

(No Model.)

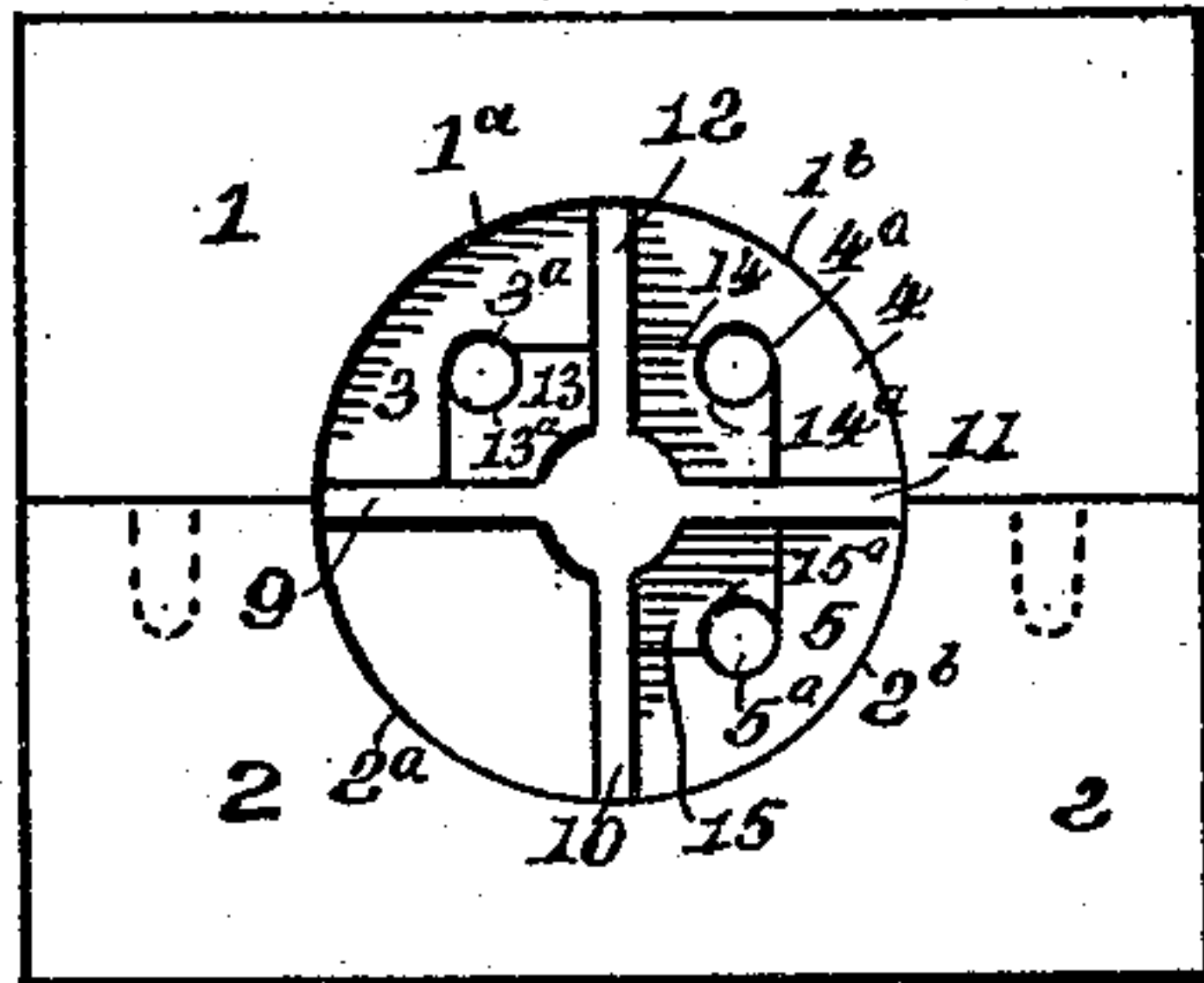
2 Sheets—Sheet 1.

