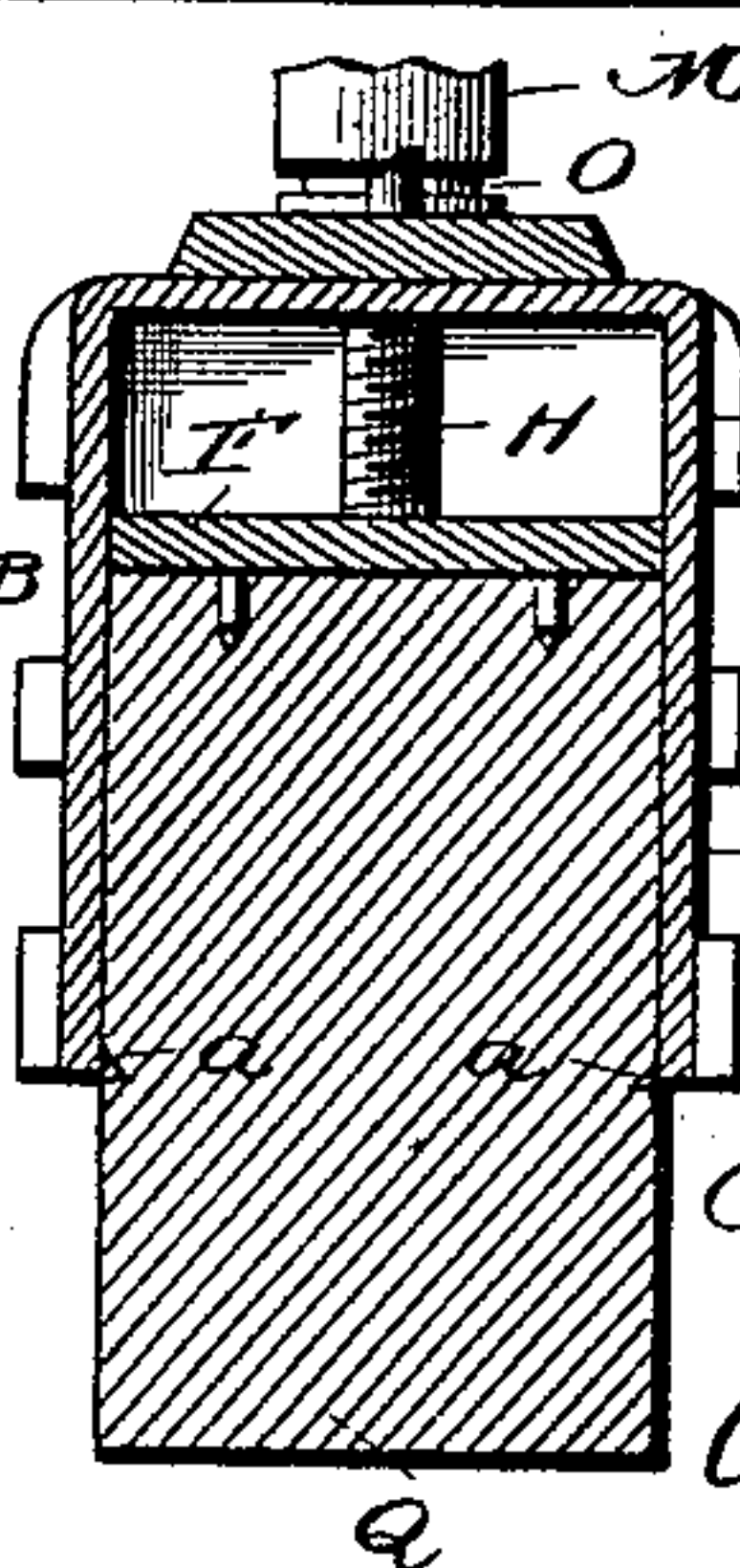
