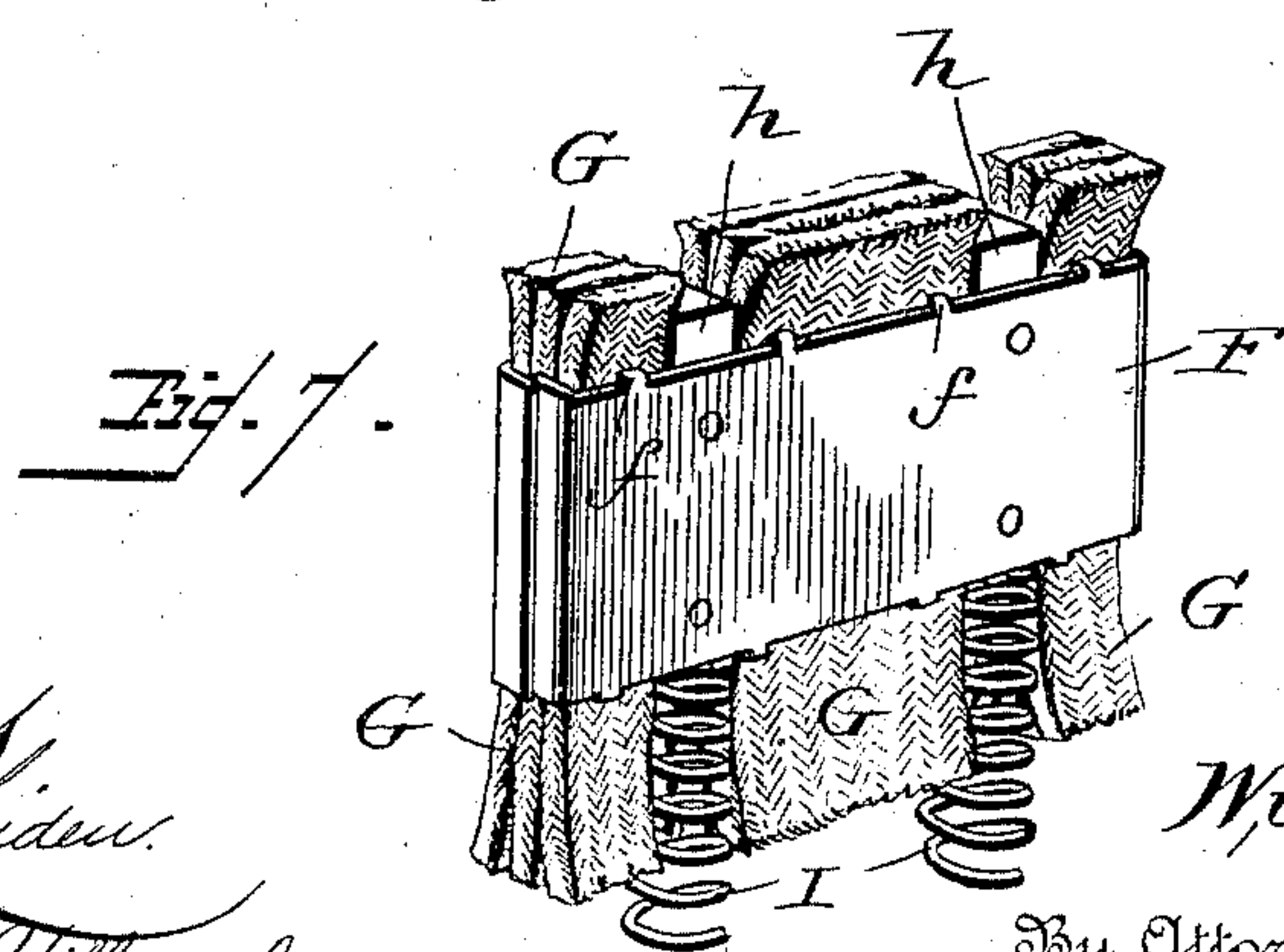
