

No. 713,052.

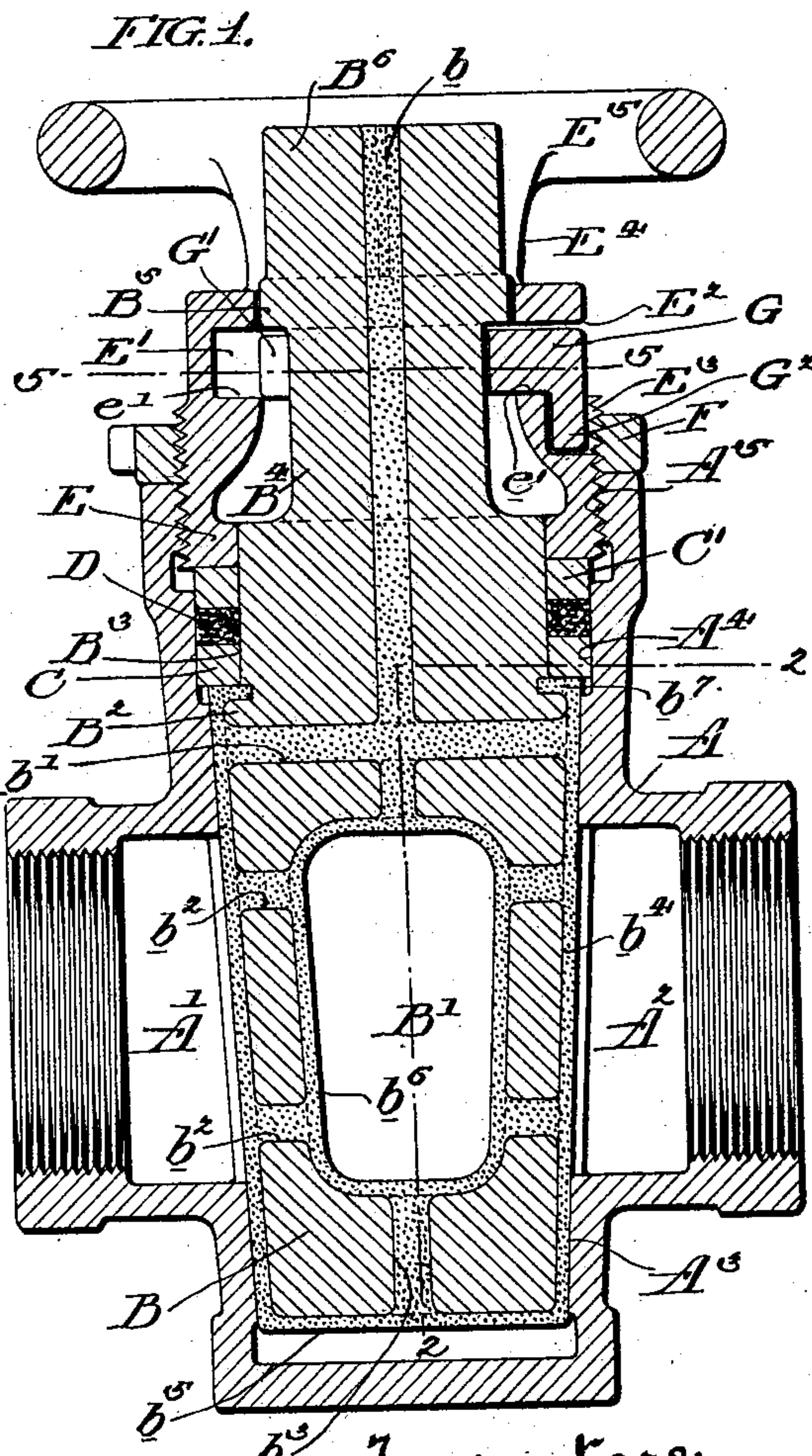