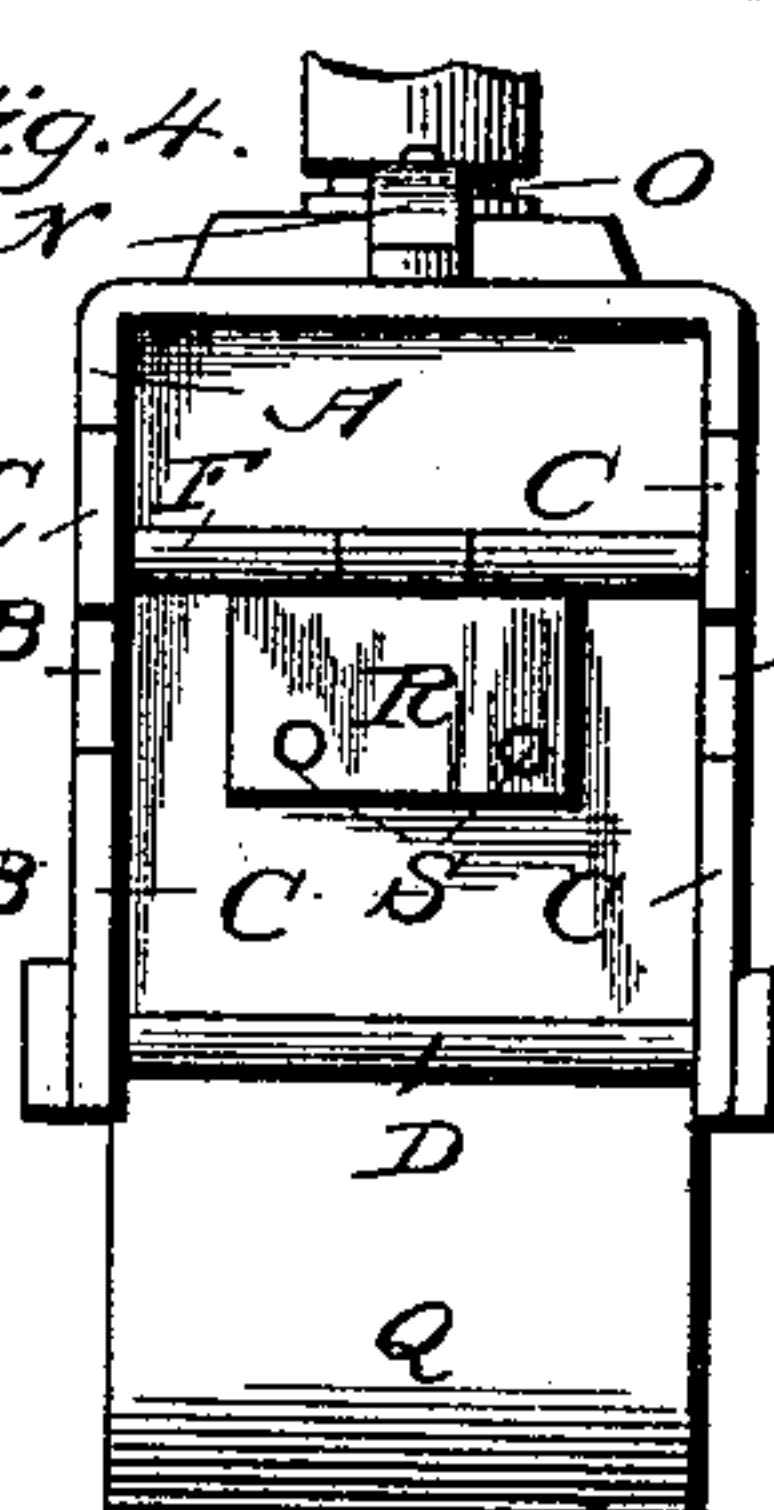
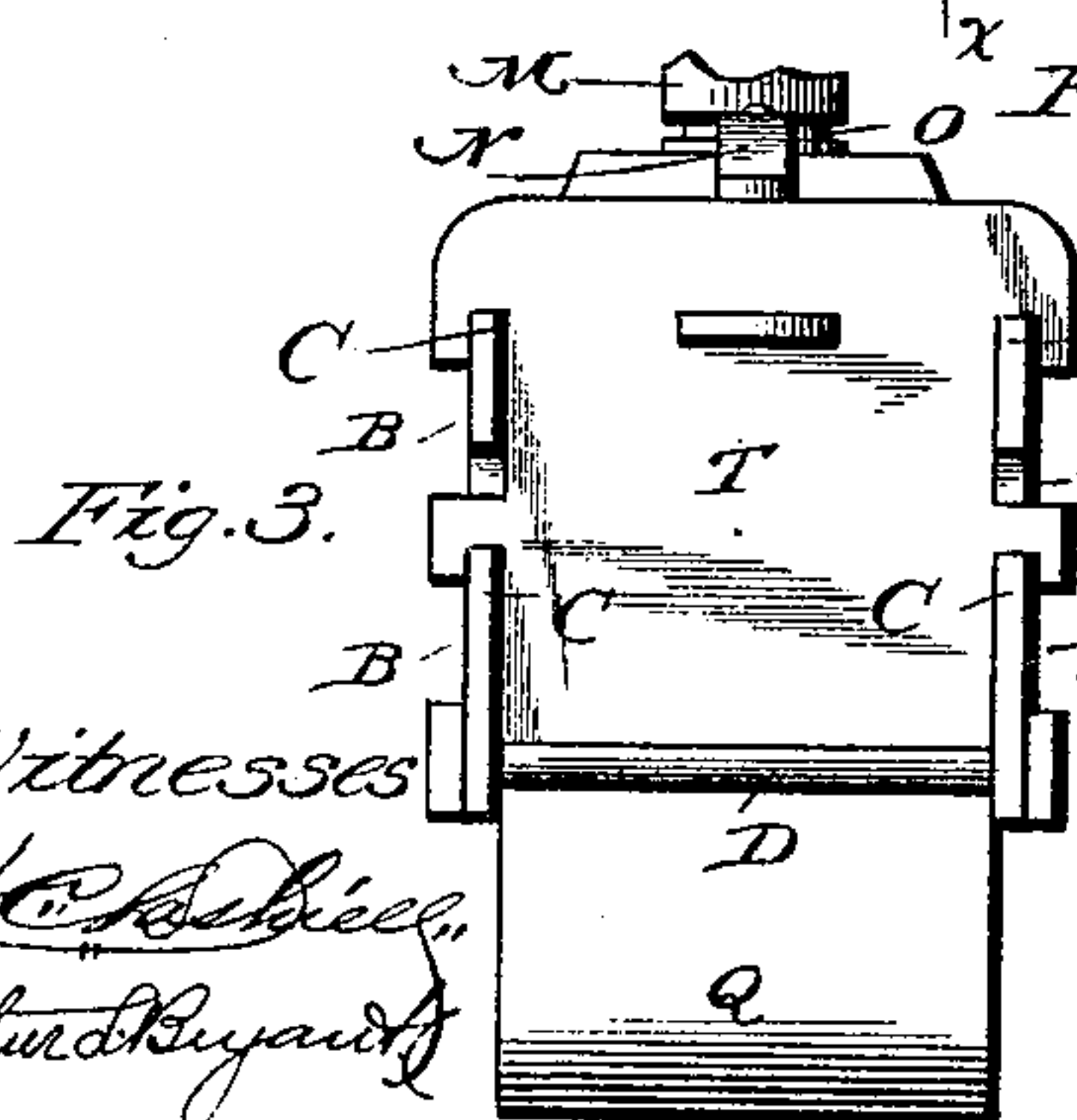
