

(No Model.)

S. B. ARCHER.

CAR AXLE BOX.

No. 371,243.

Patented Oct. 11, 1887.

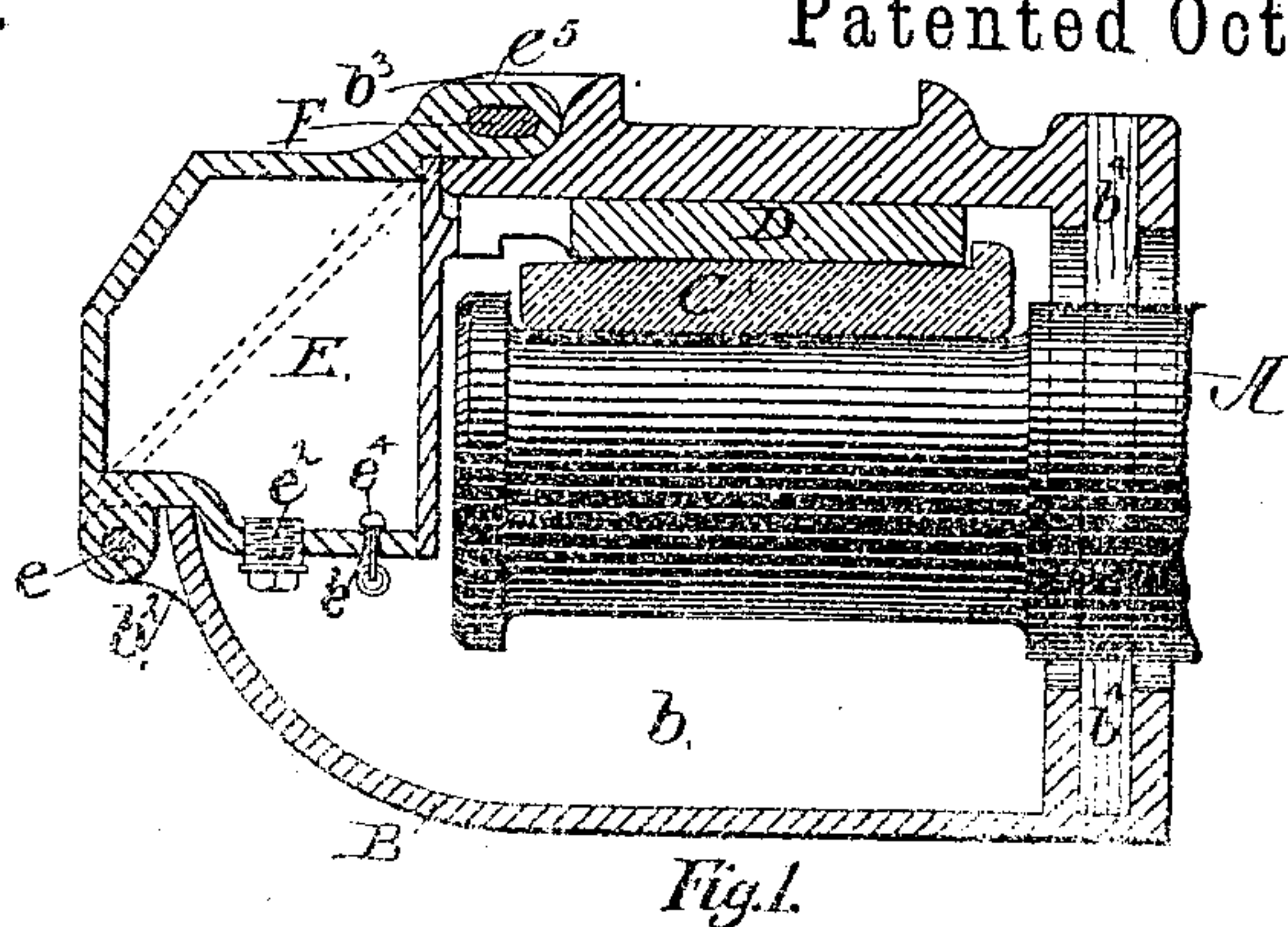


Fig. 1.

