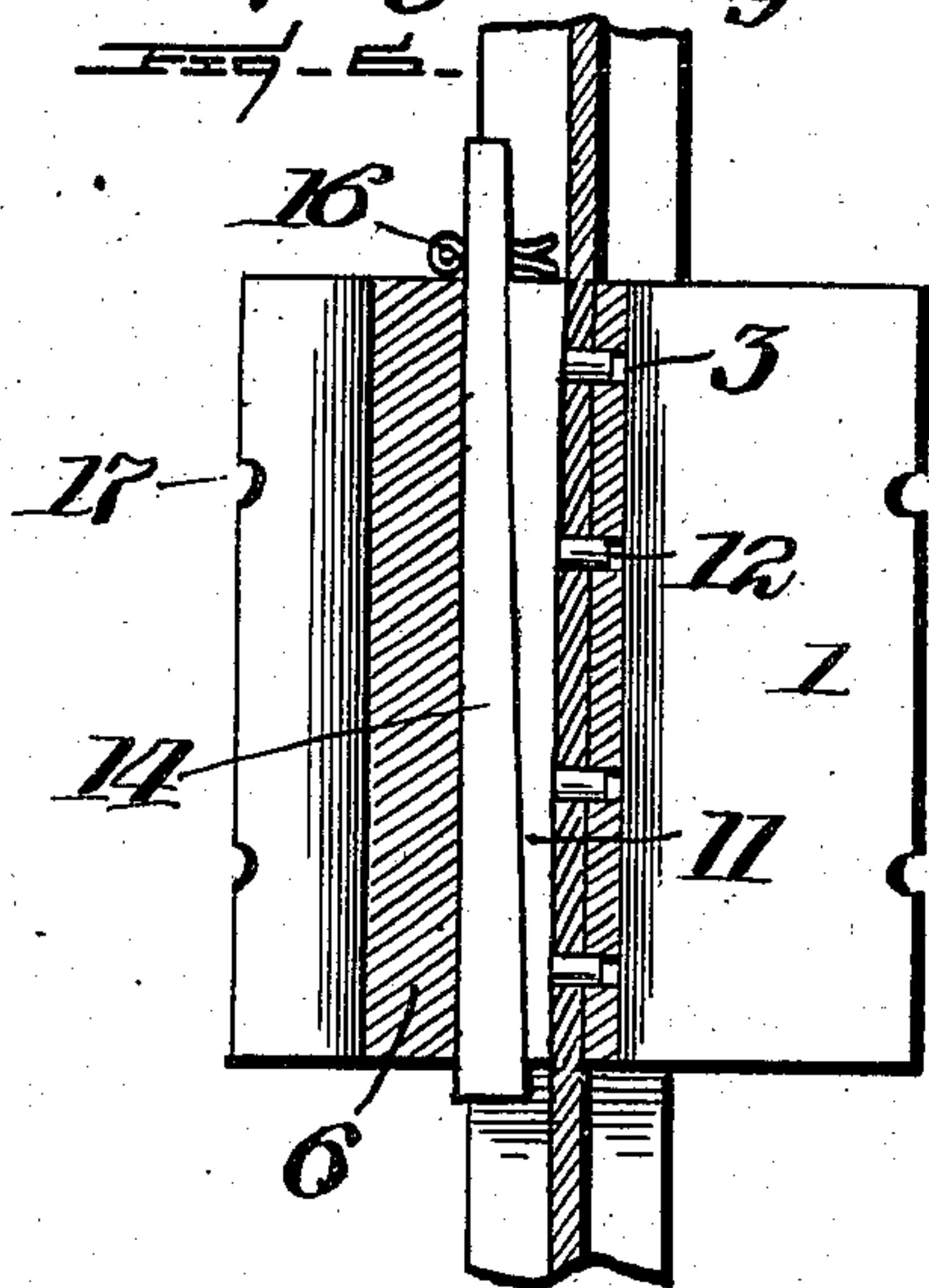