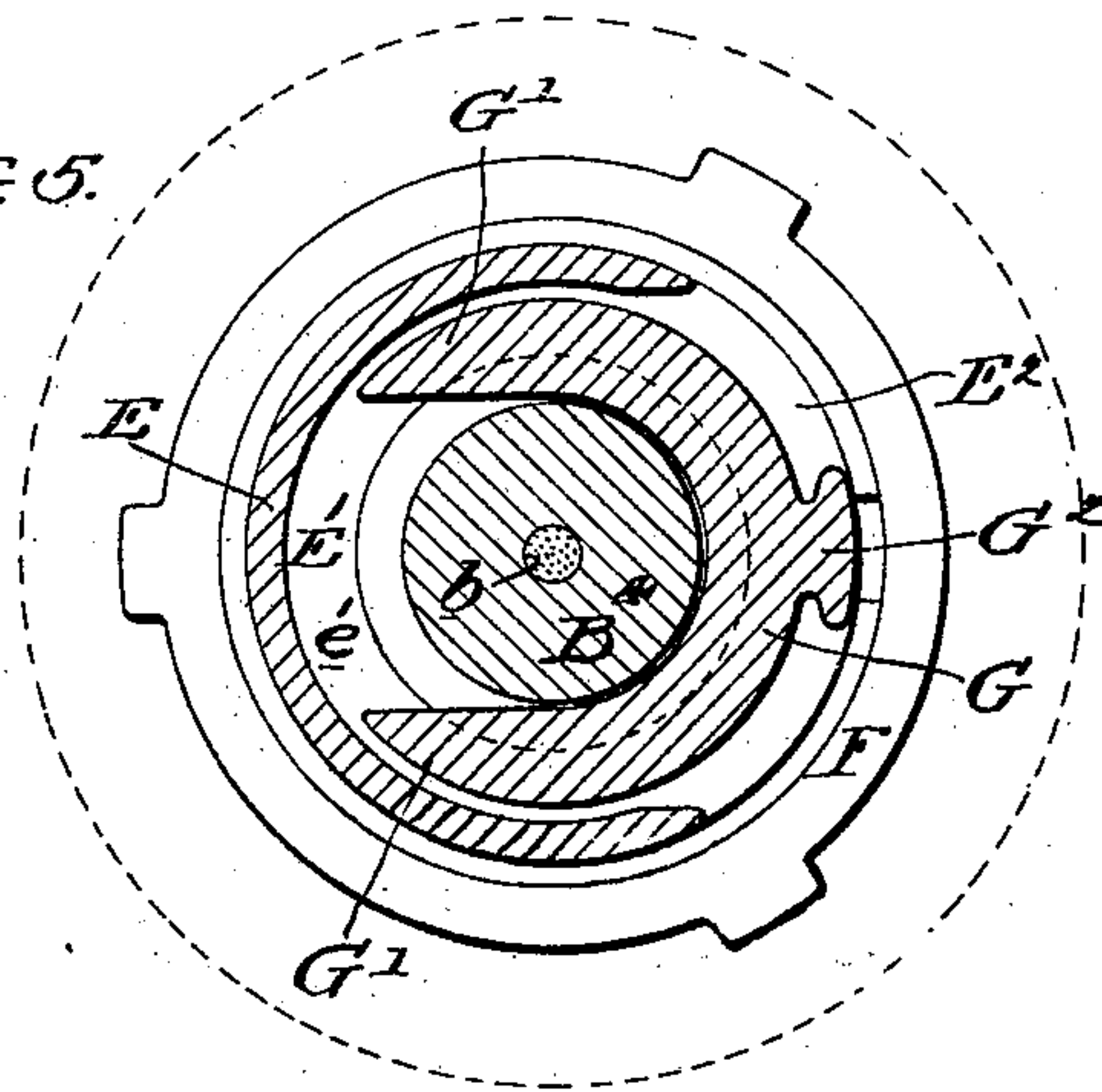
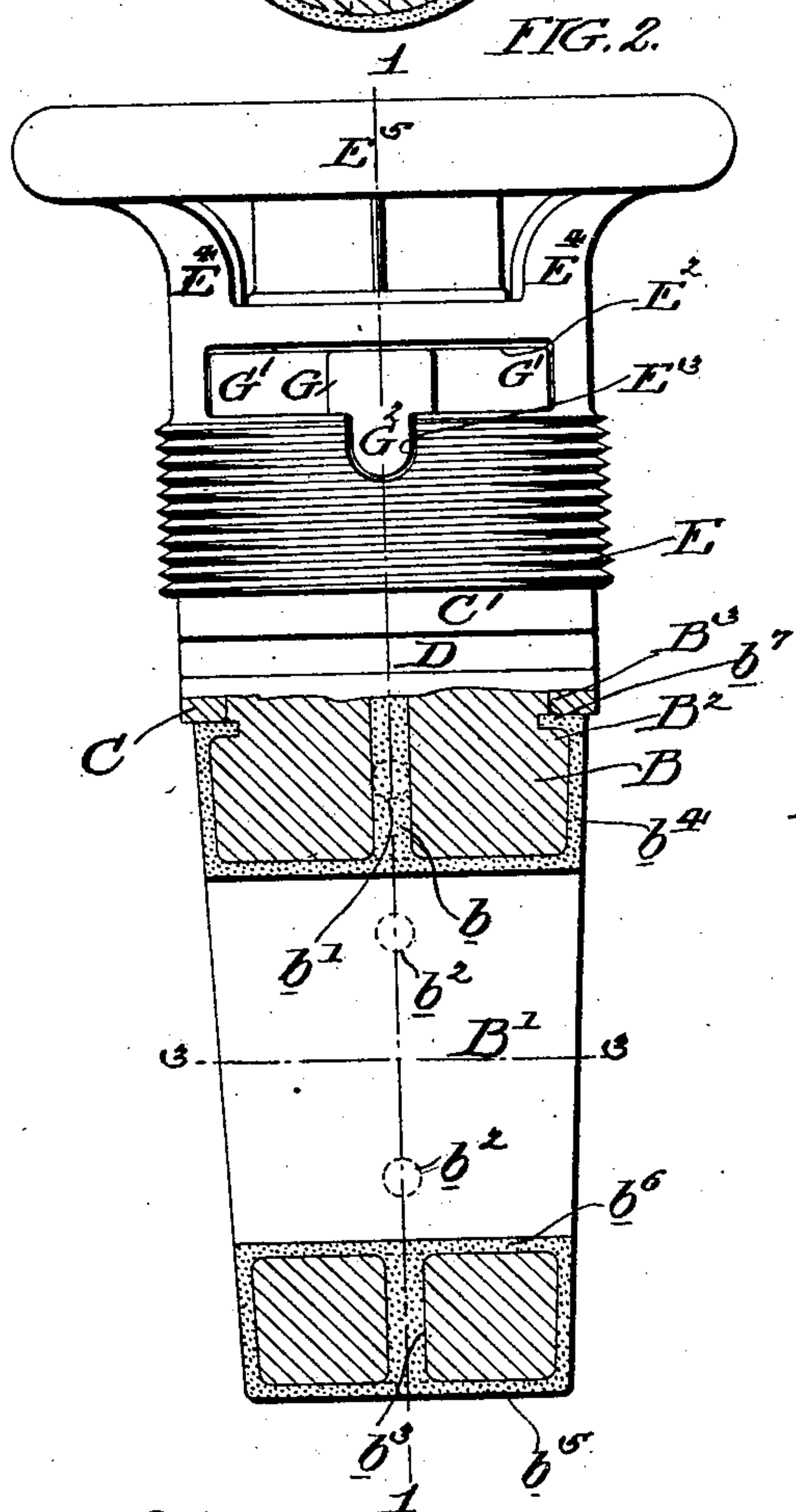
