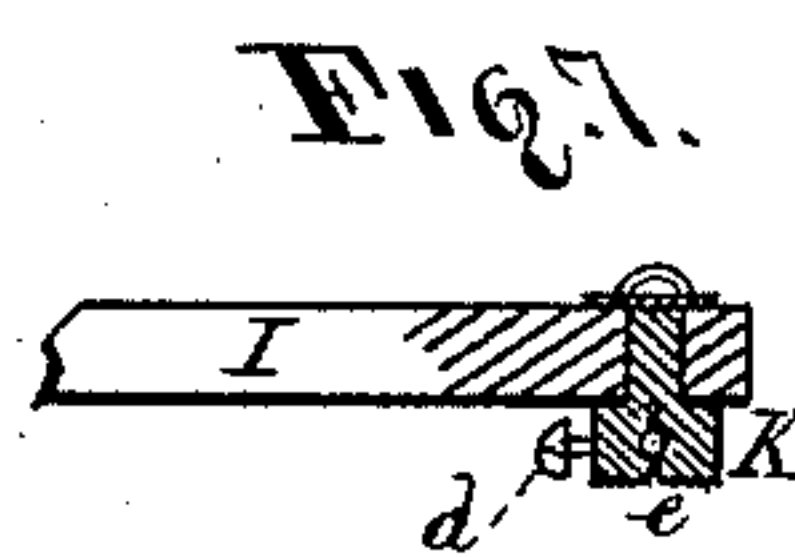
