

No. 843,119.

PATENTED FEB. 5, 1907.

R. B. SWANK.
RAILWAY JOINT.
APPLICATION FILED JAN. 8, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

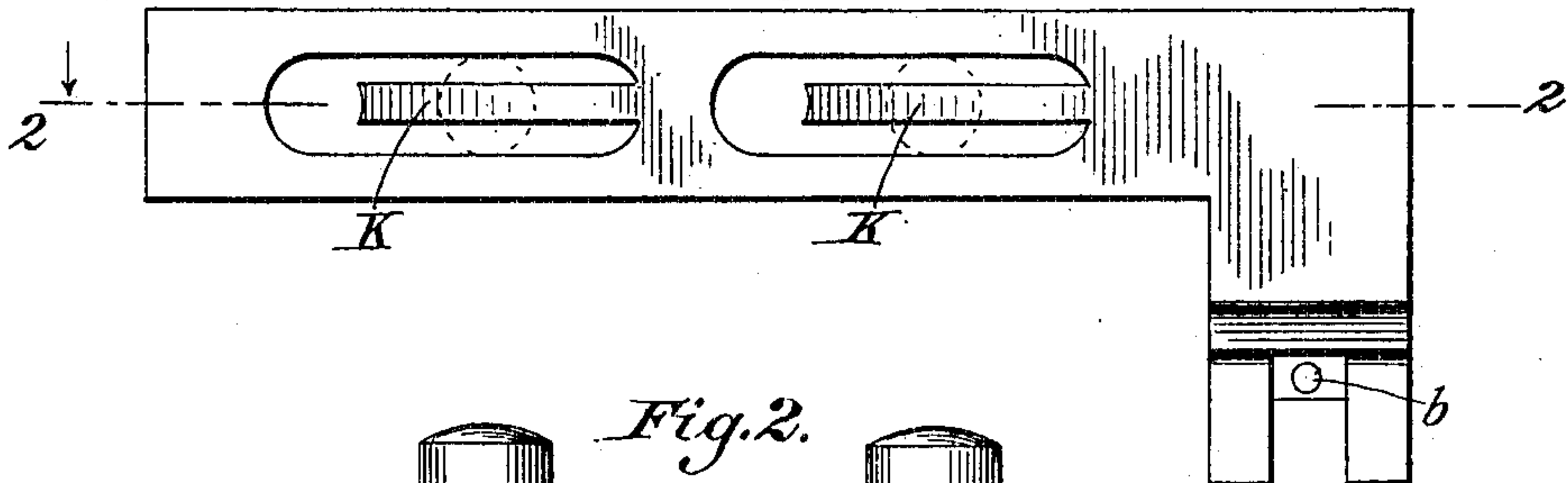


Fig. 2.

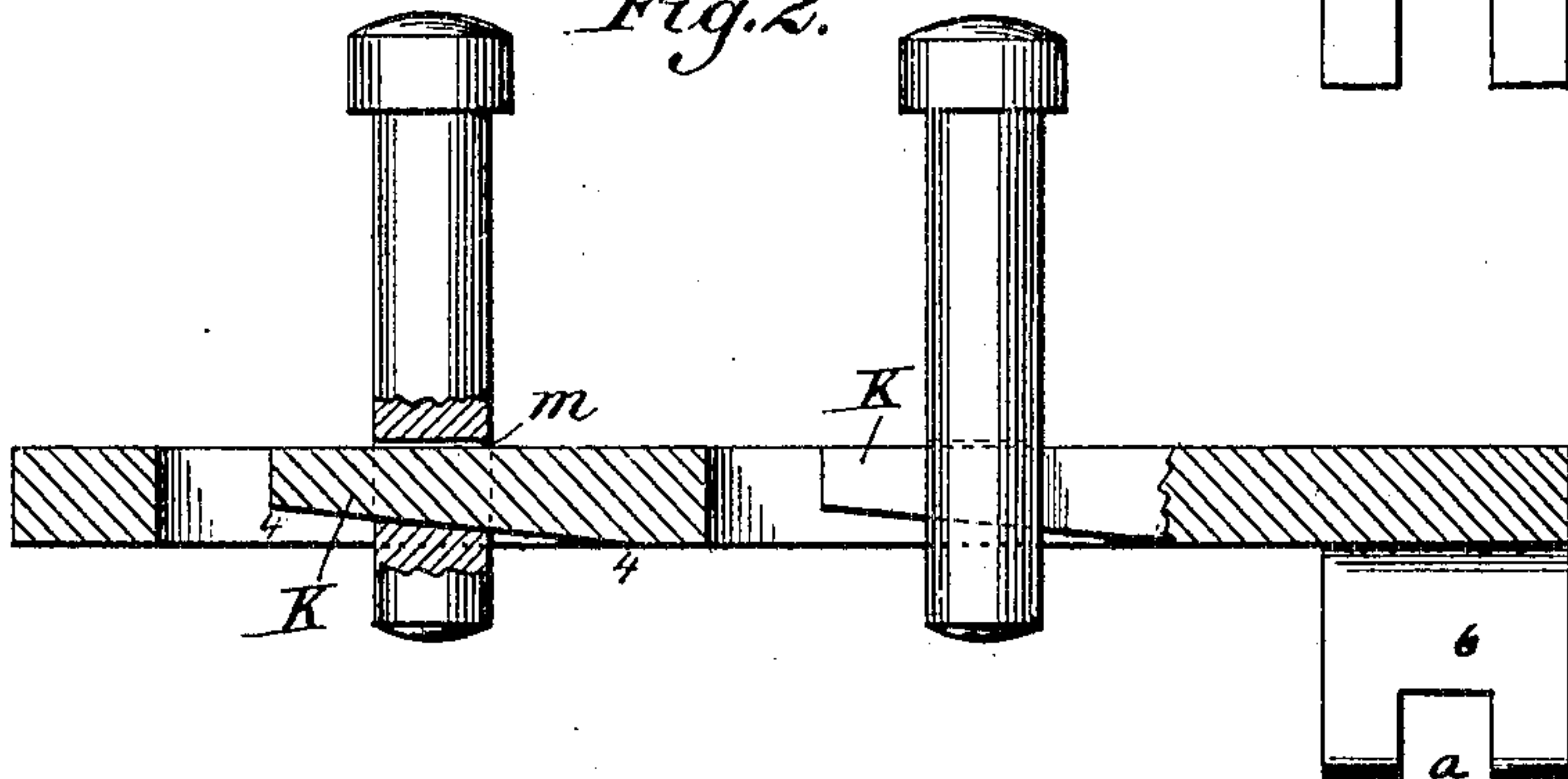


Fig. 3.