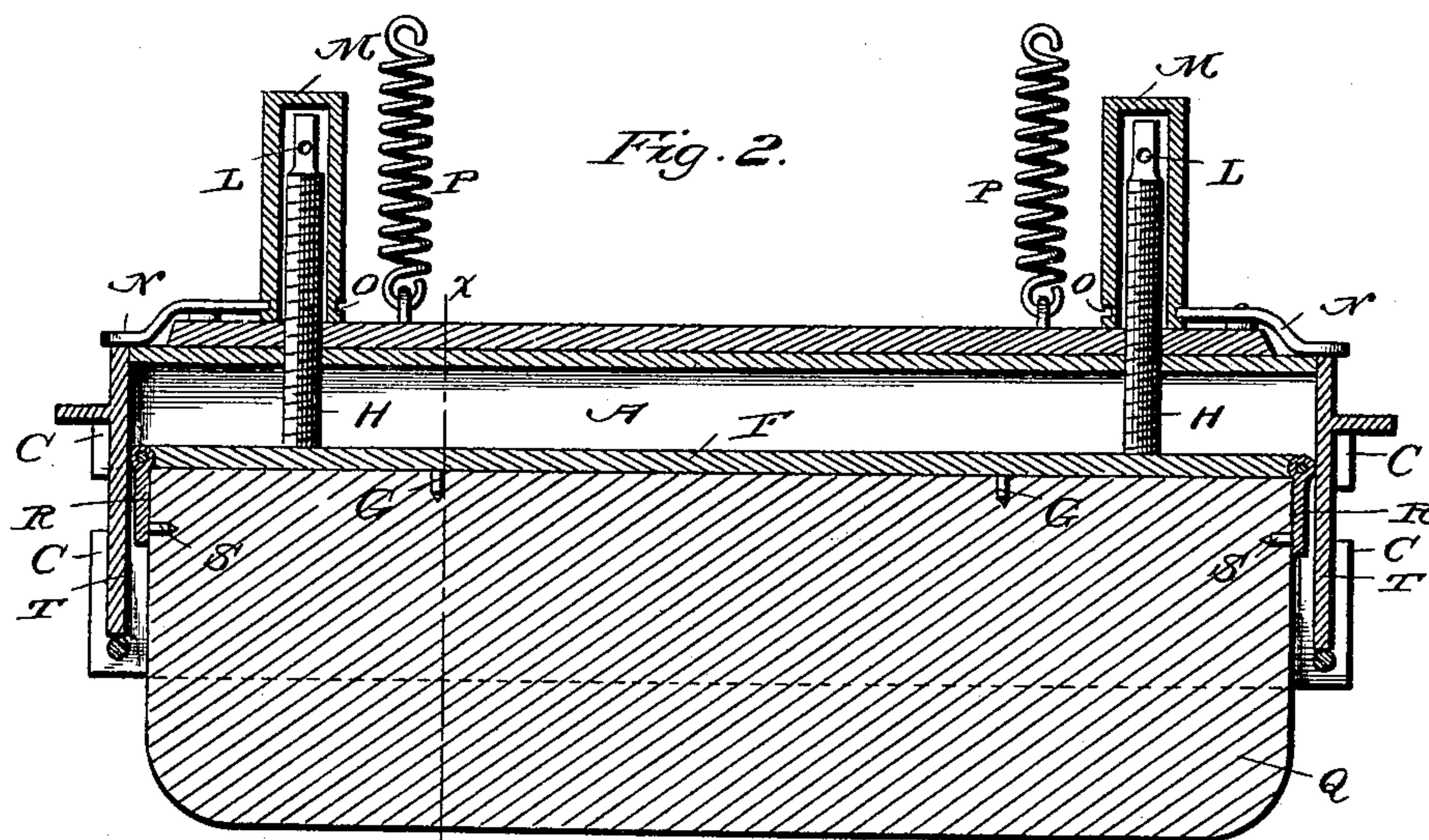