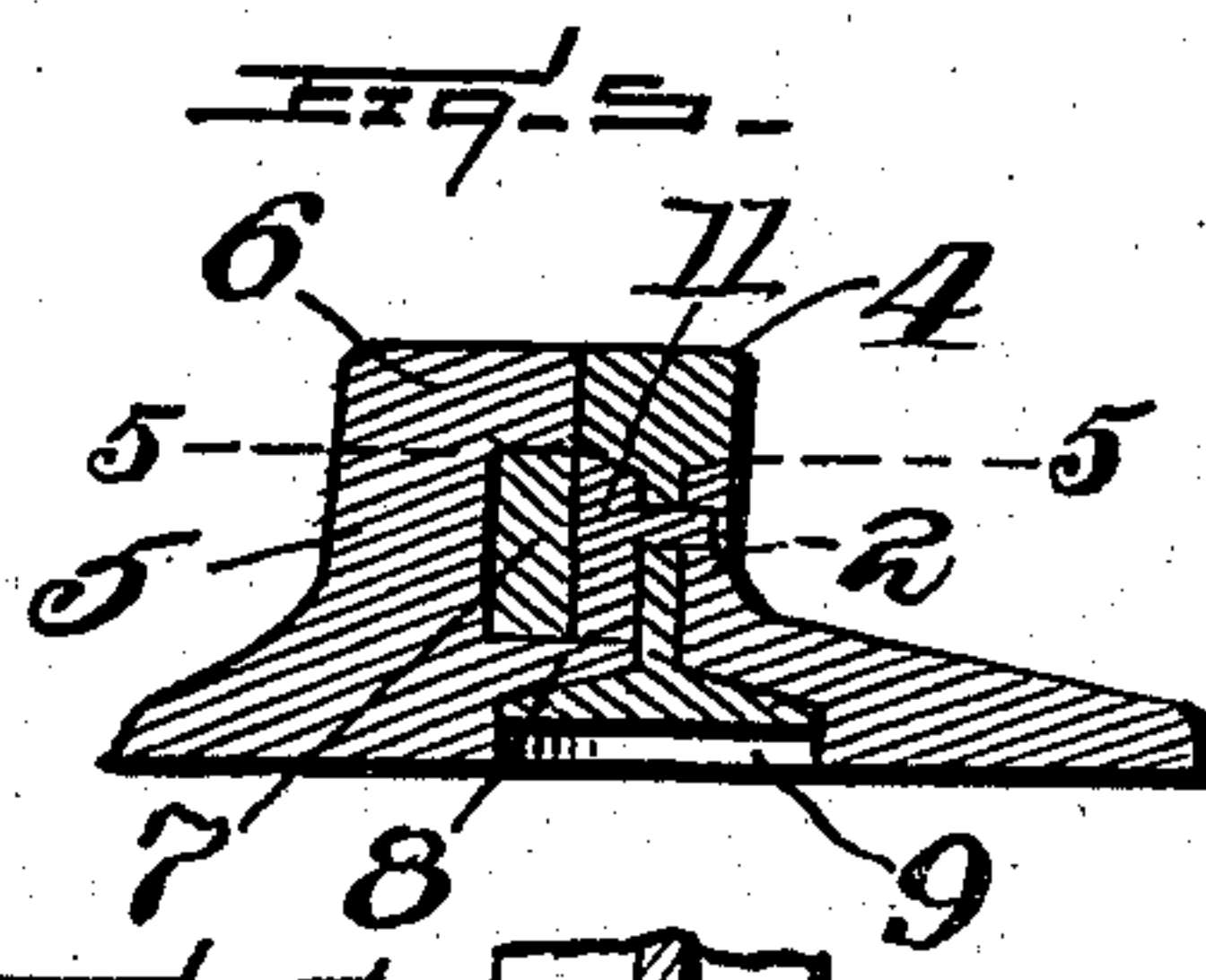
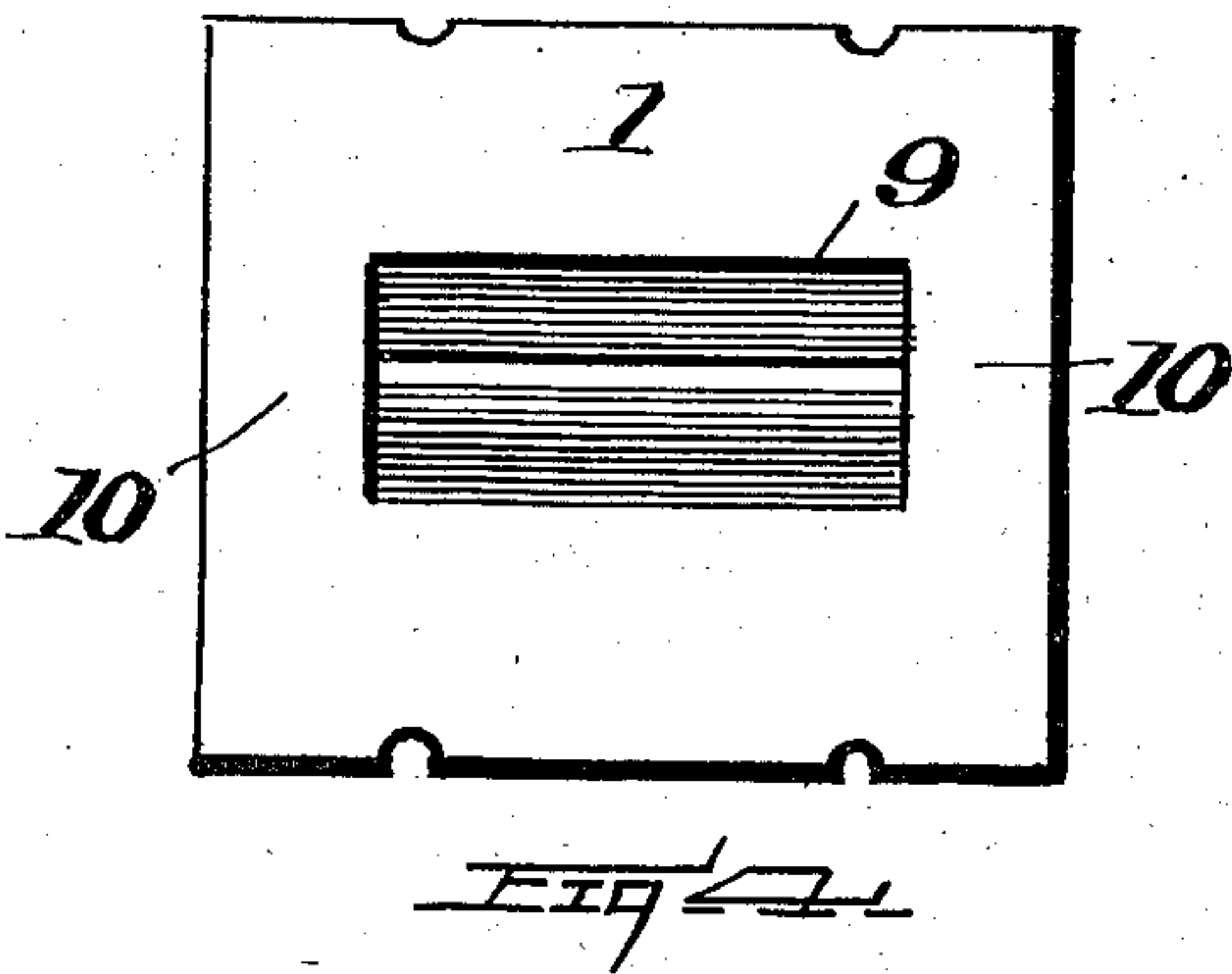