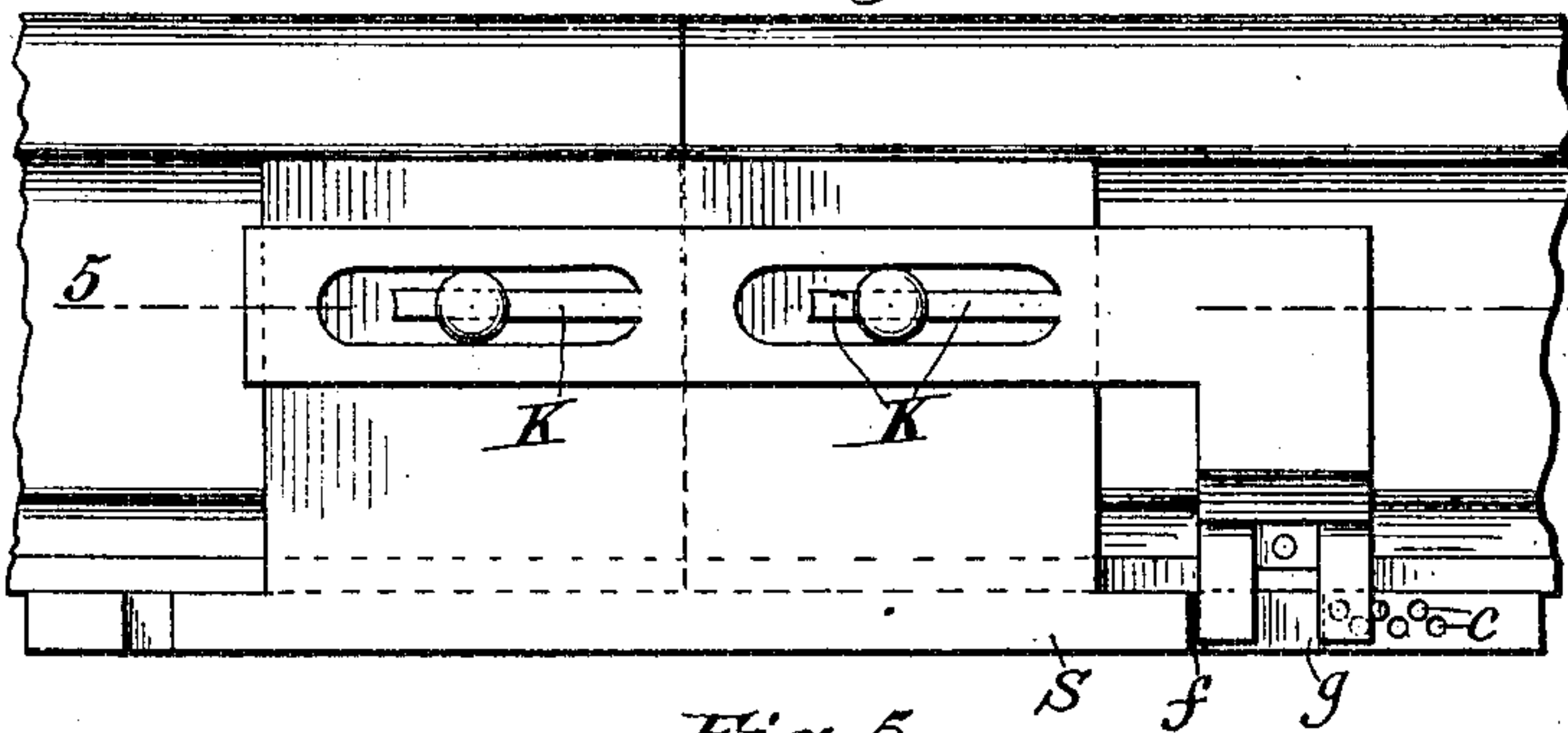


Fig. 4.

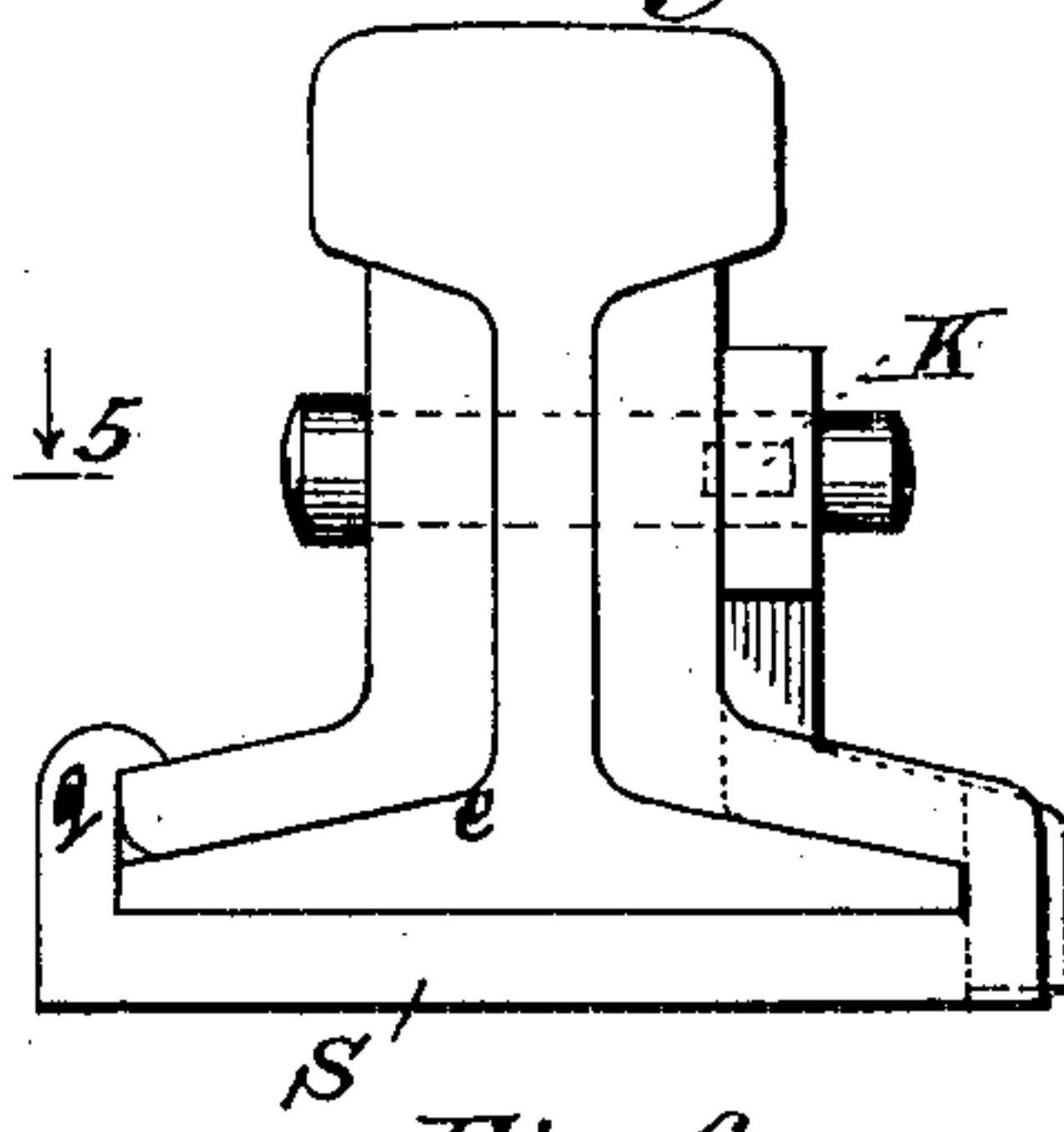


Fig. 5.

