

No. 612,582.

Patented Oct. 18, 1898.

T. CREIGHTON.
SMOKE SHADE, SMOKE BELL, &c.

(Application filed Nov. 13, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

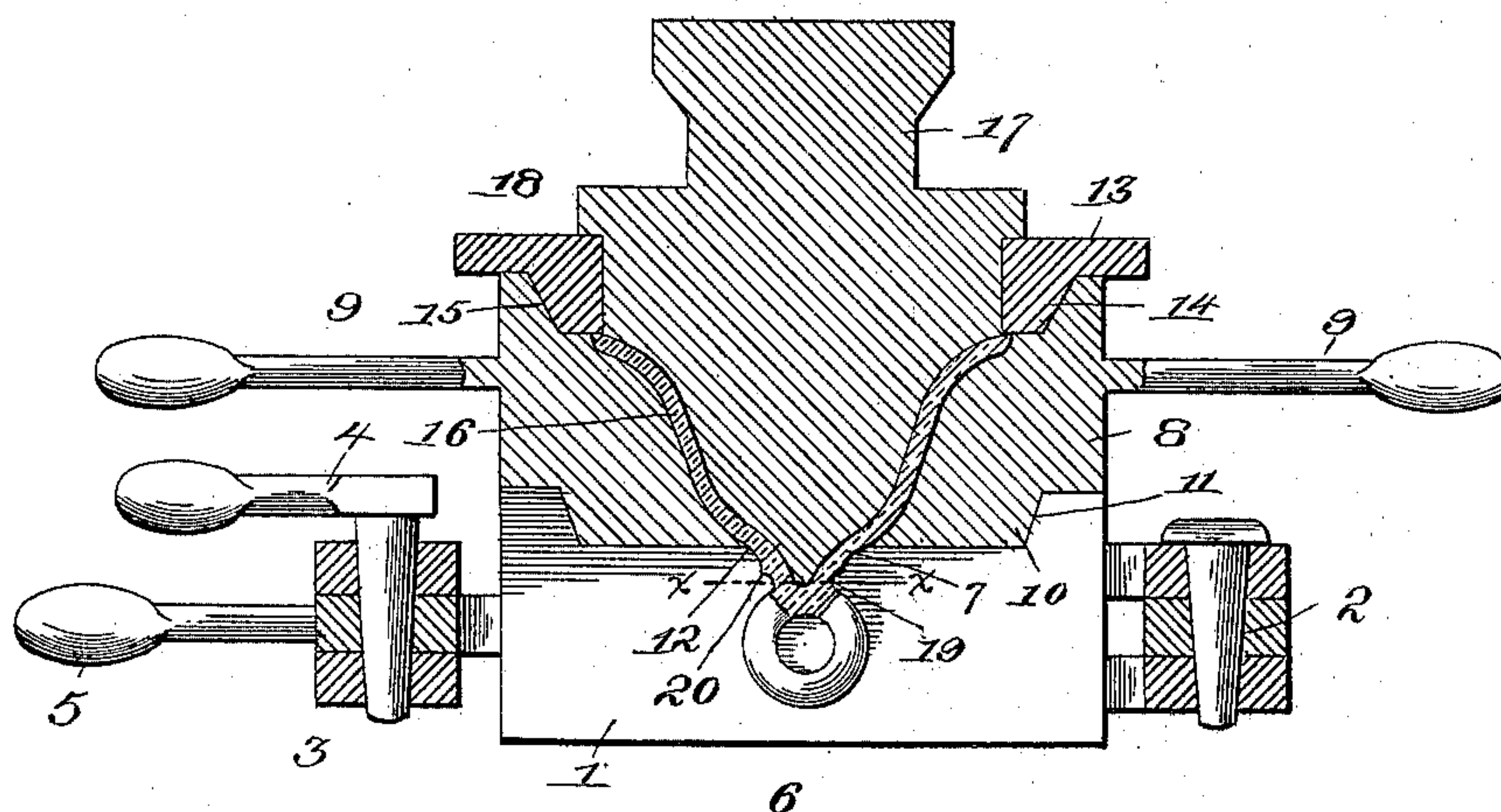


Fig. 2.

