

(No Model.)

2 Sheets—Sheet 1.

J. R. BRANDEN.
PUMP VALVE.

No. 541,033.

Patented June 11, 1895.

Fig. 1.

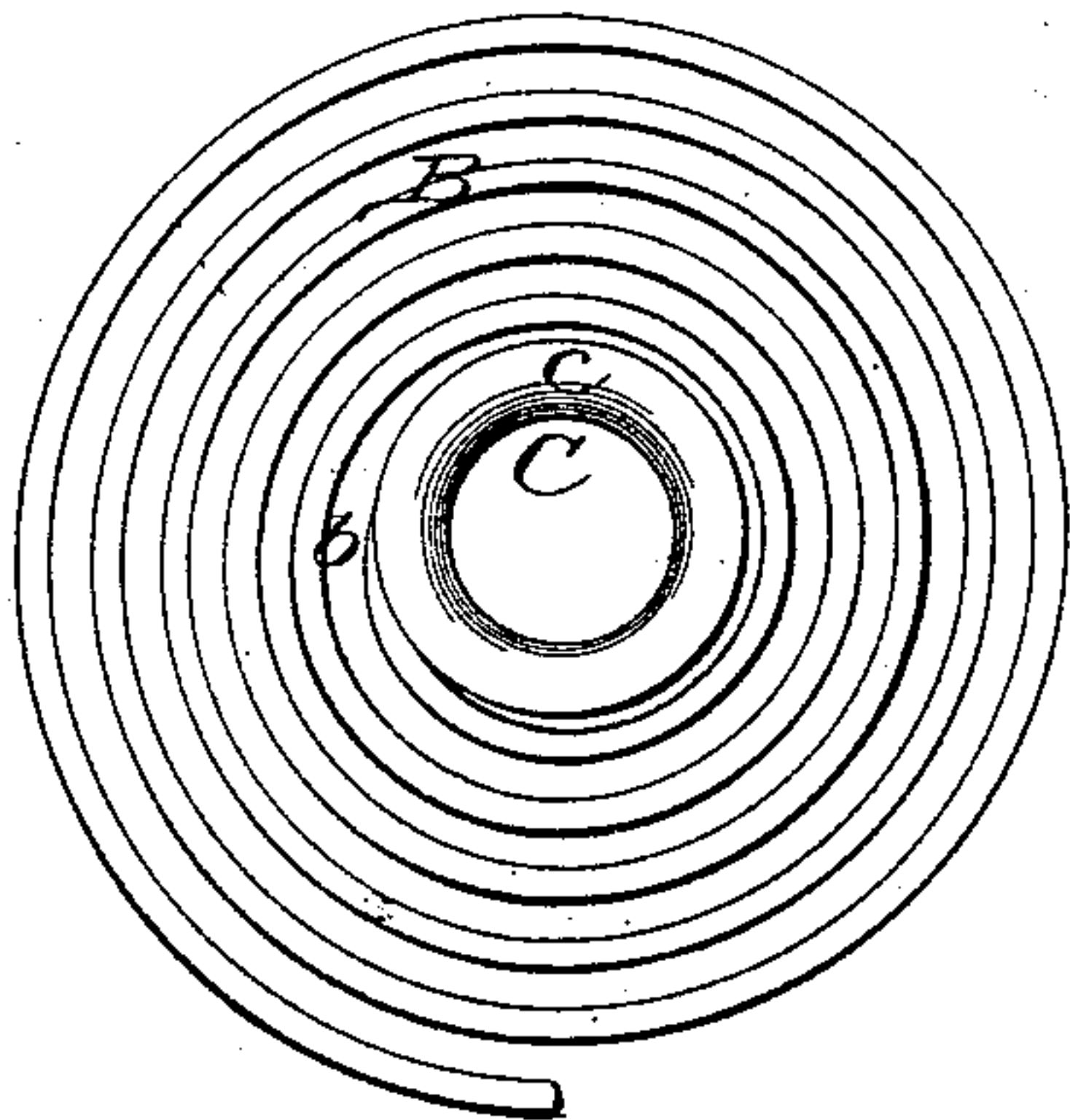


Fig. 2.

