

**No. 635,954.**

**Patented Oct. 31, 1899.**

**J. CAHILL.**  
**AXLE BOX.**

(Application filed July 7, 1899.)

(No Model.)

Fig. 1.

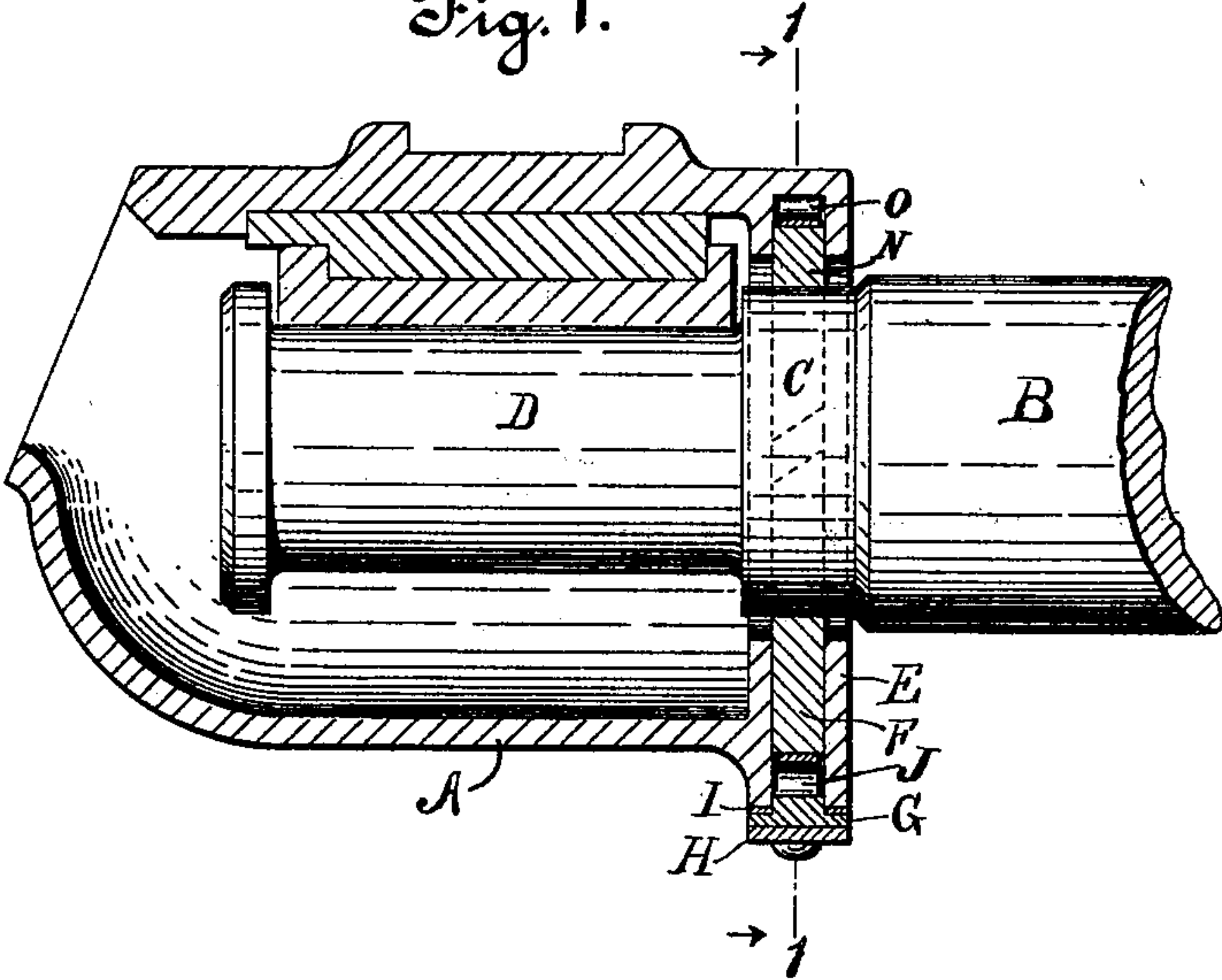


Fig. 2.