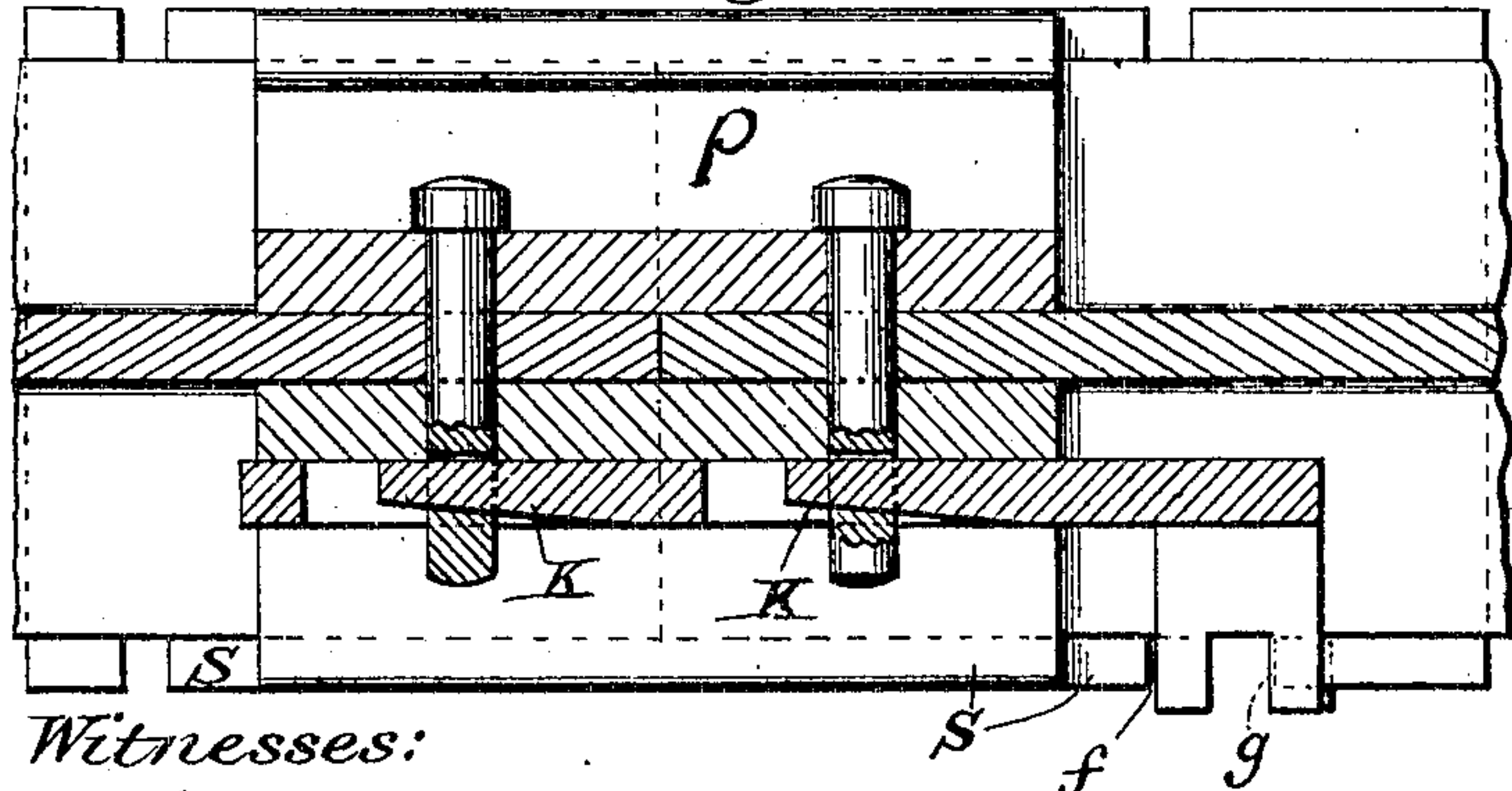
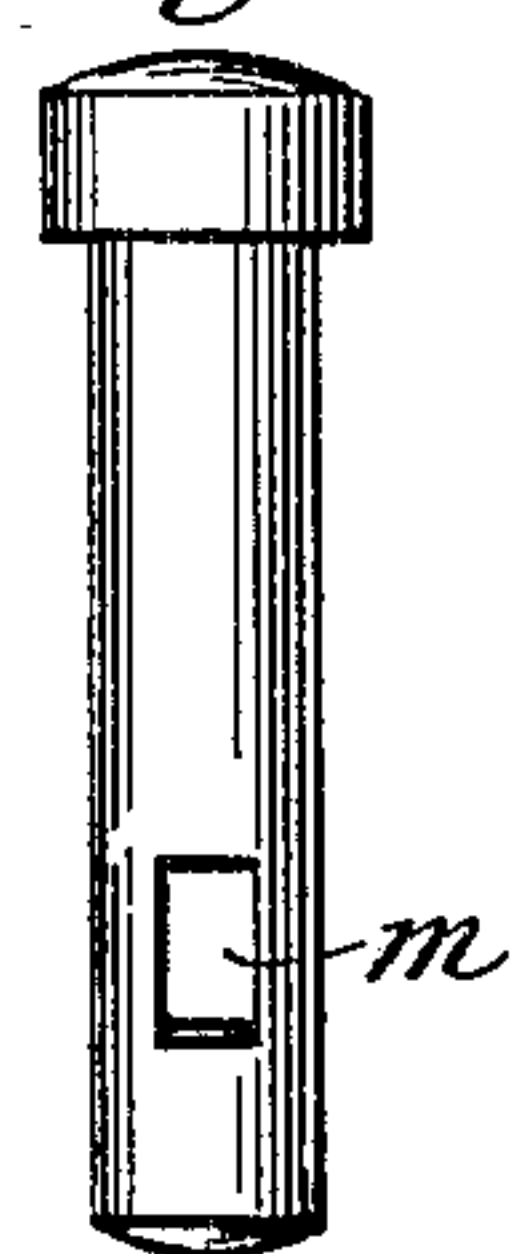


Fig. 6.



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3 SHEETS—SHEET 2.

Fig. 11.