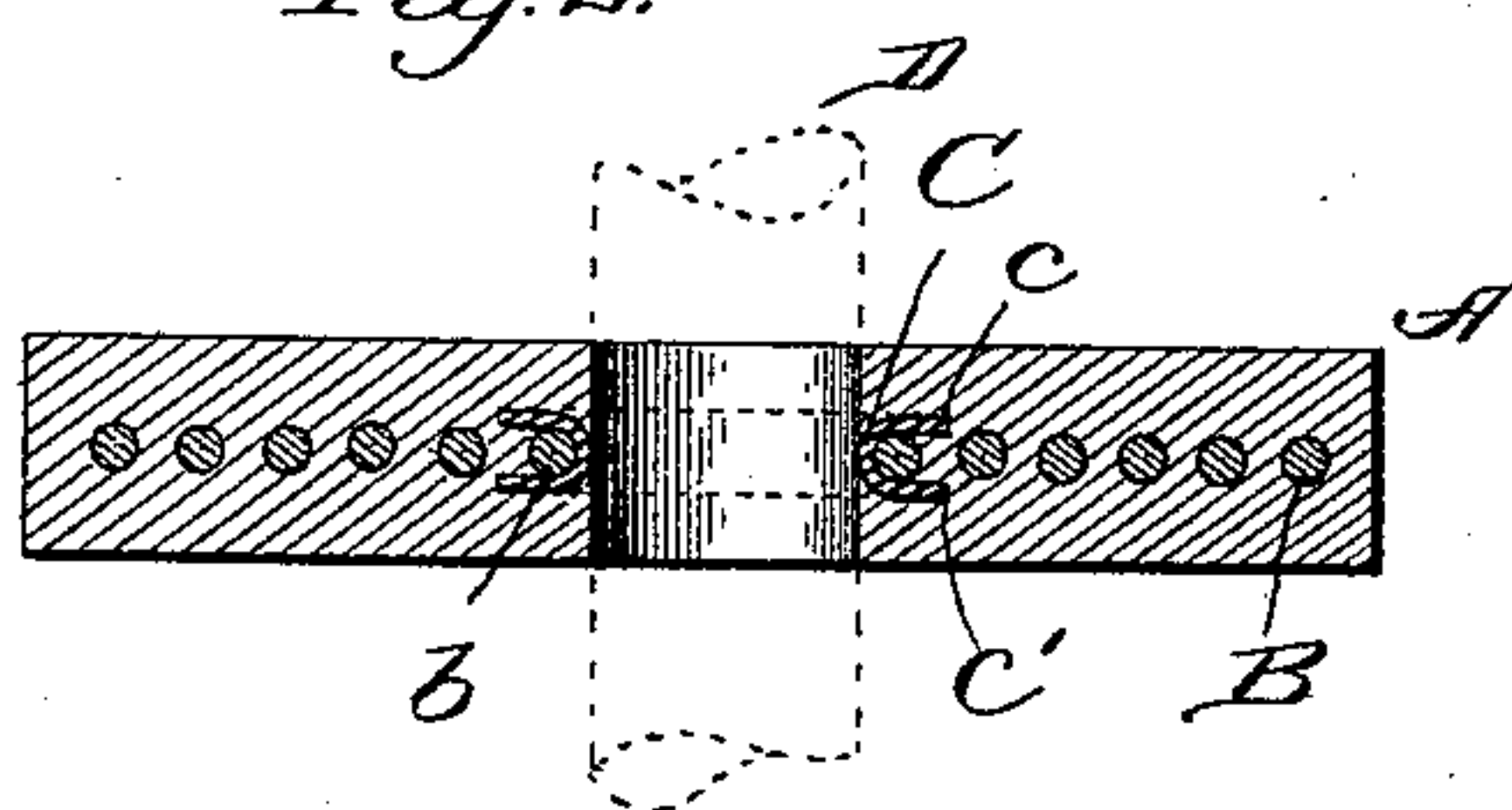


Fig. 3.



witnesses:

C. H. Mayers
C. F. Shultz

Inventor:

J. R. Branden.
By *W. H. Singleton*
Atty.

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2 Sheets—Sheet 2.

