

(No Model.)

H. DEITZ.
CAR COUPLING.

No. 561,543.

Patented June 2, 1896.

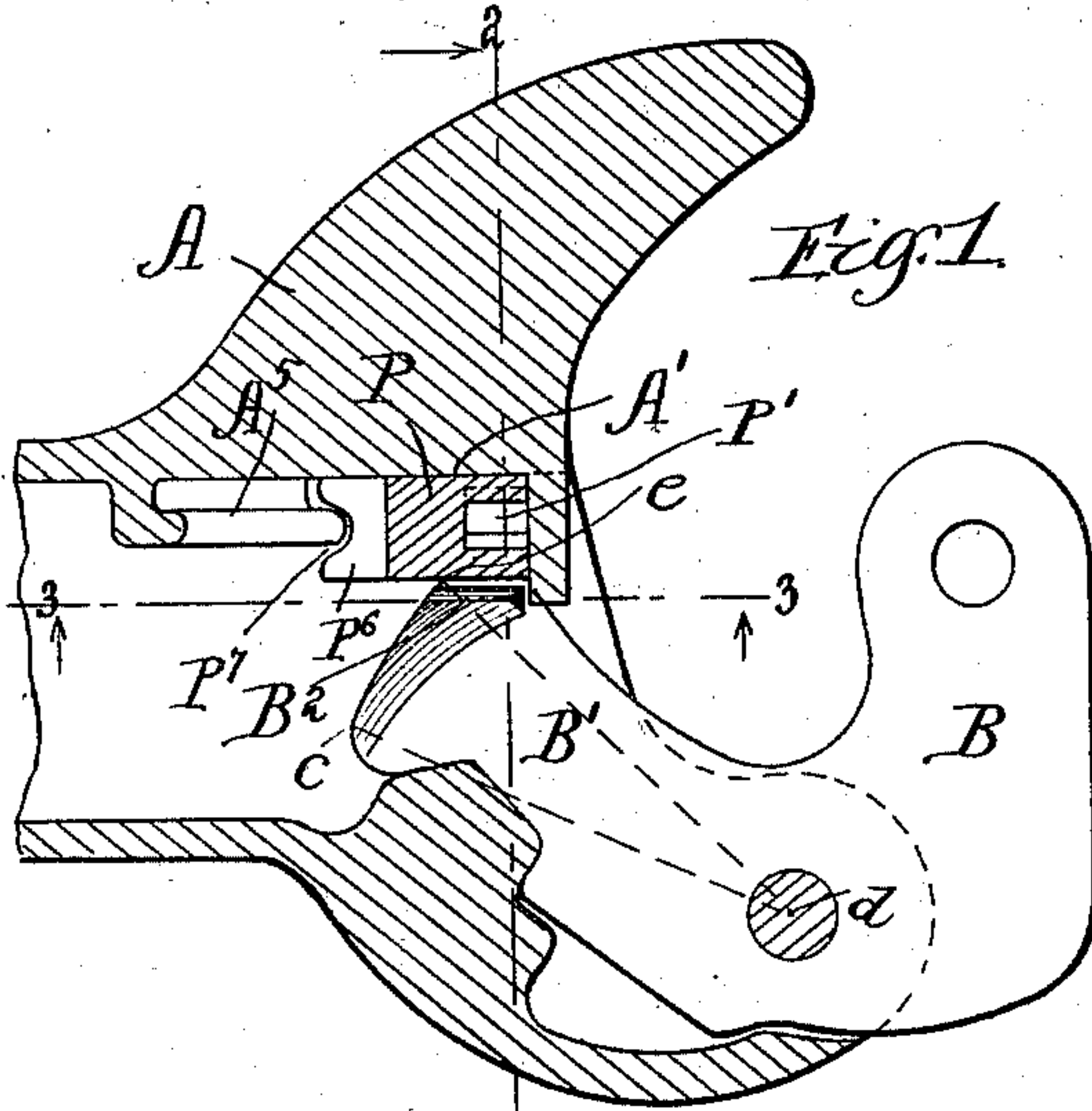


Fig. 1.