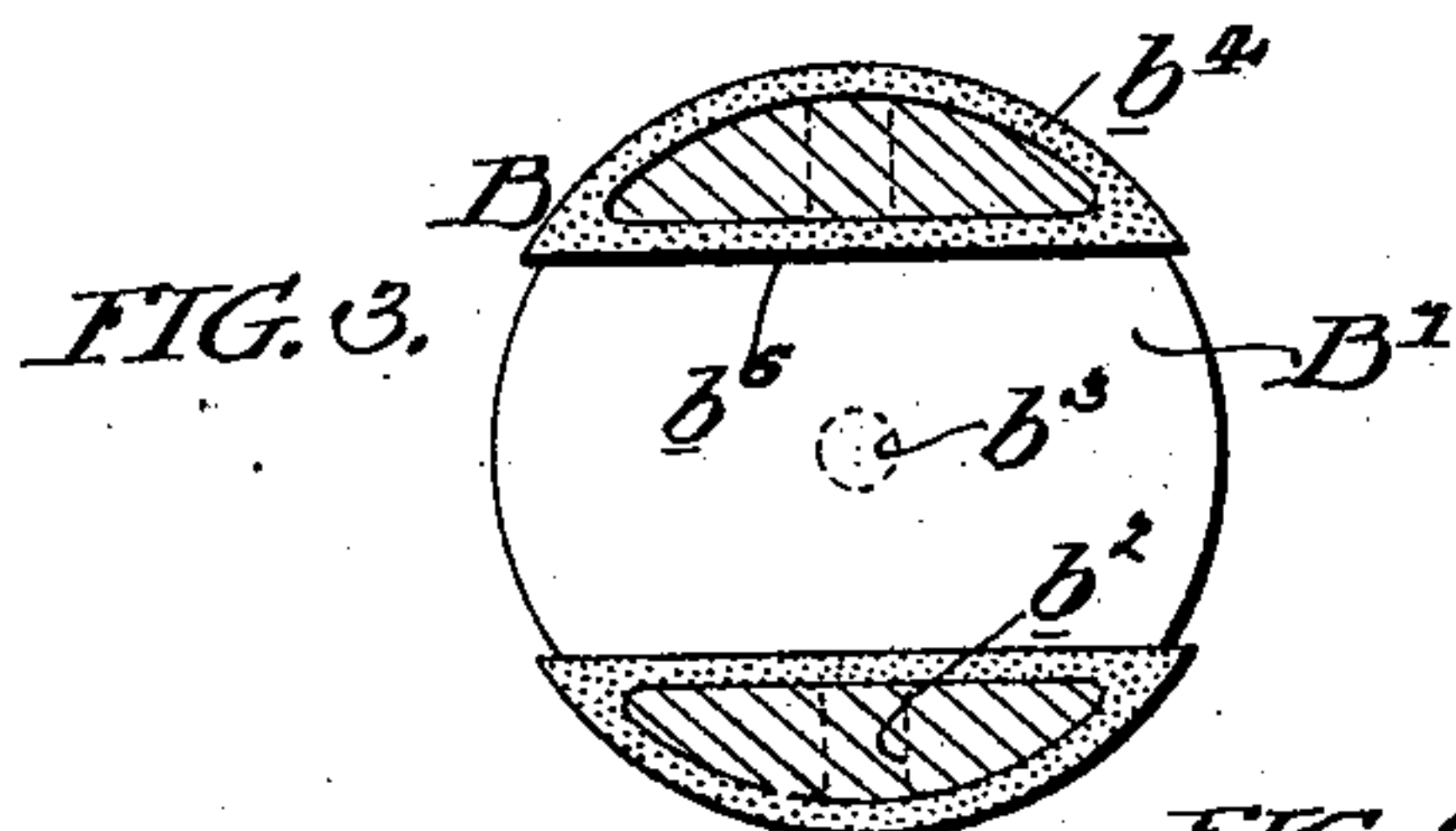
