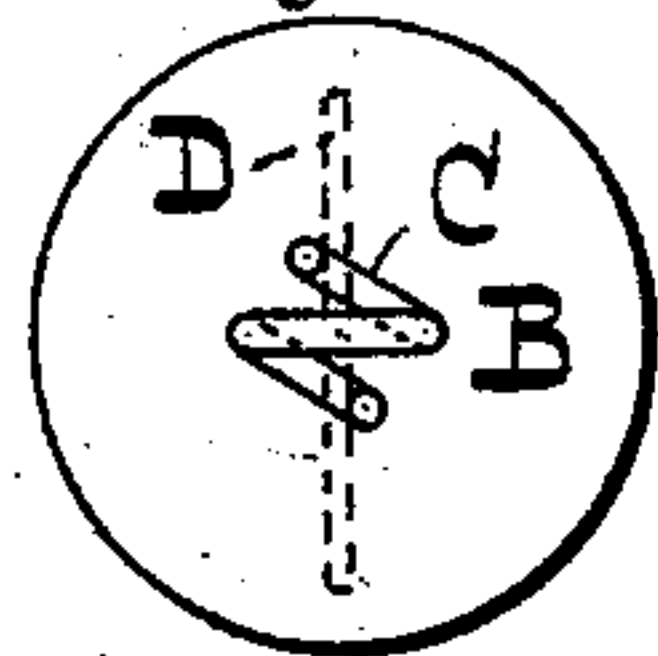
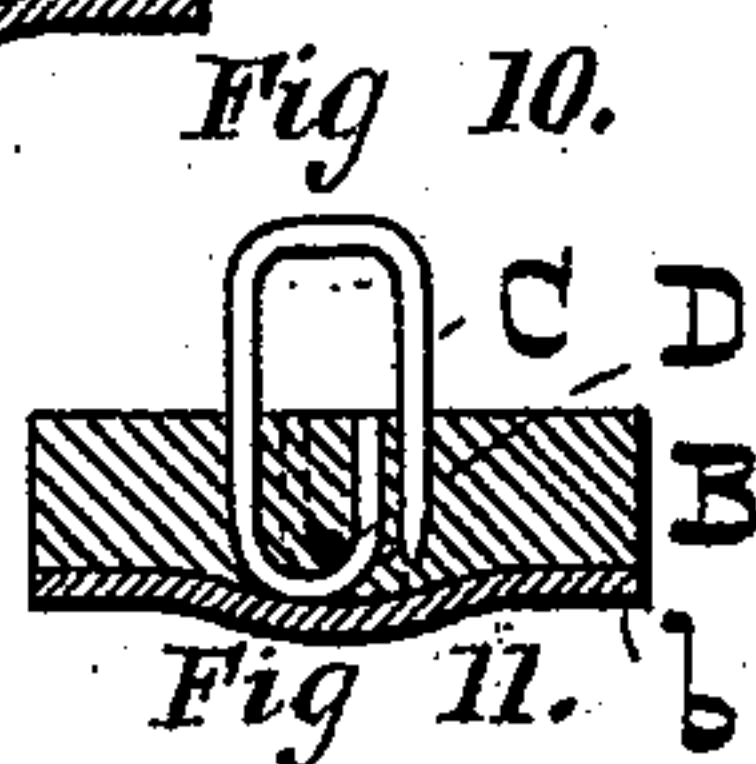