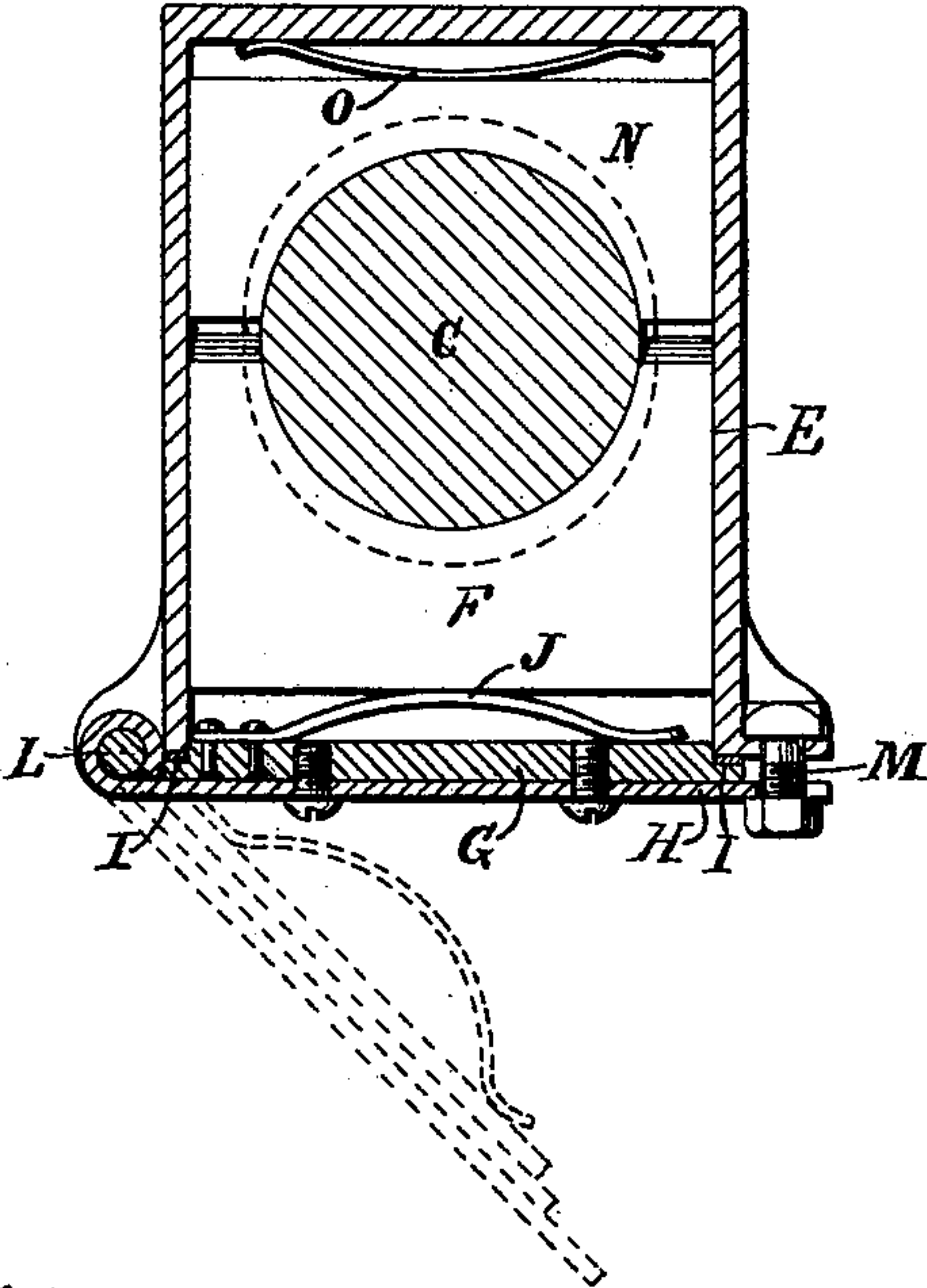


Fig. 3.