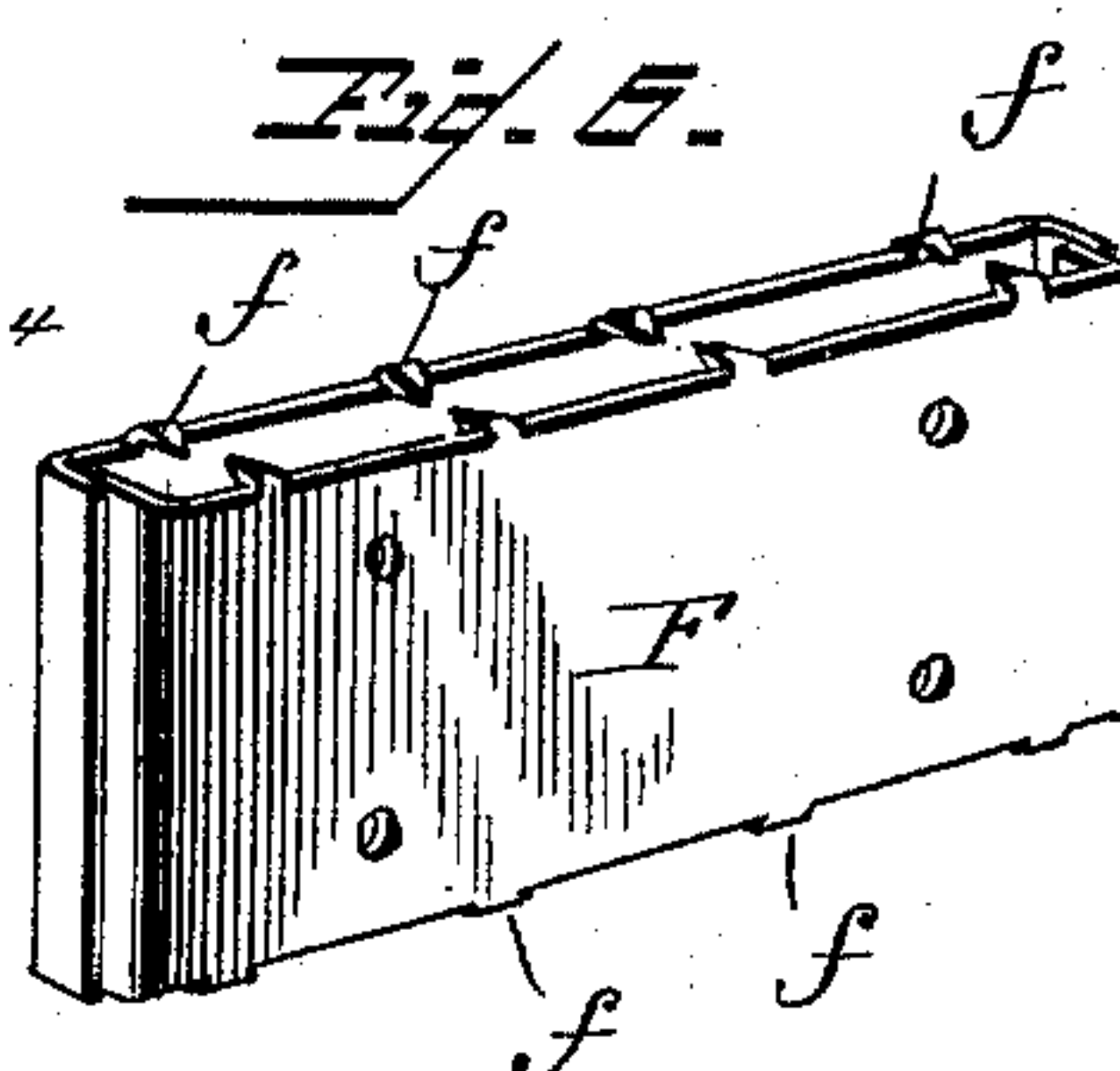