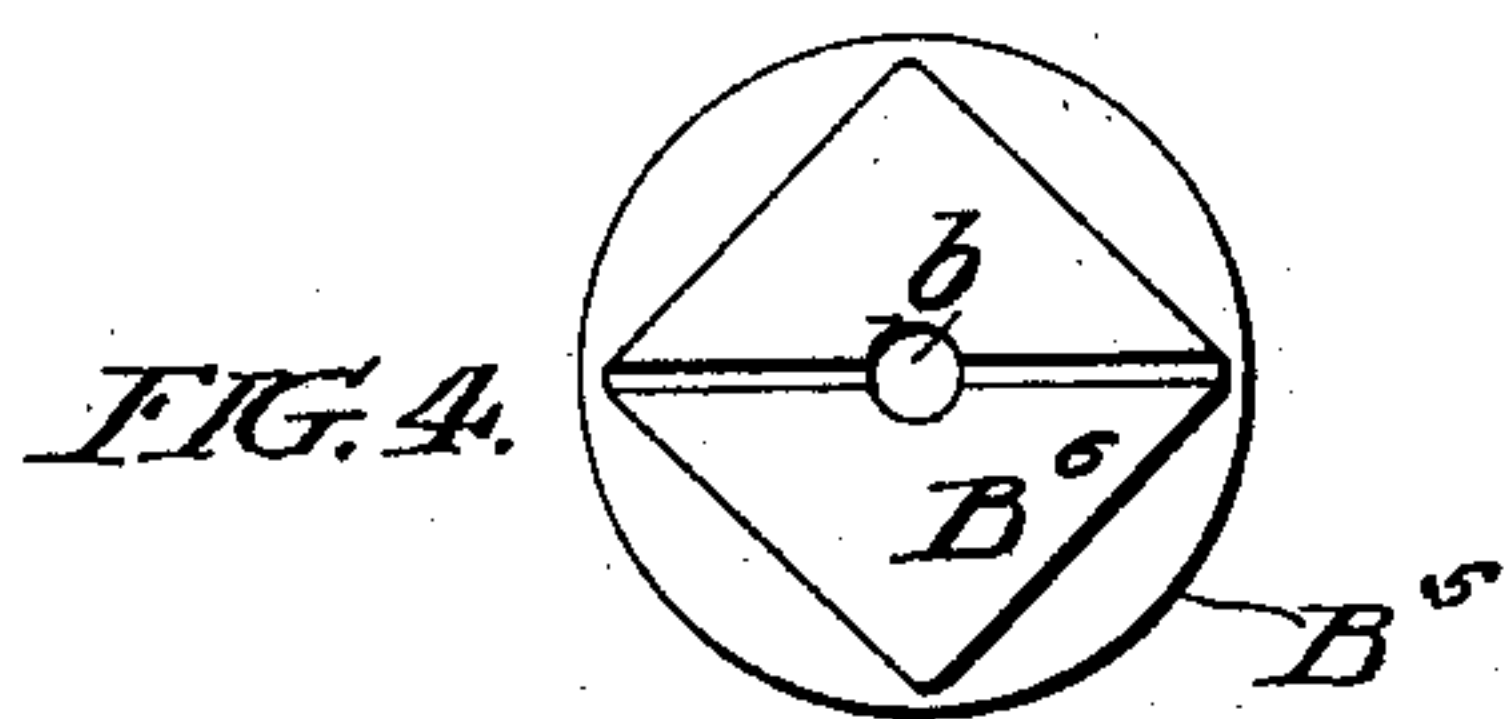
Patented Nov. 11, 1902.

