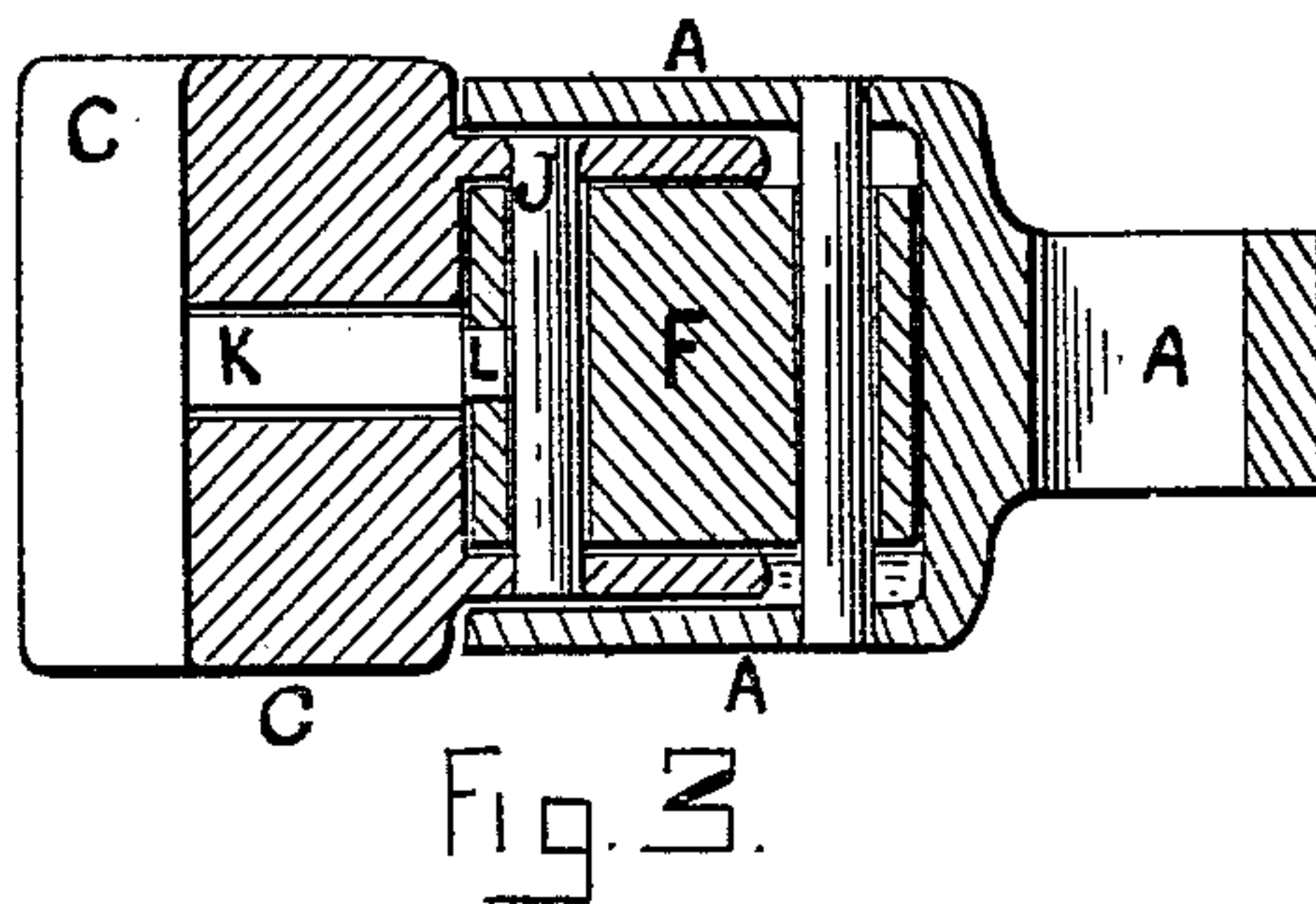