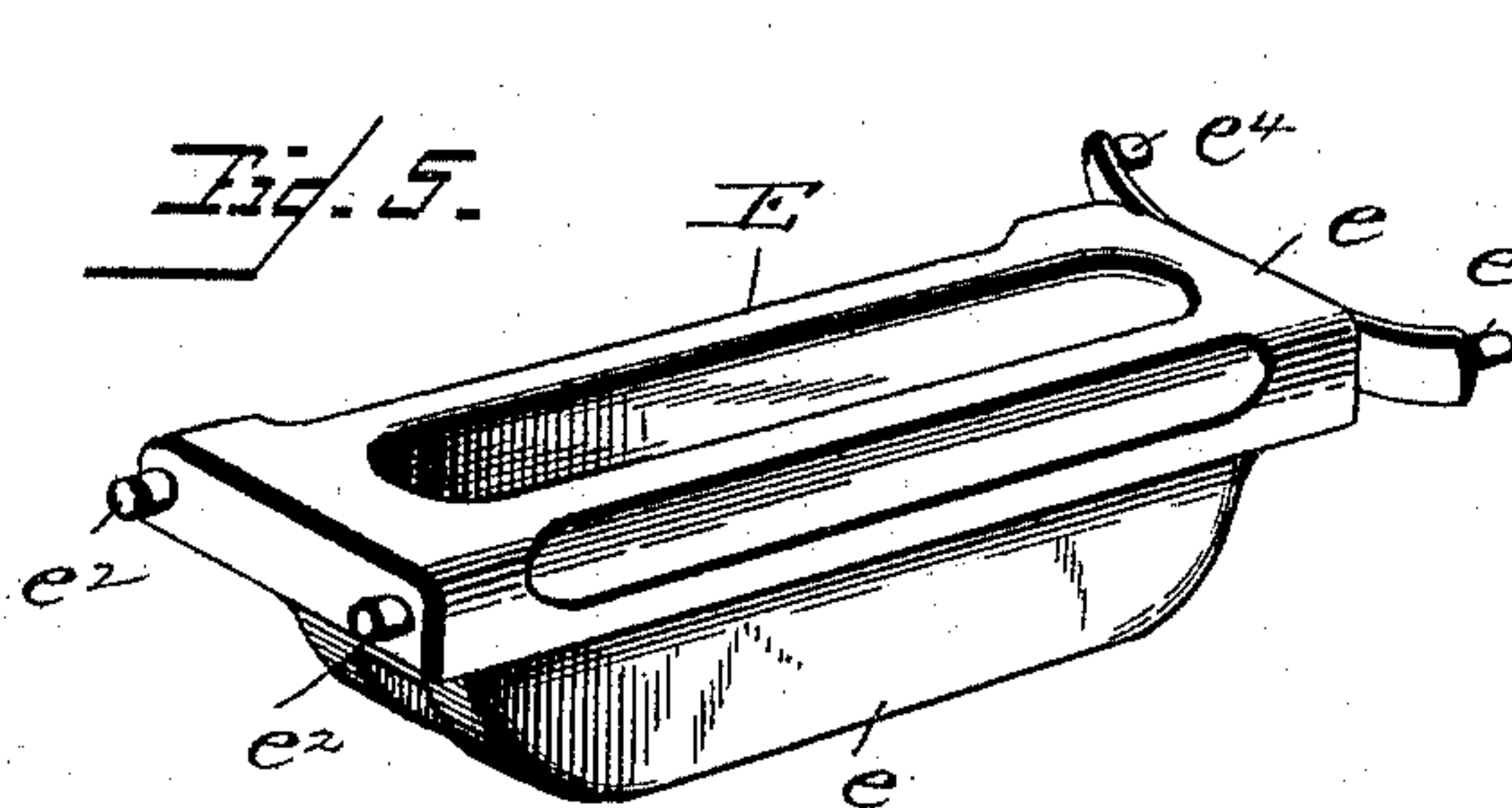
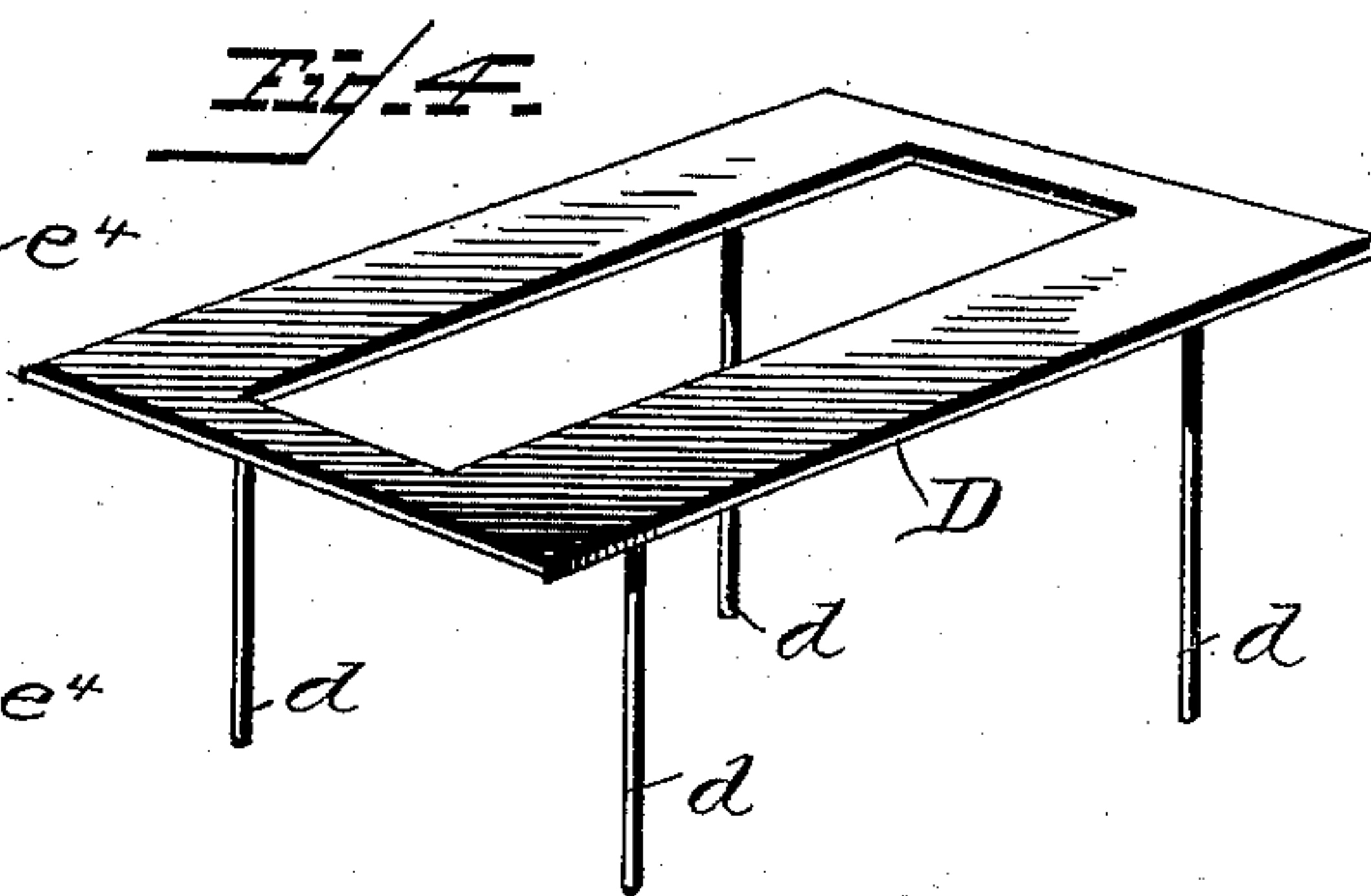