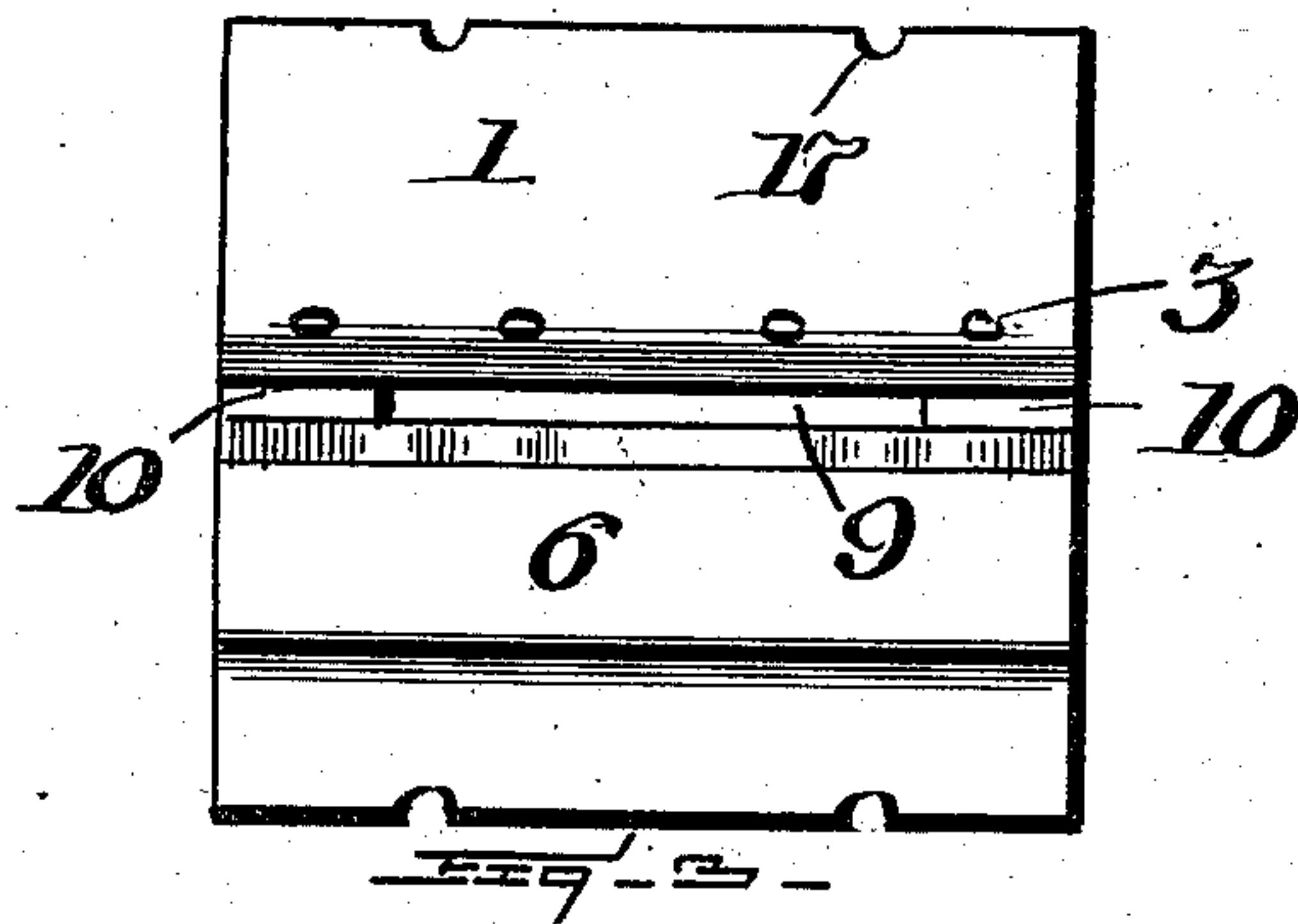