H. R. FRISBIE.  
CORE BOX.

No. 551,816.

Patented Dec. 24, 1895.

Fig. 1.



(No Model.)

2 Sheets—Sheet 2.

H. R. FRISBIE.  
CORE BOX.

No. 551,816.

Patented Dec. 24, 1895.

Fig. 10.

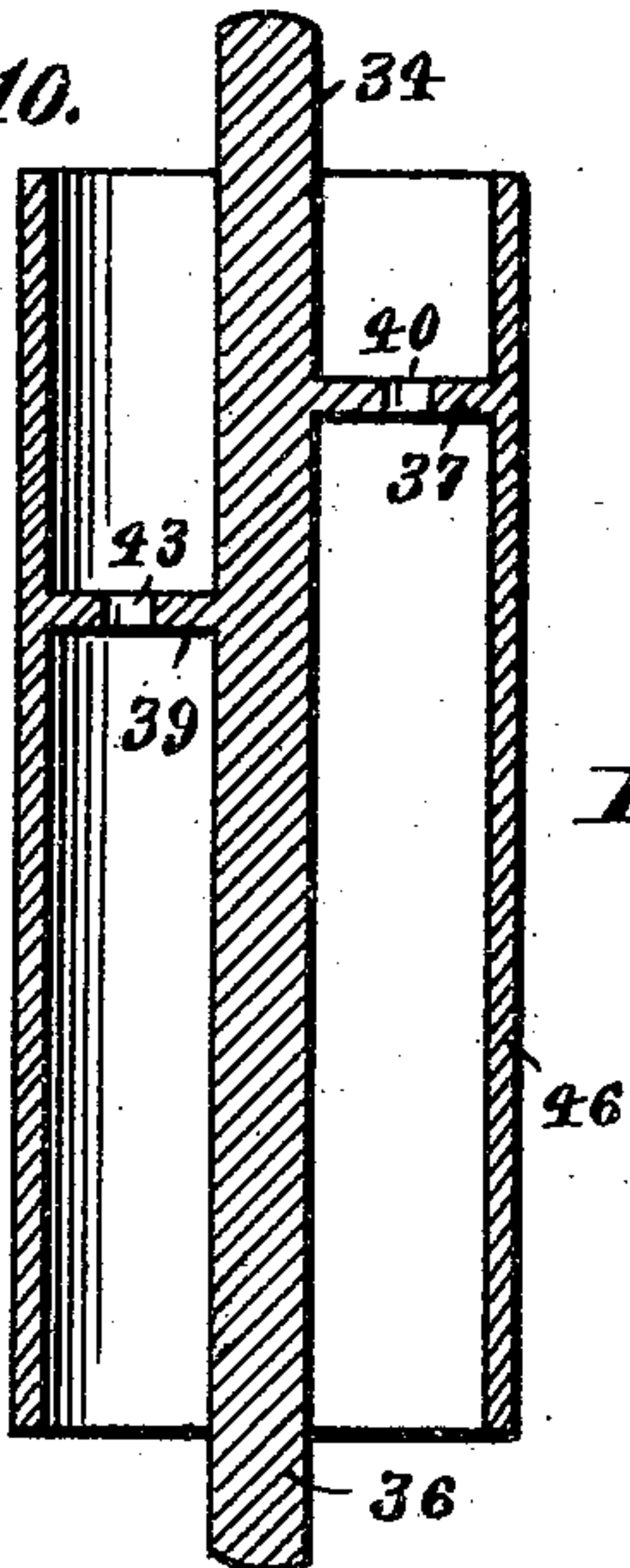


Fig. 8.