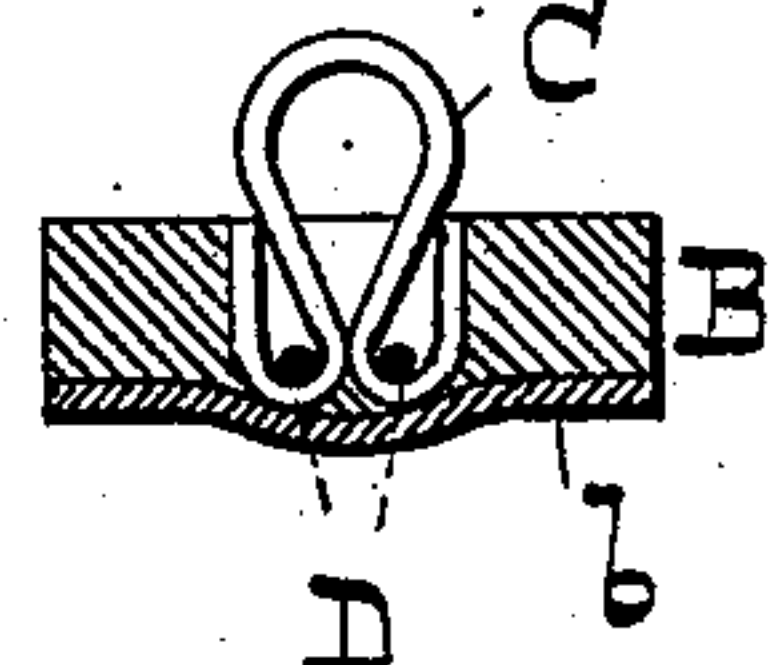