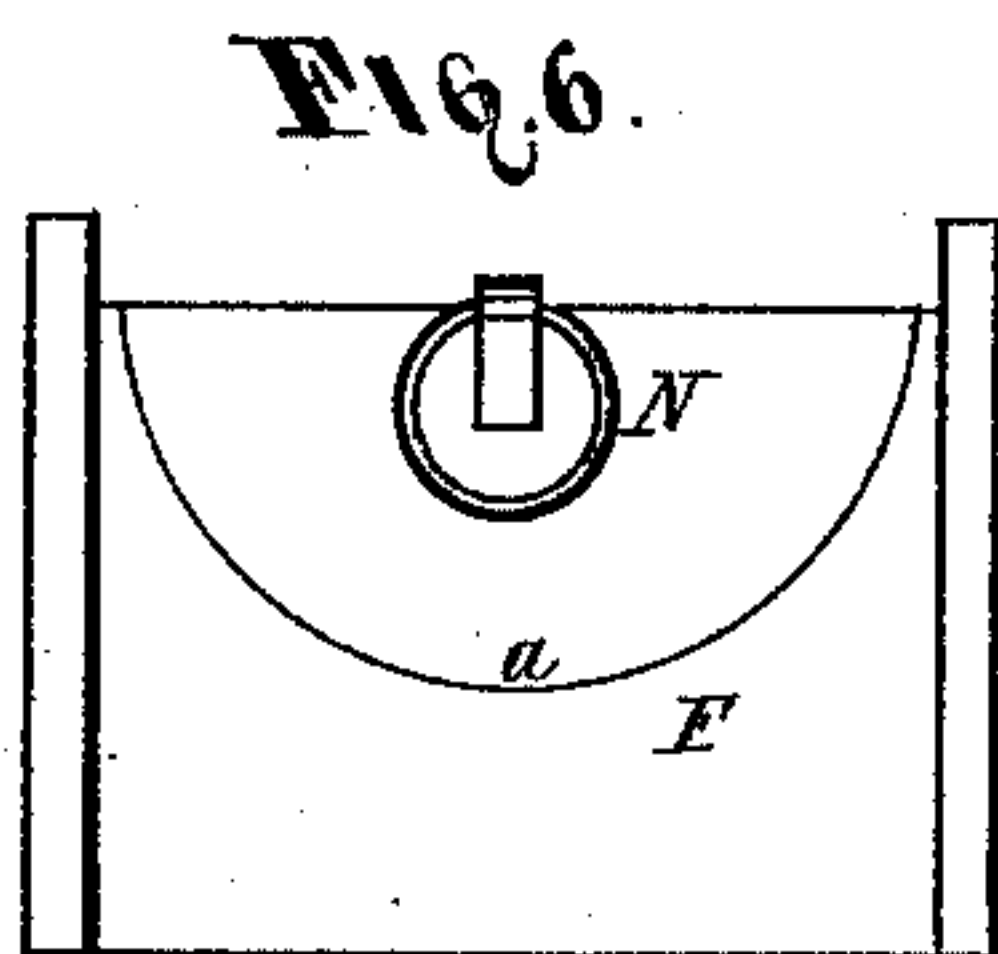
