

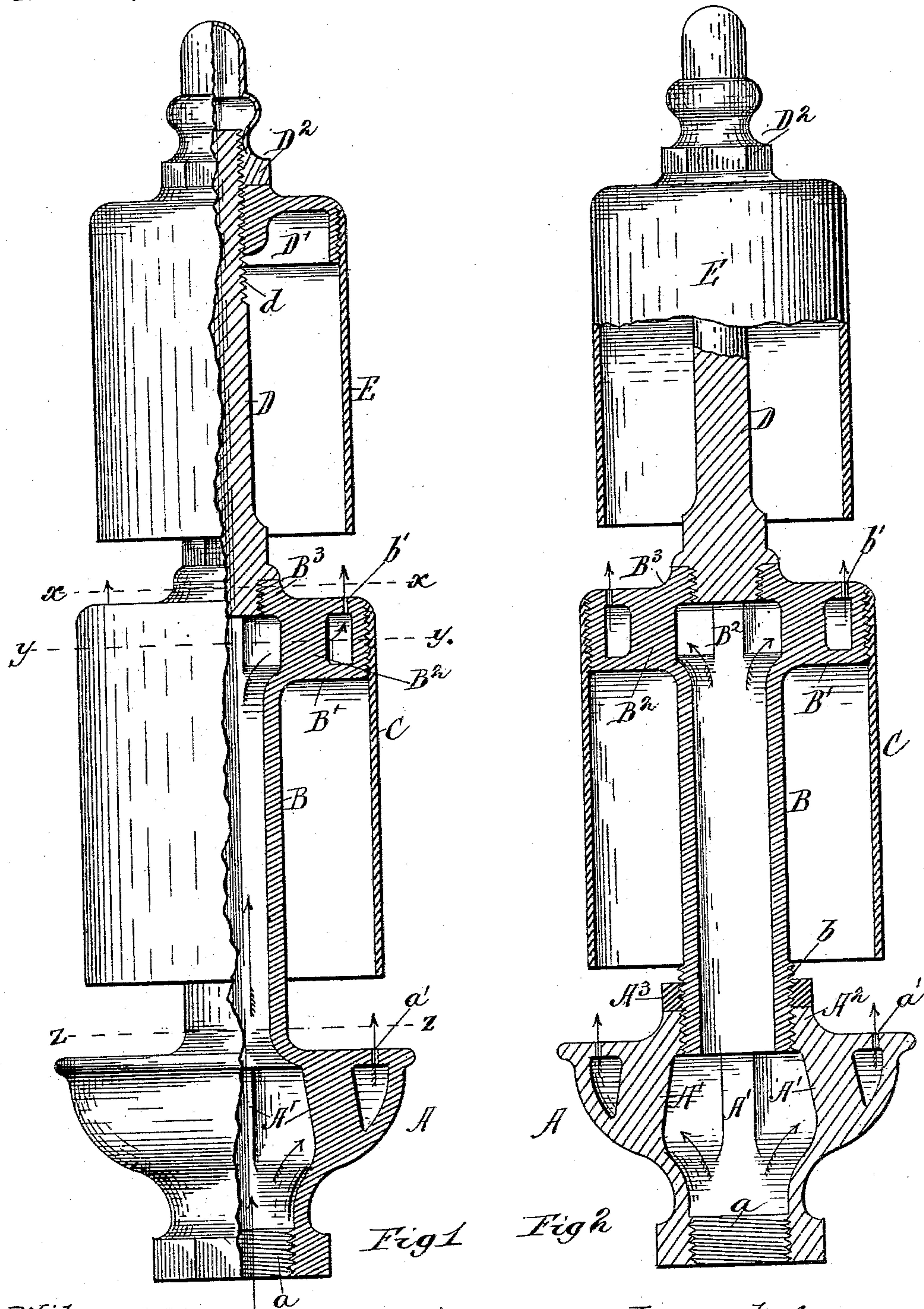
(No Model.)

2 Sheets—Sheet 1.

R. T. CRANE.  
CHIME STEAM WHISTLE.

No. 359,775.

Patented Mar. 22, 1887.