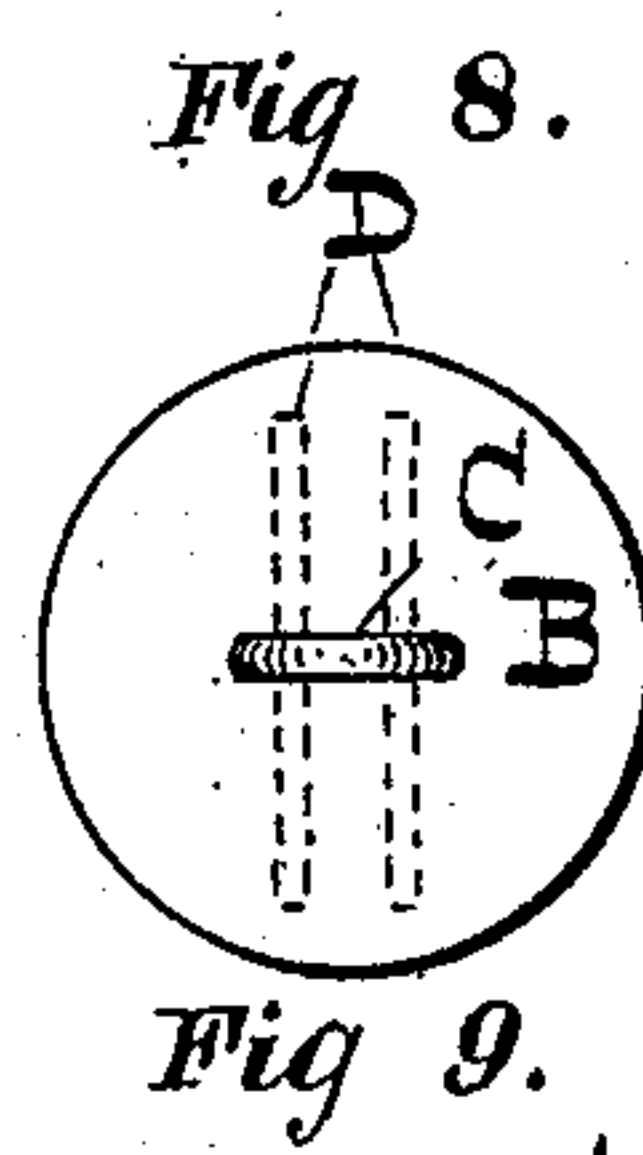
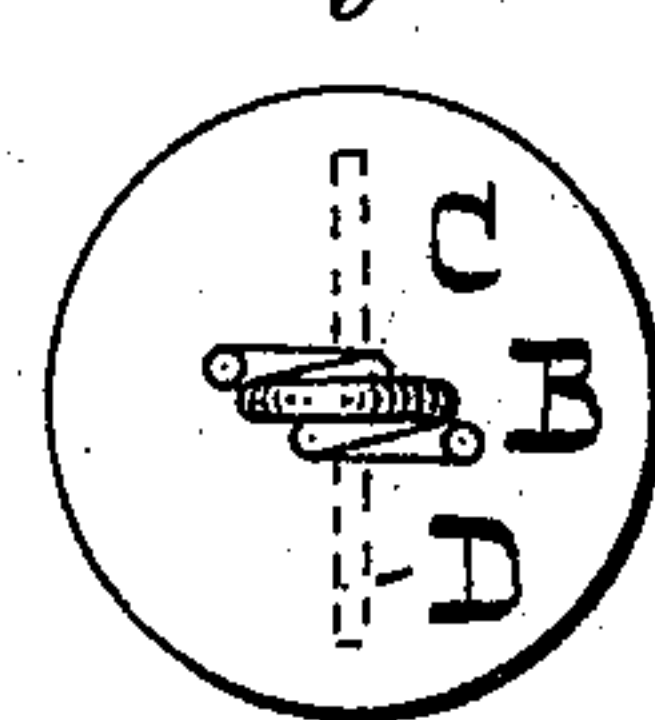