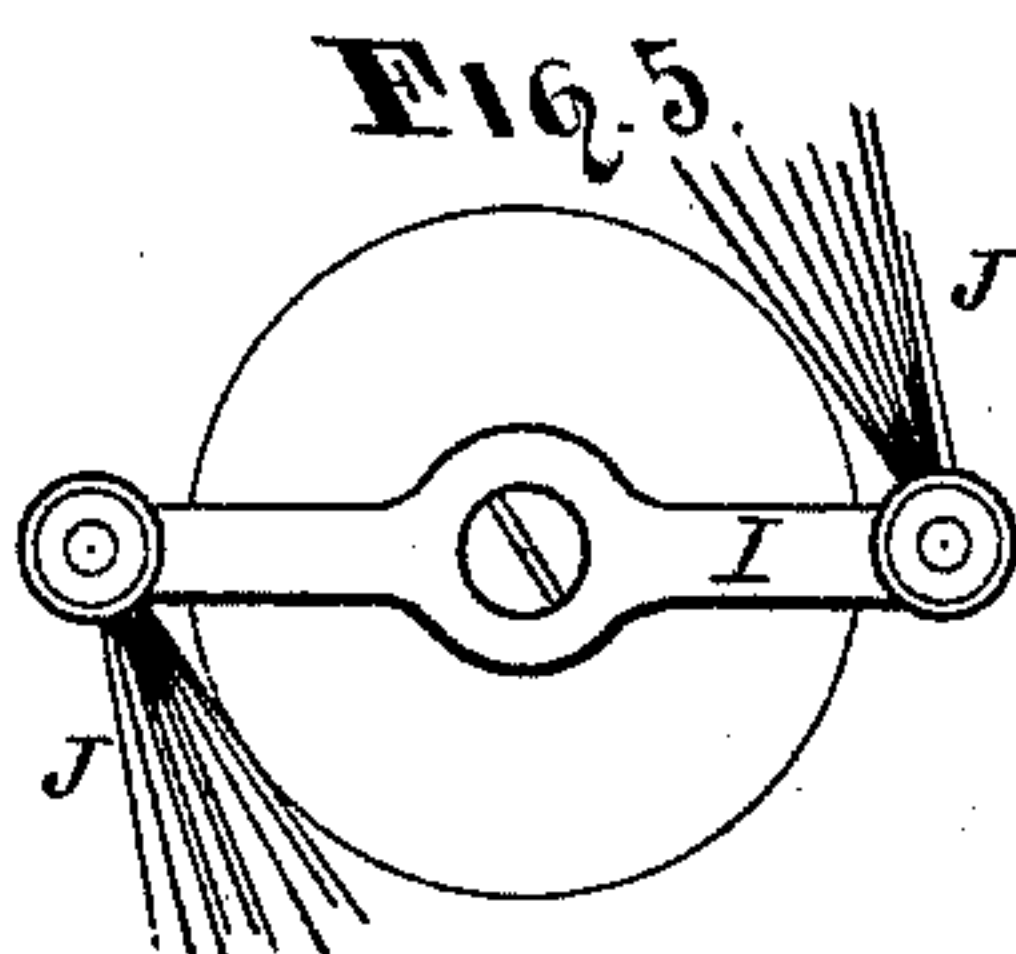
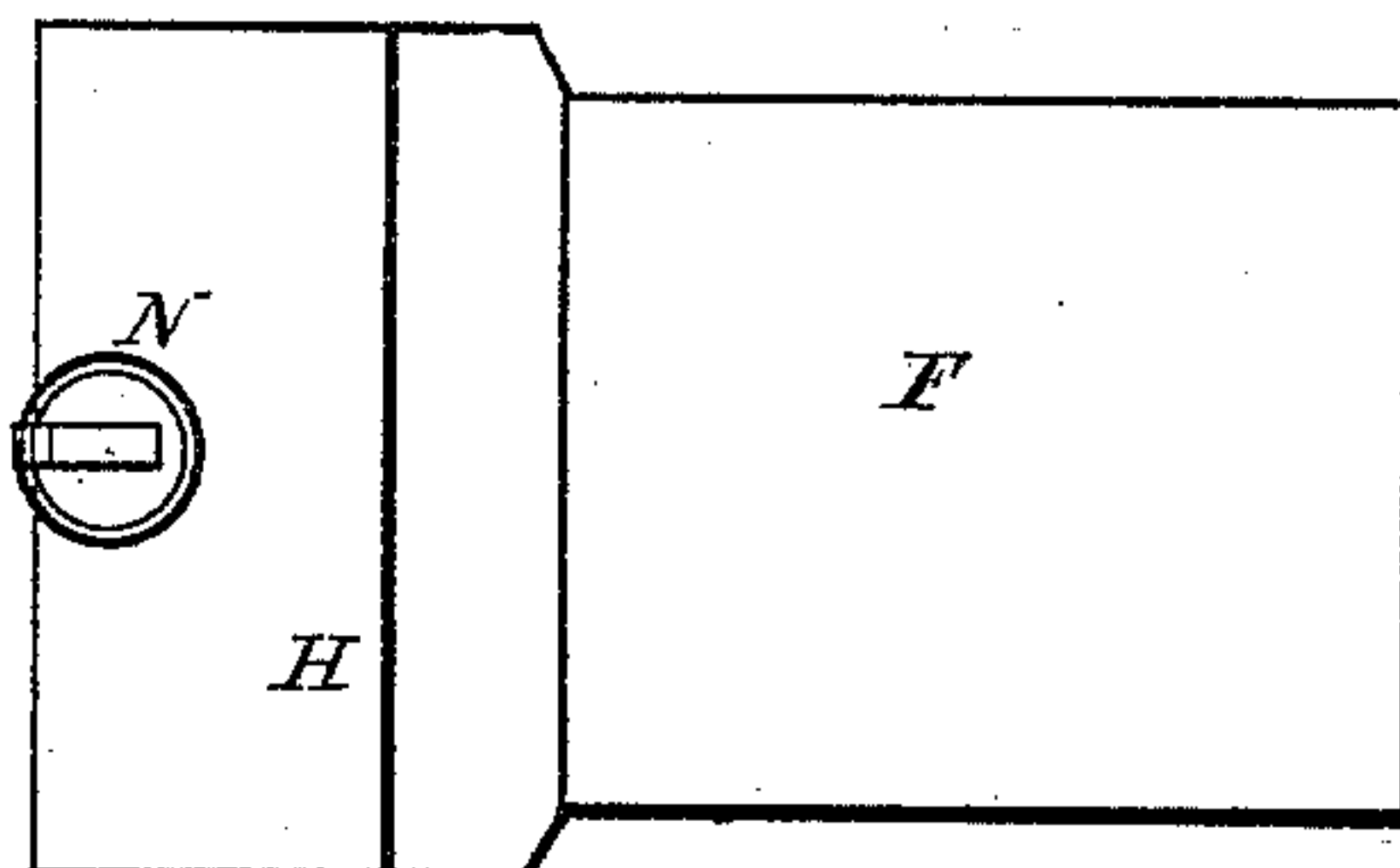
