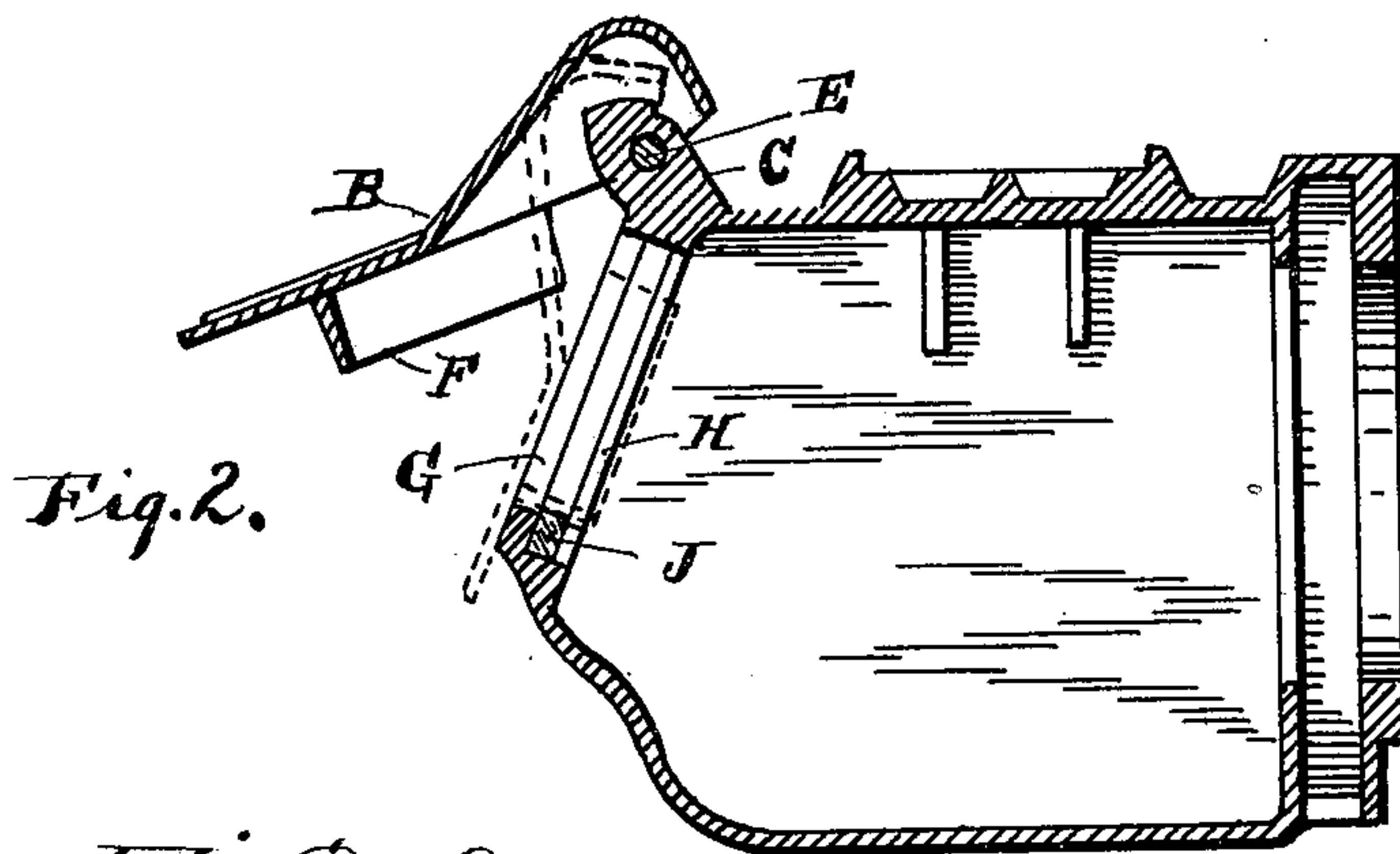