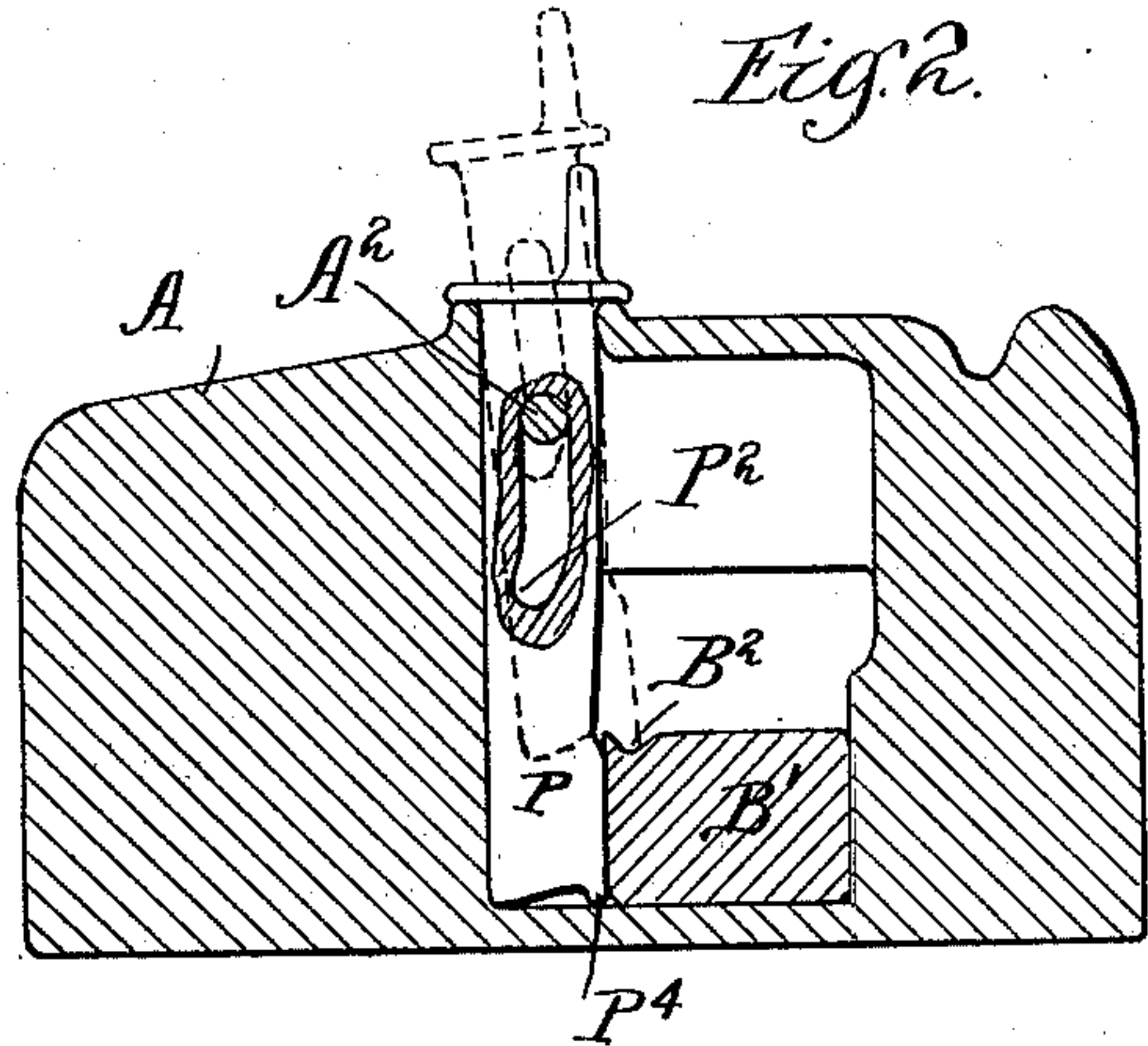


Fig. 2.

Fig. 3.