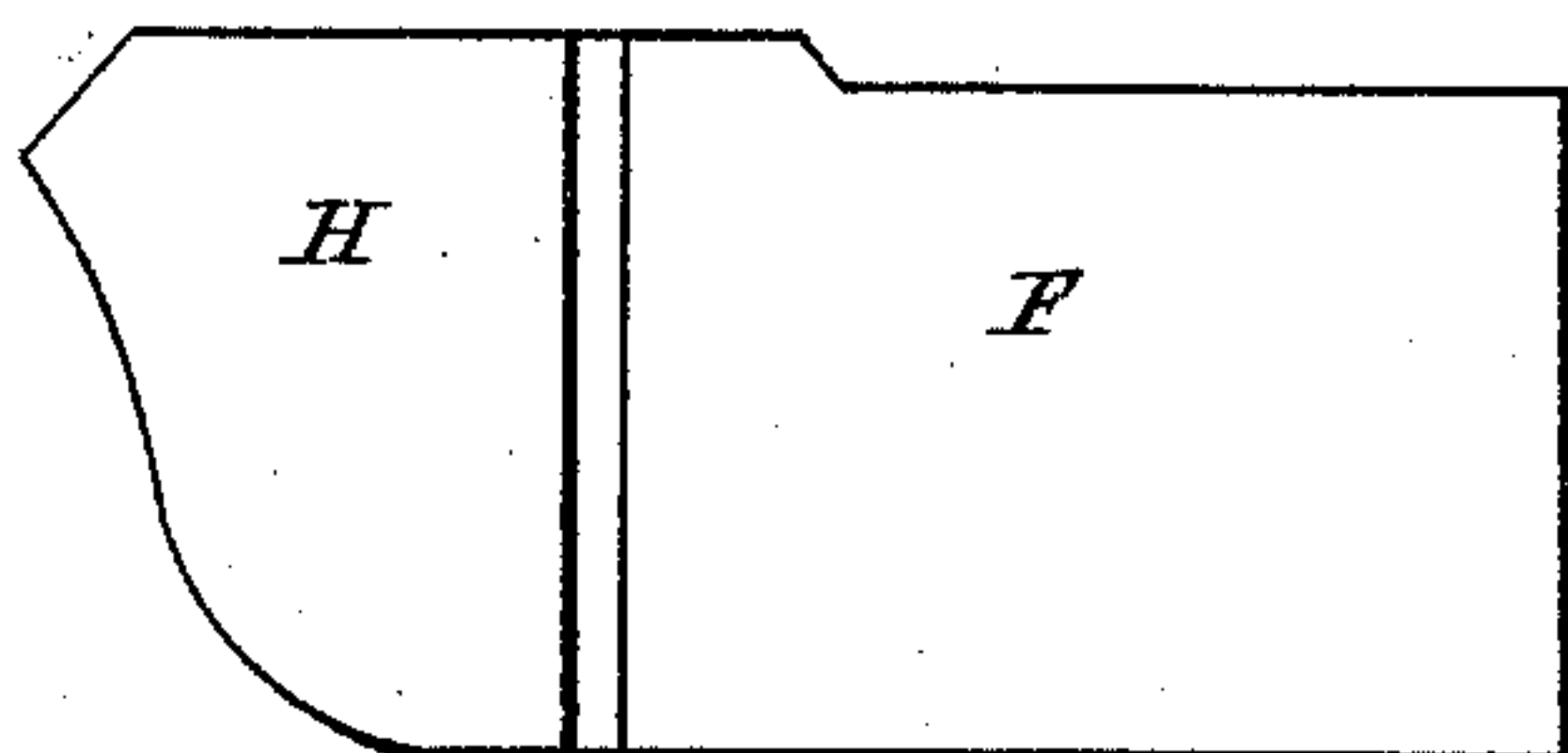
