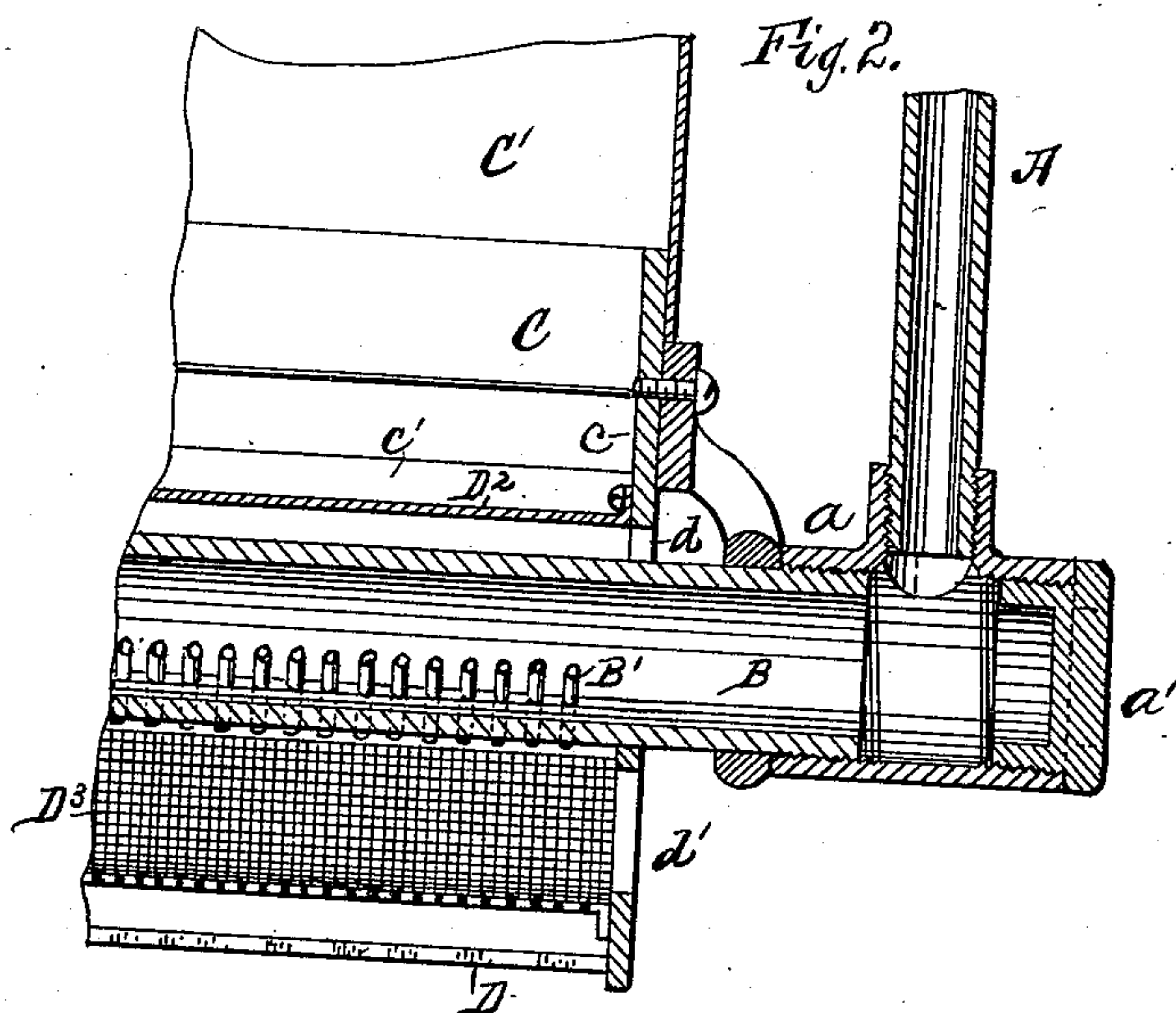
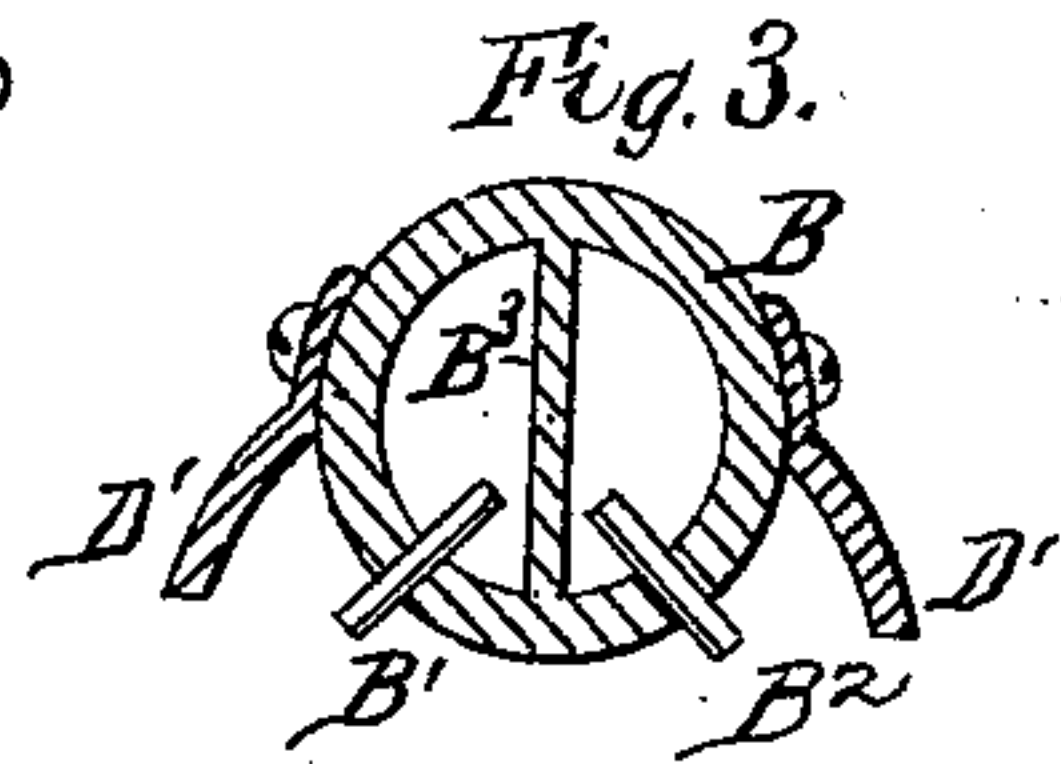