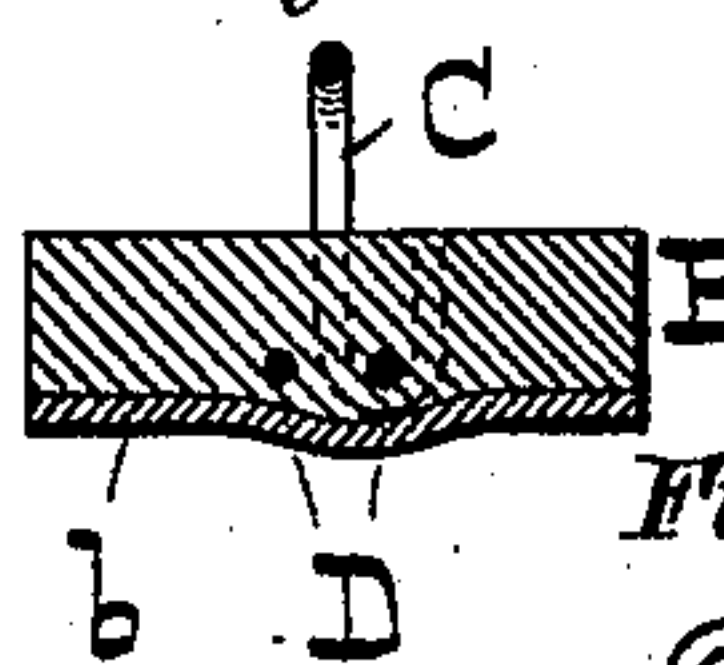
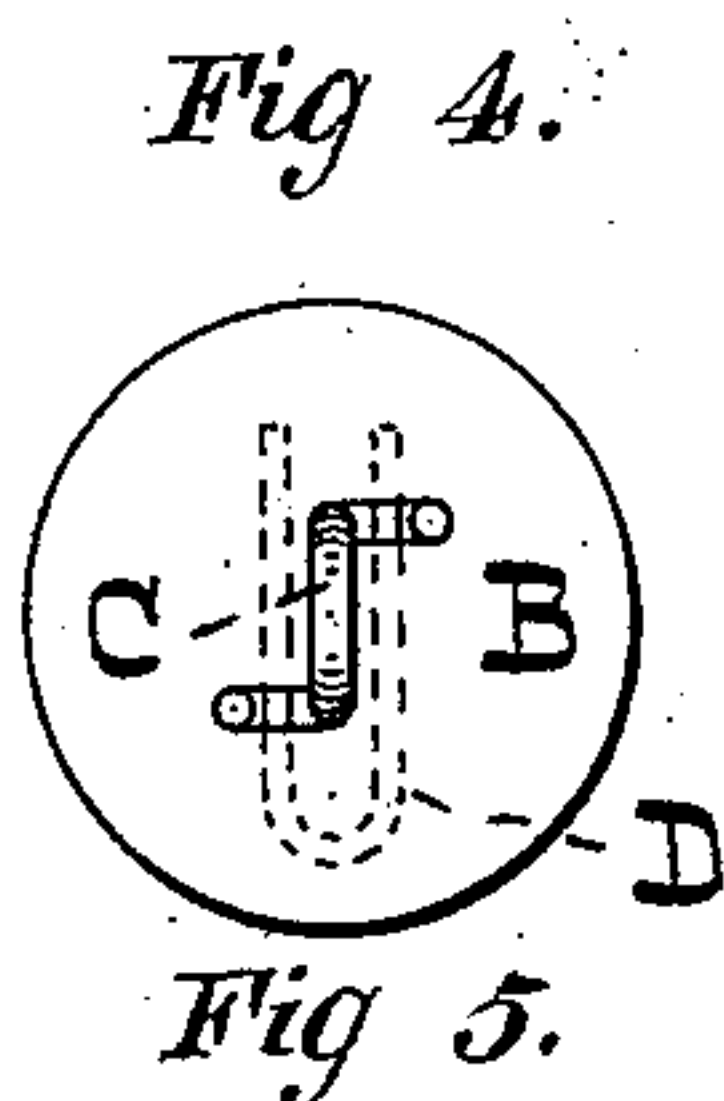