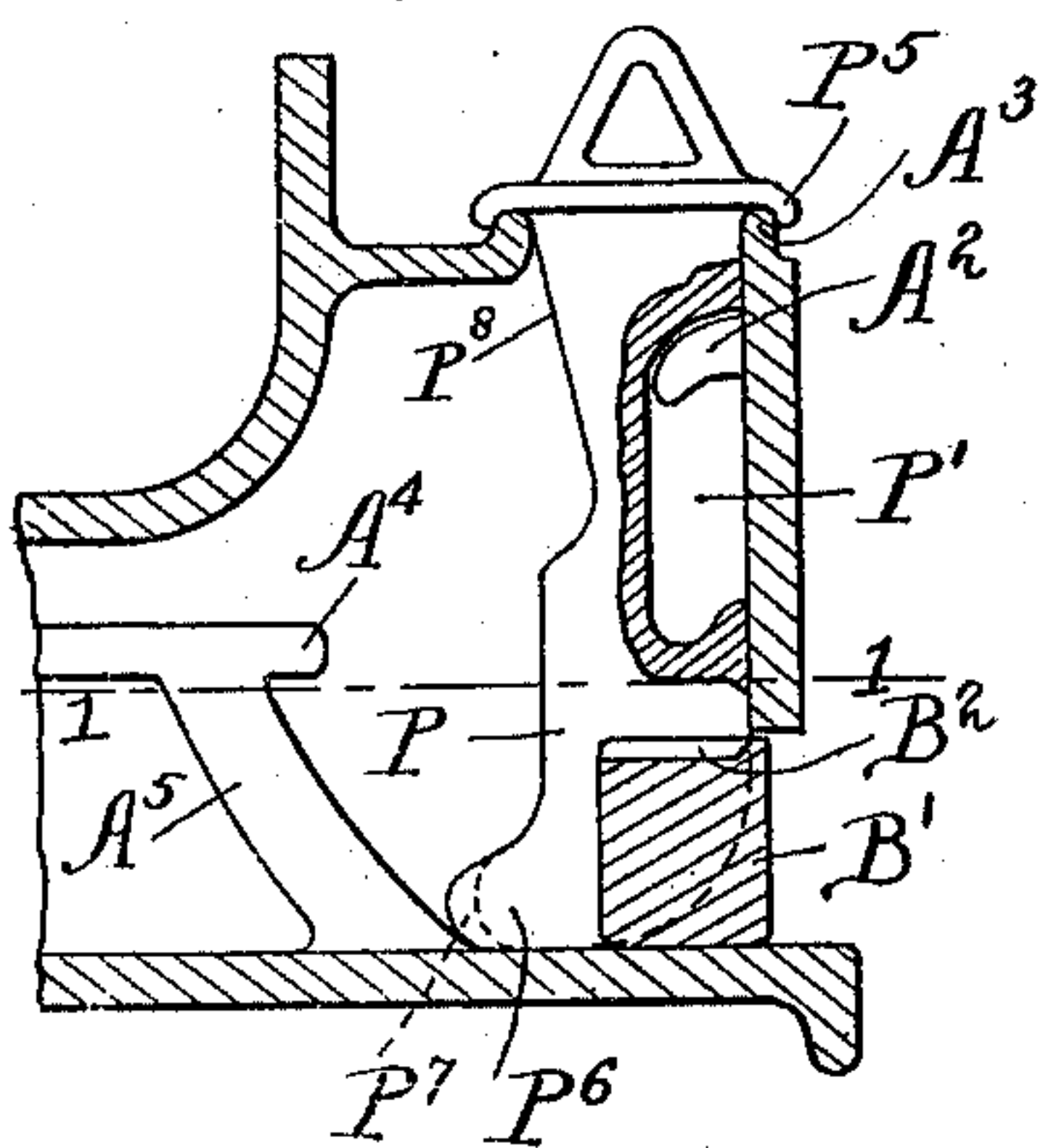


Fig. 4.