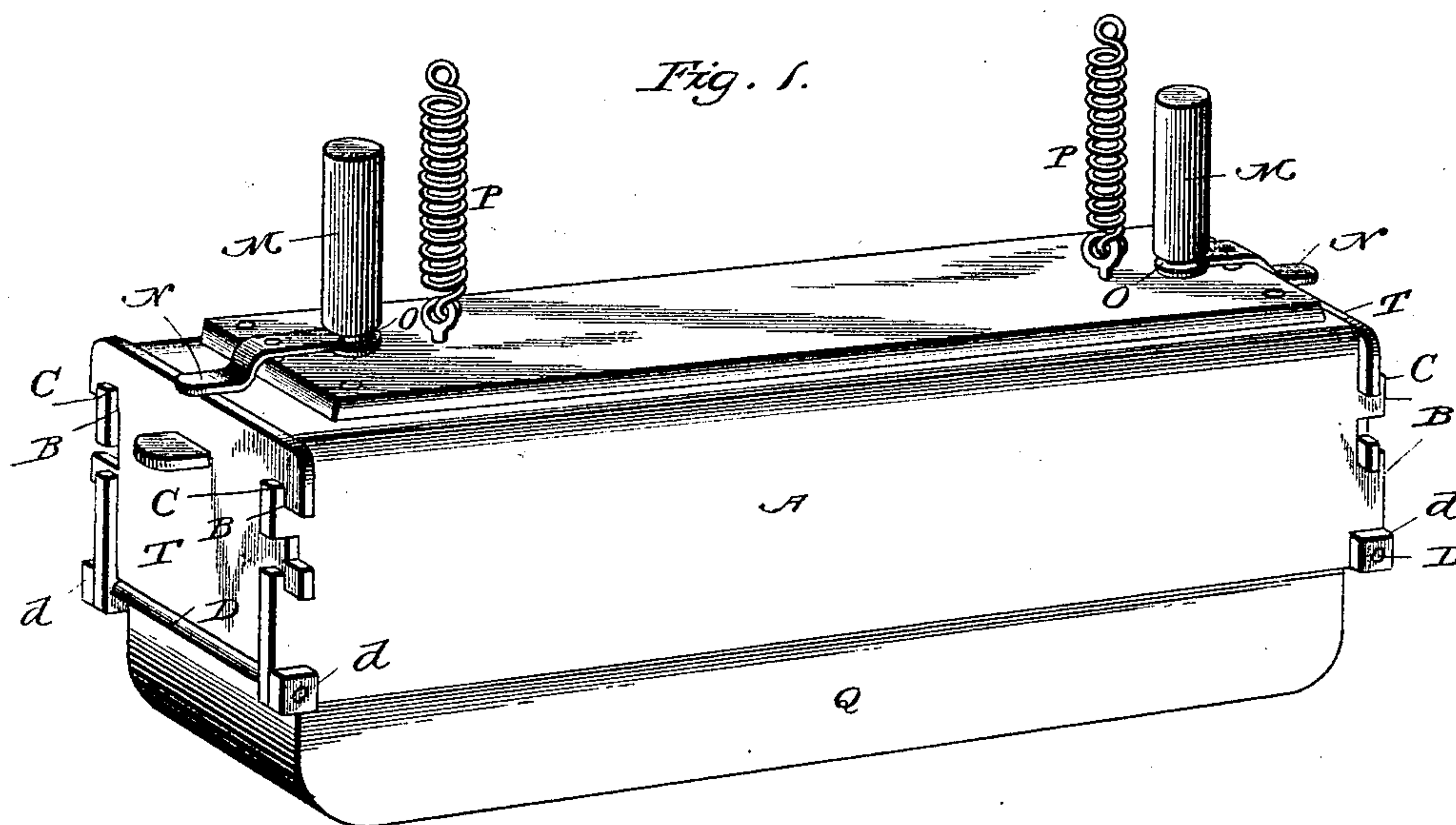