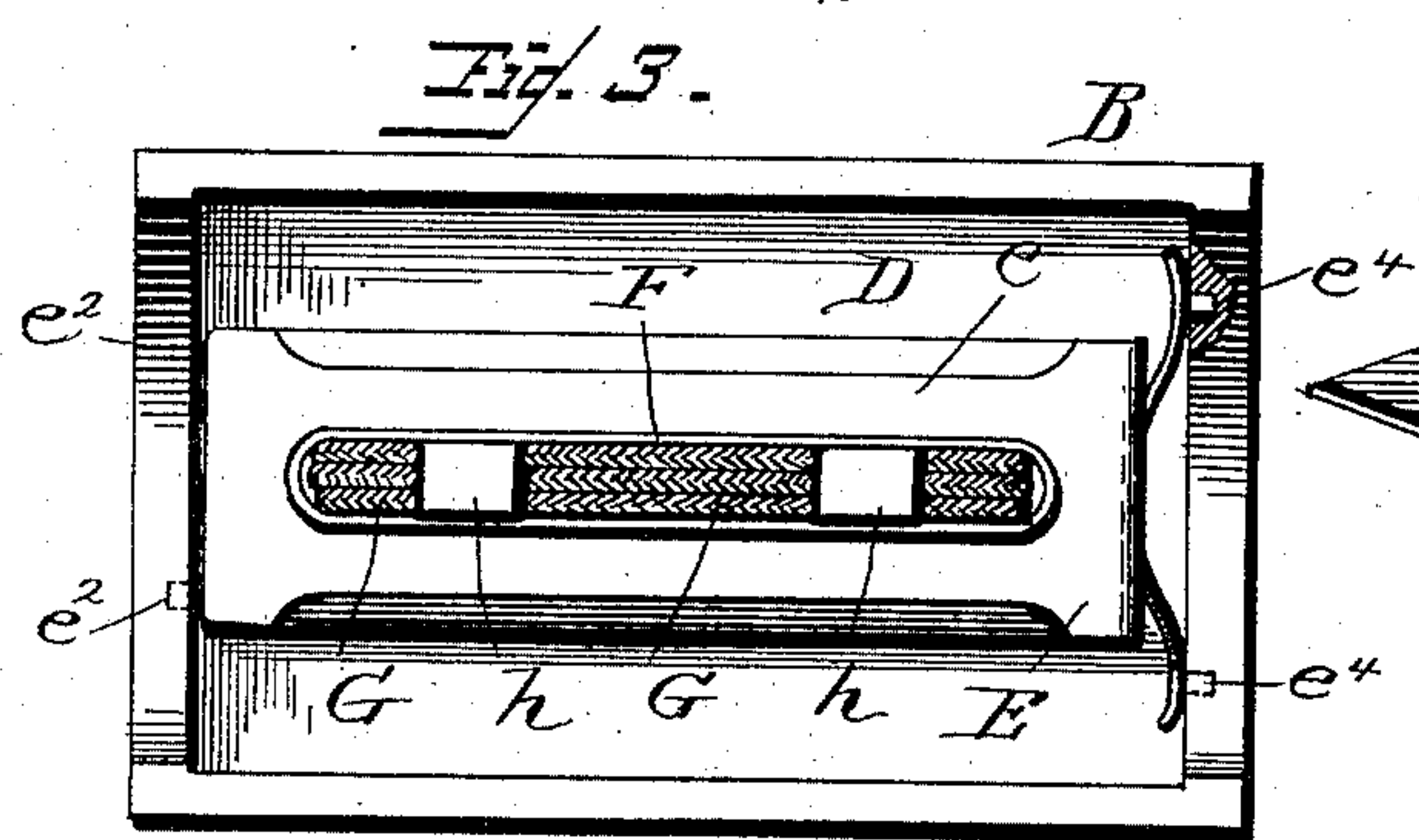