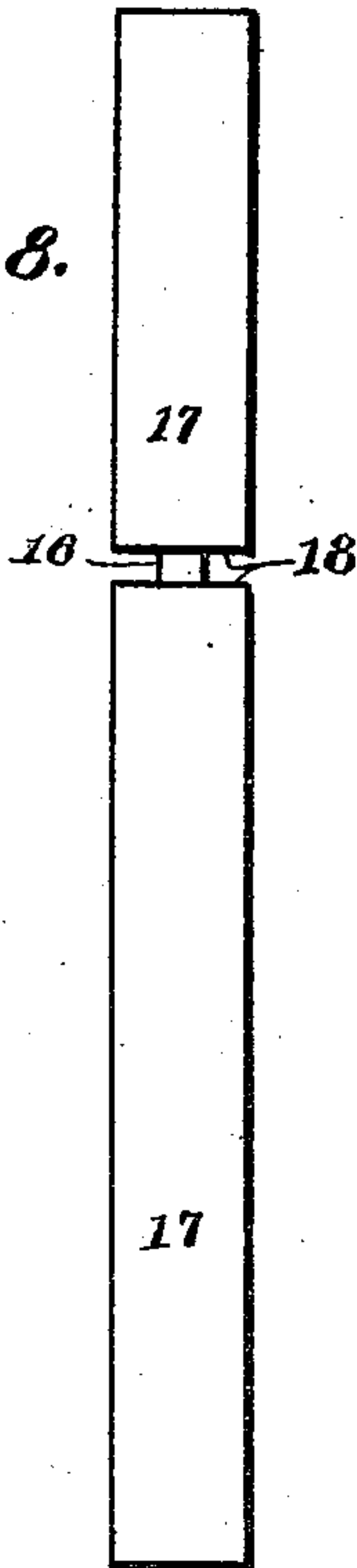


Fig. 12.