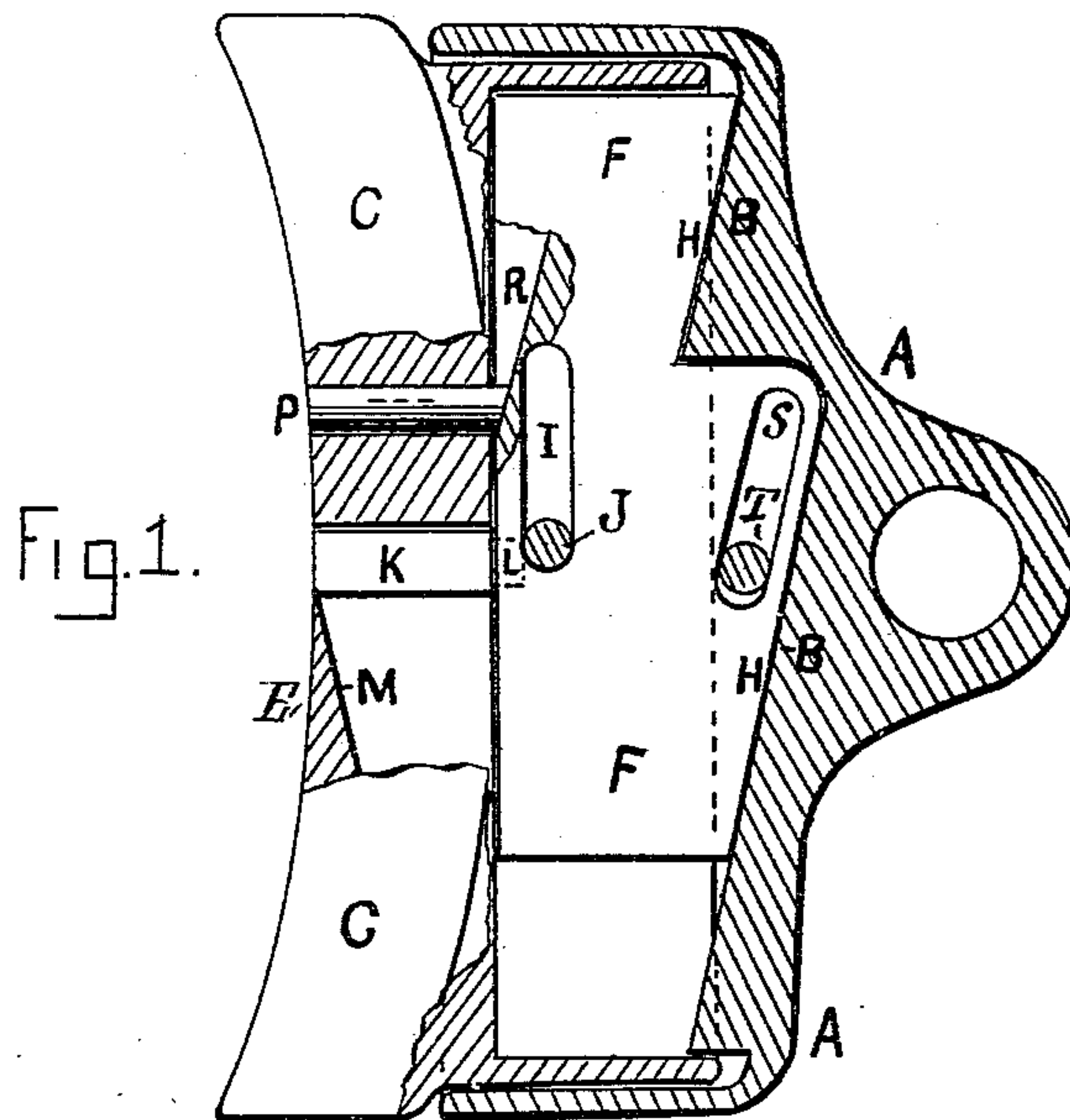