(No Model.)

C. W. HOWLETT.  
RAIL BRAKE.

No. 481,029.

Patented Aug. 16, 1892.



Witnesses  
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By  
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Attys.



# UNITED STATES PATENT OFFICE.

CHARLES W. HOWLETT, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-THIRD TO DANIEL S. GERBER, OF SAME PLACE.

## RAIL-BRAKE.

SPECIFICATION forming part of Letters Patent No. 481,029, dated August 16, 1892.

Application filed February 27, 1892. Serial No. 423,038. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. HOWLETT, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Rail-Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in rail-brakes specially adapted for use on cable cars; and one of the objects of the invention is to provide a simple and effective rail-brake which can be adjusted to compensate for wear, so as to keep its sole in proper position with relation to the rail.

A further object of my invention is to provide a retaining case or clamp for holding the brake-sole and from which the sole can be readily removed when desired.

With these ends in view my invention consists in the combination of a case or clamp suitably connected to a car, a movable plate within said case, a brake-sole arranged in the case below and detachably connected to the movable plate therein, and adjusting-screws passing through the inclosing case or clamp and adapted to move the movable plate and the attached brake-sole therein.

My invention further consists of the peculiar construction and arrangement of parts, as will be hereinafter more fully pointed out and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a rail-brake shoe constructed in accordance with my invention detached from the car. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is an end view. Fig. 4 is a similar view with the end plate removed, and Fig. 5 is a transverse vertical sectional view on the line *xx* of Fig. 2.

Like letters of reference denote corresponding parts in all the figures of the drawings, referring to which—

A designates the inclosing shell or clamp of my improved rail-brake, which shell is of any suitable and desirable material, form, and proportions.

The shell or case A is open at the lower

side and ends, and the sides of said case or shell are provided at their ends with recesses or notches B, which form short upwardly-extending lugs or pins C.

The sides of the case or shell A are connected by bolts D, which pass through suitable apertures in the sides and extend across the open ends of the shell near the lower end thereof, the ends of the bolts having the nuts *d*.

Within the shell or case A is arranged a movable horizontal plate F, which extends almost the entire length of the case A and is provided on its under surface with a series of projecting spurs or teeth G. The plate F is connected to the lower ends of two operating-screws H, which extend upwardly through the top of the case or shell A, and are provided at or near their upper ends with a series of apertures L, adapted to receive short bars or rods or a wrench when it is desired to rotate said screws to lower or raise the plate F with the shell A.