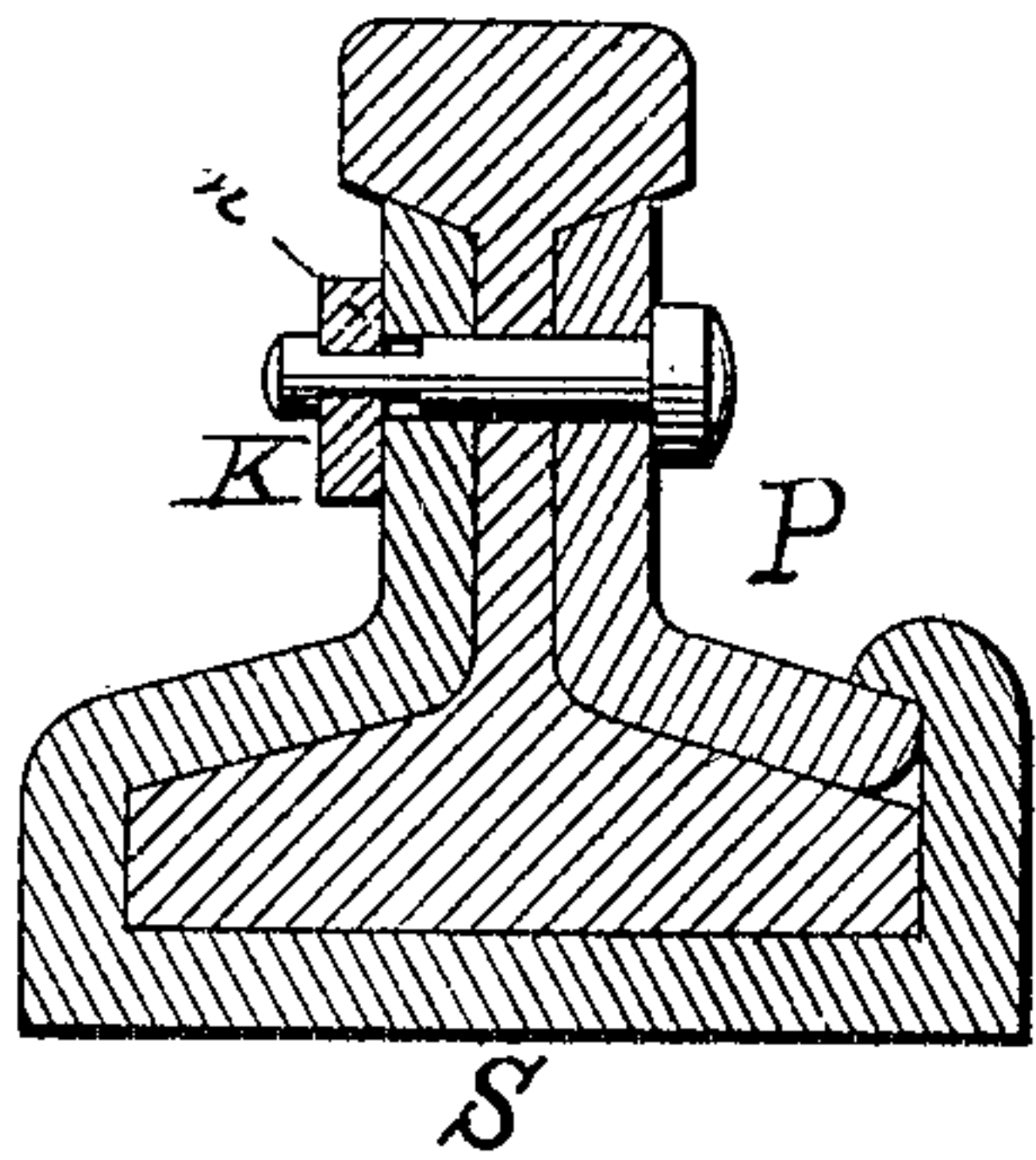


Fig. 7.

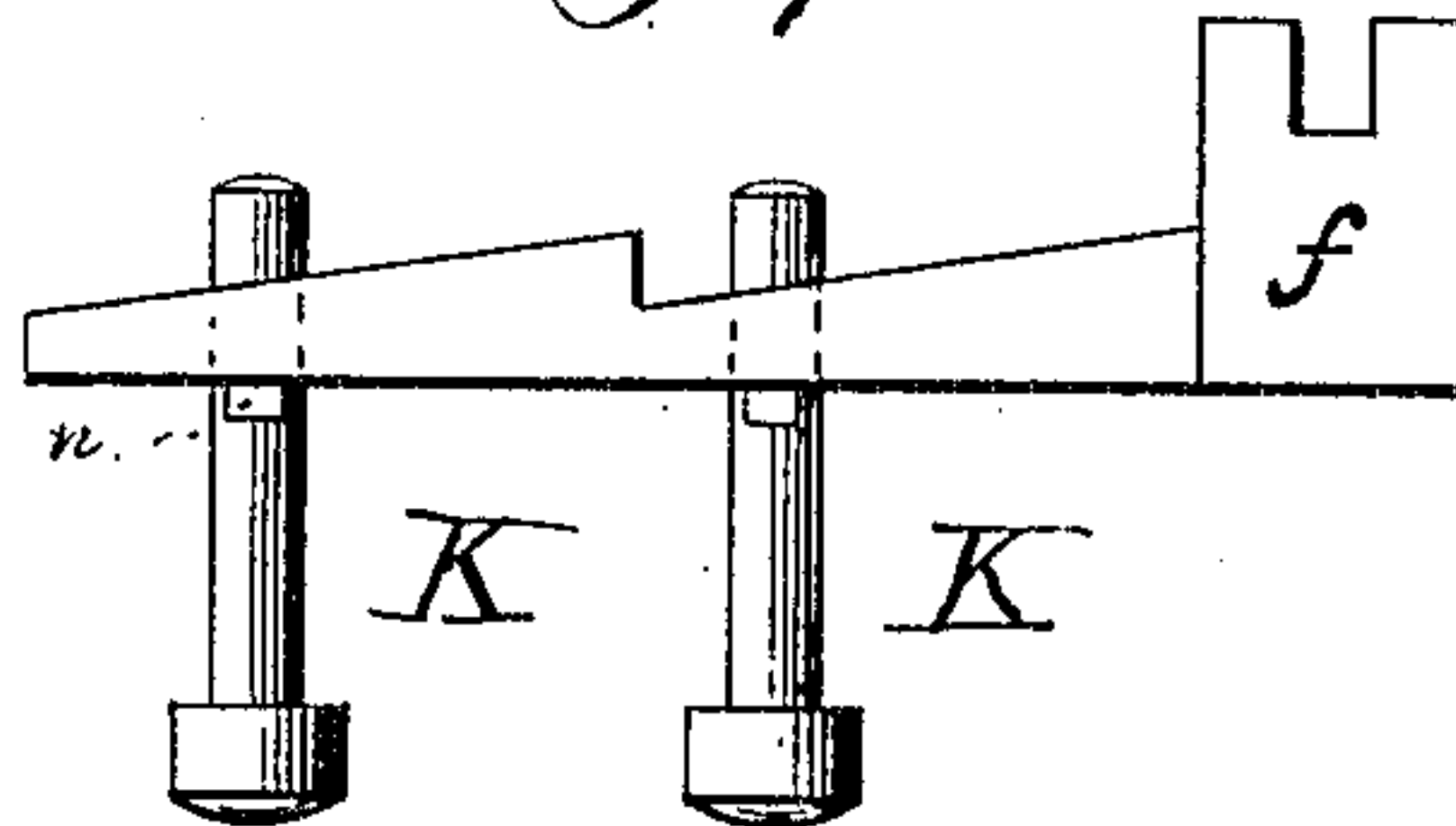


Fig. 10.

