

No. 791,919.

S. B. LEIDY, DEC'D.

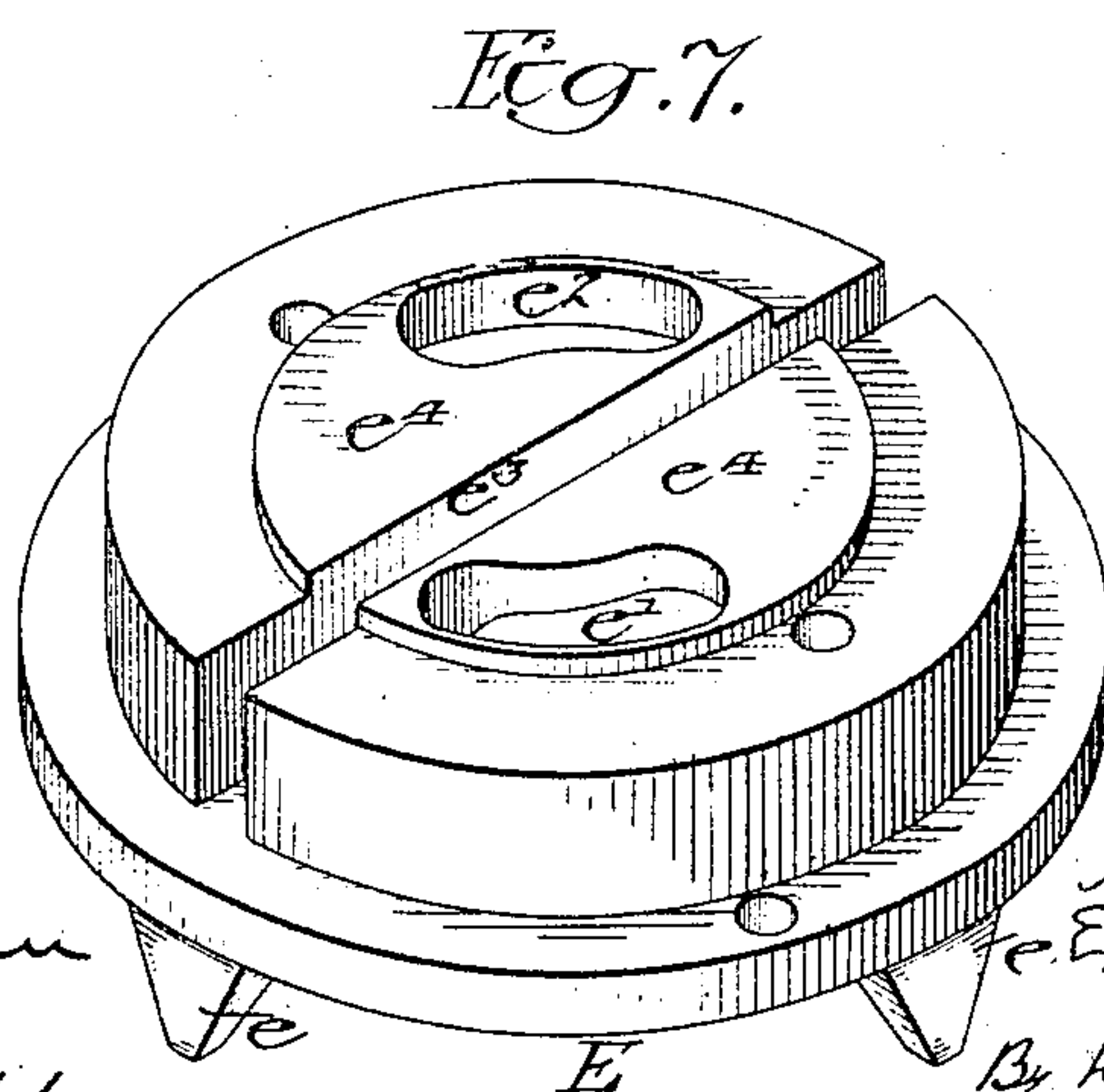