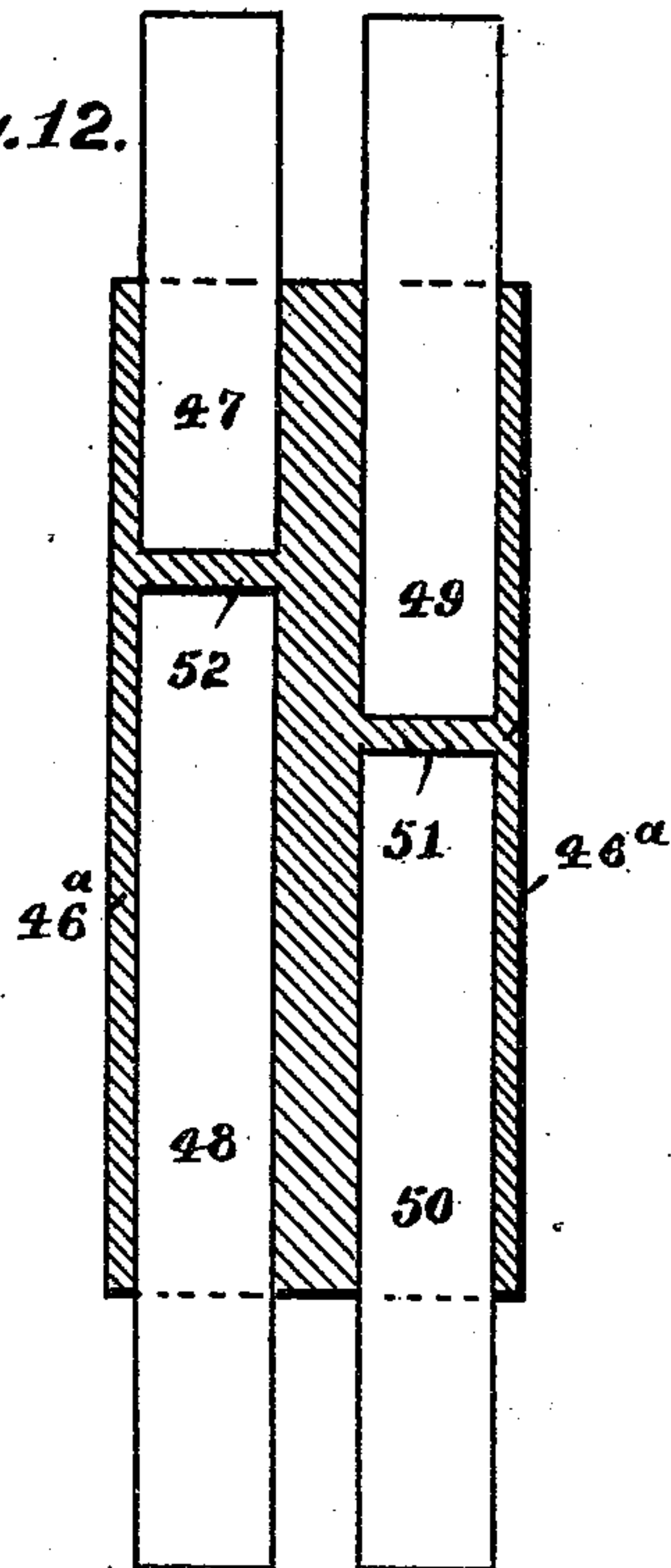


Fig. 11.