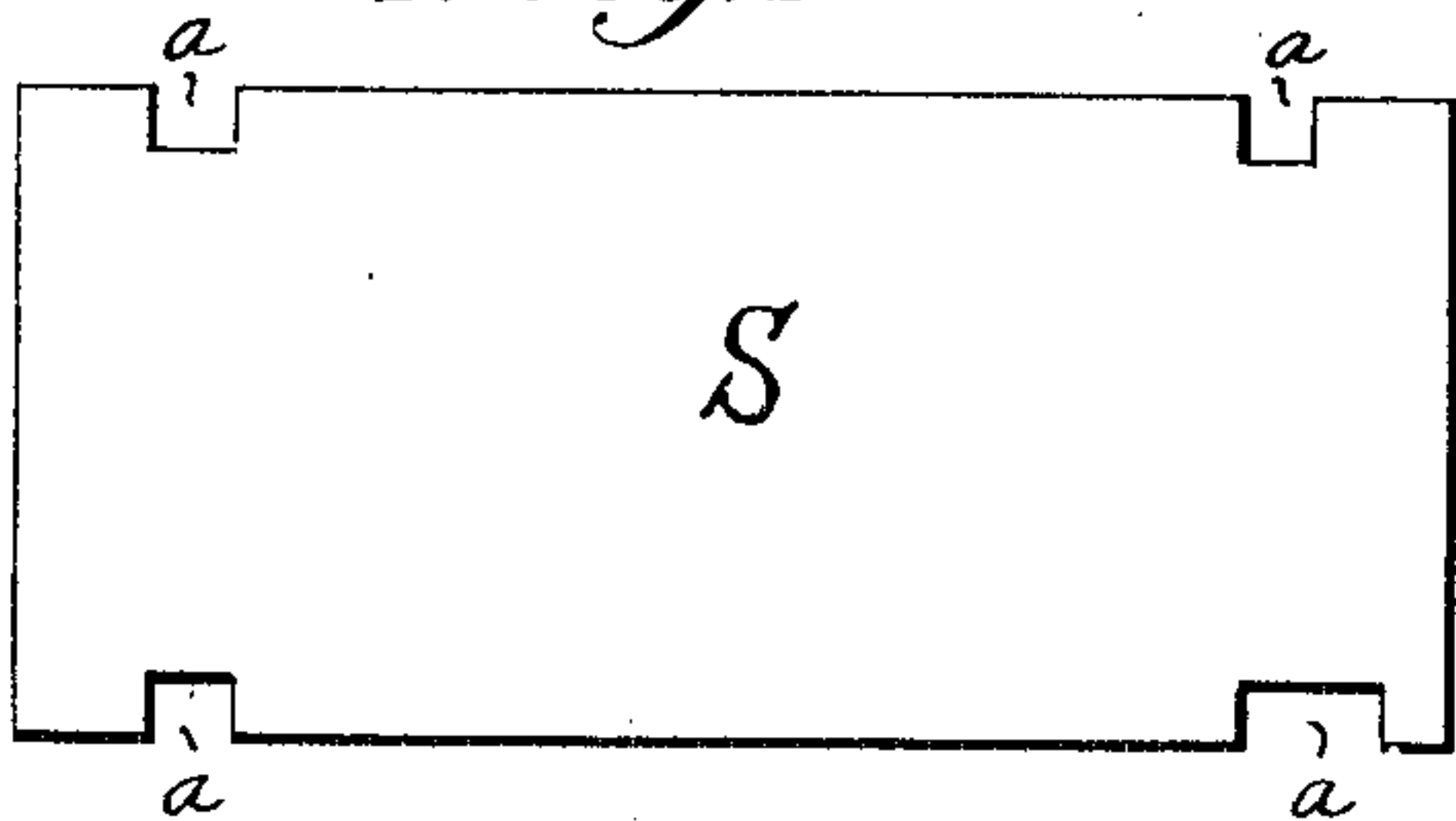
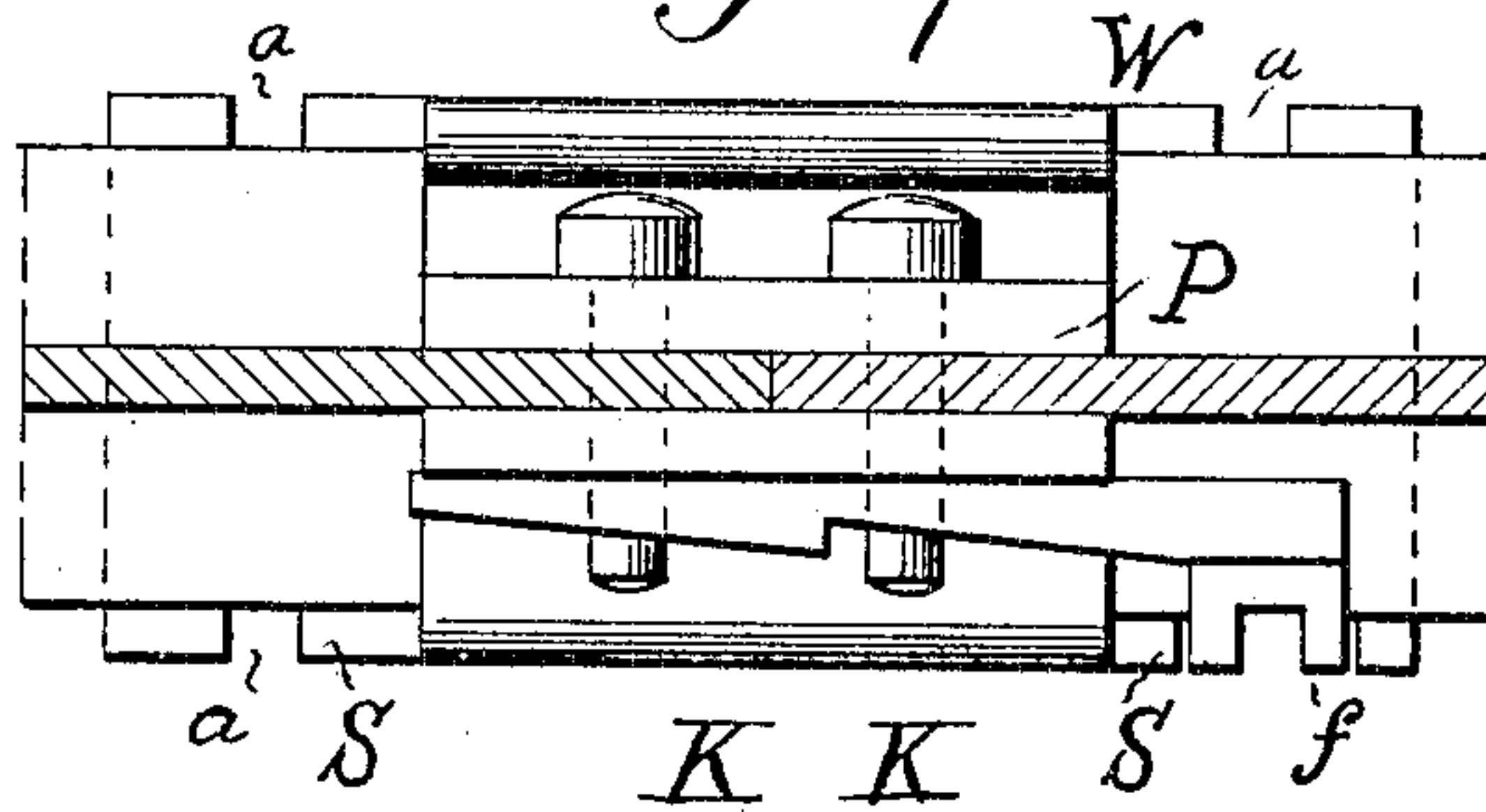


Fig. 8.



Fig. 9.