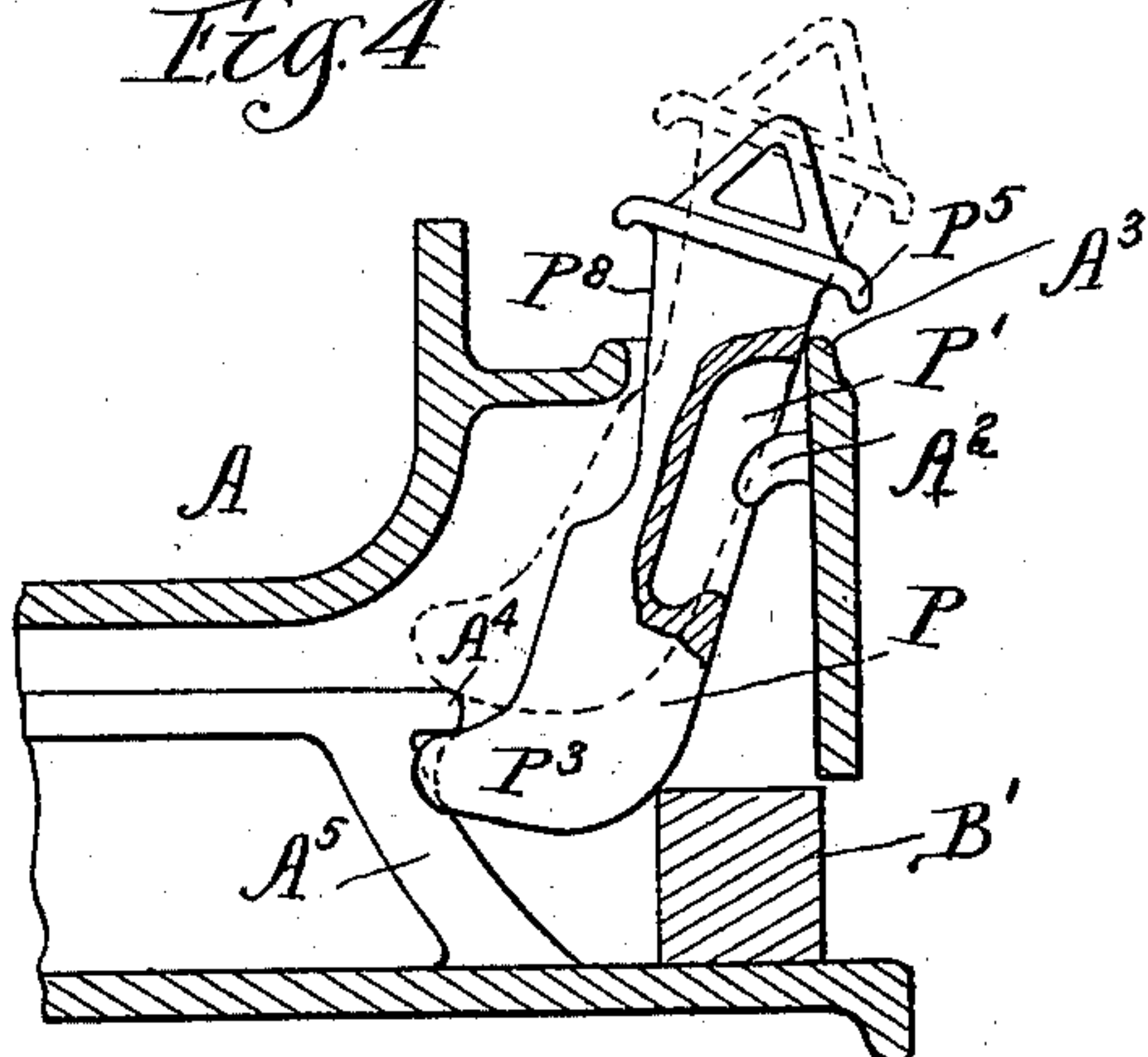
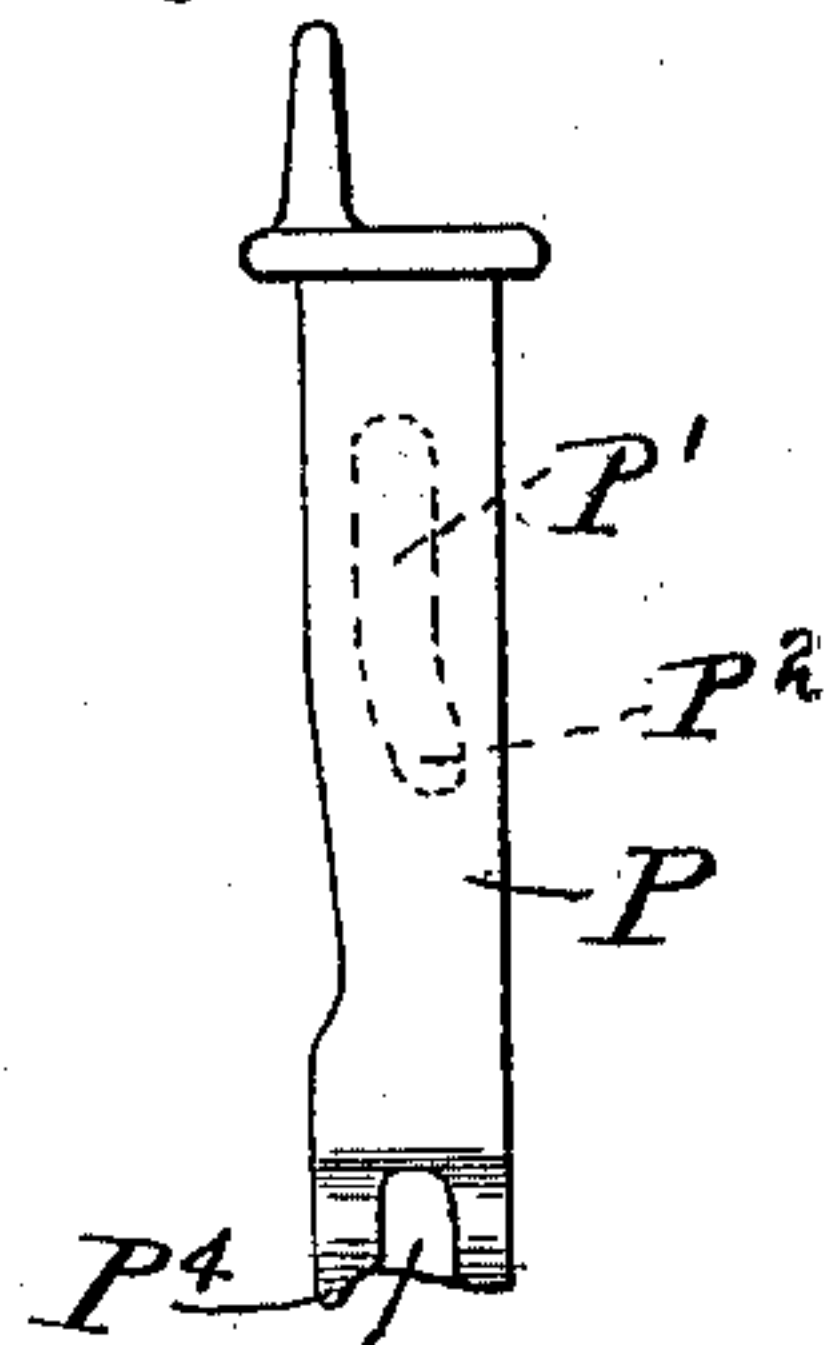