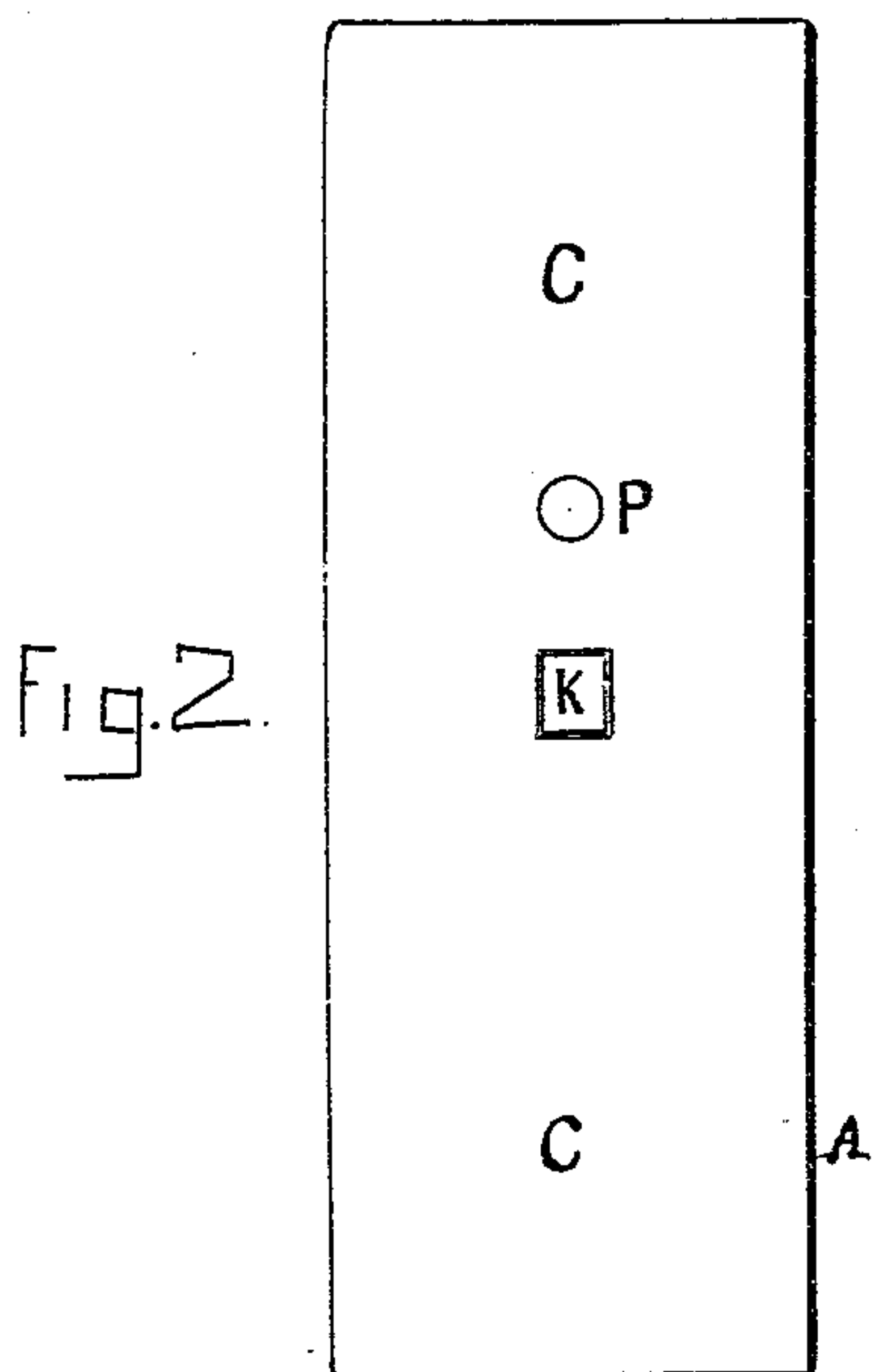