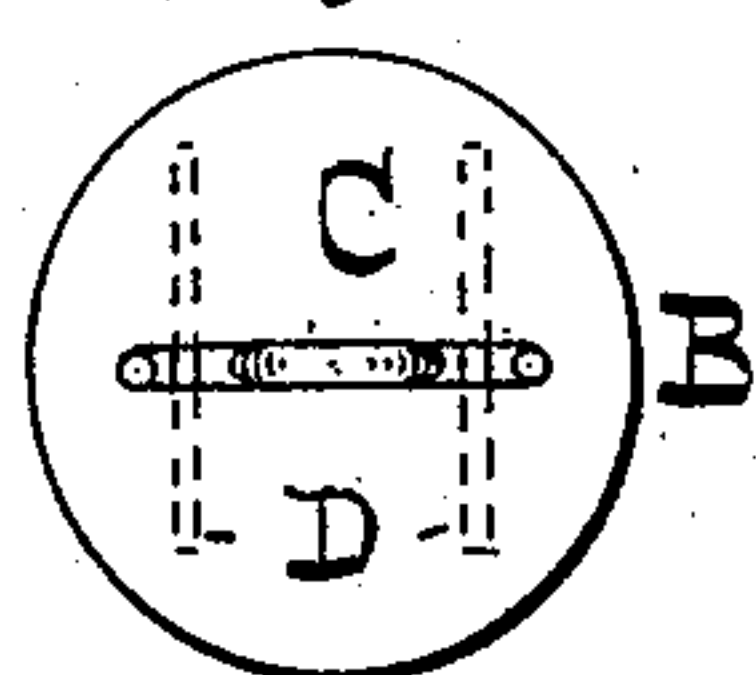