Witnesses  
W. C. Corlies  
A. M. Best.

Inventor  
Richard T. Crane  
By Coburn & Hooper  
Attorneys



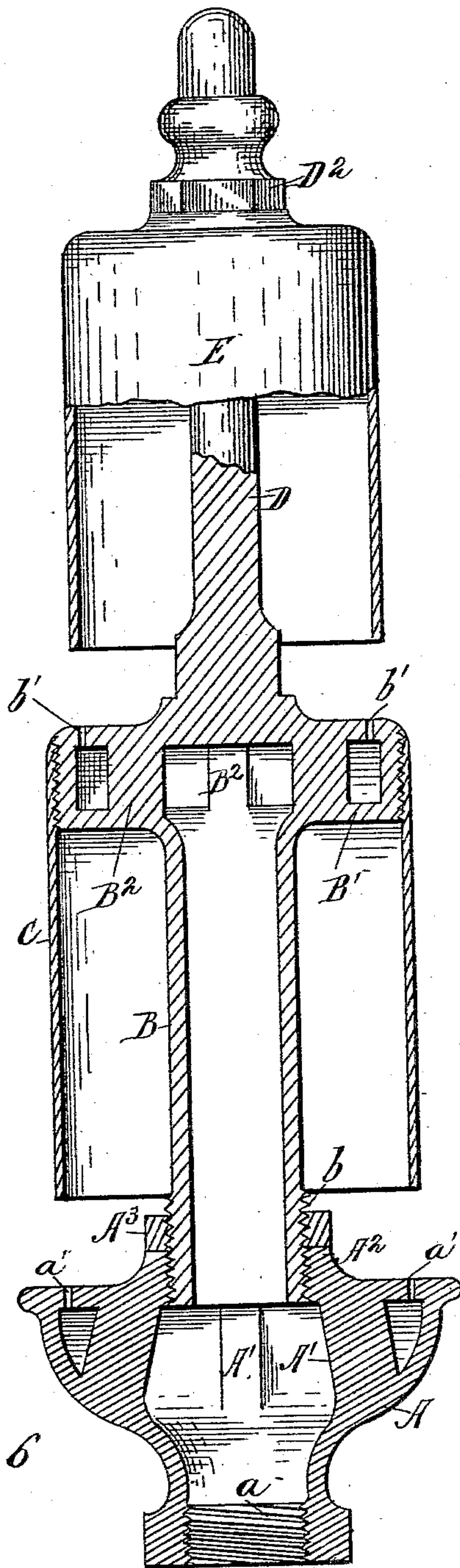
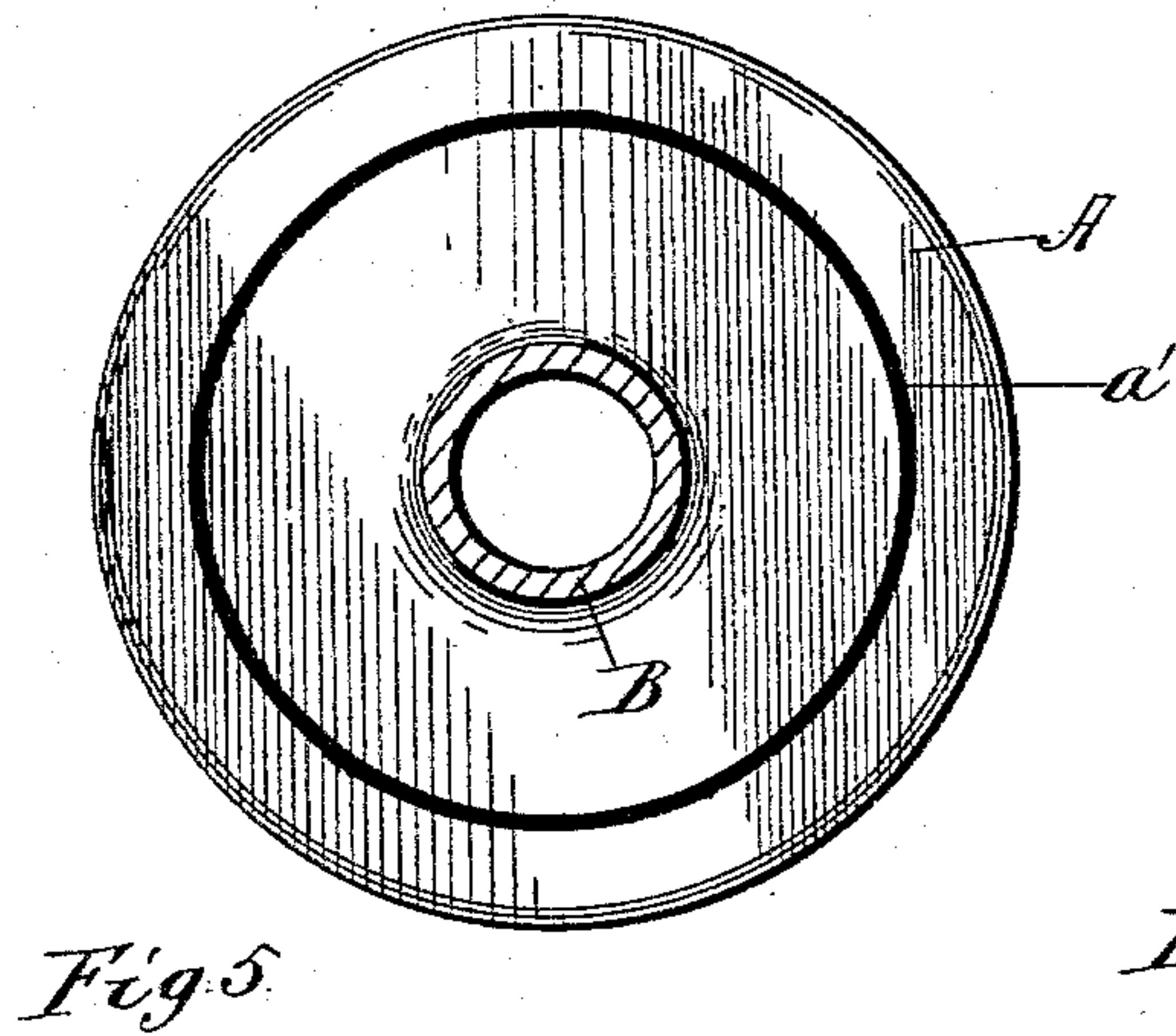
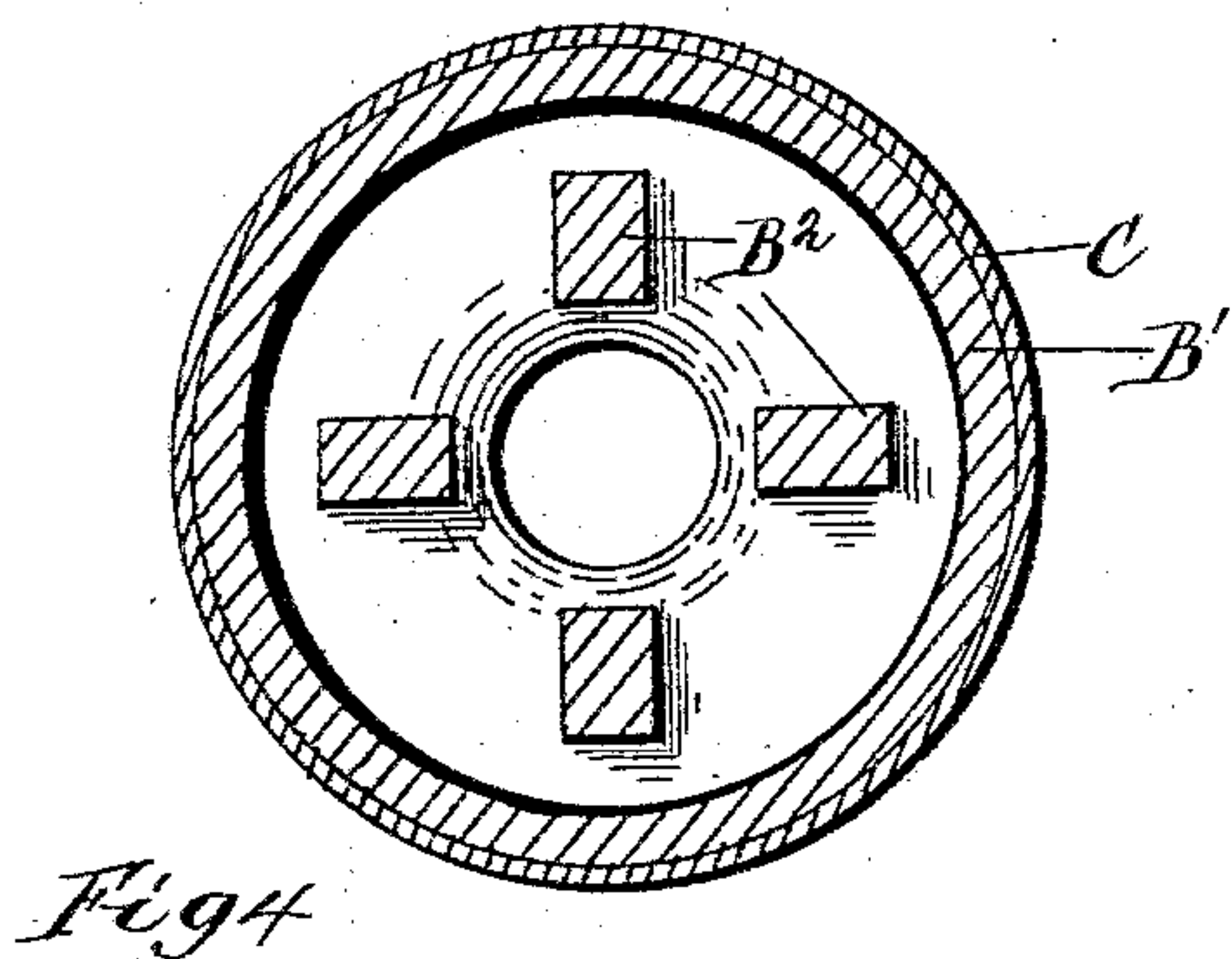