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Fig. 4.

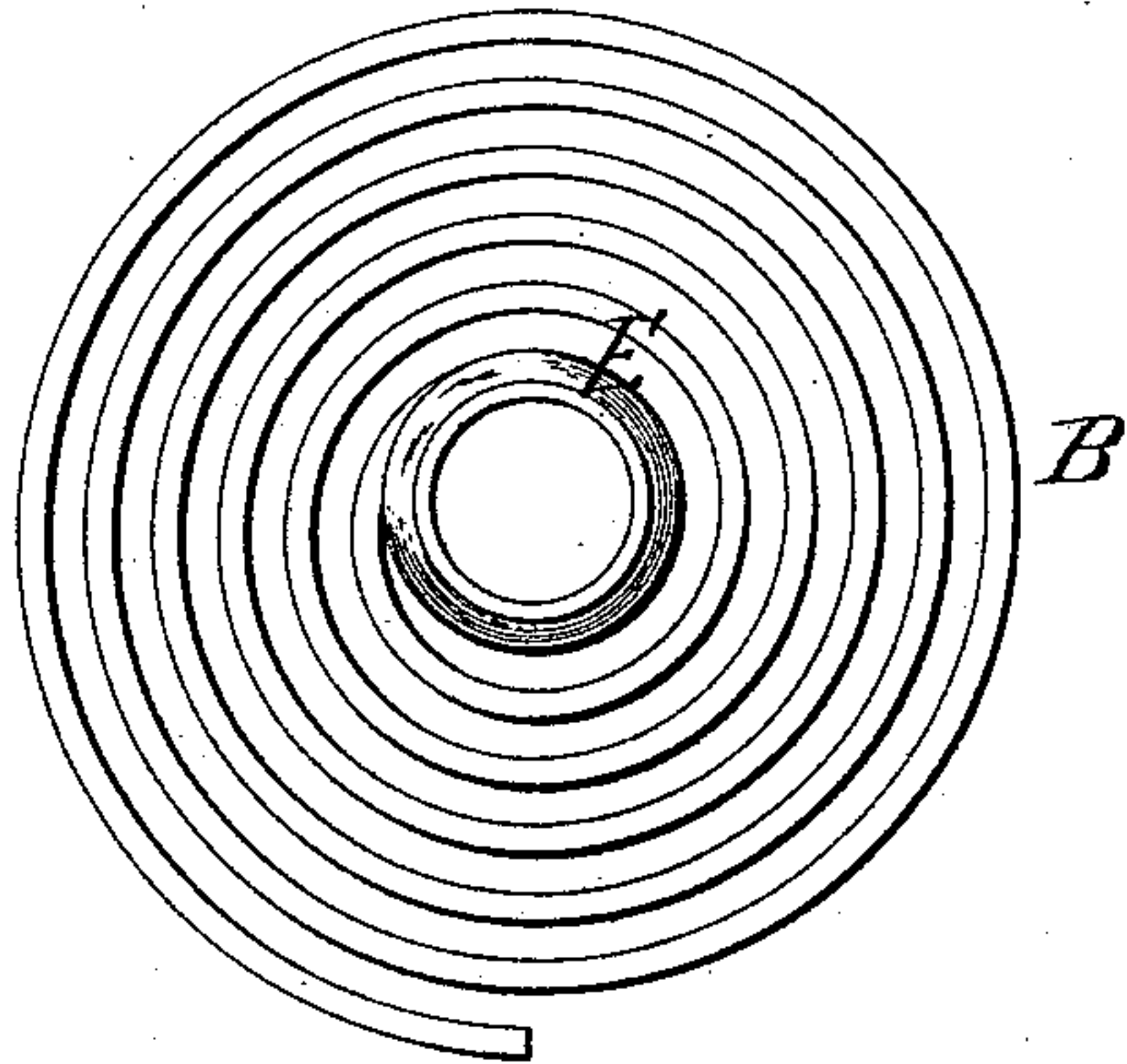


Fig. 5.