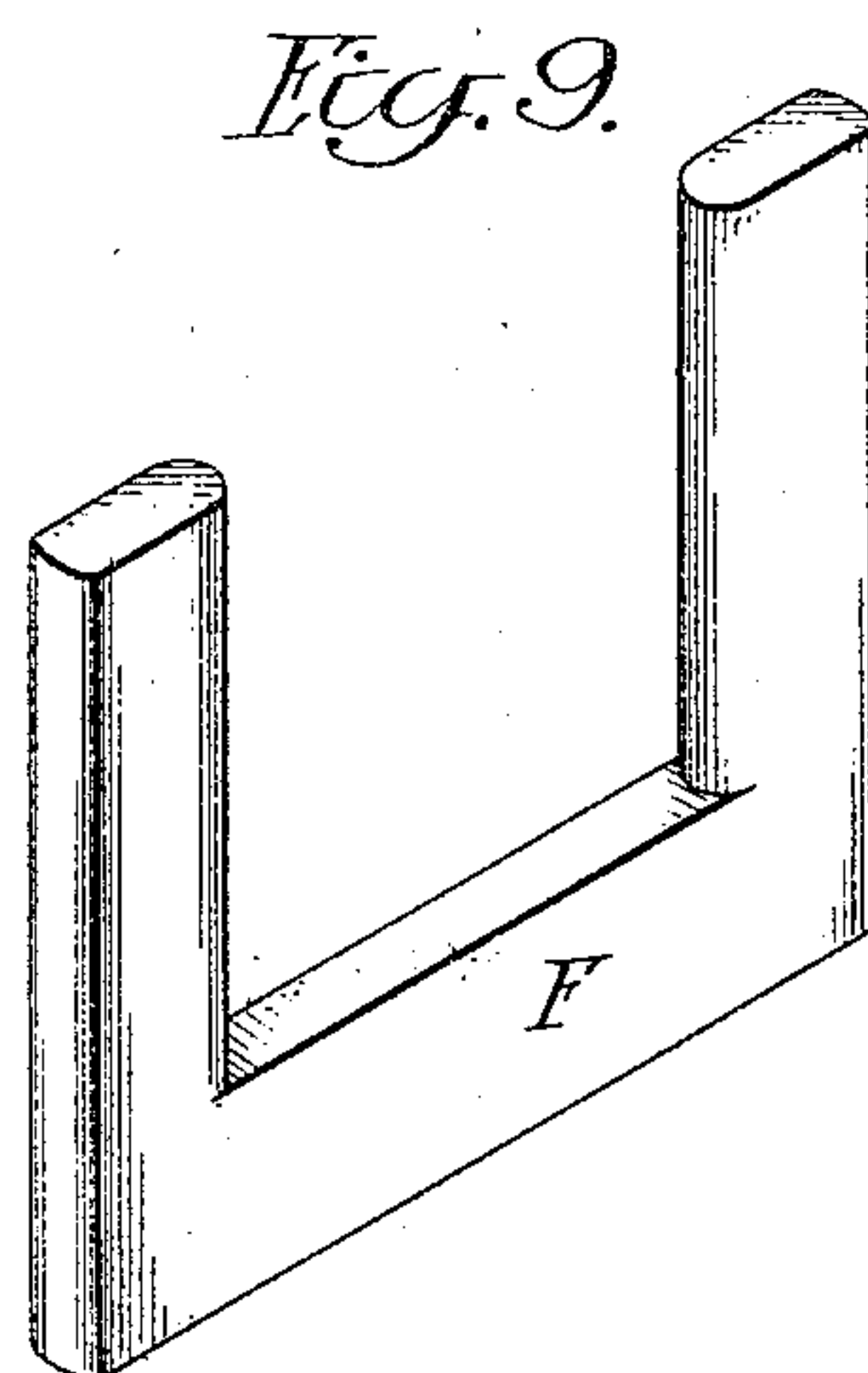