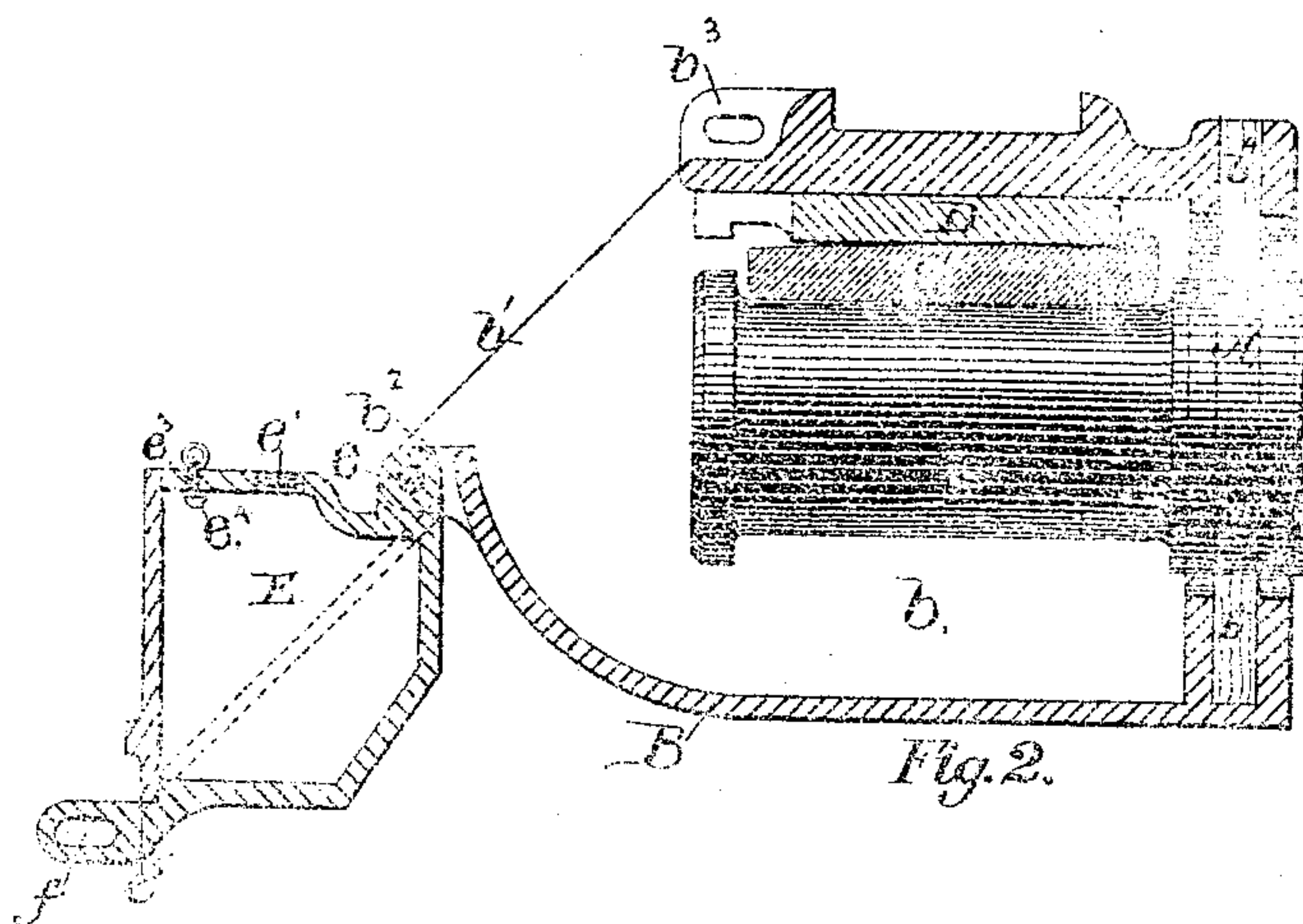


Fig. 2.