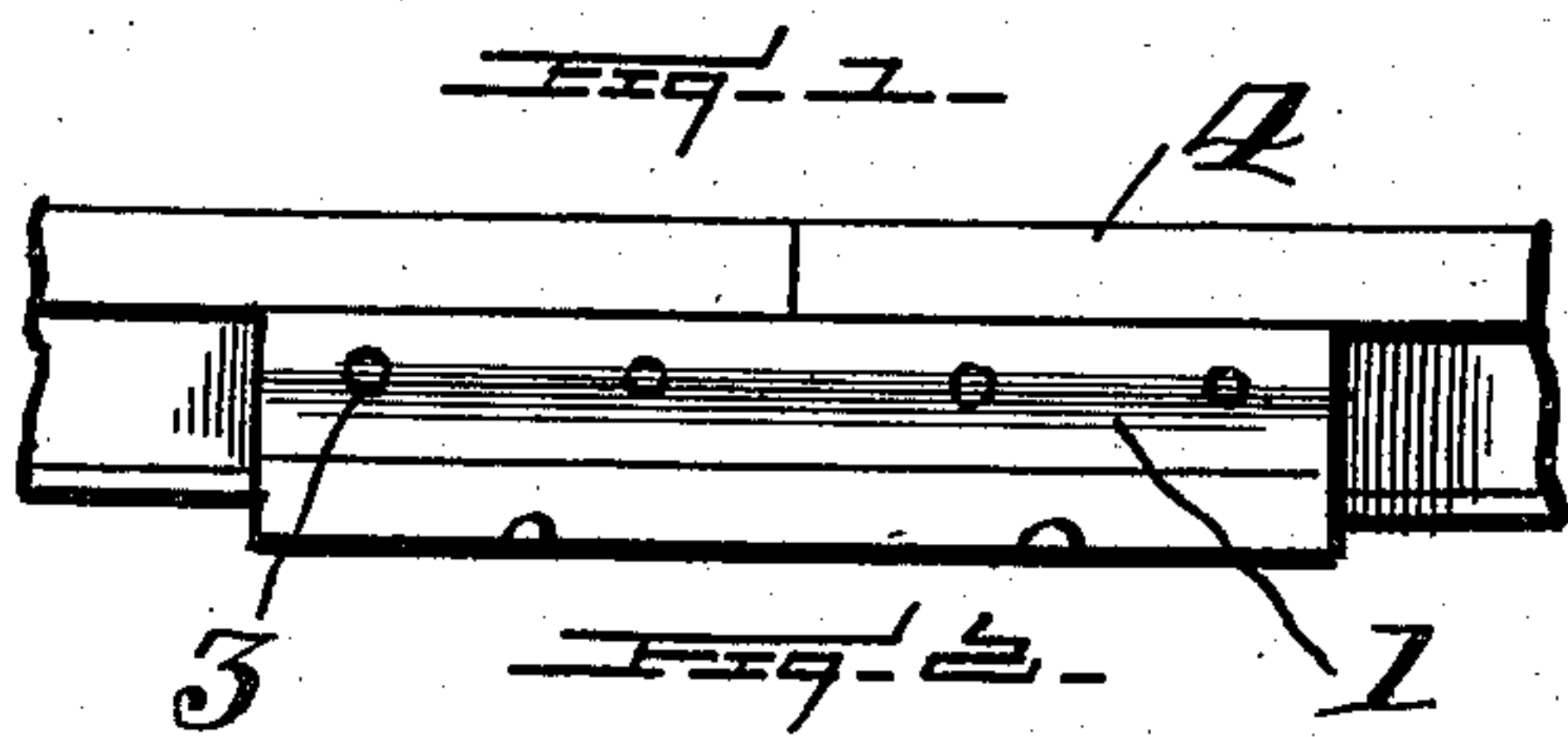