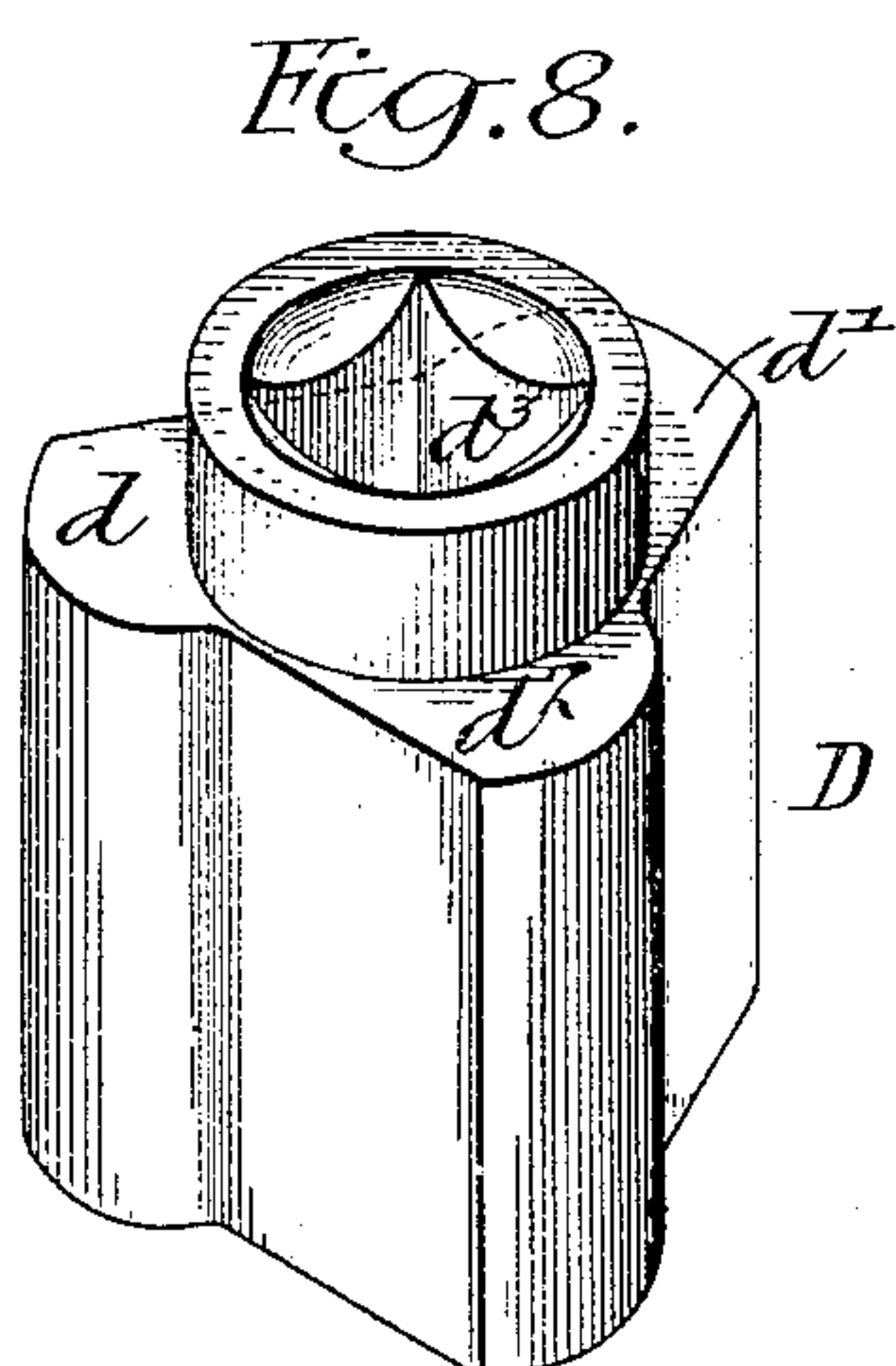
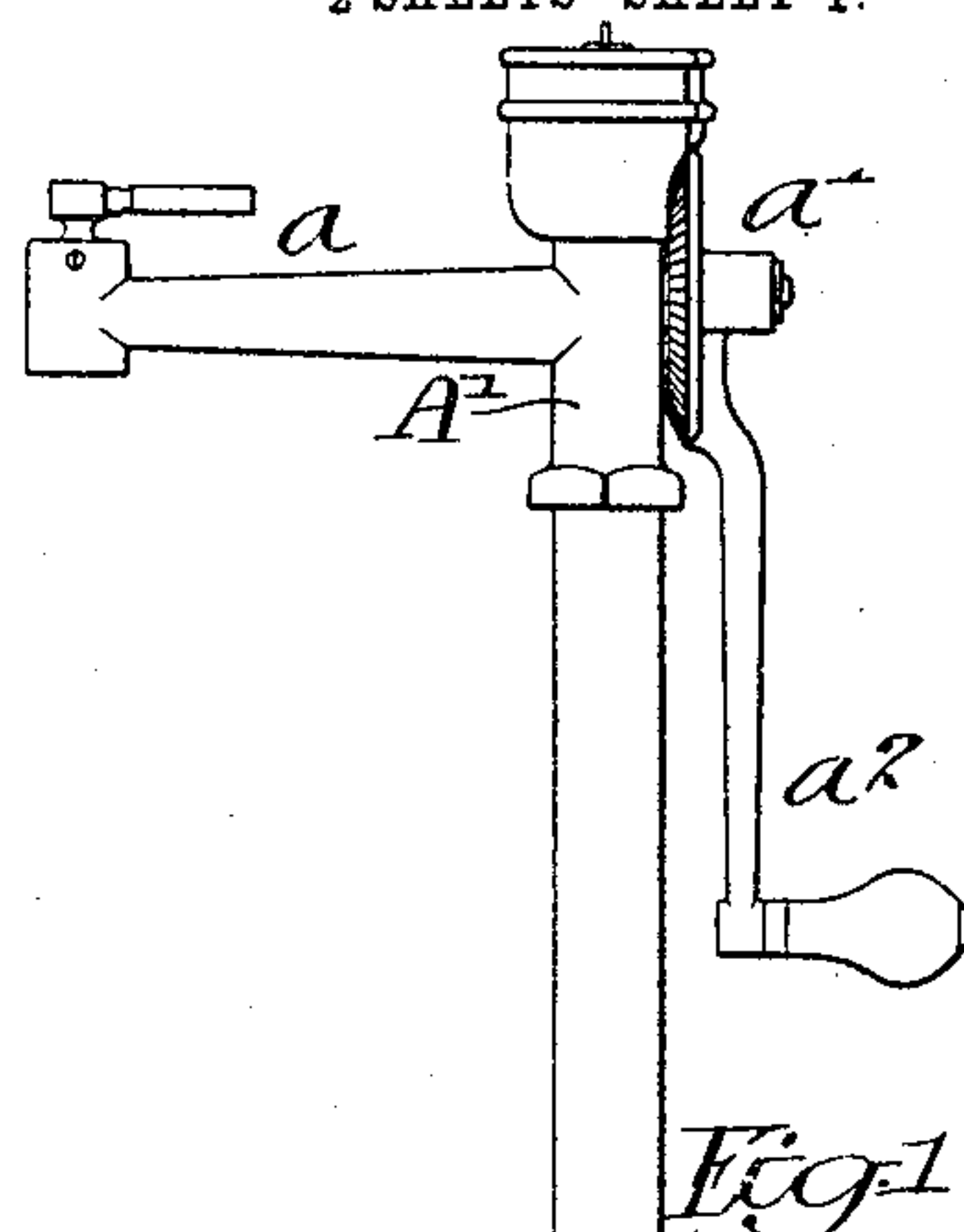