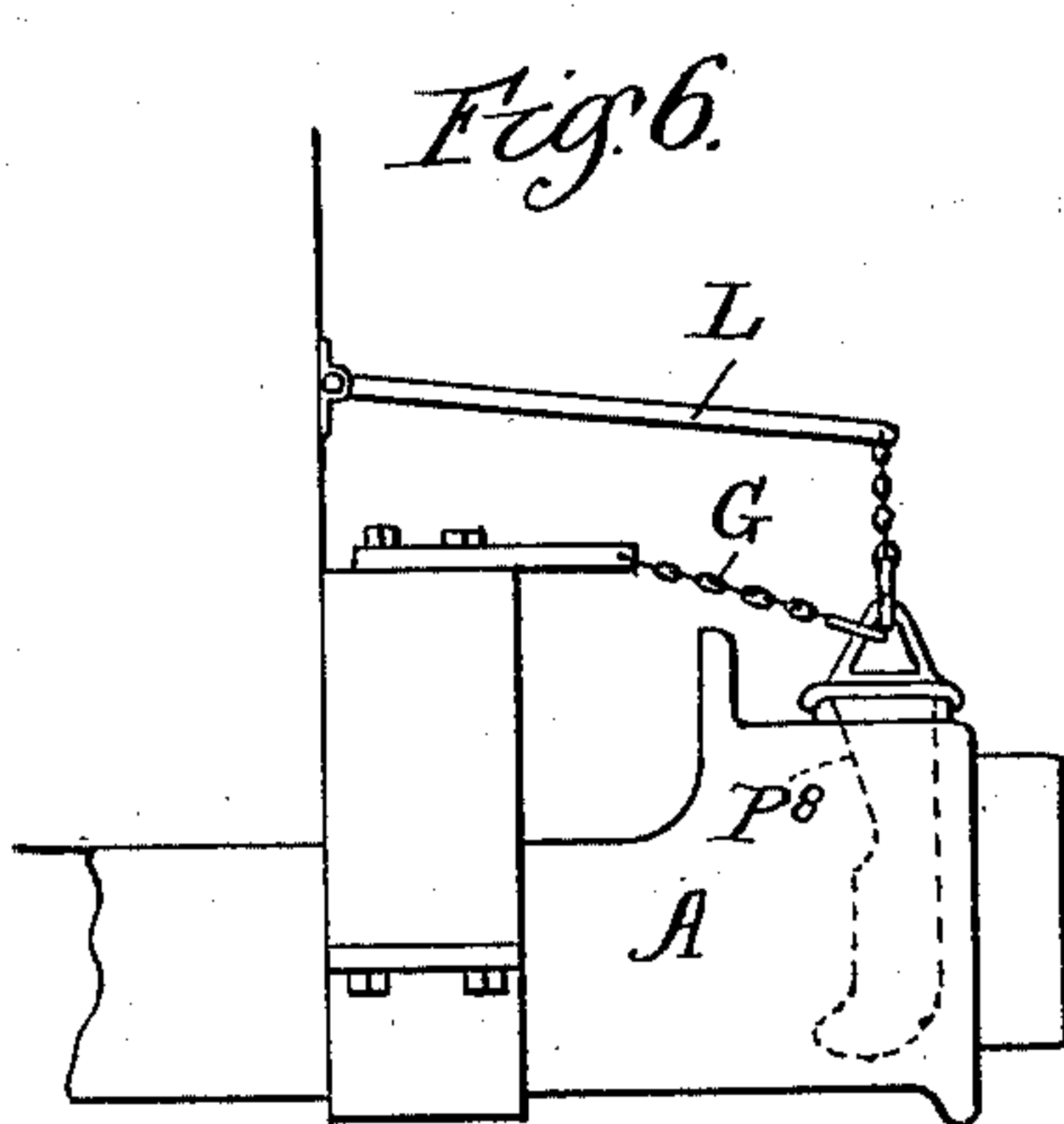