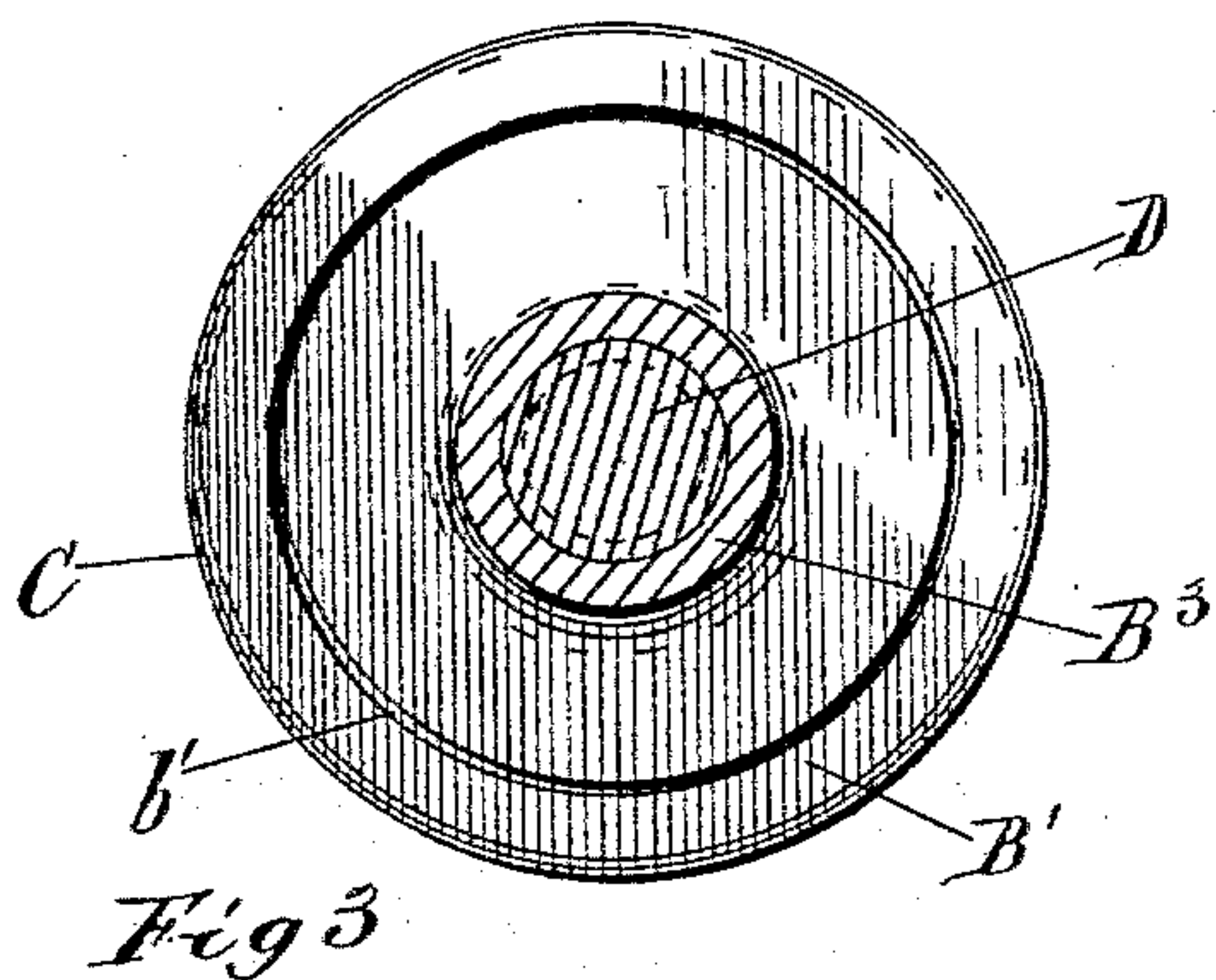
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