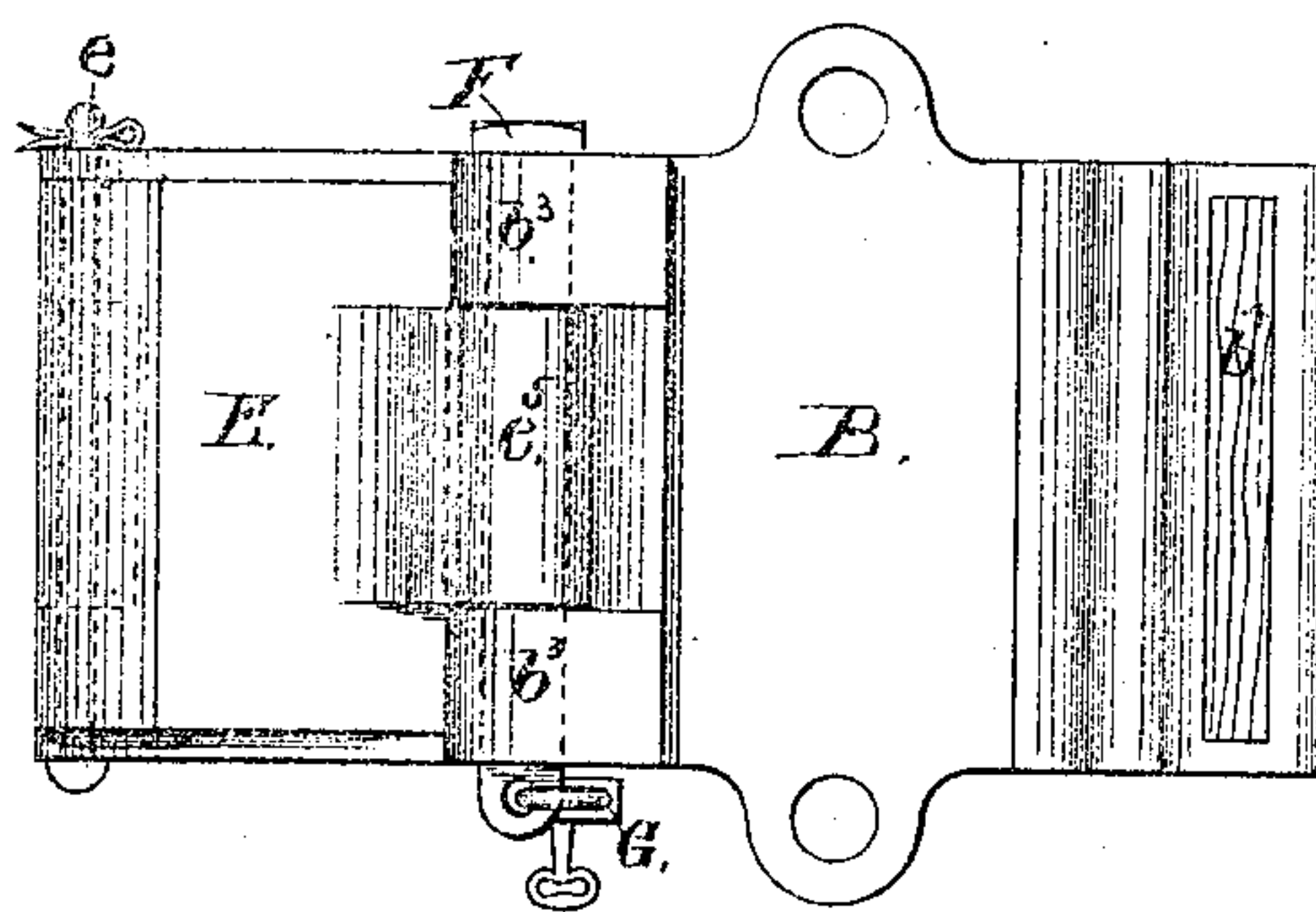


Fig. 3.

Witnesses:

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## UNITED STATES PATENT OFFICE.

SAMUEL B. ARCHER, OF SARATOGA, NEW YORK, ASSIGNOR OF THREE-FOURTHS TO ROBERT C. BLACKALL, EDWIN YOUNG, AND HORACE G. YOUNG.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 371,243, dated October 11, 1887.

Application filed March 6, 1886. Serial No. 194,213. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL B. ARCHER, of Saratoga, in the county of Saratoga and State of New York, have invented new and useful  
5 Improvements in Car-Axle Boxes, of which the following is a specification.

My invention consists in providing the axle-box with an independent oil-supply chamber, from which the lubricant is automatically fed  
10 into the oil-chamber of the axle-box, the said oil-supply chamber being hinged to the axle-box and provided with a fastening device, whereby it may be secured in such manner that access to the axle-box cannot be obtained by  
15 any unauthorized person, the said oil-supply chamber having a suitable opening through which the lubricant will be automatically fed in the manner hereinafter set forth.

In the accompanying drawings, which are  
20 herein referred to and form part of this specification, Figure 1 is a longitudinal section of my car axle box with the oil-supply chamber closed in position for feeding the lubricant to the axle-box; Fig. 2, a like section with the  
25 oil-supply chamber turned back in position for refilling it, and Fig. 3 a plan view of Fig. 1.