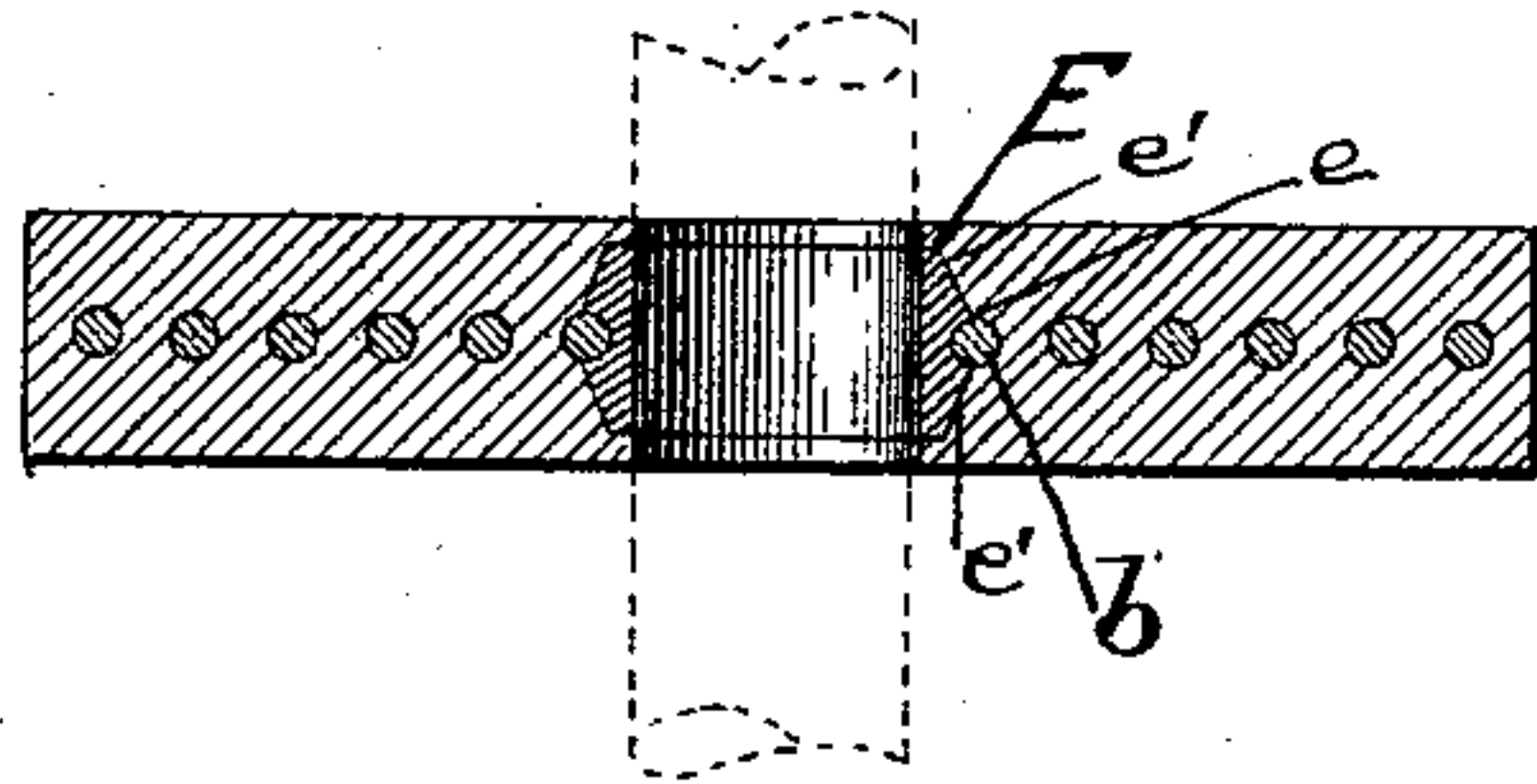


Fig. 6.