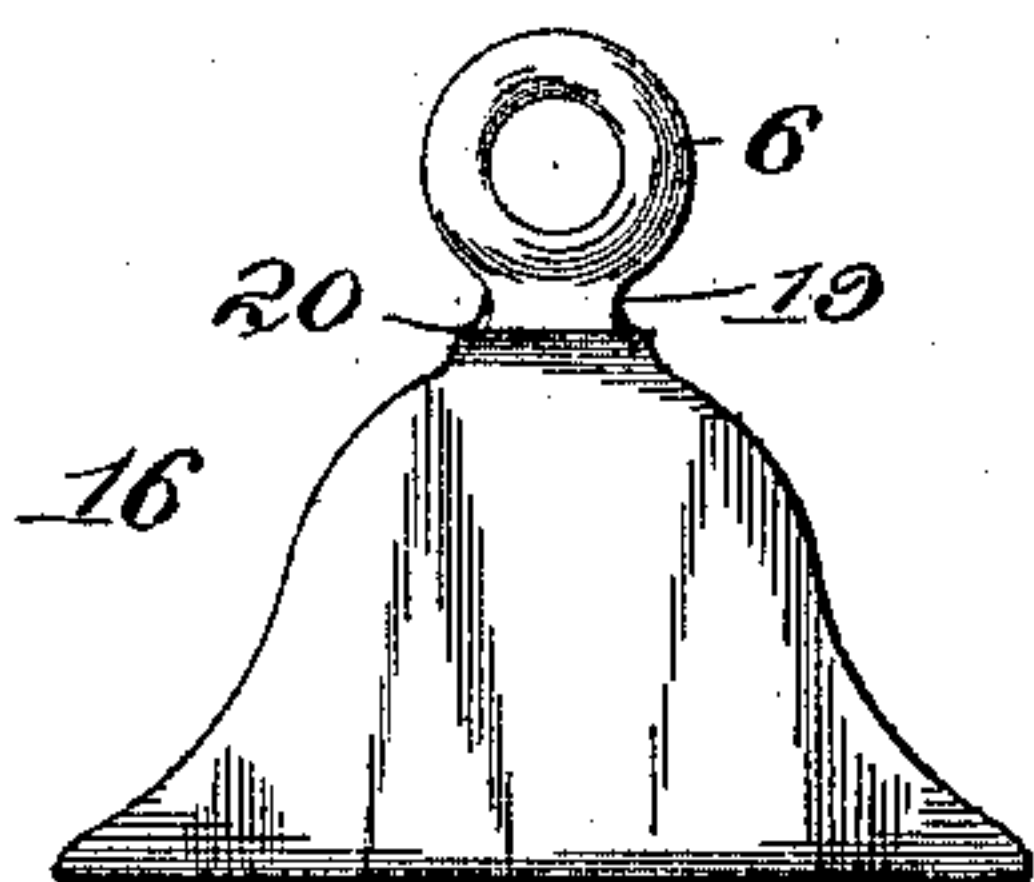


Fig. 3.