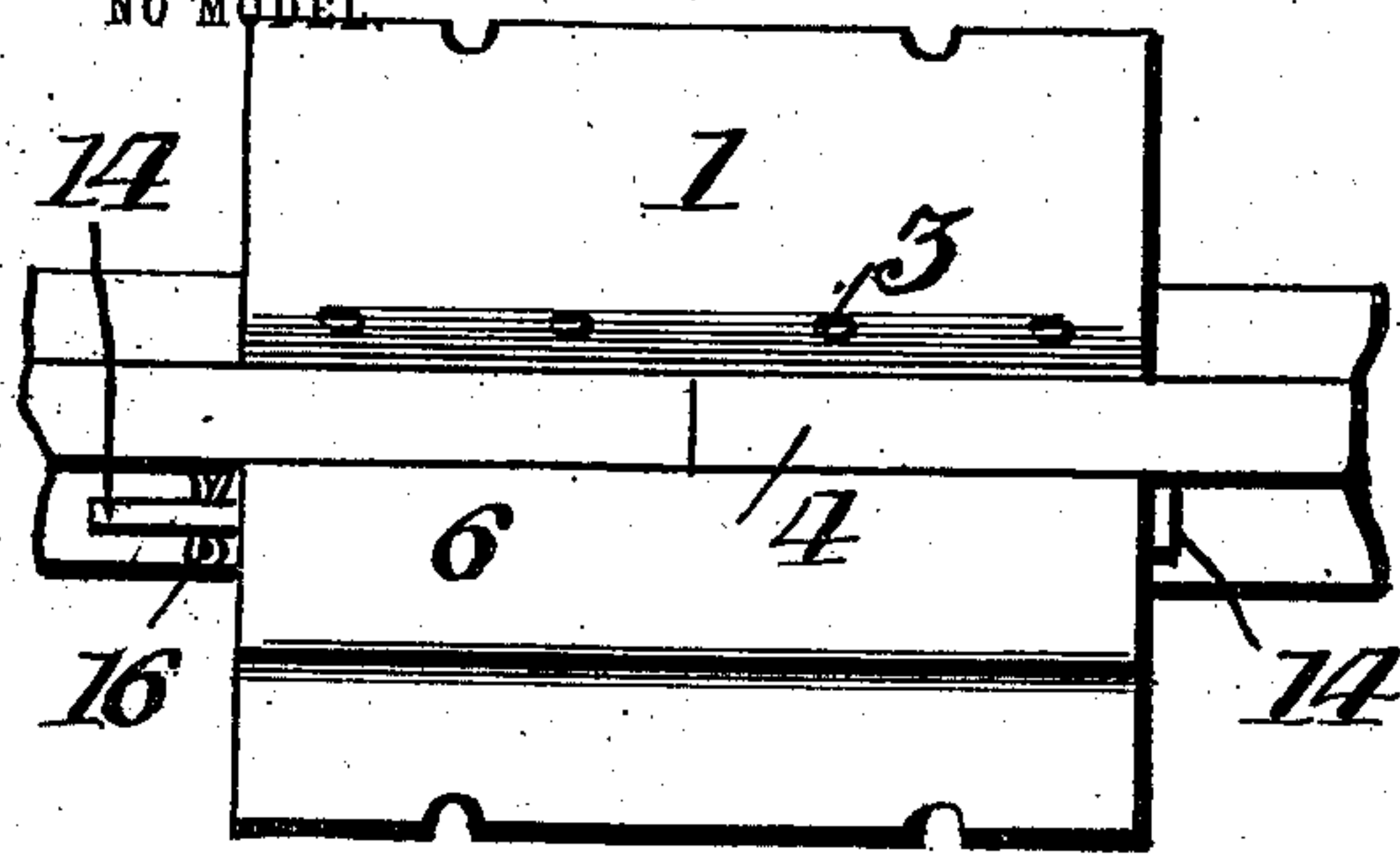
No. 724,193.