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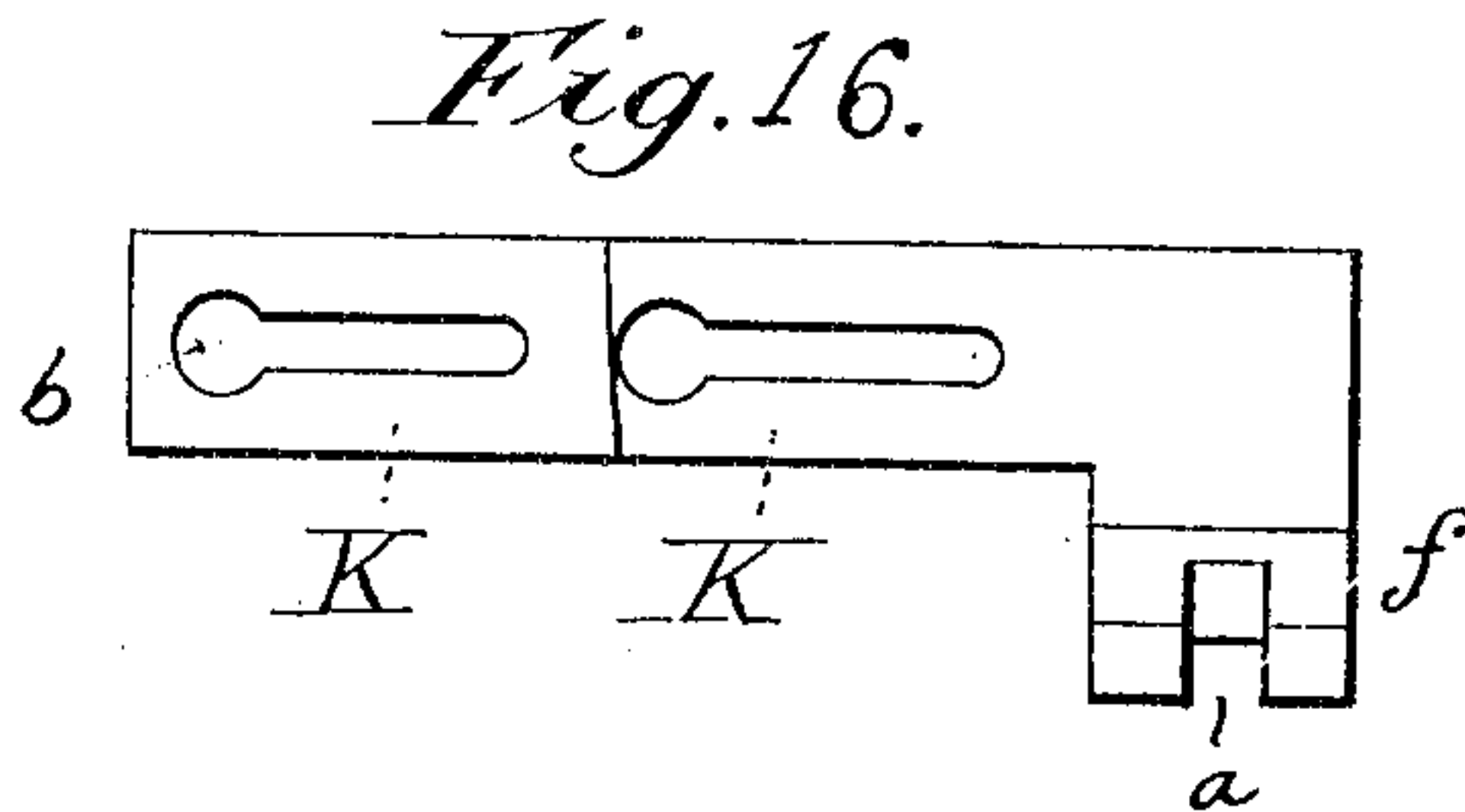
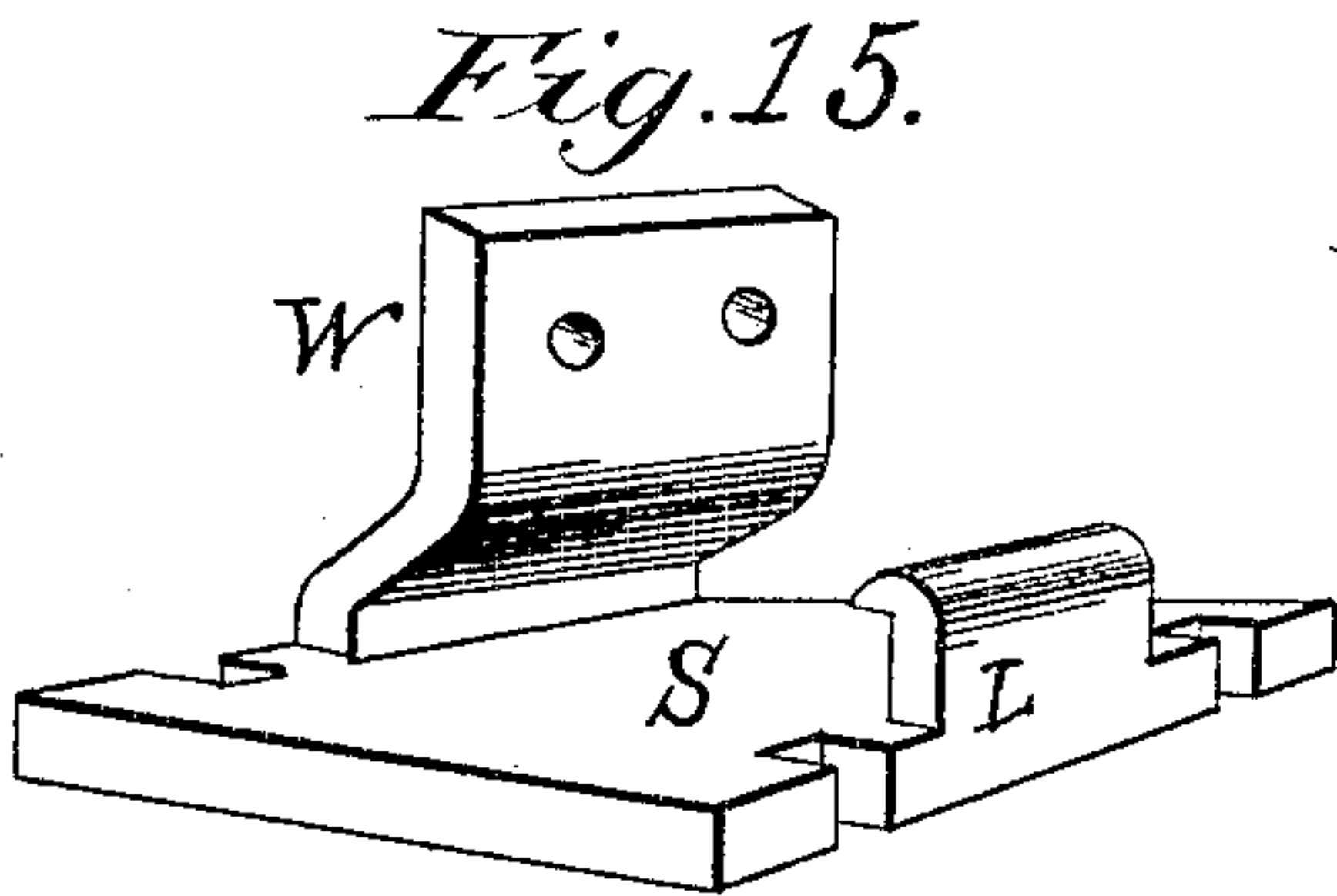
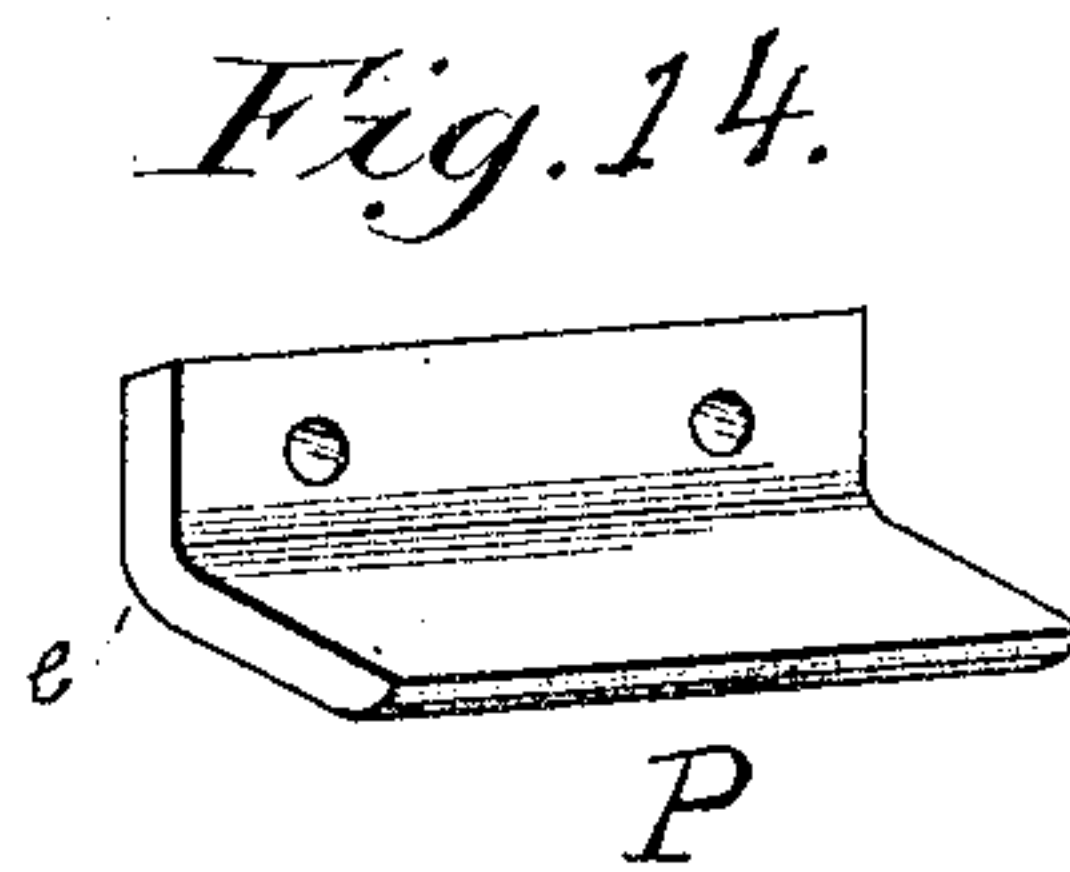