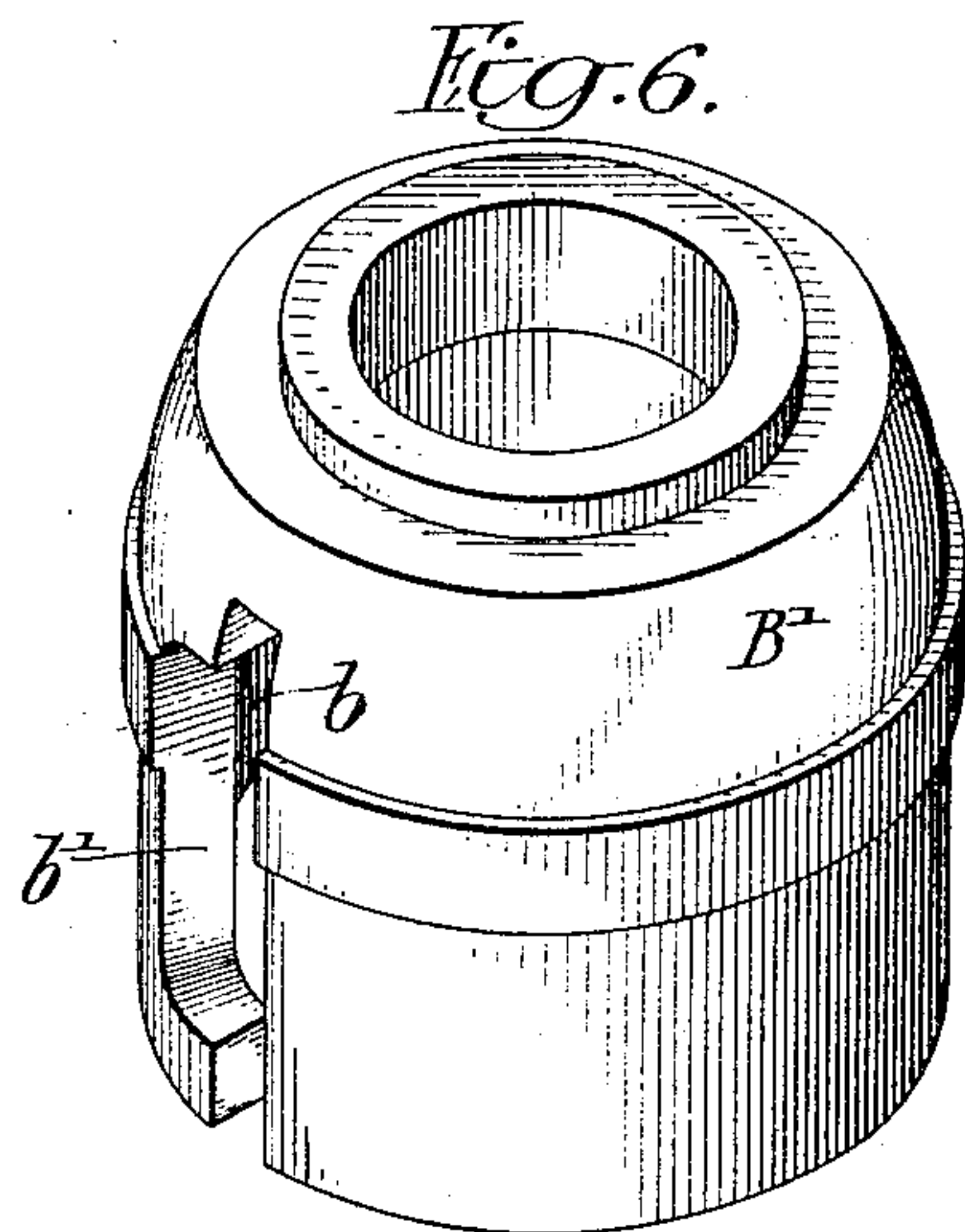
A. O. LEIDY, EXECUTRIX.