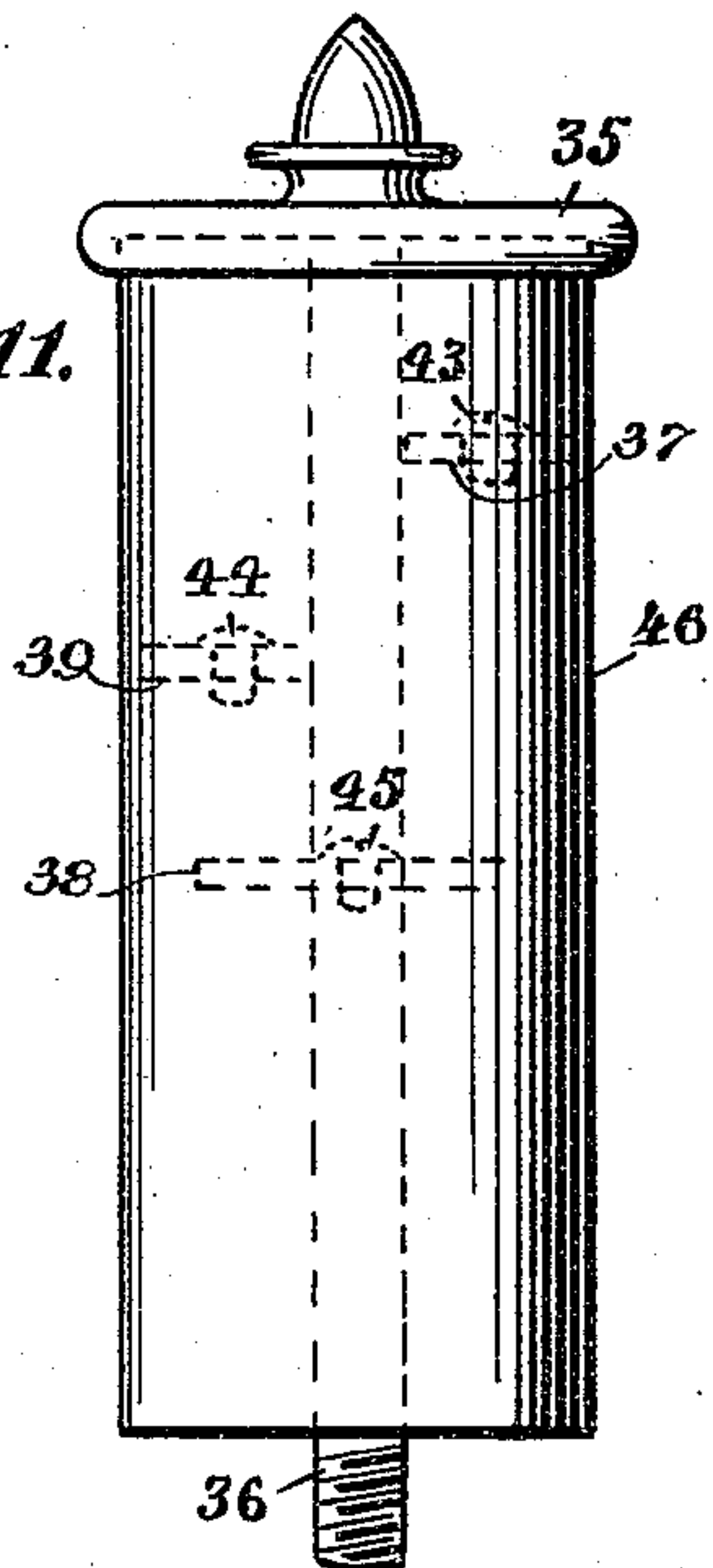
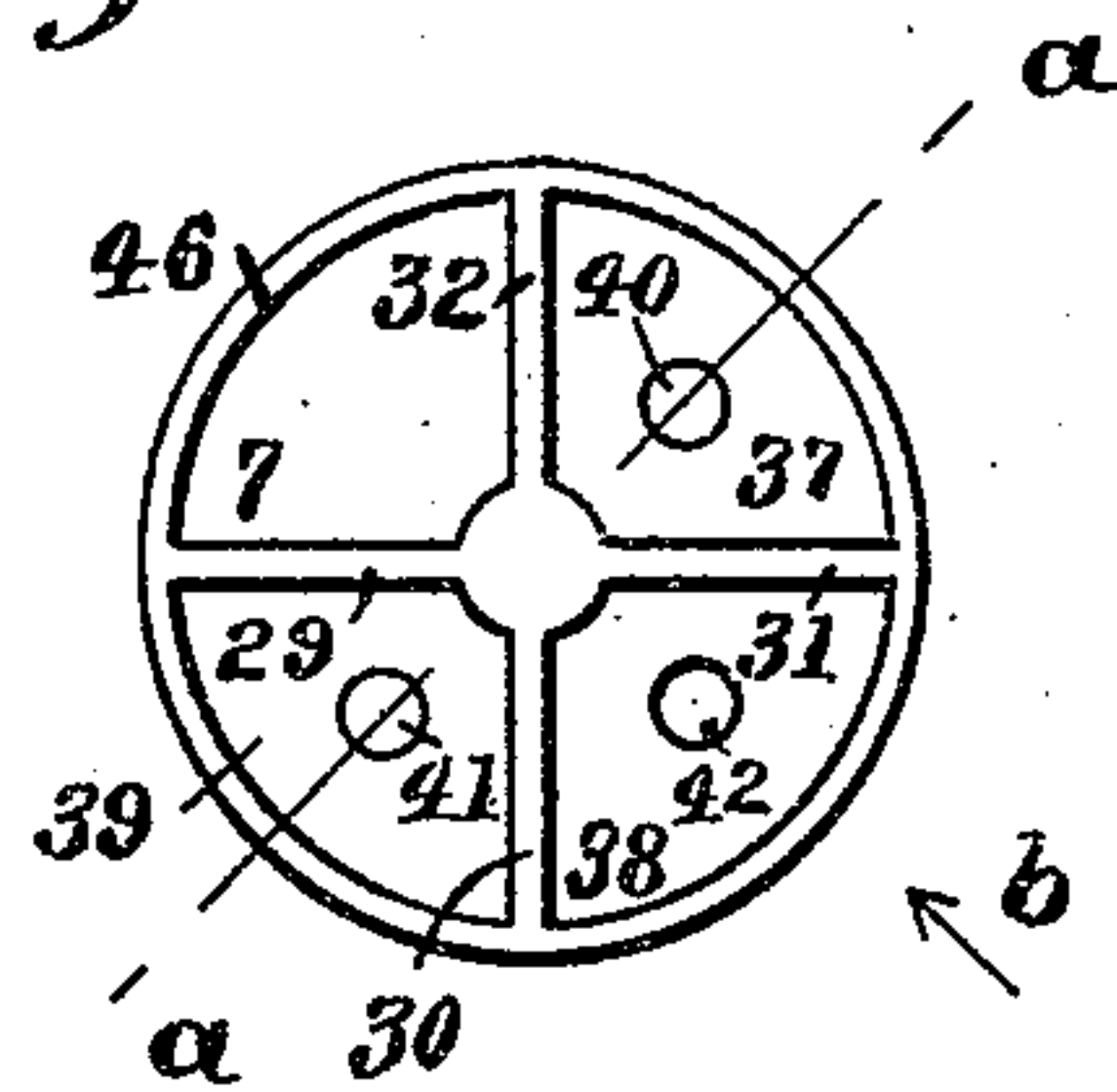