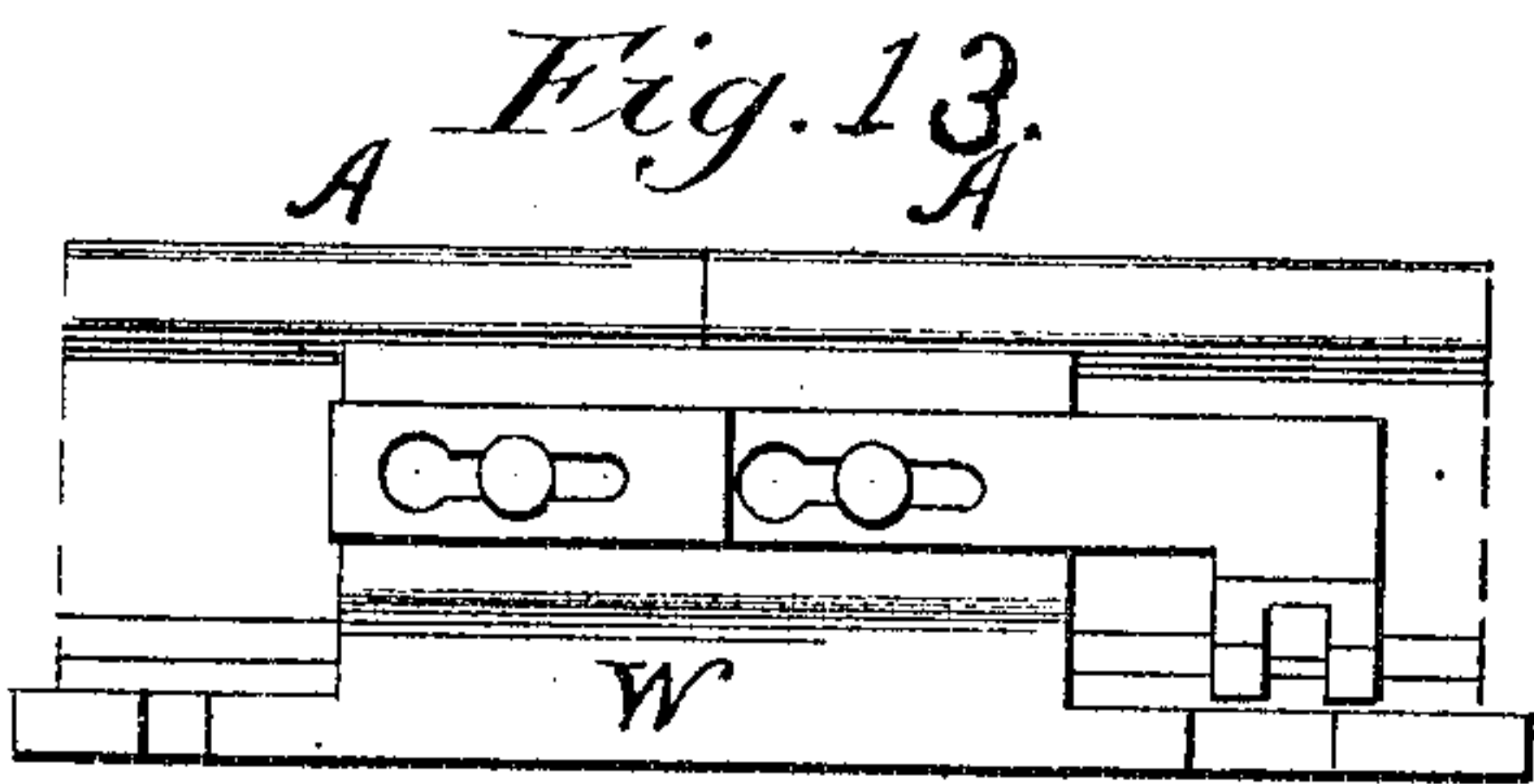
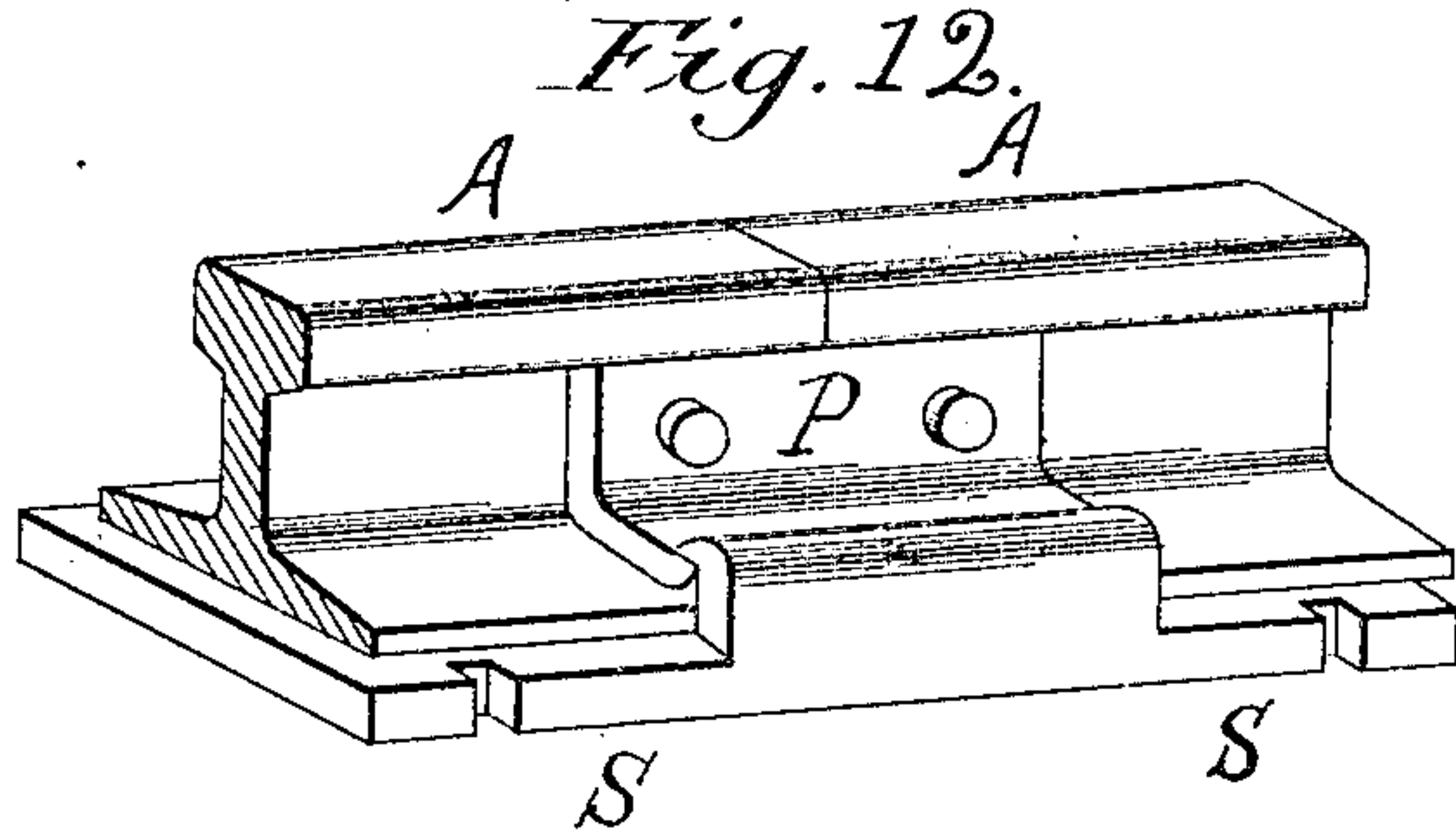
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