PUMP.

APPLICATION FILED MAR. 27, 1905.

PATENTED JUNE 6, 1905.

2 SHEETS—SHEET 1.



Witnesses:  
Hamilton D. Turner  
Augustus Klappes

Inventor:  
Sylvester B. Leidy deceased.  
Almira C. Leidy  
Executrix of the Estate  
By her attorneys,  
Horton & Horton



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2 SHEETS—SHEET 2.

Fig. 2.

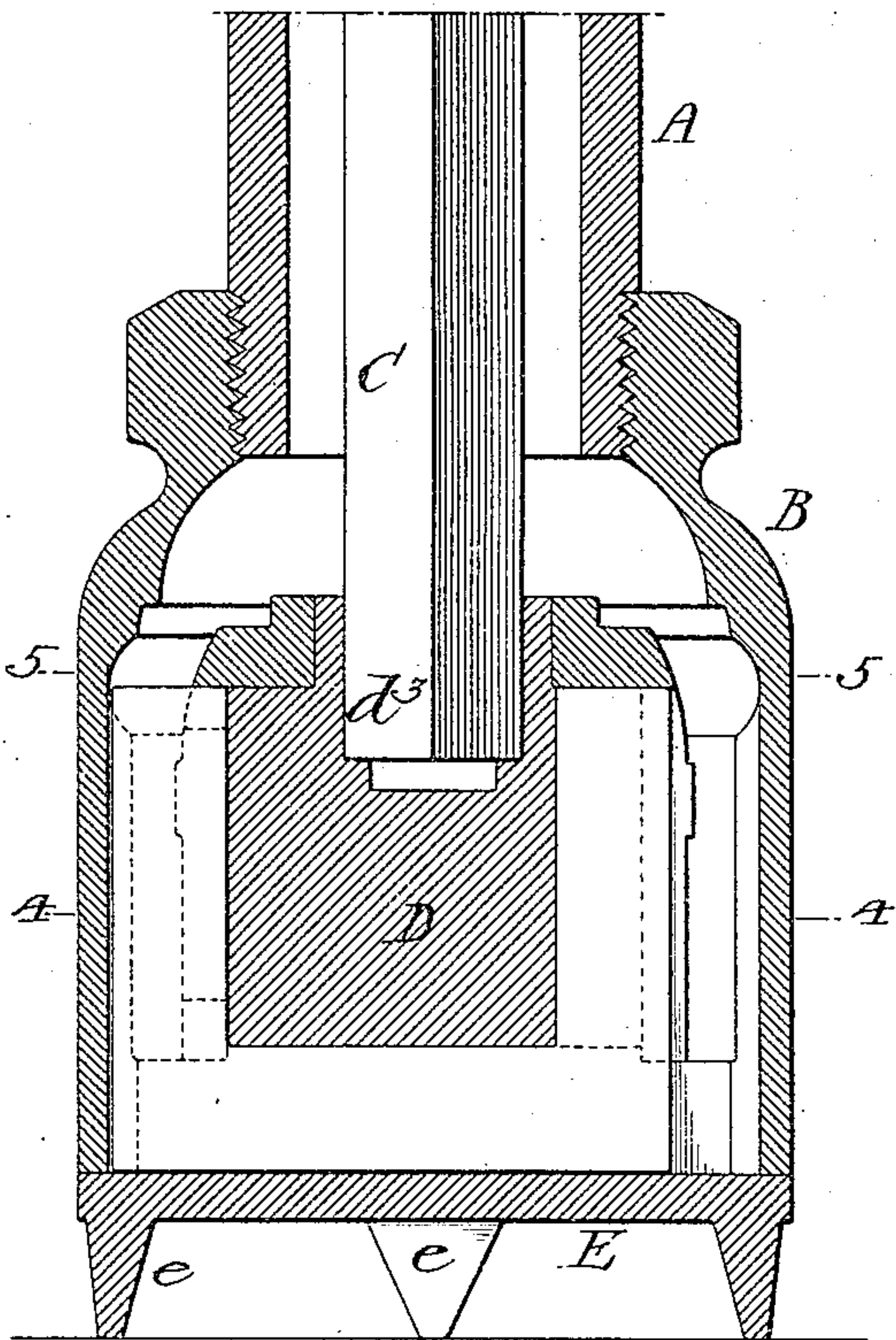


Fig. 3.