L. J. BORDO & L. SCHUTTE.

PLUG COCK.

(Application filed June 3, 1902.)

(No Model.)



Witnesses  
*[Signature]*  
*[Signature]*

Inventors:  
 Lambert J. Bordo  
 Louis Schutte  
 by their atty  
 Francis T. Chamber



# UNITED STATES PATENT OFFICE.

LAMBERT J. BORDO AND LOUIS SCHUTTE, OF PHILADELPHIA, PENNSYLVANIA.

## PLUG-COCK.

SPECIFICATION forming part of Letters Patent No. 713,052, dated November 11, 1902.

Application filed June 3, 1902. Serial No. 110,013. (No model.)

*To all whom it may concern:*

Be it known that we, LAMBERT J. BORDO and LOUIS SCHUTTE, citizens of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Plug-Cocks, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

Our invention relates to plug-cocks, and has for its object to provide a simple and efficient means whereby any jamming of the plug-cock in its casing can be readily and quickly remedied and the cock put in operative condition.

The leading feature of our invention consists in providing a screw-gland adapted to hold the cock in position in the casing and the spindle of the cock with shoulders or some equivalent construction whereby an intermediate interlocking bar can be secured to the gland and caused to abut against the shoulder on the spindle, so that when the gland is unscrewed its upward motion will be communicated to the spindle and through it to the cock.

The particular construction which we have devised for carrying our invention into effect and the various details of the said invention will be best understood as described in connection with the drawings, in which they are illustrated, and in which—

Figure 1 is a sectional view through the casing, plug-cock, and gland, taken as on the section-line 1 1 of Fig. 2 so far as the valve and gland are concerned. Fig. 2 is an elevation of the plug-cock, gland, and intermediate interlocking device, the lower part of the cock being shown in section taken as on the line 2 2 of Fig. 1. Fig. 3 is a cross-section through the cock on the line 3 3 of Fig. 2. Fig. 4 is a plan view of the top of the valve-stem, and Fig. 5 is a cross-section taken on the line 5 5 of Fig. 1.