Fig. 5.

Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY DEITZ, OF CHICAGO, ILLINOIS, ASSIGNOR TO J. ELLSWORTH GROSS, LUELJA ZEARING GROSS, JAMES H. ZEARING, AND LUCINDA HELMER ZEARING, OF COOK COUNTY, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 561,543, dated June 2, 1896.

Application filed November 27, 1895. Serial No. 570,277. (No model.)

To all whom it may concern:

Be it known that I, HENRY DEITZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Couplers, of which the following is a specification.

My invention relates to that class of couplers known as the "Master Car-Builders' vertical-hook type," and has for its object to produce a coupler of certain special merits, as will be described herein.

Certain features disclosed in this application are not herein claimed, for the reason that they form a part of the subject-matter of my applications, Serial Nos. 567,710 and 568,021, filed November 2, 1895, and November 5, 1895, respectively.

Reference will be had to the accompanying drawings, in which—

Figure 1 is a plan sectional view on line 1 1 of Fig. 3. Fig. 2 is a transverse sectional vertical view on line 2 2 of Fig. 1. Fig. 3 is a vertical longitudinal sectional view on line 3 3 of Fig. 1. Fig. 4 is a similar view to that of Fig. 3, showing two positions of locking-pin. Fig. 5 is a rear view of the locking-pin. Fig. 6 is a side view of the coupler in position in car, showing safety device.

In the drawings, A designates the ordinary vertical-hook-coupler casting provided with the special devices of my invention, which relate to the locking devices for locking the knuckle B.