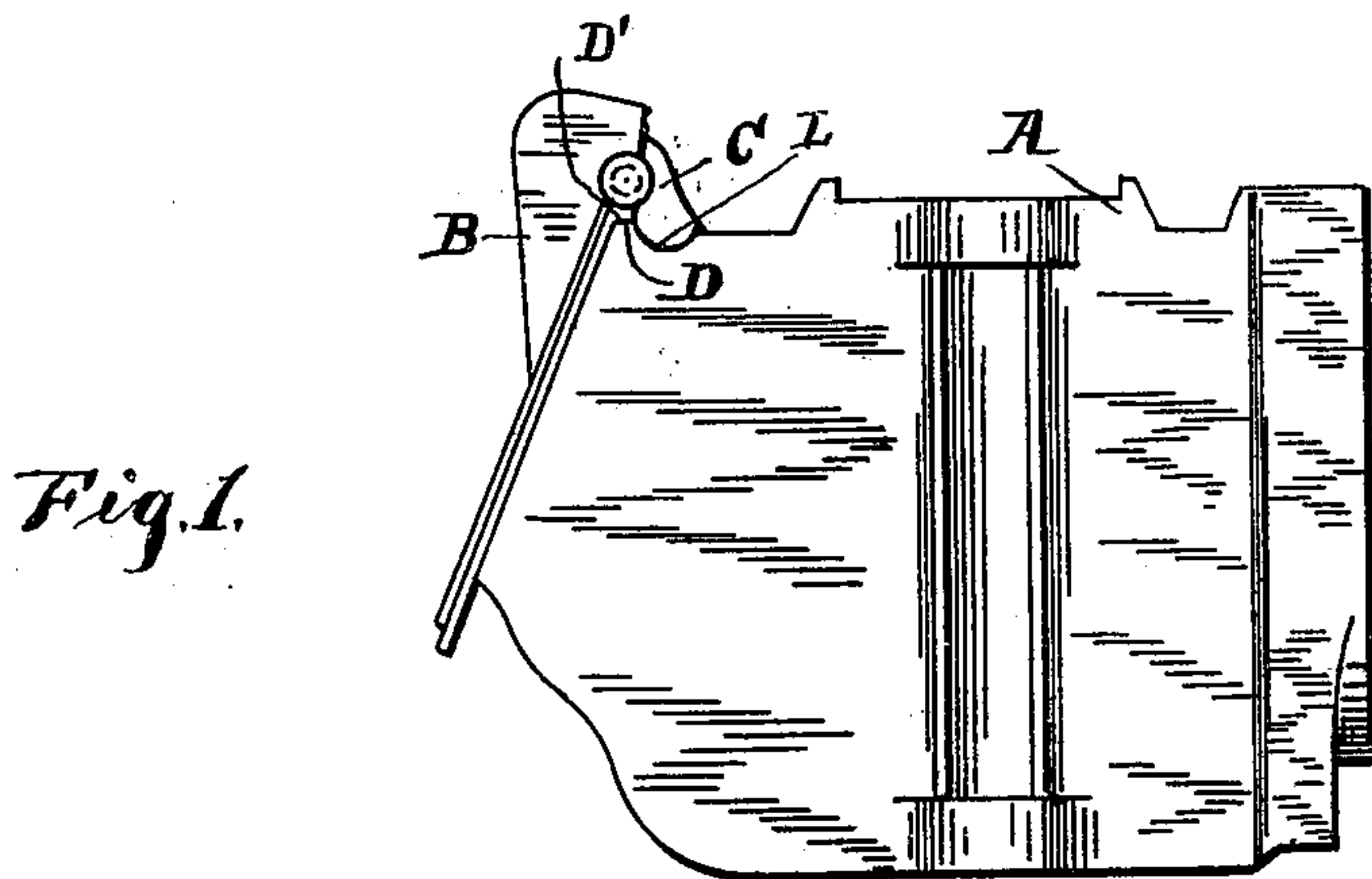