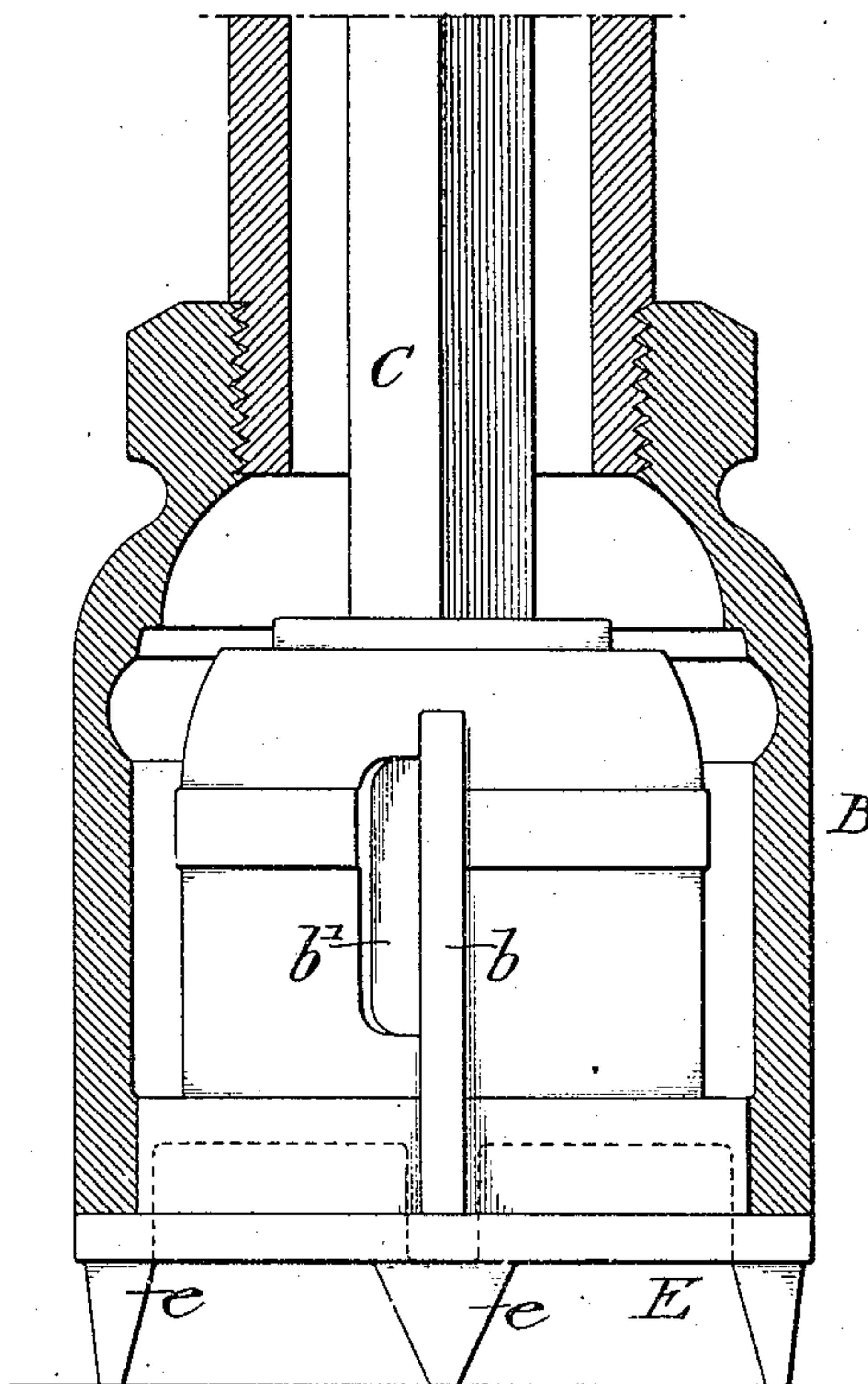


Fig. 4.