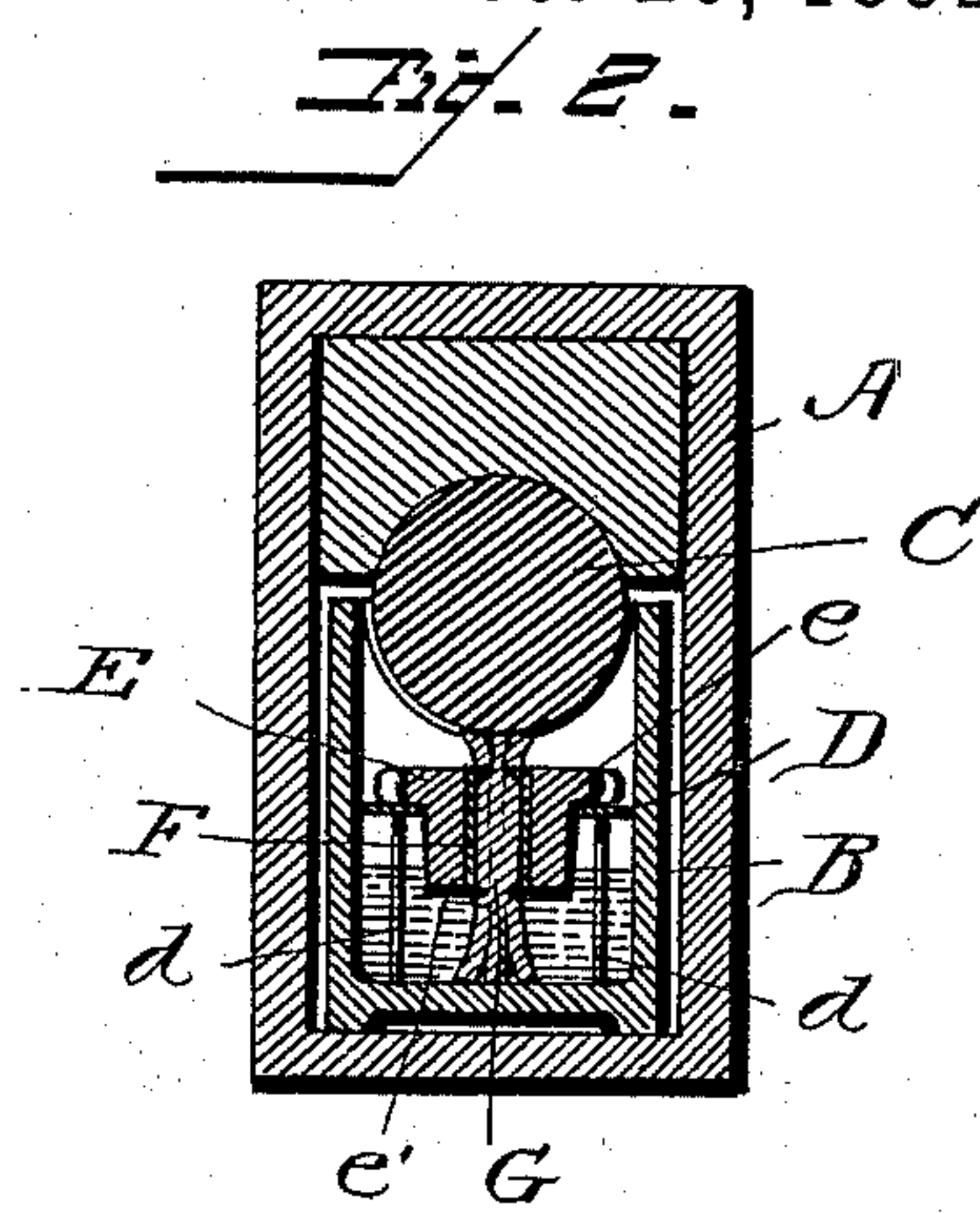