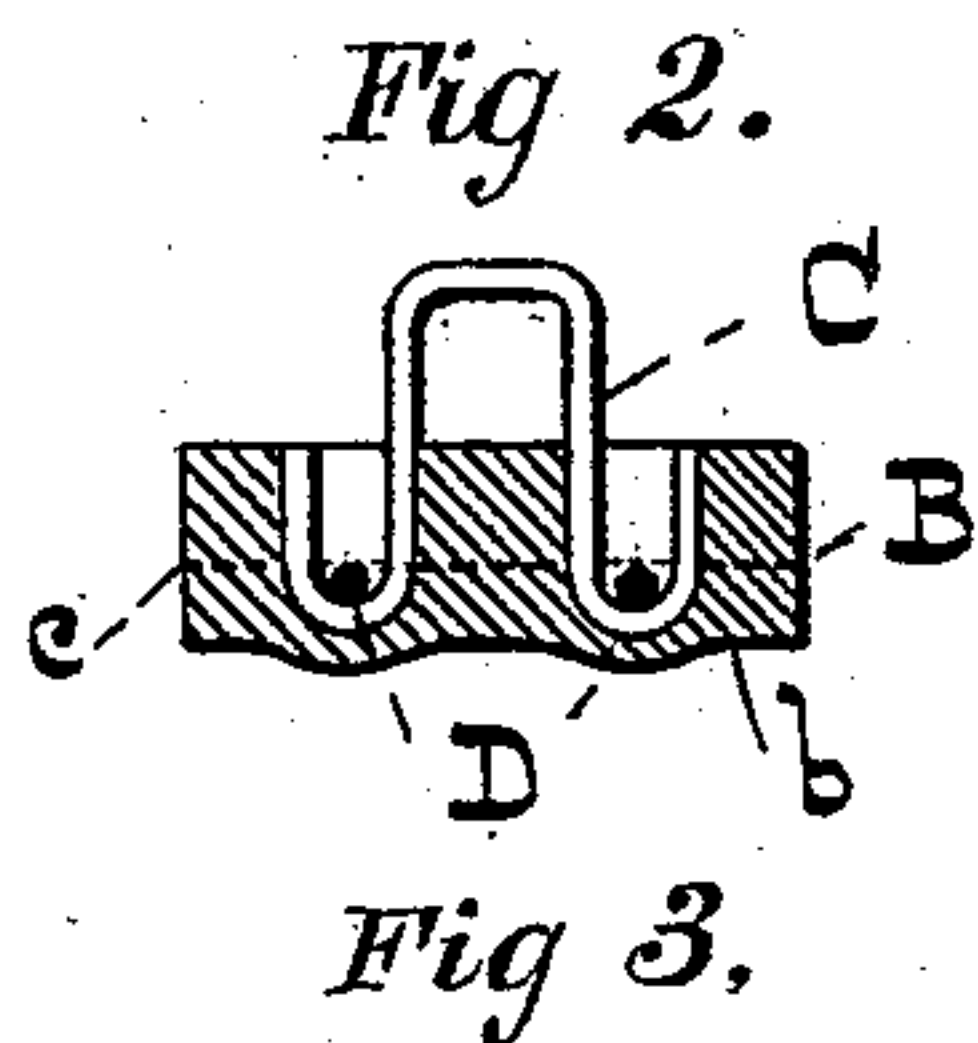
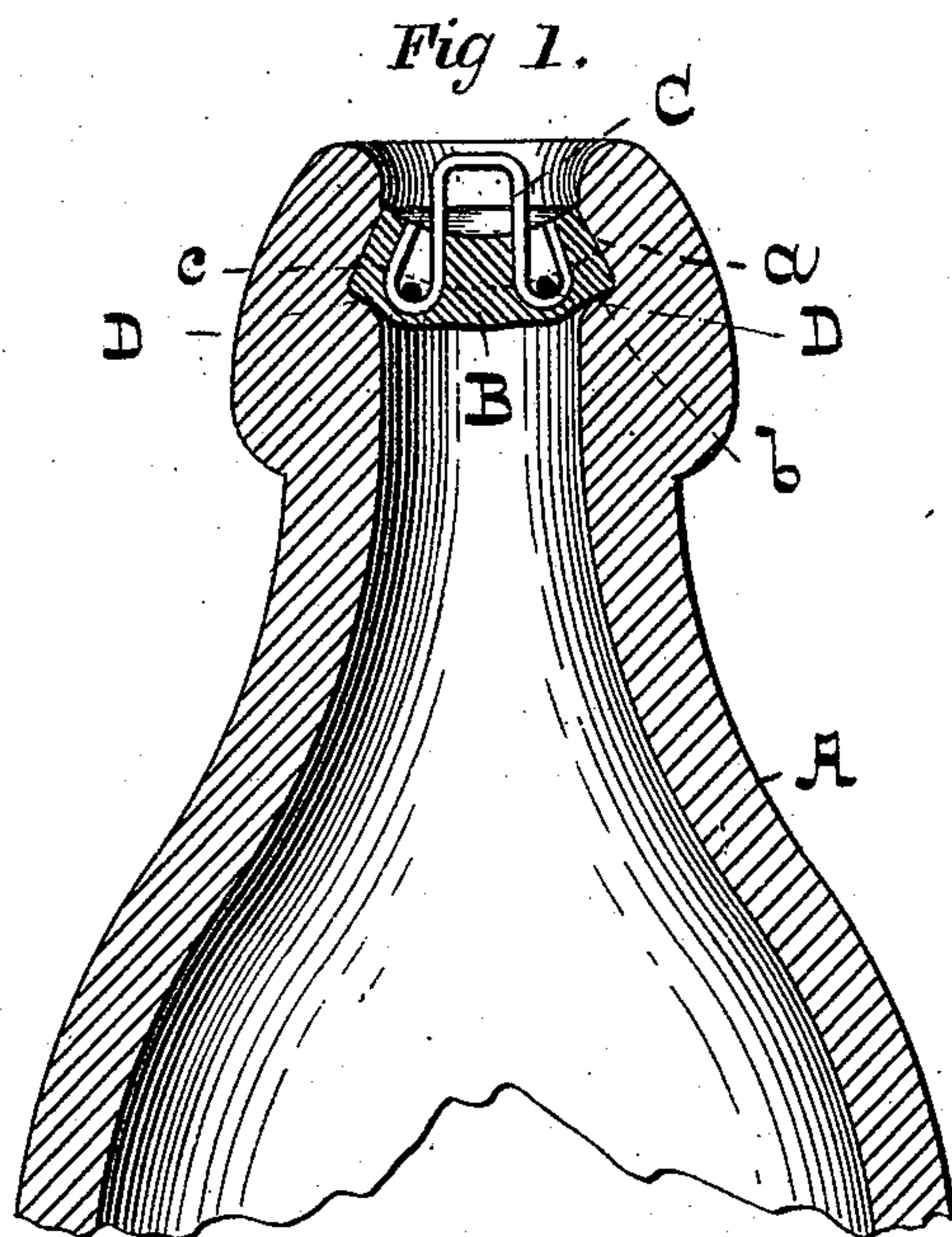