Fig. 9.



WITNESSES:

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INVENTOR  
Henry R. Frisbie,  
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His ATTORNEY



# UNITED STATES PATENT OFFICE.

HENRY R. FRISBIE, OF NEWARK, ASSIGNOR TO THE EASTWOOD WIRE MANUFACTURING COMPANY, OF BELLEVILLE, NEW JERSEY.

## CORE-BOX.

SPECIFICATION forming part of Letters Patent No. 551,816, dated December 24, 1895.

Application filed July 8, 1895. Serial No. 555,302. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY R. FRISBIE, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a certain new and useful Improvement in the Construction of Whistle-Bells, of which the following is a specification.

My invention relates to an improved core-box for making a series of sand cores for casting chime-whistle bells, the object and nature of which improvement will be more clearly set forth in the following specification, and such features as I believe to be new and novel particularly pointed out in the claim to follow.

To enable others to fully understand my invention, reference is had to the accompanying drawings, in which—

Figure 1 represents an end view of the two-part core-box with prints thereon for forming one half of the neck portion of the cores and corresponding prints on the longitudinal partition-print to form the other half. Fig. 2 is a detail upper end view of the upper half of the core-box carrying the two prints for forming one-half of the neck of the core. Fig. 3 is a detail end view of the print that forms the impression in the core for the longitudinal partitions of the bell, on three of the wings of which are shown the prints that coincide with the prints of the core-box for the webs of the bell. Fig. 4 is a detail end view of the lower half of the core-box with one of the web-prints thereon. Fig. 5 is a detail plan view of the upper half of the core-box shown at Fig. 2, looking in the direction of arrow *a*. Fig. 6 is a detail plan view of the central core-print or print for the longitudinal partitions of the bell, looking in the direction of arrow *b* of Fig. 3. Fig. 7 is an end elevation of the cores for the several compartments of the bell placed in the mold ready for the casting. Fig. 8 is a detail view of one of the compartment-cores, showing the groove in the body thereof for the web, looking in the direction of arrow *c*, Fig. 7. Fig. 9 is an upper plan view of the whistle-bell. Fig. 10 is a central sectional view of the cast bell, looking in the direction of arrow *d* of Fig. 9. Fig. 11 is an elevation of a completed bell

ready for attachment to the whistle-bowl, showing the holes in the several webs plugged with screws, the latter in dotted position. Fig. 12 is a sectional view of a three-chime whistle-bell as formerly made with solid webs and the cores therein.