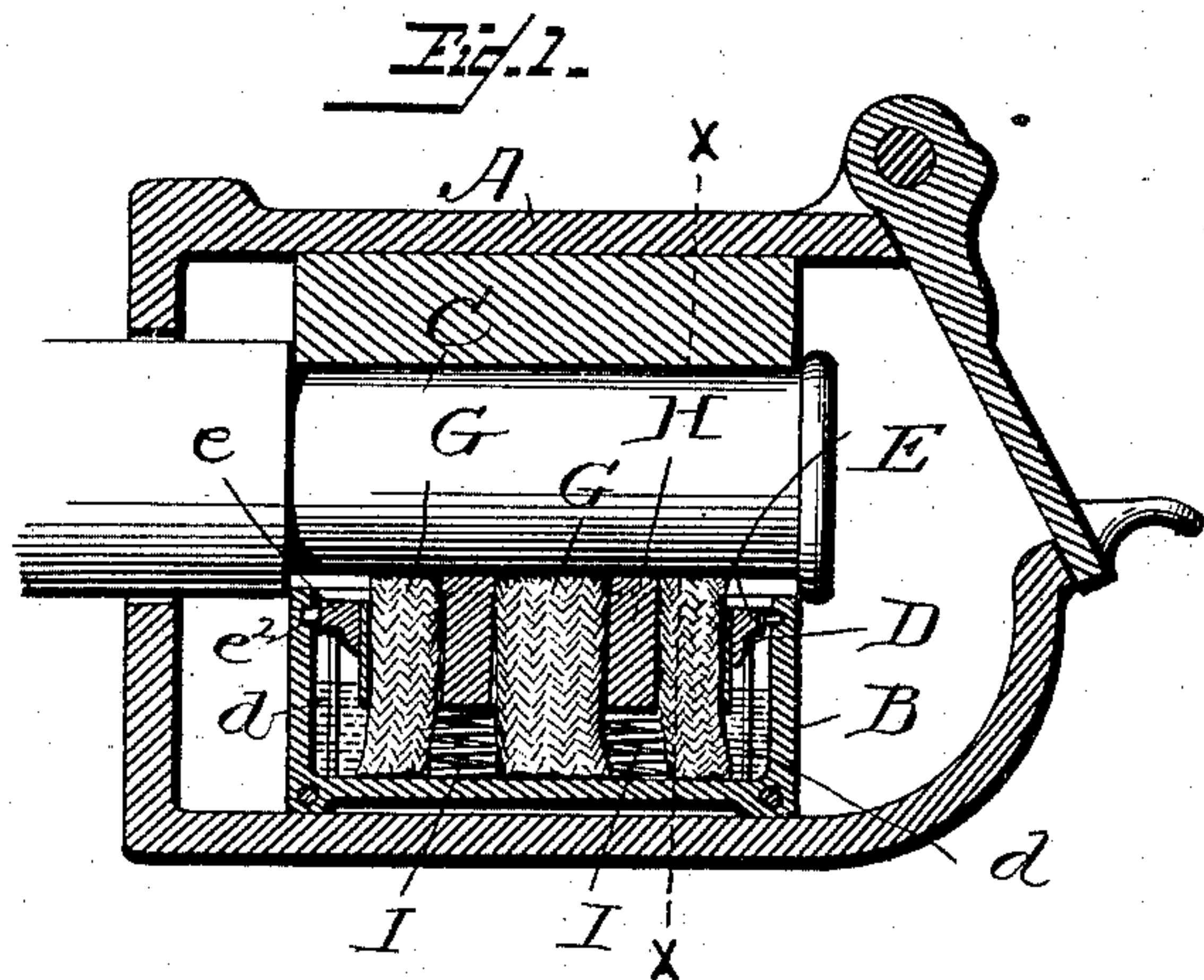