P designates the locking-pin, which is interposed between the end B' of the knuckle and the wall A' of the casting A, Figs. 1 and 3, and thereby locks the knuckle B. In the front face of pin P there is a slot P', having the inclined bottom, as is shown at P², and on the inside of the front wall of the casting A there is a projection A², which engages the slot P' of pin P in the vertical movement of the pin. This projection A² is for the purpose of preventing the accidental displacement of the pin P, and also for engaging the inclined end P² of the slot P' in pin P and thereby producing an inclination of the pin in its upward extreme position in order that its lower end P³ may engage the end B' of the knuckle B, and in aid of which there is made a lip P⁴ on the pin and a recess B² in

the knuckle. On the front top side of pin there is a lip P⁵, engaging a rounded projection A³ of casting A, which acts as a center about which the pin swings in automatic locking. On rear side, at the lower end of pin P, there is the projection P⁶, which is for the purpose of engaging the rebounding lug A⁴ of casting A (see Fig. 4) and thereby preventing displacement of the pin by sudden shocks in coupling, as it will be noticed by Fig. 4 that in position of full lines in said figure the pin P is locked from further vertical lifting by reason of the knuckle end holding projection P⁶ of pin to engagement of the rebounding lug A⁴, and this position of pin P is at the time of the greatest shocks in coupling, and this position is maintained through the period of the movement of the knuckle end B' while in contact with the pin in coupling—say during the movement of the knuckle through angle *c d e*.

In the projection P⁶ of pin is a recess P⁷, which engages a rib A⁵ of casting A on the backward swinging of the pin P, and this rib A⁵ is curved and inclined in a manner to lift the pin bodily by its backward swing to position of full lines in Fig. 4, the purpose of which is to give a greater depth for the fall of the center of gravity of the pin in swinging home in automatically locking the knuckle, thereby insuring a certainty of the pin's swinging and falling home in locking.

On the top of the dead-block F there is fastened a safety-chain G, connected to pin P, the purpose of which is to lift the locking-pin P in the event of the coupler becoming detached from the car, and thereby unlock the knuckle and uncouple the train and hold the coupler to car and prevent its falling on track and derailing train, as is the result when the ordinary coupler of this class is detached from car during movement of train. This safety unlocking of pin is produced by the inclined portion P⁸ of pin P.

The coupler is unlocked by the cutting-out lever L lifting the pin vertically to its limit and then immediately releasing lever, whereupon, by the inclining of the pin, as before described, the pin rests on the top of the end B' of knuckle B and the coupler is ready to uncouple at any time thereafter, suiting the convenience of the trainmen, and upon the

uncoupling of the knuckle the pin P falls home, and in the coupling again the pin is swung backward and upward by the knuckle end, thereby permitting the knuckle to re-
 5 turn home, and on the knuckles arriving home the pin drops and swings in past the knuckle end, locking the same automatically. The pin is lifted out by swinging it in position of dotted lines, Fig. 4, clearing projec-
 10 tion A² of casting A. The slot P' being in the front of pin P and in the plane of its oscillation insures the safety of projection A², since no movement of violent nature can cause pin P to engage projection A².

15 What I claim is—

1. In a coupler of the class described the combination of locking-pin having a slot in the forward edge of said pin being in a vertical longitudinal plane of the coupler with a pro-
 20 jection on the inner side of the forward wall of the main coupler-casting for engaging said slot.

2. In a coupler of the class described the combination of a locking-pin, having a slot in
 25 the forward edge of said pin, being in a vertical longitudinal plane of the coupler, and having an inclined bottom to said slot, with a projection on the coupler-casting for en-
 30 gaging said slot to prevent the accidental displacement of said pin in the manner shown and for the purpose described.

3. In a coupler of the class described, the combination of a locking-pin with an inclined lifting-rib whereby by the backward swing of the pin in contact with the incline, the pin
 35 is lifted in the manner shown for the purpose described.

4. The combination of a locking-pin, provided with a projection P⁶ on said pin, and a rebounding projection A⁴ for the purpose
 40 described.

5. The combination of a locking-pin having a recess P⁷ in the end of said pin with an inclined rib A⁵, said rib and recess fitted to
 45 each other in a manner to bring the pin in the proper plane to swing home on clearance of the knuckle.

6. The combination of a locking-pin, having a slot in the forward edge of said pin being in a vertical longitudinal plane of the
 50 coupler, said slot having an inclined portion at its lower end, with means for engaging said slot, whereby the pin is so inclined in a moment to engage the knuckle end for the purpose described.
 55

In witness whereof I have hereunto subscribed my name, on this 16th day of November, 1895, in the presence of two witnesses.

HENRY DEITZ.

Witnesses:

E. J. KENT,

W. E. WILLIAMS.