No. 627,420.

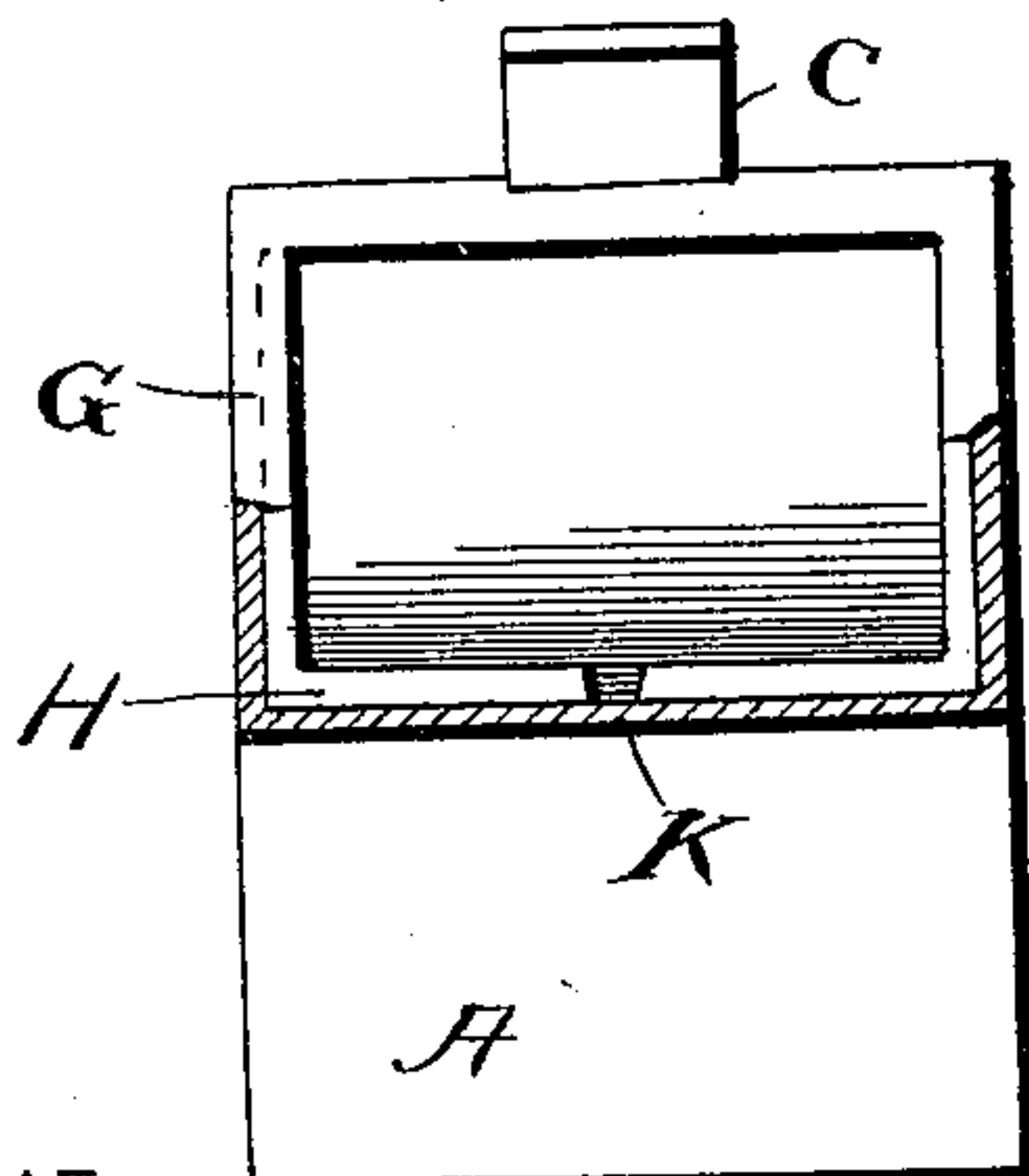
Patented June 20, 1899.