RICHARD T. CRANE, OF CHICAGO, ILLINOIS.

## CHIME STEAM-WHISTLE.

SPECIFICATION forming part of Letters Patent No. 359,775, dated March 22, 1887.

Application filed December 16, 1886. Serial No. 221,809. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD T. CRANE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Chime Steam-Whistles, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is an elevation, one-half in section, of a chime-whistle embodying my invention; Fig. 2, a sectional view of a modified form of the same, the upper portion being in elevation; Fig. 3, a plan section taken on the line  $x x$  of Fig. 1; Fig. 4, a plan section taken on the line  $y y$  of Fig. 1; Fig. 5, a plan section taken on the line  $z z$  of Fig. 1; and Fig. 6, a sectional view of another modified form of my invention, the upper part being in elevation.

20 Like letters refer to like parts in all the figures of the drawings.

My invention relates to steam-whistles, and more particularly to that class known as "chime whistles;" and it has for its object to 25 simplify and cheapen the construction of the same, and at the same time maintain or increase its efficiency.

To these ends my invention consists in certain novel features, which I will now proceed 30 to describe, and will then particularly point out in the claims.

In the drawings, A represents the cup of the steam-whistle. This cup is hollow, being provided at its lower end with an internal thread, 35 as shown at  $a$ , to secure it in position upon the steam-supply pipe. The upper portion or top of this cup is provided with an annular slit or orifice,  $a'$ , for the escape of the steam, said slit being arranged near its periphery. The central portion of the top is formed in one piece 40 with the rest of the cup, being supported by means of a series of posts or standards,  $A'$ , four of which are shown in the present instance, although it is obvious that a greater or 45 less number may be employed. These standards are formed or cast in one piece with the central portion of the top of the cup and with the body portion thereof, as shown. Any other approved form of cup may be employed, 50 although I prefer the construction shown.

Upon the central portion of the top of the

cup is mounted a standard, B. This standard may be cast in one piece with the cup, as shown in Fig. 1 of the drawings; or it may be screw-threaded at its lower end, as shown at 55  $b$ , to screw into a correspondingly-threaded boss,  $A^2$ , formed upon the central portion of the top of the cup A, this latter construction being shown in Figs. 2 and 6 of the drawings. In this construction a clamping-nut,  $A^3$ , is employed to secure the parts. In this construction 60 the bell may be adjusted nearer to or farther from the cup in an obvious manner, being secured by the nut A after adjustment.