A indicates the plug-cock casing, having inlet and outlet passages (indicated at A' and A<sup>2</sup>) and a conical seat (indicated at A<sup>3</sup>) for the plug-cock. Above this conical seat is a chamber A<sup>4</sup>, serving as a stuffing-box chamber, and above this chamber is an internally-threaded

annulus (indicated at A<sup>5</sup>) into which screws the gland which holds the plug-cock in position and which, as shown, also acts as a stuffing-box gland.

B is the plug-cock, having formed in it the transverse port B' and also formed with it the valve or cock spindle, which, as shown, extends above the shoulder (indicated at B<sup>2</sup>) at the upper end of the cock proper. This spindle is made up of a cylindrical portion B<sup>3</sup>, which faces the stuffing-box chamber in the casing, the portion B<sup>4</sup> of less diameter extending still farther upward and having formed on it an annular ring B<sup>5</sup>, the function of which is to provide a shoulder for the engagement of the interlocking bar to be described. The upper end B<sup>6</sup> of the valve-stem is squared to receive a wrench or other device for turning the plug-cock. The particular form of cock shown is one provided with a lead lining, the outer lead-covered face of the cock being indicated at b<sup>4</sup> and the lining of the port B' being indicated at b<sup>6</sup>. We form the cock proper with a central pouring-port (indicated at b) which runs down to the port B' and is continued below this port, as indicated at b<sup>3</sup>. From the central port I lead transverse perforations or ports, (indicated at b',) and through the wall of the plug-cock separating the port B' from the outer surfaces we form ports, (indicated at b<sup>2</sup>.) It will readily be understood that the cock provided with these ports and inserted in a proper hole will be provided with a proper lead protective coating by pouring the lead through the port b and permitting it to distribute itself through the ports and the inner and outer faces of the plug-cock, as illustrated in the drawings.

C indicates an annular ring resting in the stuffing-box chamber on the top ledge B<sup>2</sup> of the plug, or rather on the lead covering b<sup>7</sup> of this ledge in the construction shown in the drawings.

D is an annular packing of asbestos or other packing material placed in the stuffing-box chamber above the ring C, and C' is a second annular ring resting on top of the packing and forming, in effect, a portion of the gland.

E is an externally-threaded gland screwing in the threaded portion A<sup>5</sup> of the casing and acting directly against the ring C', but indi-



rectly through the contents of the stuffing-box chamber against the shoulders of the plug-cock. This gland is continued up around the valve-stem and has by preference formed in it an annular chamber  $E'$ , with a lateral opening, (indicated at  $E^2$ ), the said chamber furnishing an annular shoulder  $e'$ , lying below the annular shoulder formed by the ring  $B^5$  on the valve-stem, and by preference the gland  $E$  is also provided with a hand-wheel  $E^5$ , connected with it, as shown, by arms  $E^4$   $E^4$ . By preference we form in the bottom of the annular shoulder  $e'$  and in the middle of the lateral opening  $E^2$  a recess, such as is indicated at  $E^3$ .

$F$  is a jam-nut screwing on the gland, as shown, and of such proportion as to extend over at least a portion of the recess  $E^3$  when the parts are in normal operative position.

$G$  indicates an interlocking bar, which we form, by preference, as a fork or U-shaped device, the arms or parts being indicated at  $G'$   $G'$  and provided with a downwardly-extending lug  $G^2$ , which is adapted to enter the recess  $E^3$ .

In operation the plug-cock is placed in the casing, the gland being removed for this purpose, and the gland then screwed into the casing, so as to force the plug-cock to its seat. We then insert the interlocking device or bar  $G$  through the lateral opening  $E^2$ , so that its lower surface rests upon the shoulder  $e'$  of the gland, and its upper surface goes beneath the annular ring  $B^5$ , the lug  $G^2$  resting in the recess  $E^3$ . The jam-nut  $F$  is then screwed over the end of the gland, securing the interlocking fork in position. It will be obvious that neither the gland nor the interlocking device interferes with the ordinary rotative movements of the plug and also that whenever in case the plug becomes jammed in the casing it can readily be loosened by screwing the gland outward, the gland carrying with it the interlocking device  $G$  until it abuts against the collar  $B^5$ , when the force exerted by the gland is communicated directly to the stem of the cock, with the result of lifting the cock from its seat. As soon as the cock is freed from injurious jam a slight movement of the gland downward secures all parts in proper operative position.