**E. L. HOWE.**  
**AXLE BOX FOR CARS.**  
(Application filed May 12, 1898.)

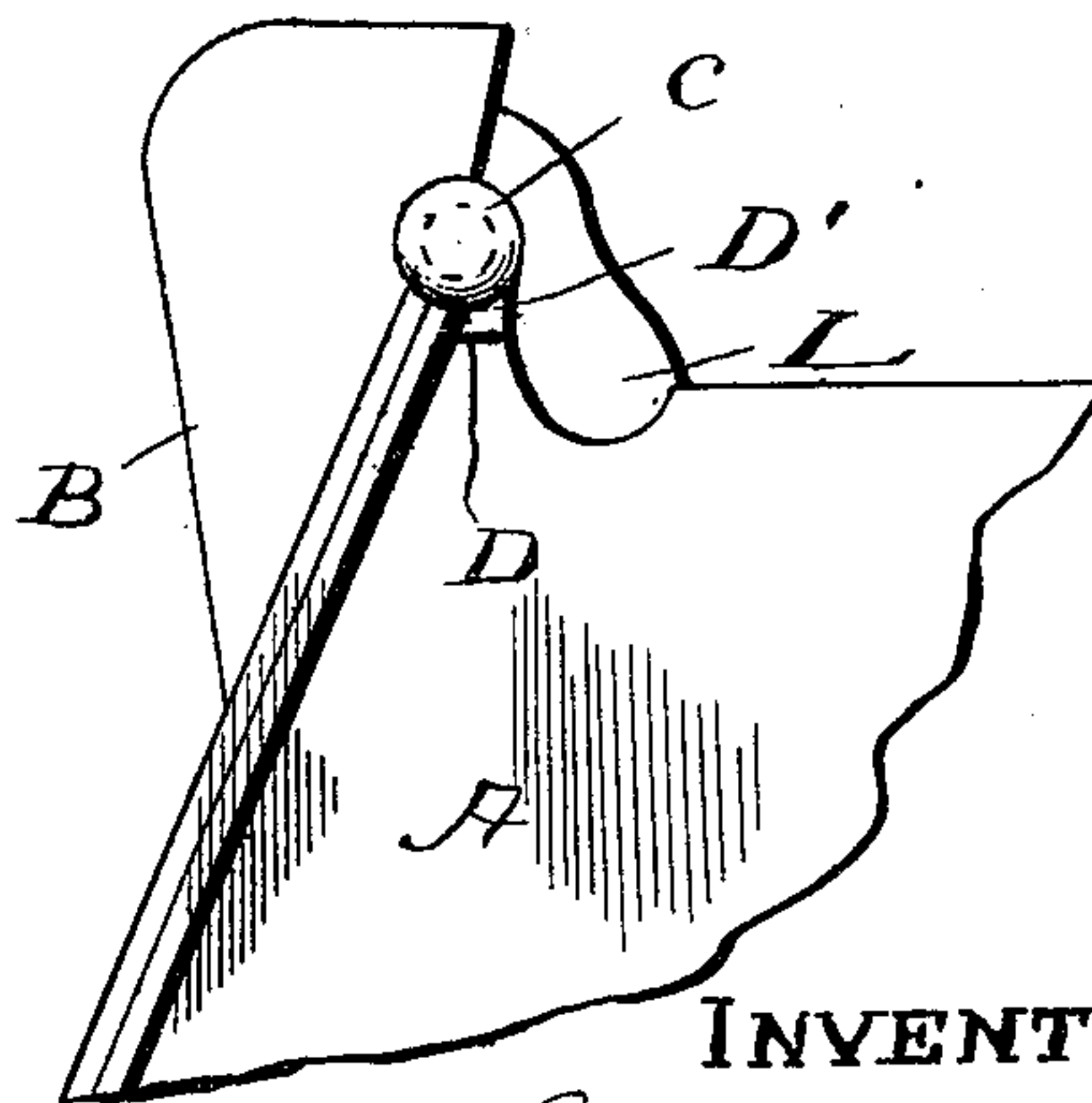
(No Model.)



*FIG. 3.*



*FIG. 4.*



**WITNESSES.**

*Harry J. Perkins*  
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**INVENTOR.**

*Eugene L. Howe*

**BY. his ATTORNEY.**

*Edward Tappan*

# UNITED STATES PATENT OFFICE.

EUGENE L. HOWE, OF MUSKEGON, MICHIGAN.

## AXLE-BOX FOR CARS.

SPECIFICATION forming part of Letters Patent No. 627,420, dated June 20, 1899.

Application filed May 12, 1898. Serial No. 680,495. (No model.)