REUBEN B. SWANK, OF DAYTON, OHIO.

RAILWAY-JOINT.

No. 843,119.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed January 8, 1906. Serial No. 295,198.

To all whom it may concern:

Be it known that I, REUBEN B. SWANK, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints.

The object of this invention is to provide a substantial rail-joint by means of which the abutting ends of railroad-rails are securely clamped and fastened together by means of a supporting-chair, interlocking side plate firmly bound to the rails with bolts, and an inclined key, and said key to be locked with a spike.

The invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

Like reference letters and numerals designate corresponding parts in all the figures of the drawings.

Figure 1 illustrates a front view of the key in detail, which is a rectangular plate provided with openings, as shown. Fig. 2 is a sectional view of the key on line 2 2 of Fig. 1, the bolts being shown in connection with the key. Fig. 3 is a side elevation of my improved joint. Fig. 4 is an end view thereof. Fig. 5 is a longitudinal sectional view of the joint, taken through the web of the rail. Fig. 6 is a detail view of one of the locking bolts or pins. Fig. 7 is a detail view of a modified form of key and locking-bolts. Fig. 8 is a detail view of one of the locking-bolts detached. Fig. 9 is a sectional view looking downward of this modified form of joint. Fig. 10 is a plan view of the rail-chair of this form of joint. Fig. 11 is a transverse sectional view of a rail and the modified form of joint. Fig. 12 is a perspective view of another modification of the joint. Fig. 13 is a side elevation of the same, taken from the opposite side. Fig. 14 is a perspective view of the side or fish plate. Fig. 15 is a detail perspective view of the rail-chair. Fig. 16 is a detail view of the locking-key.

One of the surfaces of said key is tapering, (see 4 4, Fig. 2,) which gives it a binding power as it engages the mortise *m* in Fig. 2. The said rectangular plate is also provided with a wing, (see 6, Fig. 2,) which extends transversely to the longitudinal plate at an angle to conform to the web and upper surface of the base of the rail and is provided

with a notch *a*, Fig. 2, suitable to insert a railway-spike into the cross-tie to prevent longitudinal motion of the key, or it may be locked to the chair with a common bolt passing through a hole in the foot of the key, through a longitudinal slot in the base of the chair, or a pin through holes in the foot of the key and base of the chair *c*, Fig. 3.

As shown in Fig. 15, one of the members of the improved railway-joint consists of a chair embodying a base or plate *S*, which extends beneath the abutting rail ends, Fig. 12, and is provided with a wing *W*, curved upward and inward to fit the upper surface of the base and web of the rails. On its opposite side at *L*, Fig. 15, it is provided with a wing extending upward and inward. The inward part has a beveled flange. The interlocking side plate (see Fig. 14) consists of a plate provided with a curved shoulder *e* on an angle to conform to the web and upper surface of the base of the rail. Its outer edge is beveled, so that it is adapted to interlock with the beveled projection of *L*, Fig. 15. Its upper surface is beveled to conform to the under surface of the ball of the rail. The vertical portion is provided with openings for the insertion of bolts.

Now by reference to Figs. 7, 8, 9, and 16 it will be seen that the key and bolts are different from those previously described, the key being a double inclined plane, which is provided with openings *b*, Fig. 16, and an extended slot through each inclined surface sufficient to engage the recessed neck of the key. (See Figs. 7 and 13.)

In operation the rail ends are placed in the chair, the bases of the rails in contact with the base of the chair. The interlocking side plate is then vertically and outwardly placed in position. (See Fig. 12.) The special bolts are then inserted, arranging the necks of said bolts to engage the longitudinal slots of the key, which is next placed on the opposite side. The key is driven into position by striking on the foot end. The motion will be longitudinal to the rails. The key may then be locked, as aforesaid.

Having thus described my invention, I claim—

A rail-joint comprising a chair having an extension to embrace one side of the rail, and provided on its opposite upper edge with an inturned lug, a fish-plate having an offset angular portion to engage the lug of the chair and a curved shoulder on its inner edge

to form a fulcrum when the plate is clamped
against the rail, slotted bolts passing
through the chair extension and fish-plate, a
locking-key having keyhole-slots formed
5 therein to pass over the ends of said bolts,
tapering tongues located within said slots
to pass through the slots in the bolts, and

pins engaging the key and chair to lock said
key against longitudinal movement.

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Witnesses:

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