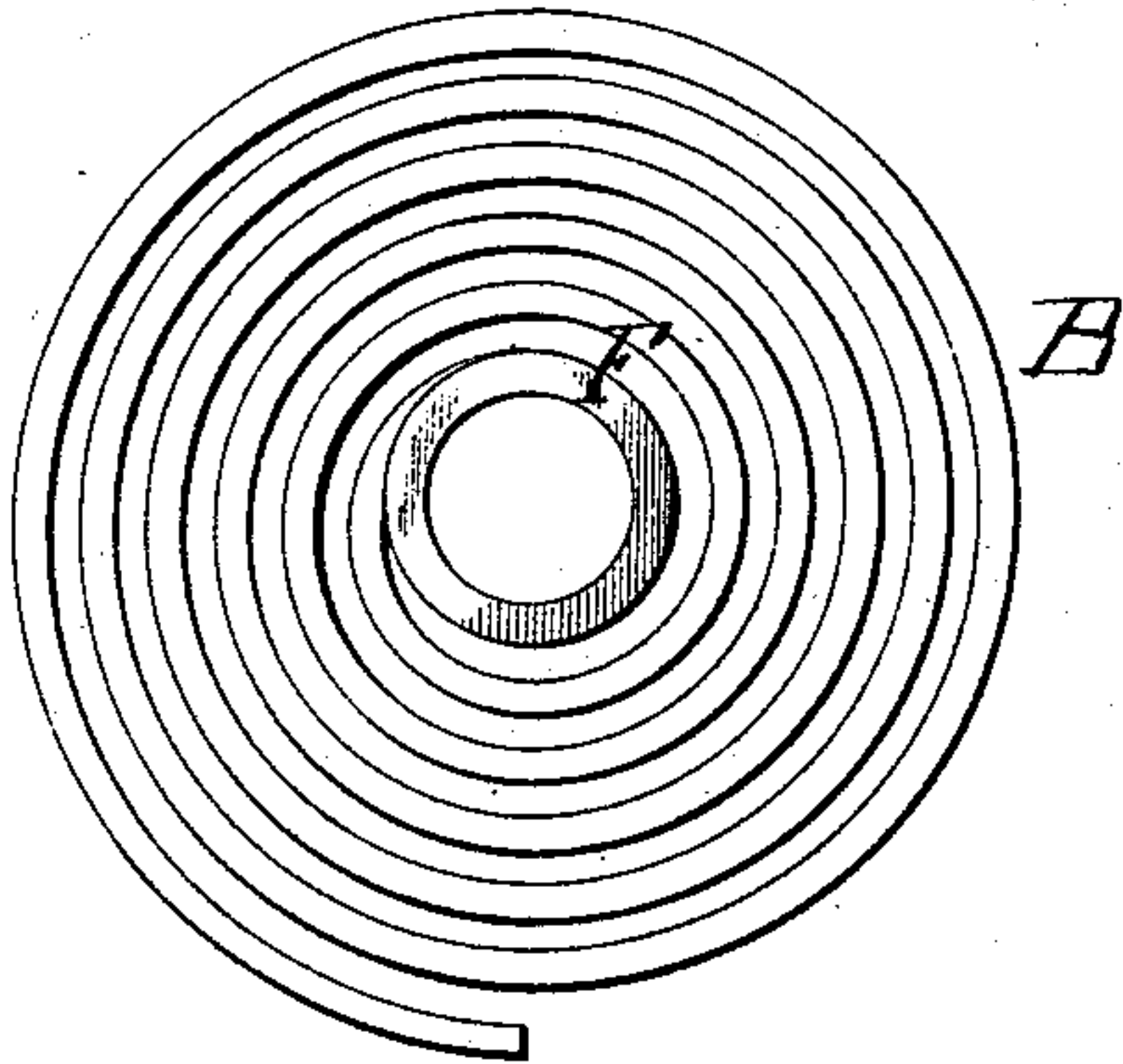