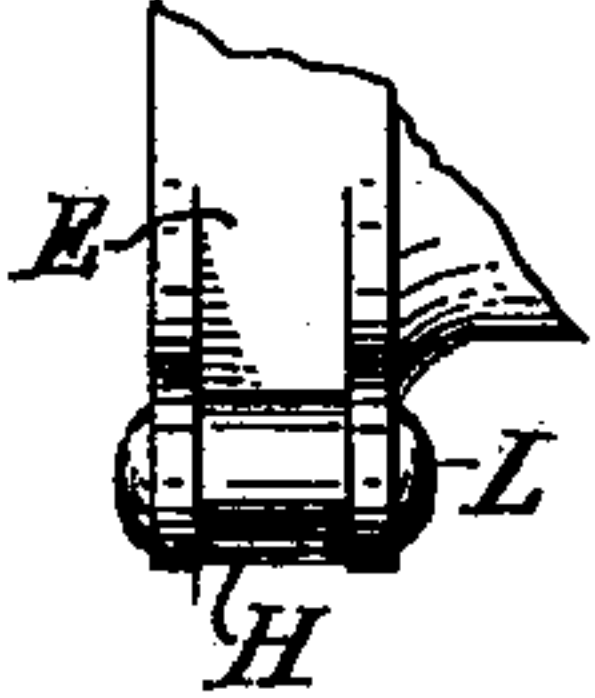
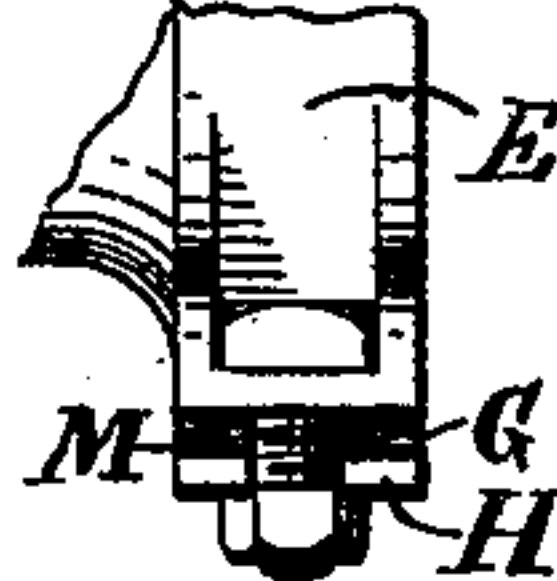


Fig. 4.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

JOHN CAHILL, OF WAVERLY, NEW YORK.

## AXLE-BOX.

SPECIFICATION forming part of Letters Patent No. 635,954, dated October 31, 1899.

Application filed July 7, 1899. Serial No. 723,108. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CAHILL, a citizen of the United States, residing at Waverly, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification.

My invention relates more particularly to improvements in the rear end of car-axle boxes, the object being to provide an oil-tight packing for the lower portion thereof and a dust-guard for the upper portion.

It is a further object of my invention to provide means for readily removing and replacing the lower packing-plate.

I attain these objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section of an axle-box having my improvements applied thereto; Fig. 2, a transverse section on the line 1 1 in Fig. 1, looking in the direction of the arrows; and Figs. 3 and 4, details of construction.

Similar letters refer to similar parts throughout the several views.

A represents the axle-box, which may be of any of the ordinary forms. At the rear of the box is a rectangular chamber E, within which runs the collar C on the axle B, between the main portion of the axle and the journal D. This chamber E is closed at the top and open for its full width at the bottom.