(No Model.)

W. PAINTER.
BOTTLE SEAL OR STOPPER.

No. 528,485.

Patented Oct. 30, 1894.



-WITNESSES-

Sam'l Fisher
Edwin Cruise

-INVENTOR-

William Painter,
By W. H. I. Howard,
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM PAINTER, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE CROWN CORK AND SEAL COMPANY, OF SAME PLACE.

BOTTLE SEAL OR STOPPER.

SPECIFICATION forming part of Letters Patent No. 528,485, dated October 30, 1894.

Application filed October 8, 1891. Serial No. 408,103. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PAINTER, of Baltimore, Maryland, have invented certain Improvements in Bottle Seals or Stoppers, of which the following is a specification.

This invention relates to certain improvements in Letters Patent, Nos. 438,709 and 449,822, granted to me, respectively, October 21, 1890, and April 7, 1891, for bottle stoppers or seals. In the said Letters Patent are shown and described, a bottle seal consisting of a disk cut from a sheet of some flexible material such as rubber, which in the act of inserting it in the mouth of a bottle is made to assume a concavo-convex form. The said seal is provided with a permanently attached extracting device, and in all cases the extractors pass entirely through the seals and come into contact with the contents of the bottle.

Some objections are raised to the exposure of the metallic extractor to the contents of the bottle; and the object of the present invention is to provide a bottle seal of concavo-convex form as described in the said Letters Patent, with an extracting device anchored within the substance of the seal and not exposed to the contents of the bottle and therefore not open to the objections hereinbefore alluded to.

With this in view, the present invention consists in a bottle seal of the above description having an extracting device which consists of a main loop or eye adapted to receive an extracting tool, two additional loops or eyes which are embedded in the substance of the seal, and anchor wires whereby the embedded loops are secured within the seal, as will hereinafter fully appear.

In the further description of the said invention which follows, reference is made to the accompanying drawings forming a part hereof, and in which—

Figure 1 is a central sectional view of the upper portion of a bottle provided with the improved seal. Fig. 2 is a sectional view of the seal before its insertion in the bottle mouth. Fig. 3 is a top view of Fig. 2. Figs. 4 to 11, inclusive, are views of the seal somewhat modified in construction, and hereinafter described.

Referring to Figs. 1, 2 and 3, A is the upper portion of a bottle having in its mouth a

groove, *a*, which corresponds in all essential particulars with that shown in the said Letters Patent, and is specially adapted to hold in position a seal which is rendered concavo-convex by its insertion in the bottle mouth.

B is the seal which consists as before stated, of a disk cut from a sheet of some flexible material, such as rubber, and faced on the under side with a coating *b* of some substance which is not affected by the contents of the bottle to which the seal is applied.

As described in the said Letters Patent, the seal is made somewhat larger in diameter than the inside of the bottle mouth, and as it is forced into position, it becomes dished or cupped as shown in Fig. 1.

C is a wire loop with its ends turned up. This loop is pressed into the material of the seal until it nearly reaches the under side which in the operation becomes slightly bulged out. D D are anchors consisting of pieces of wire forced laterally into the seal and through or within the staples formed by turning up the ends of the wire loop. These anchors are entirely within the seal and consequently do not interfere with its compression when inserted in the bottle mouth.

By referring to Fig. 1 it will be seen that the ends of the staples are thrown inward beyond a vertical line. This bending of the wire is caused by the cupping of the seal, as will be readily understood.

In Figs. 4 and 5 which are, respectively, a top and a sectional view of a seal, the anchor is formed of a single piece of wire which is bent into the form of a staple and the whole buried in the material of the seal.

In Figs. 6 and 7, which show a section and a top view of a seal, the staple ends of the wire loop are crossed, and anchored by a single wire.

In Figs. 8 and 9 the construction of the wire loop is a compromise between those shown in Figs. 2 and 6; and two anchor wires are used.

In Figs. 10 and 11 the staples of the wire loop are turned inward and in reverse angular positions and anchored by a single straight wire.

It will be understood that in all the various forms which are illustrated in the drawings, the broad idea of an anchor wire separate from

the loop is maintained; and also that in all the different forms, neither the wire loop nor the anchor wires are exposed to the action of the contents of the bottle.

- 5 In Figs. 1 and 2 the seal is shown as having a thickness or layer, *c*, of some textile fabric, situated immediately above the anchor wires. This arrangement materially strengthens the seal and relieves the same from any tendency
10 to tear as it is drawn from the mouth of the bottle through the medium of the loop and a pointed extractor, not shown.

I claim as my invention—

- 15 1. In a bottle seal, an extracting attachment which consists of the combination of a main loop or eye adapted to receive an extracting tool, two additional loops or eyes

which are embedded in the substance of the seal and one or more anchor wires whereby the embedded loops are secured within the
20 seal, substantially as specified.

2. In a bottle seal, an extracting attachment which consists of a wire formed into a loop or eye for the reception of an extracting
25 tool, with its ends formed into loops or eyes which are embedded in the substance of the seal, and one or more anchor wires whereby the said loops are secured within the seal, substantially as specified.

WILLIAM PAINTER.

Witnesses:

T. R. ALEXANDER,
JNO. T. MADDOX.