It is of course obvious that our invention can be embodied in greatly-modified forms without departure from its essential features, and we wish to be understood as in no wise limiting our claims to the special construction shown except where such special construction is expressly referred to in the claims.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a plug-cock casing and a plug-cock, a valve-stem extending from the plug-cock and having a shouldered portion, a gland screwing into the casing and surrounding the valve-stem said gland being adapted to force and hold the plug-cock to

its seat in the casing and a removable interlocking device adapted to be secured in the gland in position to engage the shoulder on the valve-stem.

2. In combination with a plug-cock casing and plug-cock, a valve-stem extending from the plug-cock and having a shouldered portion, a gland screwing into the casing and surrounding the valve-stem said gland being adapted to force and hold the plug-cock to its seat in the casing and having a shoulder  $e'$  adapted to be beneath the shoulder on the valve-rod when the gland is in use and a removable interlocking device adapted to be inserted between the shoulders on the gland and valve-stem.

3. In combination with a plug-cock casing and plug-cock, a valve-stem extending from the plug-cock and having a shouldered portion, a gland screwing into the casing and surrounding the valve-stem said gland being adapted to force and hold the plug-cock to its seat in the casing and having a chamber  $E'$  with a lateral opening  $E^2$  formed in it in position to lie normally below the shoulder on the valve-stem and a forked interlocking device  $G$  adapted to be inserted in the chamber  $E'$  and to abut against the shoulder on the valve-stem when the gland is screwed outward.

4. In combination with a plug-cock casing and a plug-cock, a valve-stem extending from the plug-cock and having a shouldered portion, a gland screwing into the casing and surrounding the valve-stem said gland being adapted to force and hold the plug-cock to its seat in the casing and having a chamber  $E'$  with a lateral opening  $E^2$  formed in it in position to lie normally below the shoulder on the valve-stem, said gland having also a recess  $E^3$  formed in the bottom of its chamber  $E'$  and a forked interlocking device  $G$  having a lug  $G^2$  adapted to be inserted in the chamber  $E'$  with its lug extending into recess  $E^3$  and to abut against the shoulder on the valve-stem when the gland is screwed outward.

5. In combination with a plug-cock casing and a plug-cock, a valve-stem extending from the plug-cock and having a shouldered portion, a gland screwing into the casing and surrounding the valve-stem said gland being adapted to force and hold the plug-cock to its seat in the casing and having a chamber  $E'$  with a lateral opening  $E^2$  formed in it in position to lie normally below the shoulder on the valve-stem, said gland having also a recess  $E^3$  formed in the bottom of its chamber  $E'$ , a forked interlocking device  $G$  having a lug  $G^2$  adapted to be inserted in the chamber  $E'$  with its lug extending into recess  $E^3$  and to abut against the shoulder on the valve-stem when the gland is screwed outward and a jam-nut  $F$  screwing on the gland and acting to retain the forked interlocking device in position by extending over recess  $E^3$ .

6. In combination with a plug-cock casing



and a plug-cock, a valve-stem extending from  
the plug-cock and having a shouldered por-  
tion, a gland screwing into the casing and  
surrounding the valve-stem said gland being  
5 adapted to force and hold the plug-cock to  
its seat in the casing and having a chamber  
E' with a lateral opening E<sup>2</sup> formed in it in  
position to lie normally below the shoulder  
on the valve-stem, an interlocking device  
10 adapted to be inserted laterally into the cham-

ber in the gland and to engage the shoulder  
on the valve-stem, and a hand-wheel secured  
to the gland whereby it can be screwed down  
or up in the casing.

LAMBERT J. BORDO.  
LOUIS SCHUTTE.

Witnesses:

CHAS. F. MYERS,  
F. STEWART.