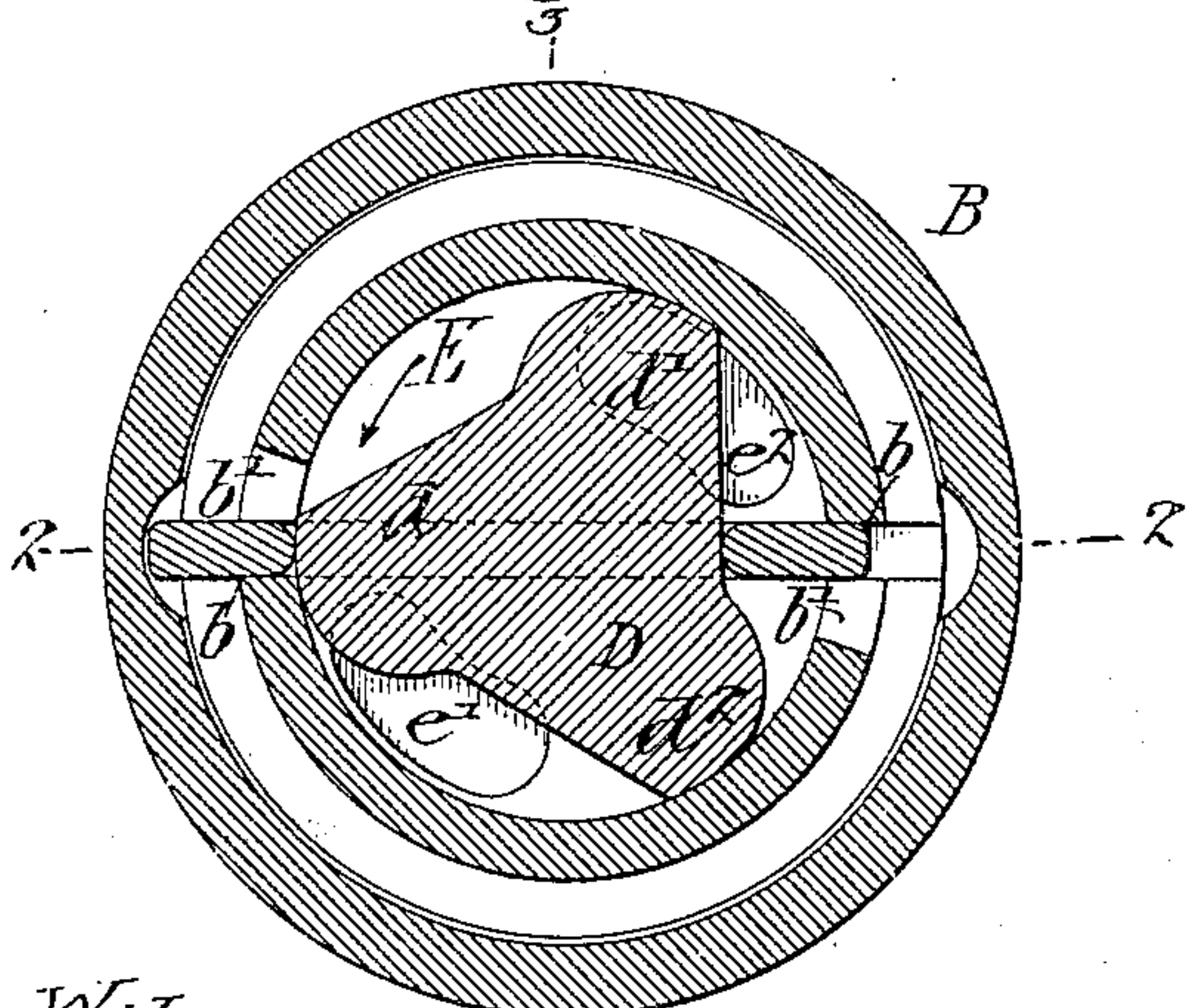
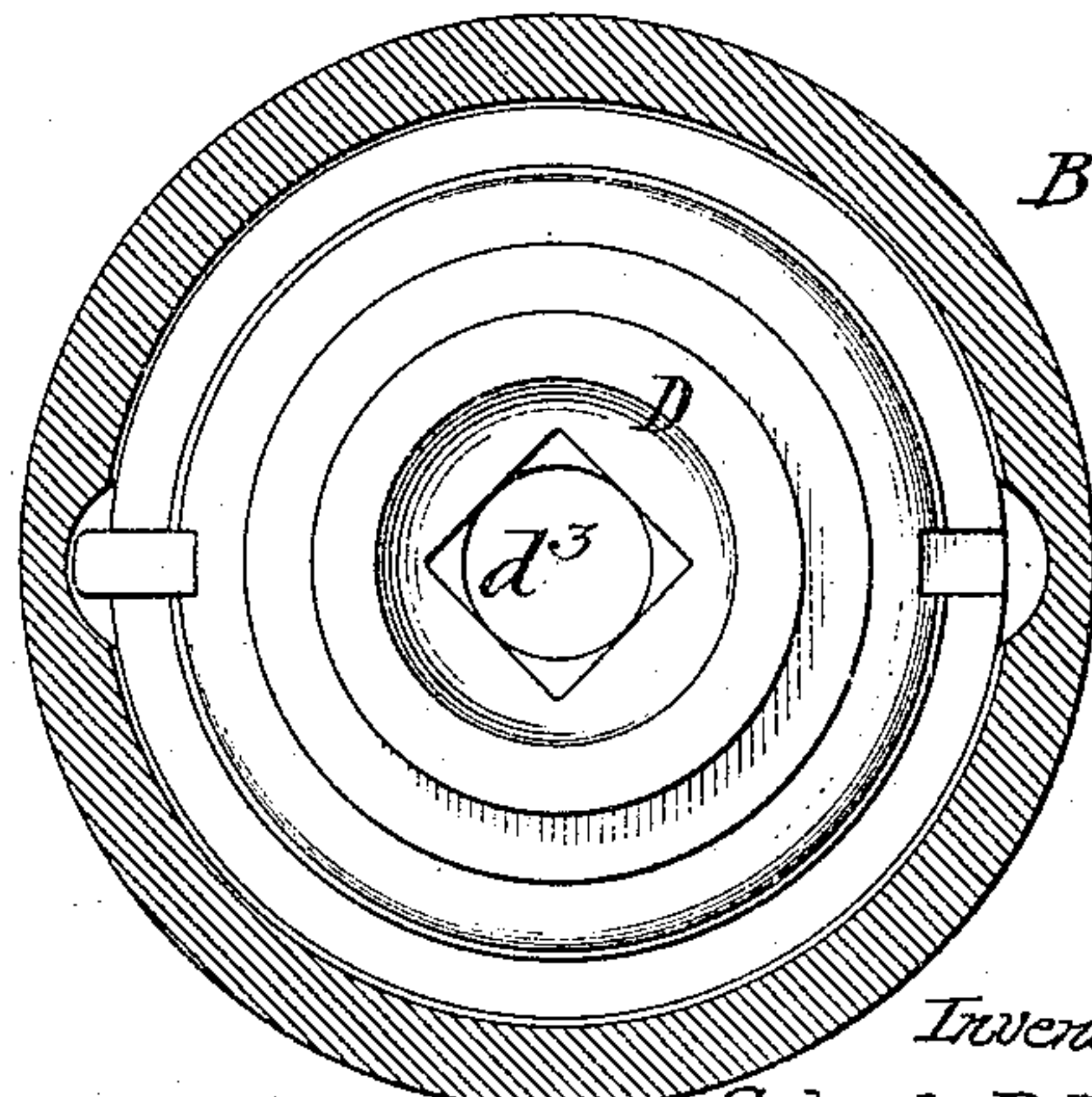


Fig. 5.



Witnesses:  
Hamilton D. Turner  
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Inventor:  
Sylvester B. Leidy  
Almira C. Leidy, deceased  
Executrix of the Estate  
By her attorneys,  
Hornum & Hornum



# UNITED STATES PATENT OFFICE.

ALMIRA C. LEIDY, OF PHILADELPHIA, PENNSYLVANIA, EXECUTRIX OF SYLVESTER B. LEIDY, DECEASED; SAID EXECUTRIX ASSIGNOR TO THE ENTERPRISE MANUFACTURING COMPANY OF PENNSYLVANIA, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 791,919, dated June 6, 1905.

Application filed March 27, 1905. Serial No. 252,413.

*To all whom it may concern:*

Be it known that SYLVESTER B. LEIDY, late a citizen of the United States, and a resident of Philadelphia, Pennsylvania, but now deceased, did during his lifetime invent certain Improvements in Pumps, of which the following is a specification.

This invention relates to certain improvements in pumps especially adapted for use in discharging molasses and like material from a barrel or other receptacle and simultaneously measuring the same.