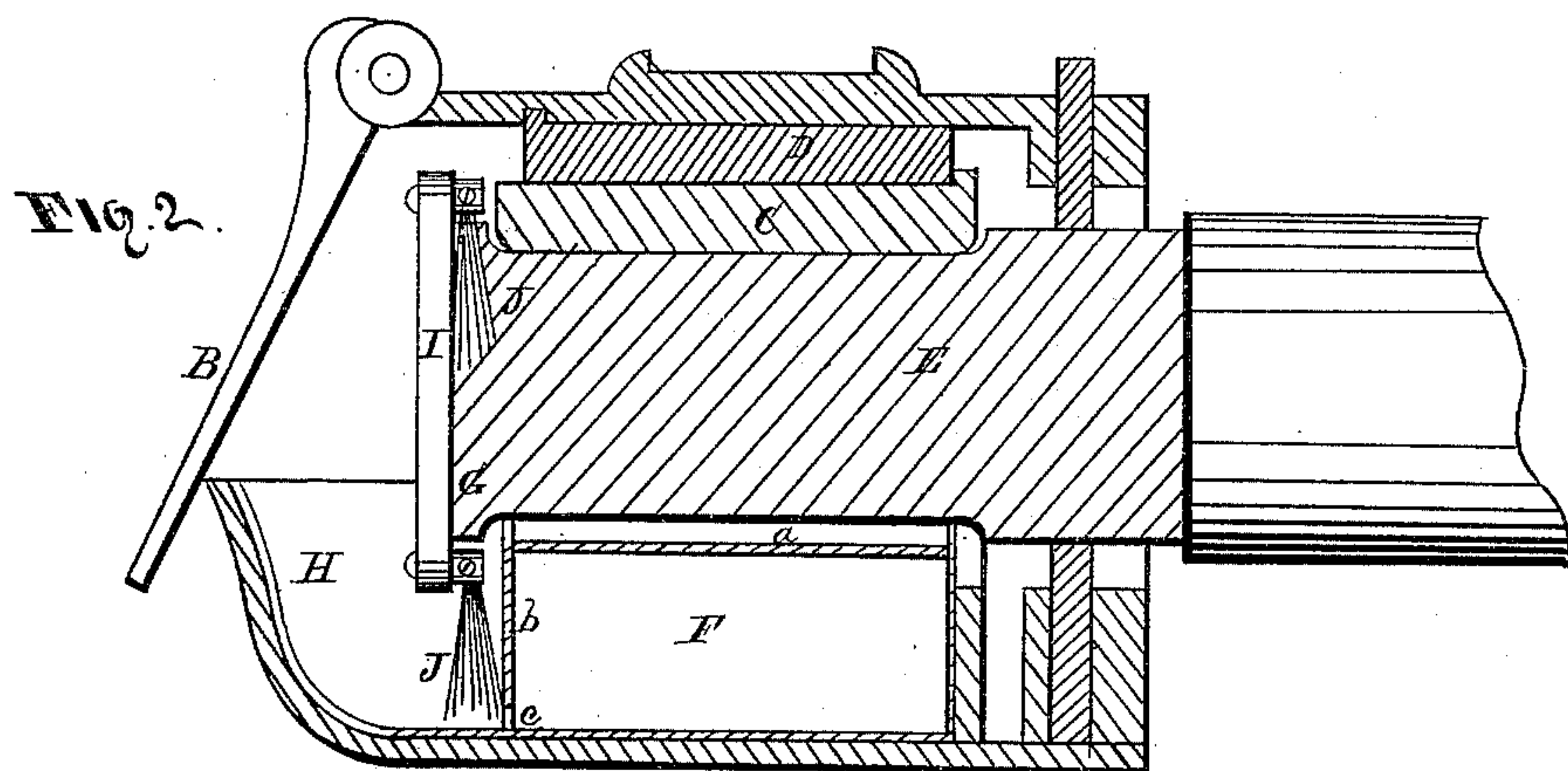