*To all whom it may concern:*

Be it known that I, EUGENE L. HOWE, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented new and useful Improvements in Axle-Boxes for Cars, of which the following is a specification.

This invention relates to certain new and useful improvements in axle-boxes for cars; and the invention consists in the construction hereinafter particularly described and claimed.

The objects of my invention are, first, to retain the oil or lubricant within the axle-box, and thereby prevent waste and keep the axle lubricated, and, second, to return to the axle all the oil which may be thrown against the lid of the box. These objects I accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of an axle-box constructed in accordance with my invention. Fig. 2 is a longitudinal section view through the center of the same. Fig. 3 is a front view with the lid secured and with a portion of the outer flange cut away, showing the groove between the flanges and oil-drip opening from the groove to the inside of the axle-box. Fig. 4 is a detail view showing, on an enlarged scale, the construction for preventing access of water to the axle-box through the joint formed by the closed lid.

Similar letters refer to similar parts throughout the several views.

A represents the outer shell or case of the axle-box, the same being constructed of any suitable material.

B represents the lid hinged to the case.

C is a lug or projection on the case, provided with an opening for the reception of the hinge-bolt E, which attaches the lid to the shell or case A. The front upper edge of the case extends upward, forming a shoulder D, which when the lid is closed comes in contact with the shoulder D' of the lid, making a close-fitting joint, as shown in Figs. 1 and 4. It will be noticed that the shoulder D is on the front upper edge of the box and that the shoulder D' is on the lid B, so that when said lid is closed the said shoulders D and D' are in close contact with each other and make a tight joint. Just back of this joint there is a trans-

verse depression or channel L, which is extended back to the hinge of the box, so that any water which may drip upon the box cannot pass through the joint between the shoulders D and D', but will run off from the box by way of said channel L, which is provided for this purpose. The lid is provided at its bottom and two sides with a continuous flange F, which fits within the opening in the box when the box-lid is closed, such flange F having sufficient depth to pass to the interior of the inner rib H, hereinafter described.

G is an outer rib or flange made integral with the case, and H is an inner rib or flange. These ribs or flanges G and H are located in the box-opening to which the lid B is fitted, and they are suitably spaced apart, as shown in Fig. 2. Between the ribs or flanges G and H is a groove or space which may be fitted with a packing, as shown in Fig. 2 by J. The packing, however, may be dispensed with.

K is a notch or hole through the rib H, designed to allow any oil which may be driven beyond the rib H into the groove to flow back into the box. Any suitable form of spring may be used to retain the lid closed.

The axle-box is designed to contain oil or fluid lubricants, and the motion of the car will throw the oil against the lid and, as axle-boxes are usually constructed, more or less is wasted. This is obviated in my invention by the use of the two ribs G and H, with the groove between such ribs, and the lid with the flange F, adapted to fit into the opening closely and extending when the lid is closed to or beyond the inner side of the inner rib, as shown in Fig. 2 by dotted lines. The oil thrown in contact with the lid will necessarily drive a small quantity beyond the inner rib H, but not sufficient to pass the second or outer rib G, and consequently this oil will run down into the groove and escape by means of the vent-opening K into the body of the box. The use of the packing J will make a closer joint than can be made without it; but I have found in practice that substantially no oil will escape even when no packing is used.

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



1. In an axle-box, the combination of a case or shell provided with a lid-opening having an outer rib G and an inner rib H therein, a groove or space between said ribs, a drip-vent K located in the inner rib and establishing communication between said groove and the interior of the case or shell, and a lid B hinged to the case and provided with a flange F adapted to extend inward beyond the groove between said ribs when the lid is closed, substantially as described.

2. In an axle-box, the combination of a case or shell provided with a lid-opening having an outer rib G and an inner rib H therein, a groove or space between said ribs, packing

J in said groove, a drip-vent K located in the inner rib and establishing communication between said groove and the interior of the case or shell, and a lid B hinged to the case and provided with a flange F adapted to extend inward beyond the groove between said ribs when the lid is closed, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EUGENE L. HOWE.

Witnesses:

I. BESTON RICE,

FRANK C. KIDNEY.