The object of the invention is to so construct the pump that the mechanism will be concentric with the pump-barrel, reducing the diameter of the pump-chamber and simplifying the construction. This object is attained in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a view of the improved pump in elevation. Fig. 2 is a vertical sectional view on the line 2 2, Fig. 4. Fig. 3 is a vertical sectional view on the line 3 3, Fig. 4. Fig. 4 is a sectional plan view on the line 4 4, Fig. 2. Fig. 5 is a sectional plan view on the line 5 5, Fig. 2. Fig. 6 is a detached perspective view of the inner casing. Fig. 7 is a detached perspective view of the base. Fig. 8 is a detached perspective view of the plunger. Fig. 9 is a detached perspective view of the blade.

A is the barrel of the pump, having at its upper end a head A', spout  $a$ , measuring-indicator  $a'$ , and handle  $a''$ , which is geared to a rod C, extending through the barrel and coupled to the plunger D within the casing B, which is attached to the lower end of the pump-barrel A.

The casing B is reduced at its upper end and has an internal screw-thread meshing with the thread on the barrel A. A base E is secured to the bottom of the casing B by screws or other fastenings and has feet  $e$ , which elevate it, so that the molasses can flow through the inlet-passages  $e'$   $e''$  into the pump-chamber. The main portion of the base E extends

into the casing and has a transverse slot  $e^3$  formed therein, in which is mounted a blade F, which does not rotate, but has a limited lateral movement.

Mounted on the base E within the casing B is an inner casing B', secured to the base by screws or other fastenings and held central by a raised portion  $e^4$  of the base. The base and inner casing form the pump-chamber in which the plunger D rotates, and inlet and outlet openings communicate with the chamber. The inner casing B' forms an additional bearing for the blade F, as well as the bearing for the plunger D. The blade F, as shown in Fig. 9, is U-shaped, and the plunger acts against the rounded surface of the vertical members of the blade, as shown in Fig. 4. The casing B' has slots  $b$   $b'$  for the passage of the blade F, and each slot is cut away at  $b'$ , forming an outlet-passage from the pump-chamber. One passage  $b'$  is on one side of the blade and the other passage  $b'$  is on the opposite side of the blade. The space between the outer casing B and the inner casing B' communicates with the interior of the pump-barrel A.

The plunger D is made in the peculiar form shown in Figs. 4 and 8, and in the present instance has three wings  $d$   $d'$   $d''$ , each having a rounded face and flat back, and in the upper end of the plunger is a square opening  $d^3$  for the reception of the squared end of the rod C, so that the plunger must turn with the rod. As the plunger turns it reciprocates the blade F, and the wing  $d'$  will uncover the inlet-opening  $e^2$ , allowing the molasses to enter the space between it and the wing  $d''$ . The molasses will fill the space, and the rear wing  $d''$  will gradually close the inlet-opening  $e^2$ , while the wing  $d'$  will uncover the outlet-opening  $b'$ , allowing the molasses to escape into the space between the two casings.

By using a plunger with three wings, as shown, and having two inlets and outlets the pump will draw the molasses in a continuous stream.



A pump made in accordance with this invention is especially adapted for use as a measuring-pump for such material as molasses, and it can be made accurate at a reasonable cost.

Having thus described the invention of the said SYLVESTER B. LEIDY, what is claimed is—

1. The combination in a pump, of a slotted casing and a base forming a pump-chamber and having inlet and outlet openings, a winged plunger in said chamber, a blade mounted in the casing and arranged to reciprocate as the plunger is turned, substantially as described.

2. The combination in a pump, of an outer casing, a slotted inner casing having an outlet-opening, a base having an inlet-opening therein, a blade mounted in the slotted inner casing, a plunger having one or more wings actuating the blade and arranged to cover and uncover the inlet and outlet openings, substantially as described.

3. The combination in a pump, of a barrel, an outer casing secured thereto, a base secured to the outer casing, an inner casing attached to the base and forming a pump-chamber, inlet-openings in the base and outlet-openings in the inner casing, a sliding blade, a winged plunger mounted within the pump-chamber and shaped to reciprocate the blade, substantially as described.

4. The combination in a pump, of a base having two inlet-openings therein and having a transverse slot, an outer and inner casing secured to the base, the inner casing having

slots in line with the slot in the base and having two outlet-openings, a blade arranged to slide in the slots in the base and casing, and a winged plunger actuating the blade as it is rotated and so formed as to open and close the inlet and outlet passages, substantially as described.

5. The combination in a pump, of a base and a slotted casing forming a pump-chamber, a reciprocating blade, inlet and outlet passages communicating with the pump-chamber, a plunger within the pump-chamber and having wings, each wing having a rounded face and a flat back, substantially as described.

6. The combination in a pump, of a barrel, a casing secured to the barrel, a base secured to the casing and having a transverse slot, and an inlet-opening on each side of the slot, an inner casing secured to the base and slotted in line with the slot in the base, a U-shaped blade mounted in the slots of the base and inner casing, the slots of the inner casing being enlarged on one side of the blade to form outlet-passages, a winged plunger mounted within the inner casing, and means for rotating the plunger, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses:

ALMIRA C. LEIDY,  
*Executrix of the estate of Sylvester B. Leidy,*  
*deceased.*

Witnesses:

M. D. KOENIG,  
C. W. ASBURY.