Its construction and operation are as follows:

1 2 are the upper and lower parts of the core-box in which the several compartment-cores are made. These boxes (see Figs. 1, 2, 4 and 5) have the circular faces 1<sup>a</sup> 1<sup>b</sup> 2<sup>a</sup> 2<sup>b</sup> for the interior cylindrical portion of the bell. 3, 4 and 5 are prints attached to the said cylindrical surfaces to form the web of the bell. The space 6 between the prints 3 and 4 corresponds to one of the longitudinal partitions of the bell. As one of the compartments 7, Fig. 9, runs the entire length of the bell no web is required therein. Therefore in Fig. 4 the other half of the core-box 2 has only one print 5, and each of said prints has the semicircular grooves 3<sup>a</sup>, 4<sup>a</sup> and 5<sup>a</sup> therein, for the purpose presently to be more fully described.

The central core-print, Fig. 3, has the four prints 9, 10, 11 and 12 for the four longitudinal partitions of the bell, and, also, on three of which are the core-prints 13, 14 and 15, having, also, the semicircular grooves 13<sup>a</sup>, 14<sup>a</sup> and 15<sup>a</sup>, which grooves, when matched with the grooves of the prints 3, 4, and 5 of the upper and lower halves of the core-box, will leave a round hole, as shown at Fig. 1, which hole will form the neck 16, Fig. 8, of one of the compartment-cores 17, the groove 18 forming, also, when the bell is cast, one of the several webs.

Fig. 7, as before mentioned, represents the cores 19, 20, 21, and 22 for the several compartments arranged in the molding sand 23. The circular space 24 will receive the molten metal for the bell, while the four spaces 25, 26, 27, and 28 receive the molten metal for the longitudinal partitions 29, 30, 31, and 32, Fig. 9, therefor, and the center 33 will form the end 34, Fig. 10, for the threaded portions to which the cap 35, Fig. 11, is secured, while the opposite threaded end 36 is secured to the ordinary steam-bowl. (Not shown.) When, therefore, the molten metal is poured into the



mold, (shown,) all parts represented by the several cores—viz., 19, 20, 21, and 22—will form the compartments 7, 37, 38 and 39, Fig. 9, while the neck portions 16 shown in one of the cores at Fig. 8 will form the holes 40, 41 and 42, which holes are afterward plugged up by the screws 43, 44 and 45. (Shown in dotted position at Fig. 11.)

It will be observed that while the molten metal is being poured into the mold the gas has full and free opportunity to escape, which will result in perfect castings free from blow-holes. Besides, the cores are allowed to extend clear through the mold, regardless of the different lengths of the compartments to be made, so that the several cores may be set true with the circular surface 24 of the mold and form the interior longitudinal cavities 25, 26, 27, and 28 therein. This could not be accomplished with the construction shown at Fig. 12, wherein the four cores—viz., 47, 48, 49 and 50—are needed for the two compartments, which can only be set true by accident, and, being separated, they cannot support one another, while the solid webs 51 and 52 prevent a free circulation from end to end for the escape of the gases generated in pouring the metal, and the result is castings that are more or less affected with blow-holes, which, as previously mentioned, are not discovered until the exterior 46<sup>a</sup> of the bell is removed, thus resulting in much loss of labor.

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

The herein described improvement in a core box for making a series of sand cores for casting a chime-whistle bell having longitudinal partitions by which the bell is divided into longitudinal compartments and such compartments made of different lengths by means of horizontal webs, across the same, said improvement consisting of a two-part core box, each part having a semi-circular recess to form the core for the interior cylindrical portion of the bell, half prints, 3, 4 and 5, in said recesses, semi-circular grooves in such prints, combined with a central core print with longitudinal arms 9—10—11 and 12 thereon, to form the longitudinal partitions for the bell; said central print carrying half prints similar to the half prints of the core box and adapted to match therewith, semi-circular grooves in such half prints so that, when said core box and central print are assembled the half prints will match together and form a solid web with the exception of a small central hole in each for forming the supporting neck of the end cores by means of which the said end cores are kept in perfect alignment in the mold for casting the bell, substantially as set forth.

Signed at Newark, in the county of Essex and State of New Jersey, this 14th day of June, A. D. 1895.

HENRY R. FRISBIE.

Witnesses:

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GEO. D. MOORE.