(No Model.)

W. H. PUGH.  
AXLE LUBRICATOR.

No. 488,402.

Patented Dec. 20, 1892.



Witnesses

"*Spencer*  
"of *Freiden*.  
Van Buren Hillyard.

Inventor

William H. Pugh.

By Attorneys *Robt. A. Lacey*



# UNITED STATES PATENT OFFICE.

WILLIAM H. PUGH, OF MINNEAPOLIS, MINNESOTA.

## AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 488,402, dated December 20, 1892.

Application filed June 29, 1892. Serial No. 438,432. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. PUGH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin, State of Minnesota, have invented certain new and useful Improvements in Journal-Box Lubricators; 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 car axle box lubricator; and aims to provide instrumentalities that can be readily adapted to any box now in use and which will be simple, efficient, durable and prevent wasting of the lubricant and the spoiling of the same by excluding dirt and other foreign matter from the oil cellar.

The improvement consists essentially of a guide which is adapted to be removably attached to an oil cellar, being held therein by projections at one end entering depressions in the journal box, and by a spring at the opposite end carrying projections which are adapted to engage with openings or depressions in the opposite end of the said journal box, a flattened or elongated tube constructed to work in the said guide and forced toward the journal by spring pressure, an oil feeding material carried by the tube and adapted to convey the oil by capillary attraction from the said cellar to the journal, stops carried by the tube to prevent the said oil feeding material from being pressed too closely against the journal and maintaining a proper distance between the journal and the upper edge of the said flattened tube, and a cover removably inserted in the journal box and adapted to prevent the wasting of the oil and the ingress of dirt or other foreign matter into the oil cellar.

The improvement further consists of the novel features and the peculiar construction and combination of the parts which will be hereinafter more fully described and claimed and which are shown in the annexed drawings, in which:

Figure 1 is a central longitudinal section of a car axle box showing the application of my invention. Fig. 2 is a cross section of the

same on the line  $x-x$  of Fig. 1 looking to the right. Fig. 3 is a top plan view of the oil cellar detached from the hanger. Fig. 4 is a detail view of the removable cover for the oil cellar. Fig. 5 is a detail view of the guide. Fig. 6 is a detail view of the flattened or elongated tube. Fig. 7 is a detail view of the flattened or elongated tube having the oil feeding material, the stops, and the springs connected therewith.

The journal box A may be of any approved form of construction and is adapted to receive an oil cellar B which contains the lubricant that is to be supplied to the journal C of any form of car axle. The oil cellar B is removably inserted in the journal box so as to be readily attached therefrom for purposes of cleaning and repairs. The cover D, preferably independent of the oil cellar, is provided with feet  $d$  which properly support the said cover within the oil cellar. This cover D is provided with an opening to receive the guide E that supports and guides the flattened and elongated tube F in its various movements. The purpose of cover D is to prevent the splashing out of the oil and the ingress of dirt and foreign matter into the oil cellar and, if preferred, may be made an integral part of the oil cellar.