PATENTED MAR. 31, 1903.

J. J. MANTON.
RAIL JOINT.

APPLICATION FILED AUG. 23, 1902.

NO MODEL.



Witnesses:
J. A. Butler
Harry Sprucebank

Inventor,
James J. Manton
By O W Lewis
Attorney

UNITED STATES PATENT OFFICE.

JAMES J. MANTON, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 724,193, dated March 31, 1903.

Application filed August 23, 1902. Serial No. 120,797. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. MANTON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Rail-Joints, of which improvement the following is a specification.

This invention relates to certain new and useful improvements in rail-joints, and has for its object to construct a rail-joint that is applied without the aid of the ordinary bolts and nuts for securing the same in position.

It is a well-known fact that the bolts and nuts as now employed in rail-joints are liable to become loose, so as to permit a loose joint, which is not only a source of great danger, but one liable to cause an exceedingly large damage, even if no loss of life results.

Briefly described, my invention comprises a chair embodying integral fish-plates to embrace opposite sides of the rails. The ends of the rails are inserted within this chair and held by means of securing-bars, one of which is provided with integral pins to engage through the web of the rails and extend into one of the fish-plates of the chair and the other of which is a wedging-bar which serves to hold the first-mentioned bar securely in its position.

The invention therefore consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a top plan view of my improved rail-joint. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan view of the chair. Fig. 4 is an underneath plan view thereof. Fig. 5 is a transverse vertical sectional view of the joint in position. Fig. 6 is a horizontal sectional view taken on the line 5 5 of Fig. 5. Fig. 7 is a detail perspective view of the wedge securing-bar and, Fig. 8 is a like view of the securing-bar which connects the two rails together.