As represented in the drawings, A is a portion of a car-axle, one end only being shown; B, the axle-box; C, the journal-brass; D, the  
30 key for holding the journal-brass, and E the oil supply chamber.

The axle-box B is made substantially in the form shown in the drawings, with a chamber, *b*, for containing the fibrous or other material  
35 by which the lubricant is held and applied to the journal of the axle. An opening, *b*, is made in the outer end of the axle-box for the purpose of obtaining access to the chamber *b*. At the lower side of said opening hinge-lugs *b*<sup>2</sup>  
40 are formed, and at the upper side of it bosses *b*<sup>3</sup> are made to receive a fastening-bolt, as hereinafter set forth. A wooden slip, *b*<sup>4</sup>, having an opening through which the axle A is passed, is fitted to reciprocate in guides at the inner  
45 end of the axle-box, the said slip being inserted for the purpose of preventing dust and dirt from entering the chamber *b* at that point.

The journal-brass C is fitted to the journal

of the axle A, and is held in place by the key D, which is interposed between the brass and  
50 the upper plate of the axle-box.

The oil-supply chamber E is fitted to close into the opening *b*' of the axle-box. Said chamber is provided with a feed-opening, *e*', having a stopper, *e*<sup>2</sup>, through which oil is fed  
55 into the supply-chamber. Said chamber, when filled with oil, is virtually air-tight, the pressure of the atmosphere being sufficient to prevent the oil from escaping through the discharge-opening *e*<sup>3</sup>, except when the axle-box is sub-  
60 jected to a jarring motion. When a thin freely-flowing lubricant is used, the opening *e*<sup>3</sup> should be provided with a loosely-fitting valve, *e*<sup>4</sup>, so arranged that the jarring motion produced by the running of the car will give sufficient  
65 movement to said valve to permit the required quantity of oil to escape from the oil supply chamber E into the chamber *b* of the axle-box to properly lubricate the axle. While the car remains stationary the valve *e*<sup>4</sup> will prevent  
70 the oil from dripping through the opening *e*<sup>3</sup>; but in cold climates, or when a thick and heavy lubricant is used, the valve *e*<sup>4</sup> may be dispensed with, as under such circumstances the atmospheric pressure will be found sufficient to pre-  
75 vent the lubricant from escaping from the oil-supply chamber, excepting when the box is jarred by the cars while running.

The oil-supply chamber E is hinged, by means of the hinge-pin *e*, to the hinge-lugs *b*<sup>2</sup>  
80 of the axle-box, so as to swing in a vertical plane into and out of the opening *b*'. A boss, *e*<sup>5</sup>, corresponding to the bosses *b*<sup>3</sup> on the axle-box, is formed on the upper part of the oil-supply chamber E, and an opening, *f*, through  
85 the said bosses is adapted to receive a fastening-bolt, F, which passes through all of said bosses, so as to secure the oil supply chamber E in its closed position, as shown in Figs. 1 and 3. One end of said fastening-bolt is provided  
90 with a head, *f*', to prevent it from passing through the opening *f*, and its opposite end has an opening for receiving a lock, G, by which said fastening-bolt is secured in place.

The vertical back plate of the oil-supply  
95 chamber E, at the side nearest the end of the



axle A, forms a bearing to receive the thrust of said axle in its endwise play and to limit the extent of said play.

For the purpose of filling, the oil-supply  
5 chamber E is turned over into the position shown in Fig. 2, and the stopper  $e^2$  is removed from the feed-opening  $e'$ , and through the latter the required supply of oil is poured into said chamber. When this is accomplished, the  
10 stopper  $e^2$  is restored to its place, the chamber E turned back into the position shown in Fig. 1 and secured by the fastening-bolt F, as shown in Fig. 3. The jarring motion incident to a  
15 supply of lubricant to pass from the oil-cham-

ber E into the chamber  $b$  of the axle-box, and in this manner the supply of oil in the latter is automatically replenished as occasion requires.

I claim as my invention—

The combination, with a car-axle box, of an 20 oil-supply chamber hinged to said box, provided with a fastening device, and having an automatic valve in its bottom, which allows the escape of the lubricant into said axle-box only when there is a jostling motion of said box 25 and chamber, substantially as set forth.

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Witnesses:

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