The guide E is composed of a head portion  $e$  which is adapted to rest upon the cover D and overlap the sides of the opening formed therein, and a depending portion  $e'$  which projects through the opening in the cover D and extends down into the cellar a short distance. The projections  $e^2$  at one end of the guide E enter depressions in the end of the oil cellar, and the spring at the opposite end of the said guide provided with projections  $e^4$  which are adapted to enter openings in the opposite end of the said oil cellar, serve as means to retain the said guide E firmly in place within the oil cellar.

The flattened or elongated tube F is of such proportions as to work easily in the guide E, and is provided at its top and bottom edges with retaining prongs  $f$  which are designed to engage with the oil feeding material G and retain the same in proper position. These prongs  $f$  are preferably an integral part of the tube F and are bent inward substantially as



shown. This flattened tube F is formed preferably of sheet metal and made in two parts for economy in cost of construction. The stops *h* for limiting the upward movement of the tube F, are separate and distinct from the said tube and are inserted in the same at the proper points and secured therein by any suitable fastening means. These stops *h* are preferably blocks of wood and are placed between the halves which compose the tube F and rivets passing through the said blocks and the halves of the tube F, secure the said parts together.

The oil feeding material G is preferably a textile fabric or similar absorbent material which will feed the oil from the cellar to the journal by capillary attraction. This oil feeding material is thrust through the tube F and held in place therein by the retaining prongs *f*. The top edge of the oil feeding material projects above the stops *h* a proper distance to secure a proper supply of the lubricant to the journal to be lubricated.

The springs I for pressing the tube F toward the journal C are attached to the stops *h*. The manner of attachment of the springs to the tube F is not essential and they may simply exert an upper pressure on the tube without being connected thereto. The form of spring is not considered essential so long as it exerts an upward pressure on the tube F. Experience has shown that the arrangement illustrated in the accompanying drawings is the preferable manner of assembling and attaching the parts together and for this reason is preferred.

The operation of the invention is manifest from the foregoing detail description, reference being had to the accompanying drawings. However, it may be well to mention that when it is desired to gain access to the oil cellar the same may be readily effected by removing the guide E and the tube F. To remove the guide it is pressed toward the end having the spring *e*<sup>3</sup> sufficiently far to disengage the projections *e*<sup>2</sup> from the openings in the end of the cellar when by lifting the said end having the projections *e*<sup>2</sup>, the guide is readily removed. To replace the guide, the reverse of the operation just described, is performed. The purpose of the stops H is to

prevent the glazing and compressing of the upper end of the oil feeding material G.

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

1. In a car axle box lubricator the combination with an oil reservoir, of a removable apertured cover therefor a guide in the opening in said cover and detachably connected with the said oil cover, a tube adapted to work in said guide and forced toward the journal to be lubricated by spring pressure, stops to limit the upward movement of said tube by engaging with said journal, and an oil feeding material carried by said tube and adapted to feed the oil from the cellar by capillary attraction, substantially as set forth.

2. In a car axle box lubricator the combination with an oil reservoir, of an apertured cover removably inserted in said reservoir and provided with feet to properly support the same, a guide having a head portion to overlap the sides of the openings in the said cover, and a tube adapted to work in said guide and provided with an oil feeding material, substantially as set forth.

3. In a car axle box lubricator the combination with an oil reservoir, of a guide having projections at one end to enter openings in the corresponding ends of the said reservoir and having a spring at the opposite end provided with projections to enter openings in the opposite end of the said reservoir, and a tube carrying an oil feeding material adapted to work in said guide, substantially as and for the purpose set forth.

4. In a car axle box lubricator the combination with an oil reservoir and a guide, of a tube made in two halves, blocks inserted between the halves, fastenings for securing the parts of the tube and said blocks together, springs for advancing the tube toward the journal, and an oil feeding material carried by said tube, substantially as described for the purpose specified.

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

WILLIAM H. PUGH.

Witnesses:

M. W. SNEADES,  
G. E. THAYER.