To put my invention into practice, I provide a chair which may be made of cast-steel

or other suitable metal, and as it may be cast can therefore be very cheaply manufactured. This chair consists of a base 1, which carries an integral fish-plate 2, provided with openings 3, adapted to register with the openings provided in the web of the rail 4. This fish-plate 2 engages the inner face of the rail-web, and at the opposite side the chair is formed with an enlarged fish-plate 5, which extends upwardly to the same height as the rail, with its top or tread 6 on a plane with the tread of the rail 4. This fish-plate 5 is provided on its inner face with a channel or groove 7, which extends the entire length of the fish-plate, being closed at the outside at the top and at the bottom, the inwardly-extending ledge 8, which forms the bottom of the channel or groove, being of a width sufficient to have its inner edge engage with the web of the rail, and its lower face is shaped to conform to the upper face of the rail-base. In order to lighten the chair, the base 1 thereof is preferably cut away, as shown at 9, there being sufficient material left at each end of the cut-away portion to form a saddle 10, upon which the rails 4 rest after they are inserted into position on the chair. Previous to placing the rails 4 into position, as shown in Figs. 1 and 2, I place in the channel or groove 7 a securing-bar 11, which has its upper edge shaped to conform to the bevel on the under side of the tread of the rail and its lower edge shaped to fit the upper face of the inwardly-extending ledge 8. This securing-bar 11 carries integral pins 12, which engage through the apertures in the web of the rails and project into the registering openings 3 in the fish-plate 2. This securing-bar after the apertures have been brought into registry is moved laterally, so as to cause the pins to engage in the apertures, as is shown in Figs. 5 and 6, and after the securing-bar has been so positioned I insert a wedge-bar 14, which is provided near its smaller end with a series of apertures 15, so positioned that one of the same will at all times be close to the larger end of the securing-bar and receive a key 16, by means of which the wedge-bar is prevented from working loose. The securing-bar 11, it will be observed, is also wedge-shaped in form, and this bar and the wedge-bar 14 are inserted in the channel from opposite ends of

the latter, so that when both are in position the space between the outer wall of the channel and the web of the rail is completely filled.

To remove the rails, the pin 16 is removed, 5 the wedge-bar driven out, at which time the securing-bar 11 may be moved back into the channel, so that its pins will be disengaged from the apertures in the webs of the rails and in the fish-plate 2, at which time the rails 10 may be readily withdrawn from the chair.

The chair is provided along the edges of its base with notches 17 to receive securing-spikes, (not shown,) by means of which it may be secured to the cross-ties in the ordinary manner. 15

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

20 Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the rails, of a chair having integral fish-plates one of which is provided with apertures and the other of which 25 is provided on its inner face with a channel or groove, a securing-bar in said groove and having integral pins which project through the webs of the rail and engage in the apertures 30 in the fish-plate, and a wedge-bar in said channel or groove for securing all parts in position substantially as described.

2. A rail-joint comprising a chair having an inside fish-plate to fit against the underneath side of the rail-tread and an outside 35 fish-plate the top of which is flush with the tread of the rail, said outside fish-plate having a channel or groove, a securing-bar having integral pins engaging through the web 40 of the rails and in the inside fish-plate, and a wedge-bar in said channel for securing the

first-mentioned bar in position, substantially as described.

3. A rail-joint embodying a chair having a base centrally cut away with saddle-plates at 45 each end, an inside fish-plate formed integral with said base and provided with apertures, an outside fish-plate having a channel or groove on its inner face, a wedge carried by said outside fish-plate and engaging the web 50 of the rail, a securing-bar having pins to engage through the web of the rail and in the apertures in the fish-plate, and a wedge-bar in said channel or groove for securing the first-mentioned bar in position, substantially 55 as described.

4. A rail-joint embodying a chair consisting of a base carrying an integral inside fish-plate and an integral outside fish-plate, said 60 outside fish-plate having a channel or groove on its outer face, securing-bars in said channel or groove, and means carried by one of said bars for engagement with the webs of the rail and with the inside fish-plate, substantially as described. 65

5. A rail-joint embodying a chair, consisting of a base to receive the rails, an inside fish-plate formed integral with said base and provided with apertures, an outside fish-plate 70 provided on its inner face with a channel or groove, wedge-shaped securing-bars in said channel or groove and pins carried by one of said bars to engage through the web of the rails and with the apertured fish-plate, substantially as described. 75

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

JAMES J. MANTON.

In presence of—

JOHN GROETZINGER,
M. HUNTER.