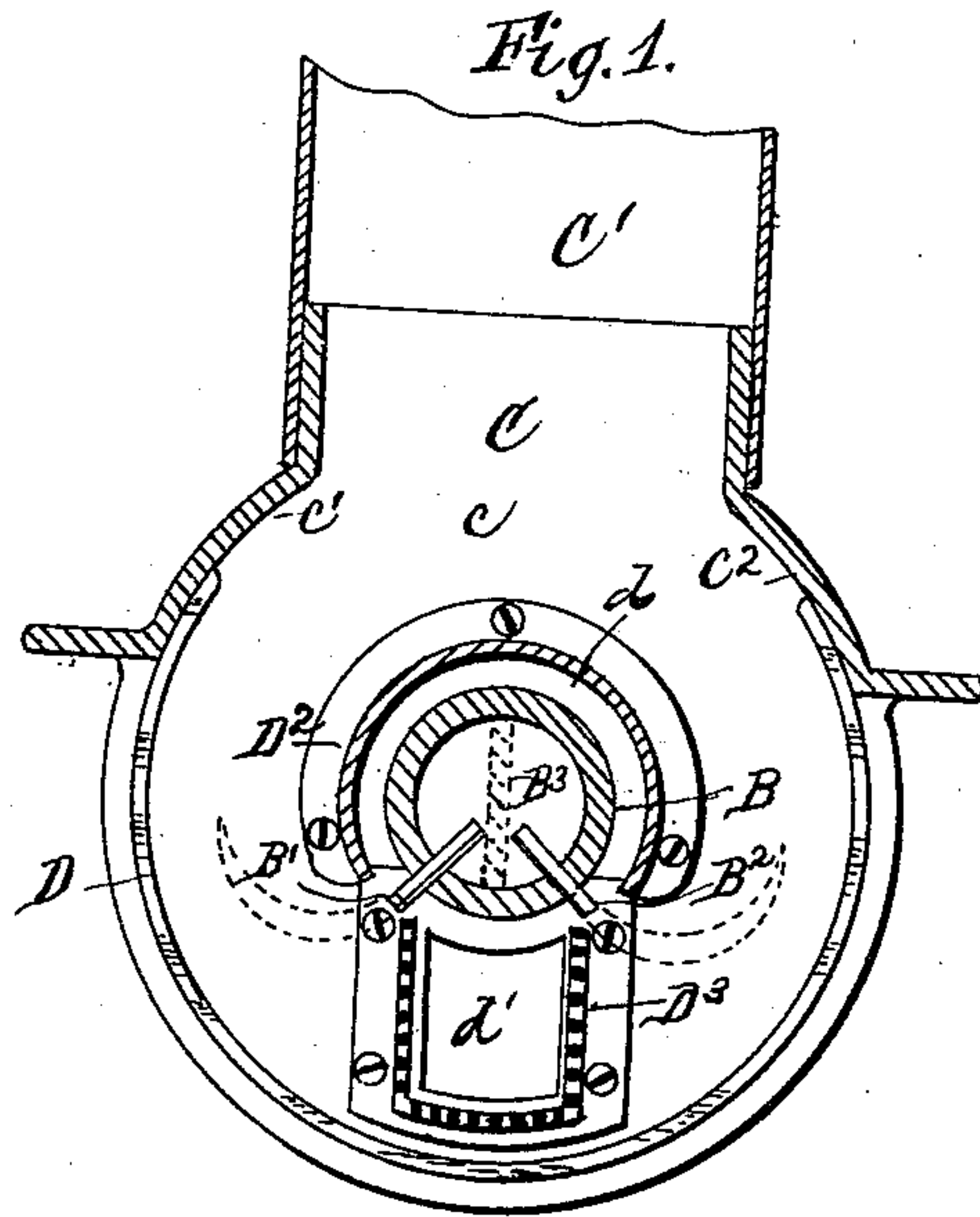