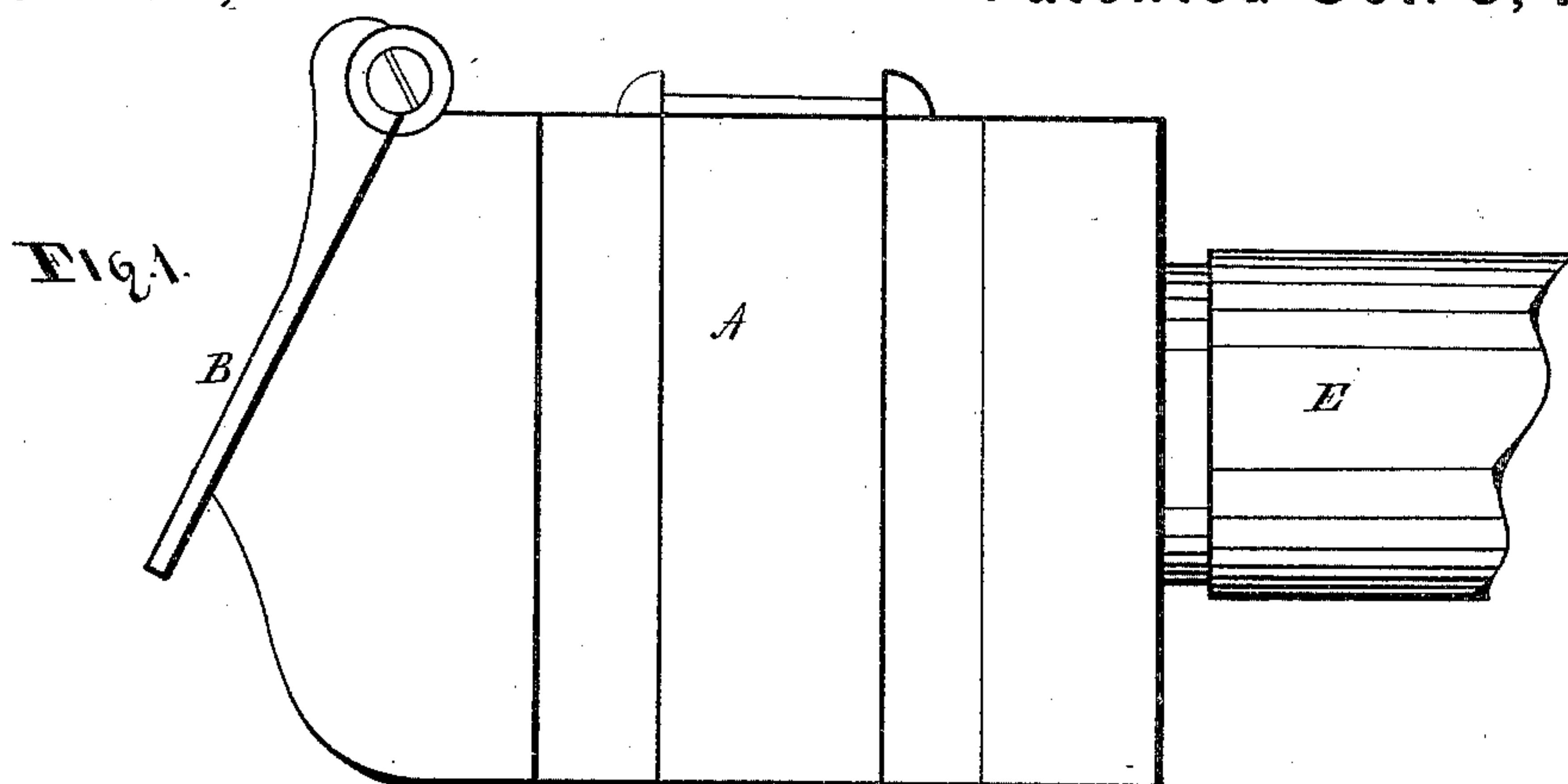