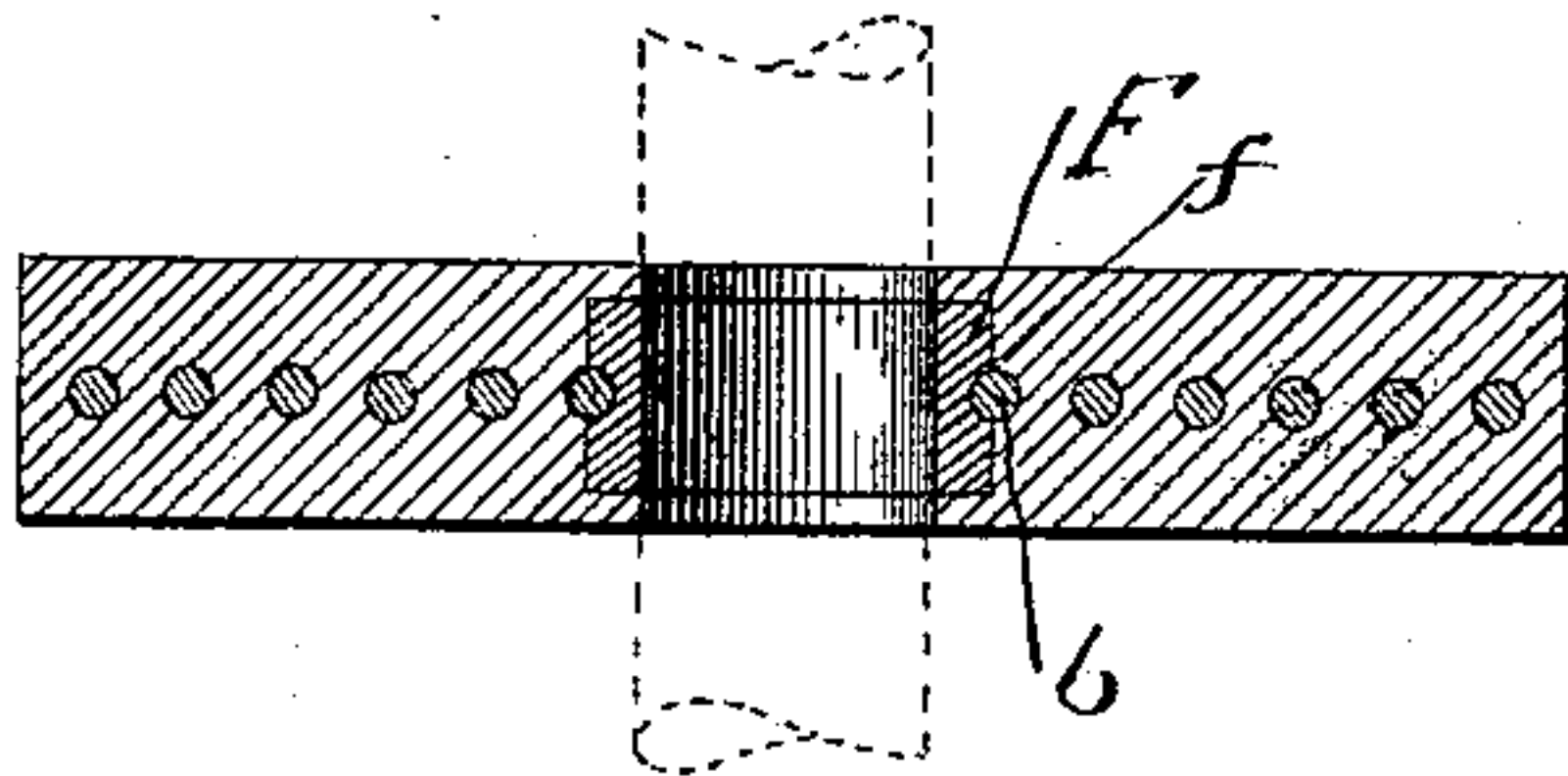