(No Model.)

W. J. SMART.
LAMP.

No. 542,287.

Patented July 9, 1895.



WITNESSES:

Jac. Altemann Jr.
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INVENTOR

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UNITED STATES PATENT OFFICE.

WALTER J. SMART, OF BROOKLYN, NEW YORK.

LAMP.

SPECIFICATION forming part of Letters Patent No. 542,287, dated July 9, 1895.

Application filed November 15, 1894. Serial No. 528,871. (No model.)

To all whom it may concern:

Be it known that I, WALTER J. SMART, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and
5 useful Improvement in Lamps, of which the following is a specification.

My improvement relates particularly to lamps of the regenerative type.

I will describe a lamp embodying my improvement and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a transverse section of a lamp embodying my improvement. Fig. 2 is a central vertical section of a portion of the lamp, and Fig. 3 shows
15 a modification in the form of the burner-body and deflector.

Referring by letter to the drawings, A designates a gas-supply pipe, which may lead
20 from any desired source. I have shown but one supply-pipe A as communicating with the burner-body B; but it is to be understood that a similar pipe communicates with the opposite end of the burner-body. They of
25 course may communicate with a single main supply-pipe.

The body B of the burner is shown of straight tubular form, and at its ends engages with couplings *a*, with which the pipes A also
30 communicate. The outer ends of the couplings are provided with removable plugs *a'*, which facilitate the cleaning of the parts.

C designates a casting comprising end pieces *c* and arc-shaped pieces or diaphragms *c'* *c''*,
35 extending between the end pieces above the burner-body B. The end pieces *c* and the arc-shaped pieces or diaphragms form a tube above the burner-body B, which forms a part of a flue, through which the waste products
40 of combustion ascend. A flue C', of sheet metal, may extend from the upper portion thereof, as indicated.

To provide a combustion-chamber around the burner-body, I employ, in conjunction
45 with the casting C, a transparent or translucent material D, which is transversely curved around the lower portion of the burner-body and has its edges engaged with the portions *c'* *c''* of the casting C and has its ends engaged with the circular end pieces *c* of the
50 casting.

In this improvement I have provided two

sets or duplicate sets of jet-tubes. These consist of small tubes B' B², extended at opposite angles from the burner-body B.

I have indicated by dotted line *a* in Fig. 1 and full line in Fig. 3 a partition B³, extended transversely through the burner-body to divide it into two parts, or, in other words,
55 to form it into two burner-bodies, and the jet-tubes communicate with the respective burner-bodies.

D² indicates a deflector-plate, which in Figs. 1 and 2 is shown as formed in the arc of a circle and as extending over the burner-body or
65 burner-bodies. The ends of the plate are secured to the end pieces *c* of the casting C and the lower edges are substantially on a horizontal plane with the outlets of the jet-tubes. Air is admitted between the plate D² and
70 burner-body through an opening *d* in an end wall of the casting.

In lieu of the single deflector-plate D², I may employ two plates transversely curved, fastened one on each side of the burner-body,
75 as shown at D' in Fig. 3. In either case air is admitted through the opening *d*.

D³ is a substantially trough-shaped plate extended beneath and parallel with the burner-body. It is open at its top, and its side and
80 bottom walls are perforated. The side walls extend upwardly nearly to the jet-tubes, and air is admitted to the interior of the plate D² through an opening *d'* in the end wall of the casting C. The ends of the plate D² are se-
85 cured rigidly to the end portions of the casting.

In operation air admitted through the opening *d* will become slightly heated and heat the gas-supply, and air to support combustion will enter through the opening *d'* and
90 pass in small jets through the perforations in the plate D² and direct the flame around the deflector-plate.

Having described my invention, what I claim is—

1. The combination with a combustion
95 chamber, of a burner body extended lengthwise in said chamber, two series of jet tubes extended therefrom and a deflector plate having its lower edge substantially on a horizontal plane with the jet outlets, substantially
100 as specified.

2. The combination with a combustion chamber, of a burner body extended length-

wise therein, two series of jet tubes extended at opposite angles from the burner body, a deflector plate extended around a portion of the burner body and a trough shaped plate, 5 having perforated walls, beneath the burner body, substantially as specified.

3. The combination of a combustion chamber, a straight burner body therein divided into compartments by a partition, a set of jet 10 tubes extended from each of said compart-

ments, the deflector plate and the perforated plate, substantially as specified.

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

WALTER J. SMART.

Witnesses:

ANTHONY GREF,

PIERSON L. WELLS.