The standard B is provided at its upper end 65 with an enlarged head,  $B'$ , upon which the bell C is secured in any suitable manner, preferably by screwing, as shown. The arrangement is such that the steam passing through the slit  $a'$  will impinge upon the lower edge 70 of the bell C, and cause the same to give forth sound, in the manner usual in steam-whistles. The standard B is hollow, as shown, its interior passage communicating with the interior of the cup A, and the head  $B'$  is also hollow, 75 as shown, being provided with the annular slit  $b'$  in its top portion, the central portion of the top being supported by means of a series of posts or standards,  $B^2$ , formed or cast in one piece with the said central portion and with 80 the body of the head, as shown, or in any other suitable manner.

Upon the central portion of the top of the head  $B'$  is mounted a standard, D, either secured thereon by screwing into a suitably- 85 threaded boss  $B^3$ , thereon, as shown in Figs. 1 and 2 of the drawings, or cast integral with the same, as shown in Fig. 6. In the construction shown in the drawings, in which the chime consists of two whistles only, the stand- 90 ard D is solid, and is threaded at its upper end, as shown at  $d$ , to receive a head,  $D'$ , which screws thereon and carries the bell E, which is screwed or otherwise secured on said head. A nut,  $D^2$ , on the top of the standard D serves 95 to secure the whole in position. The bell may be adjusted nearer to or farther from the head  $B'$  by screwing the head  $D'$  down or up upon the standard, and will be secured after adjustment by means of the nut  $D^2$ . The bell E is 100 of course of less diameter than the bell C, so that its edge will be in proper position rela-



tively to the slit  $b'$ . In this construction the steam not only operates the bell of the lower whistle, as hereinbefore described, but a portion thereof passes up through the hollow standard B, filling the chamber within the hollow head  $B'$ , and, passing out through the slit  $b'$ , impinges on the edge of the upper bell, E, causing the same to give forth sound also. The use of the hollow head enables me to dispense with a separate cup for the upper whistle, the said head not only forming a means for attaching the lower bell, but also accomplishing the functions of a cup for the upper bell.

Although I have shown and described a chime of only two whistles, it is obvious that a series of more than two may be employed, the lowest and intermediate whistles being each provided with hollow standards and heads, and the top whistle being constructed as is the top whistle in the construction shown. Moreover, various other modifications in the details of construction may be employed without departing from the principle of my invention, and I therefore do not wish to be understood as limiting myself strictly to the precise details hereinbefore described, and shown in the drawings.

I am aware of Letters Patent to Barrett, granted September 19, 1882, No. 264,606, in which a series of chime-whistles, having hollow standards through which the steam passes, are shown, and I therefore do not claim such a construction, broadly.

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

1. In a chime steam-whistle, the combina-

tion of a series of whistles, the one above the other, provided with hollow standards and heads, each head forming at the same time a support for one bell and a cup for the bell above it, substantially as and for the purposes specified.

2. In a chime steam-whistle, the combination of a series of whistles mounted the one upon the other, the lowest and intermediate whistles being provided with hollow standards and with hollow heads upon said standards to receive the bells, said heads being provided with annular slits in their upper sides, substantially as and for the purposes specified.

3. In a chime steam-whistle, the combination, with the cup A, having annular slit  $a'$ , of the hollow standard B, mounted on said cup and having head  $B'$ , to which bell C is attached, said head being hollow and provided with the annular slit  $b'$ , and the standard D, mounted on head  $D'$  and provided with bell E, substantially as and for the purposes specified.

4. In a chime steam-whistle, the combination, with the annularly-slitted cup A, having threaded boss  $A^2$ , of the hollow threaded standard B, screwing therein and secured by nut  $A^3$ , the hollow annularly-slitted head  $B'$  on said standard, the bell C, secured to said head, the standard D, mounted on said head, and the bell E, adjustably mounted on said standard D, substantially as and for the purposes specified.

RICHARD T. CRANE.

Witnesses:

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