Fig. 7.



witnesses:

C. H. Mayer
C. G. Adley

Inventor:

J. R. Branden
W. H. Slighter
—Att'y.

UNITED STATES PATENT OFFICE.

JEFFRIES R. BRANDEN, OF CHICAGO, ILLINOIS.

PUMP-VALVE.

SPECIFICATION forming part of Letters Patent No. 541,033, dated June 11, 1895.

Application filed August 1, 1894. Serial No. 519,145. (No model.)

To all whom it may concern:

Be it known that I, JEFFRIES R. BRANDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pump-Valves; 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.

This invention relates to an improvement in valves, more especially such a valve as is shown in my former United States patent, No. 508,464. In this patent is shown a rubber valve having an elastic strengthener made of a coil of wire, such coil being given a turn at the center so as to form a bearing or support for the valve stem.

In the present invention, instead of making a turn to the coil, I put at the center, as a support for the valve stem, a bearing, and the invention, therefore, consists in the rubber valve provided with a coiled strengthener having at the center a bearing, separate from the strengthener as will be more fully hereinafter explained.

In the drawings, Figure 1 represents a top or plan view of the coiled strengthener provided with the grommet; Fig. 2, a diametric section of the valve with the strengthener and grommet, the portion of the stem being shown in dotted lines. Fig. 3 represents the cylinder from which the grommet is formed. Fig. 4 represents a top view of a modification; Fig. 5, a section of the same. Fig. 6 represents a top view of another modification; Fig. 7, a section thereof.

In the drawings, A represents the rubber valve, and B the coiled strengthener within the rubber, these being made substantially as they are shown and described in my former patent and with the additions which constitute the present improvement. A metallic cylinder, C (Fig. 3), is inserted in the center of the coil and then the edges of the cylinder are forced outwardly as shown at *c c'*, forming the grommet shown in Figs. 1 and 2,

the inner end, *b*, of the coil, B, being caught and held firmly in the groove formed when the grommet is made. It will be seen that this grommet forms a broad, smooth bearing through which the valve stem, D, slides. At the same time this grommet effectually protects the valve stem from the loose end of the coil, B, so that, as the valve is operated, this loose end is prevented from scoring or cutting into the valve stem. At the same time the inner end of the coil being held by the edges, *c c'*, of the grommet, C, there is no tendency in the working of the valve for the inner end of the coil to cut the rubber around the valve stem.

In Figs. 4 and 5 is shown a modification. Instead of a grommet for a bearing, there is placed a ring, E, in the center of the coil, the inner coil, *b*, being caught in a groove, *e*, of this ring. This ring is beveled toward the ends, as shown at *e' e'*, so as to be held tightly in the rubber.

In Figs. 6 and 7 is shown another modification. Here the ring, F, is a plain ring, being less in thickness than the rubber, so as to be held within the rubber. The coil, *b*, is held in a groove, *f*, in the ring, F.

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

1. The rubber valve provided with a coiled strengthener having a bearing provided with a groove, the inner end of the coiled strengthener being held in this groove, such bearing being at the center of the coiled strengthener.

2. The rubber valve, A, having within it the coiled strengthener, B, and the grommet, C, the grommet surrounding the inner end of the coil, B, the edges, *c c'*, coming upon opposite sides of the inner end of the coil, B, as set forth.

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

JEFFRIES R. BRANDEN.

Witnesses:

CHARLES G. LUDLOW,
OSCAR NICOLAI.