F represents a packing-plate, which may be of any antifriction metal, compressed fiber, or other suitable material, said plate being cut to bear against the lower half of portion C of the axle and fitting the chamber E with a close sliding fit. A block G fits into the opening at the bottom of the chamber E and is provided around its outer edges with a flange, between which and the rim of the chamber E is a packing-gasket I. This block G is secured to a plate of iron or steel H, which is hinged at one side of the box E on a pin L, fastened between a pair of ears cast on the side of the box, as shown in Figs. 2 and 3. At the opposite side of the box a bolt M depends from a suitable bracket cast on that side of the box E, as shown in Figs. 2 and 4, the plate H being slotted to swing up into en-

gagement with said bolt M, so as to be fastened in place with a clamping pressure by means of the nut on the bolt. A half-elliptic spring J is fastened at one end to the block G in position to abut against the bottom of the packing-plate F when the lid formed by block G and plate H is thrown up and bolted in position. This lid may be made in one piece; but I prefer to make it as shown for reasons of construction.

In the upper portion of the chamber E, I preferably place a dust-guard plate N, which is kept in engagement with the upper half of the portion C of the axle by means of a light spring O, although this spring may be dispensed with and gravity alone be relied upon for this purpose. As there will be scarcely any wear on plate N, this plate will not have to be removed during the life of the axle. On the plate F, however, there will be more wear by reason of the stronger pressure exerted thereagainst by the spring J in order to keep it always in close contact with the axle, this plate F being so set in the chamber E as to prevent the escape of oil contained in the axle-box. The plate F is readily removed by reason of my construction at any time without any manipulation of the axle or axle-box, it being required simply to loosen the nut from the bolt M and drop the lid, which will allow the plate F to drop out from the box and a new plate to be inserted. By reason of the packing-gasket I an oil-tight joint is formed at the bottom of the chamber E, so that any oil that passes down between the walls of the chamber and the packing-plate F cannot escape.

By rounding the bottom of the axle-box A, as indicated in Fig. 1, I economize space around the bottom of the journal D, the intention being in such a box to dispense with the use of waste, oil alone being poured into the box and standing at a level to engage the bottom of the journals, the packing-plate preventing the escape of oil at the back of the box. Preferably I give an inward taper to the top of the packing-plate F at the sides of the axle and a corresponding taper to the dust-guard N, as indicated in Fig. 1, in order that any oil that may be thrown into the space above the plate F will run back into the box.



While it is preferable to use the dust-guard in combination with the packing-plate, whereby dust is kept out from the axle-box as well as the leakage of oil therefrom is prevented, my packing-plate and the oil-tight chamber therefor may be used without the dust-guard feature, and I do not therefore confine myself to the combination of the two.

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

1. The combination, with a car-axle box and axle, the box having a bottomless chamber at the rear and surrounding the axle, said chamber being closed at the top and open at the bottom, of a packing-plate in the chamber inserted from the bottom and bearing against the lower half of the axle, a lid for the bottom of the chamber hinged at one side thereof, a bolt depending from the opposite side of the chamber to engage said lid, a nut on said bolt to clamp the lid against the chamber, a gasket between the lid and the bottom rim of the chamber, and a half-elliptic spring having

one end secured to the inside of the lid for the purpose set forth.

2. The combination, with a car-axle box and axle, the box having a bottomless chamber at the rear and surrounding the axle, said chamber being closed at the top and open at the bottom, of a dust-guard plate in the top of said chamber bearing against the upper half of the axle, a packing-plate in the lower portion of the chamber bearing against the lower half of the axle, the opposed edges of said plates being beveled downwardly and inwardly a hinged closure for the bottom of the chamber and a half-elliptic spring secured to said closure and bearing against the bottom of the packing-plate as and for the purpose set forth.

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

JOHN CAHILL.

Witnesses:

PETER P. LINNEEN,  
C. TRACEY STAGG.