The upper parts of the adjusting-screws, which lie above the shell or case A, are normally protected and covered by the removable caps M. The caps or covers M are held in position by means of locking levers or catches N, which are centrally pivoted to the top of the shell A, near the ends thereof. One arm of each latch is adapted to enter an annular groove O, formed near the lower end of each cap M, and the other end or arm of the latch N extends beyond the ends of the case A, for a purpose to be explained.

Coiled springs P are connected at their lower ends to the case A, and the upper ends of said springs are adapted to be connected to the trucks of the car to which the brake is applied, said springs serving to take up the slack of brake when released.

A brake-sole Q, preferably made of wood, is arranged within the shell or case A and extends for some distance below the lower edge thereof. The sole Q is held in position by means of the spurs or teeth G on the under side of the movable plate F, and by dogs R, which are pivotally connected to the ends of the plate F and provided on their inner faces with one or more spurs or prongs S, which take into the ends of the brake-sole. Longitudinal movement of the sole Q within



the shell A is prevented by means of the bolts D, which extend across the open ends of the shell and connect the sides thereof.

The lower edges of the sides of the shell A are preferably roughened to enable the shell to have a firm hold on the brake-sole.

The open ends of the case or shell A are closed by means of detachable plates T. Each of these plates T is provided with projections S, adapted to take into the notches B, and said end plates are held in position by the outer ends of the latches N, extending across the upper edges thereof or fitting in a notch formed in the upper edge. (See Fig. 6).

The rail-brake hereinbefore described is designed to be connected to a cable or other car by any desired and suitable means.

The operation and advantages of my invention may be briefly stated as follows: As the brake-sole Q becomes worn, the screws H are operated to lower the plate F and the sole Q attached thereto. When it is desired to replace the worn sole by a new one, the end plates T are removed and the dogs R are disengaged from the ends of the sole and the same easily removed and a new one placed in position.

I am aware that changes in the form and proportion of parts and details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. A rail-brake shoe consisting of an inclosing case or shell, a movable plate arranged in said shell, a brake-sole connected to said plate, and means for moving said plate and sole vertically within the inclosing shell, substantially as described.

2. A rail-brake shoe consisting of an inclosing case or shell, a horizontal movable plate arranged within the shell, a brake-sole connected to said plate, and adjusting-screws supported in the shell and adapted to move the plate and sole vertically therein, substantially as described.

3. A rail-brake shoe consisting of an inclosing case or shell, a horizontal movable plate arranged within the shell, a brake-sole fitted in the inclosing shell, the dogs pivotally connected to the movable plate and engaging with the ends of the sole, and means for ad-

justing the plate and sole vertically within the shell, substantially as described.

4. In a rail-brake shoe, the combination of the inclosing shell open at its lower end, a brake-sole fitted within and extending below said shell, a horizontal plate fitted in the shell above the sole and provided on its under surface with a series of spurs, which engage with the brake-sole, the dogs pivoted to the plate and engaging with the ends of the brake-sole, and the operating-screws connected to the movable plate and extending through the inclosing shell, substantially as and for the purpose described.

5. The combination of an inclosing shell open at its lower side and at its ends, bolts connecting the sides and extending across the open ends, the end plates arranged to close the ends of the shell, the coiled springs connected to said shell and adapted to be connected to the trucks of the car, a brake-sole fitted within the shell, and means for adjusting said sole vertically within the shell, substantially as described.

6. The combination of the inclosing shell open at its ends and lower side, the bolts connecting the sides and extending across the open ends, the removable plates adapted to close the ends, a brake-sole fitted within and extending below the inclosing shell, a plate arranged within the shell and detachably connected to the sole, adjusting-screws connected to said plate and extending above the inclosing shell, removable caps fitted over the exposed portions of the adjusting-screws, and the levers or catches pivoted on the inclosing shell and operating to confine the removable caps and the detachable end plates in place, substantially as described.

7. The combination, with a shell or case and a brake-sole, of an adjustable plate within the shell and engaging the sole along its upper side and at its ends, and means for adjusting the plate, substantially as described.

8. The combination, with a shell, a sole, and an adjusting-screw, of a protection-case fitted on the screw, an end plate fitted to the open end of the case, and a latch arranged to engage both the protection-case and the end plate, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. HOWLETT.

Witnesses:

THOS. L. EASLEY,  
JAMES A. WEST.