(No Model.)

H. F. SHAW.  
RAILWAY CAR BRAKE SHOE.

No. 555,343.

Patented Feb. 25, 1896.



WITNESSES

INVENTOR

Henry Houghton

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Attorney



# UNITED STATES PATENT OFFICE.

HENRY F. SHAW, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO SAMUEL A. RANDALL, OF SAME PLACE.

## RAILWAY-CAR BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 555,343, dated February 25, 1896.

Application filed November 19, 1895. Serial No. 569,461. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY F. SHAW, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Railway-Car Brake-Shoes, of which the following is a specification.

The object of my invention is to provide an automatic or self-adjusting brake-shoe which shall remain in the same normal position in relation to the face of the shoe and contact-rim or peripheral surface or tread of the wheel when worn by long and constant use; and it consists in the construction, combination and arrangement of the several parts of the brake-shoe, as hereinafter more fully described, and specifically set forth in the claims.

In the drawings hereto annexed, which form a part of this specification, Figure 1 represents a vertical sectional elevation of a brake-shoe constructed according to my invention. Fig. 2 represents a front elevation of the same. Fig. 3 represents a horizontal sectional view of the brake-head, brake-shoe, and drop-wedge with the connecting-pins thereof in elevation, looking downward.

A represents the brake-shoe head cast hollow and having three incline bearing-surfaces B, vertically one above and one below the center and one at about the center, or as desired. The automatic or self-adjusting brake-shoe C is fitted loosely within the said hollow head A and projects therefrom, and its outward-curved or segmental face E is formed to fit the periphery of a common car-wheel when forced in contact therewith by the usual brake mechanism now in use for the purpose. Now such contact with the car-wheels tends to wear away the said contact-face E quite rapidly, and in order to maintain the relative position of said face E to the car-wheel it requires a frequent adjustment of the said brake-head A in order to maintain the same in the desired position, so as to insure the most efficient service in an emergency. Therefore I provide the said hollow brake-head A with a loose-fitting vertical self-acting drop-wedge F, provided on its innermost face with three incline bearing-surfaces H, which contact with and operate upon the said incline surfaces or bearings B, (shown in Fig. 1,) or as may be desired, to effect the result. This

drop-wedge F has a bearing on its opposite vertical face throughout its lower portion with the rear vertical face of the adjustable brake-shoe C, which is loosely connected to the said wedge F by a vertical slot I and holding-pin J, whereby they are caused to move in a horizontal position, taken together, while the said wedge has also a vertical movement imparted to it by gravity as the said contact-face E is worn away, as above described.

Now in order to effect the automatic horizontal adjustment of the said brake-shoe C, I provide the said shoe with an actuating guide-pin K, which passes through the face of the brake-shoe and has a bearing-shoulder against the vertical face of the said drop-wedge F, and an extension L driven into the wedge-piece and which moves downward at the same rate as the segmental curved face is worn away. The outward end of the said guide-pin K, resting against the vertical incline face M provided in the said brake-shoe C, permits the end of the said pin K to drop or pass downward thereon as fast as such end and said contact-face E are worn away, thereby gradually forcing the same into position.

S represents an incline slot in which pin T slides.

Now in order to prevent the said gravity-wedge F from being forced upward I provide the said adjustable brake-shoe C with a horizontal pin P, one end of which is kept even or flush with the face E of the said shoe as it is worn away, and the opposite beveled end has a bearing against the incline face portion R of the said gravity-wedge F, as shown in Fig. 1. It will be understood that the said horizontal pin P fits loosely within the horizontal hole through the brake-shoe provided to receive it and is permitted to be forced inwardly gradually as the face of the said brake-shoe may be worn away by contact with the revolving car-wheel, as heretofore well known and understood. Now I contemplate that in case the weight of the said drop-wedge F should be overcome by the friction between the parts in contact a suitable spiral spring may be provided within the hollow brake-shoe head A, and having a bearing at one end against the head and at the opposite end, when sufficiently compressed, against the said



wedge F, so as to force the same downward gradually as the face of the shoe and the guide-pin are worn away, as above described, without departing from the more essential features of my invention.

Now it will be seen and understood that in order to prevent the brake-shoe C from moving forward or away from the said drop-wedge F when the said shoe is not in contact with a car-wheel it is necessary to connect the shoe C loosely to the said drop-wedge F. Therefore said shoe extends rearward or projects into a cavity, as shown in Fig. 3, formed in the vertical face of the wedge F, and the pin J is inserted through a slot I (shown in Fig. 1) in the said wedge F, and thereby connects the said wedge and shoe loosely together, so that the shoe can move forward only as far as the end of the guide-pin K is worn away correspondingly and with the face of the said brake-shoe C, whereby the said brake-shoe is automatically adjusted into position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with the hollow brake-head A, of the self-adjusting brake-shoe C, pin J, vertical drop-wedge F, actuating guide-pin K, and incline face M, whereby the said

brake-shoe C, may be automatically adjusted into position in relation to the car-wheel, substantially as described as and for the purposes set forth.

2. The combination with the hollow brake-head A having the incline bearing-surfaces B, of the vertical drop-wedge F having the incline bearing-surfaces H, slot I, pin J, and actuating guide-pin K adapted to move downward upon the incline M, and the self-adjusting brake-shoe C, constructed and arranged to operate as described, as and for the purposes set forth.

3. The combination of the brake-head A, and adjustable brake-shoe C, the pin J within the slot I, actuating guide-pin K having shouldered extension L, the vertical drop-wedge F, having the incline bearing-surfaces H adapted to contact with the incline bearing-surfaces B in the said head A, and the horizontal pin P, adapted to contact at one end with the incline R and the opposite end with the car-wheel, substantially as described, as and for the purposes set forth.

HENRY F. SHAW.

Witnesses:

SYLVENUS WALKER,  
SAMUEL A. RANDALL.