(No Model.)

G. F. GEAR.
Car Axle Box.

No. 232,811.

Patented Oct. 5, 1880.



Witnesses.
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J. H. Burnidge

Inventor
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Att'y

UNITED STATES PATENT OFFICE.

GILES F. GEAR, OF CLEVELAND, OHIO.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 232,811, dated October 5, 1880.

Application filed August 5, 1880. (No model.)

To all whom it may concern:

Be it known that I, GILES F. GEAR, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Self-Lubricating Railway Journal-Box; and I do hereby declare that the following is a full, clear, and complete description thereof.

This invention relates to railway-car axle-boxes; and the improvement thereof consists in providing the axle-box with a reservoir of oil, from which oil is applied to the journal of the axle by means of brushes attached to the end of the axle and revolving therewith. Said brushes, as they revolve, pass through the reservoir of oil, more or less of which is carried up by the brushes and dropped upon the axle, thereby automatically lubricating the journal.

A more complete description of the invention will be found as follows, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of a railway-car axle-box. Fig. 2 is a vertical section. Figs. 3, 4, and 5 are views of the oil-reservoir detached from the axle-box. Fig. 7 is a detached section.

Like letters of reference refer to like parts in the several views.

The axle-box above alluded to is like those in ordinary use. Hence a brief description of the box is all that will be necessary for a full understanding of the invention applied thereto.

In the drawings, A represents the journal-box, and B the cover, through which access is had to the axle for oiling, &c. C is the journal seat or bearing. D is a block interposed between the seat and the top of the box A. E is the axle, all of which are, as abovesaid, like those in ordinary use, or may be.

In the lower part of the axle-box, immediately under the axle, is a large space or chamber, which is usually filled with cotton or other similar material saturated with oil, which by its contact with the axle lubricates it. This way of supplying the axle with oil is not reliable, and needs to be frequently watched to see that the cotton is saturated and in contact with the axle. The constant jarring to which the axle and box are subjected packs the saturated cotton, causing it to settle down away from the journal of the axle. Hence the jour-

nal becomes heated, and causes a delay of the train until the axle is cooled off.

To avoid the use of cotton and supply the axle constantly with oil is the purpose of the invention, which is effected as follows:

The space (above referred to) under the axle, instead of being filled with cotton, is fitted with an oil-vessel, F, Fig. 2. A detached view of said vessel is shown in Fig. 3, representing a side view thereof, the shape of which is adapted to fill the entire space under the axle-journal, and is concaved for that purpose, as shown in Fig. 6, causing the sides of the vessel to extend up around the journal about half its diameter, but without touching. So much of the vessel as is under the axle inside of the collar G is entirely closed by the curved top *a* and partition or wall *b*, Fig. 2. The front part of the vessel is open at the top, so that the collar G is therein immediately outside of the wall, as seen in said Fig. 2. The open space or cup H of the vessel is in open relation with the inclosed space F thereof by an aperture, *c*, near the bottom of the wall. Hence, on pouring oil in the cup H, which may be done through the door B, it will flow at once into the vessel or reservoir F, from which it will again flow in the cup H, for supplying the axle. To the end of the axle is secured a bar, I, the ends of which project beyond the collar G. To each end of the bar is attached a brush, J, which may be of metal or of other suitable material. Said brush is secured to the ends of the bar by a stud, K, Fig. 7, the stem of which is loose in the bar, so that it will freely turn therein. The head of the stud is transversely slotted down near to the stem, as seen at *e*, thereby forming two cheeks of the head. Through the head is a hole in alignment with the slot *e*. In said hole is inserted the material of the brush, which is clamped therein by a set-screw, *d*, passing through the cheeks of the stud and the material of the brush, as seen in Fig. 7.

The above-described device operates as follows: The oil vessel or reservoir F is charged with oil. As a consequence the cup H will contain oil, in which the brushes will be immersed as the axle revolves. Each brush, as it leaves the oil during the revolution of the axle, carries with it more or less oil, and drops

or splashes it upon the upper side of the axle or journal, thereby keeping it constantly supplied with oil during the movement of the train, the amount of oil being more or less, according to the size of the brushes and number of revolutions of the axle. The oil, if applied to the axle in excess, is conveyed back into the cup H by the concave of the reservoir, which, as will be seen in Fig. 2, is inclined downward toward the oil space or cup H, and is again applied to the axle by means of the brushes. As the oil is used from the cup it is supplied from the reservoir F through the aperture e, in and through which it was first filled.

By having the brushes secured loosely to the ends of the bar they adapt themselves more readily to the condition of the oil-cup H and journal-box, and will revolve with more freedom than if they were attached to the bar in a rigid manner.

The oil-vessel above described can be applied to car-axle boxes without changing their structure or modifying them in any way. The

vessel being no part of the axle-box, it is made and pushed into the box through the door B, and removed therefrom with equal facility by means of the ring N, secured to the front end of the vessel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The stud K, pivoted to the bar I, and provided with a slotted head in alignment therewith, a hole in which to insert and secure the brush by means of a set-screw, substantially as and for the purpose set forth.

2. In car-axle boxes, the oil vessel or reservoir F, constructed and arranged in relation therewith and to the axle as described, in combination with the bar I and brushes, substantially as and for the purpose specified.

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

GILES F. GEAR.

Witnesses:

A. W. DECKER,
J. H. BURRIDGE.