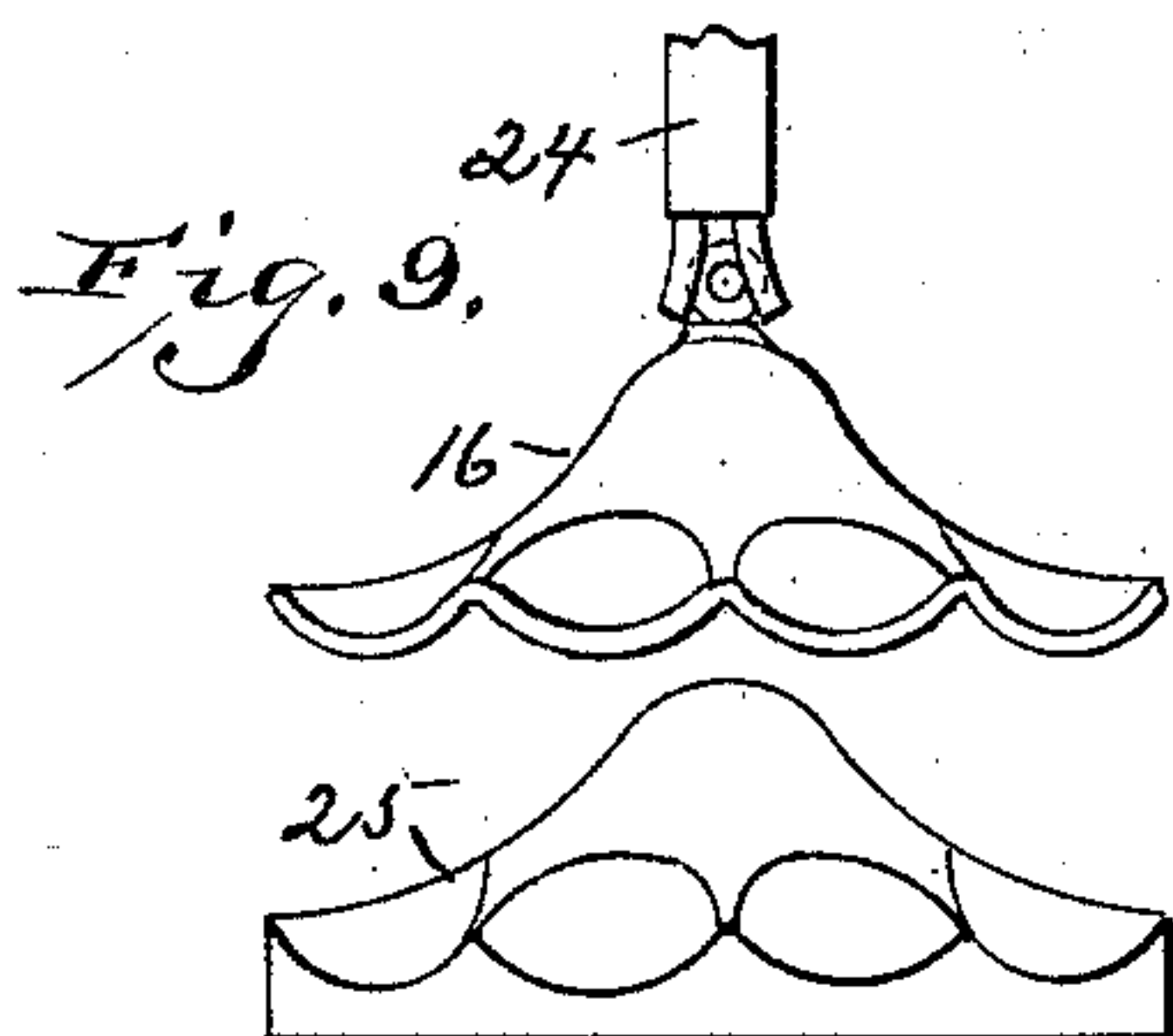
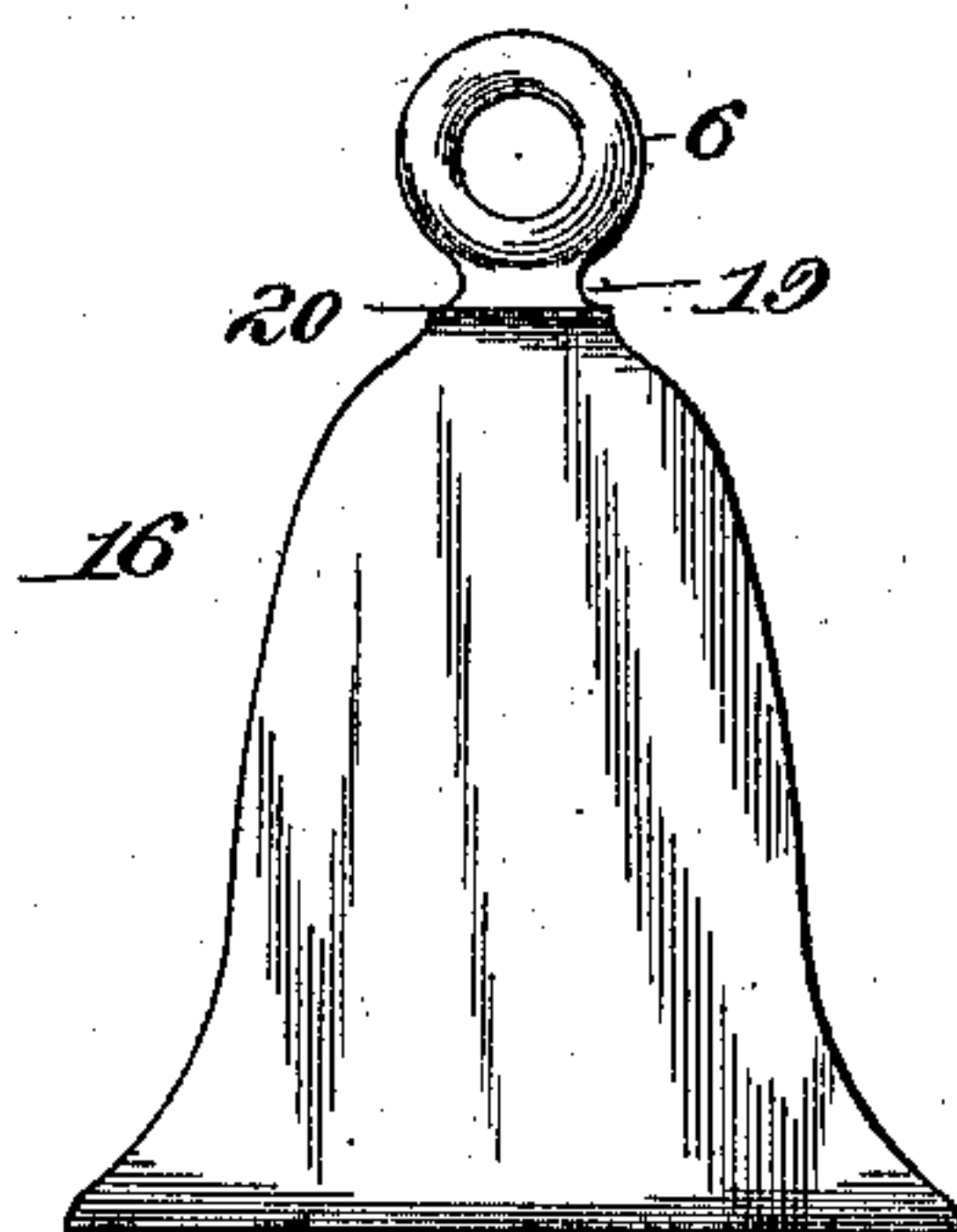


Fig. 4.



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Fig. 5.

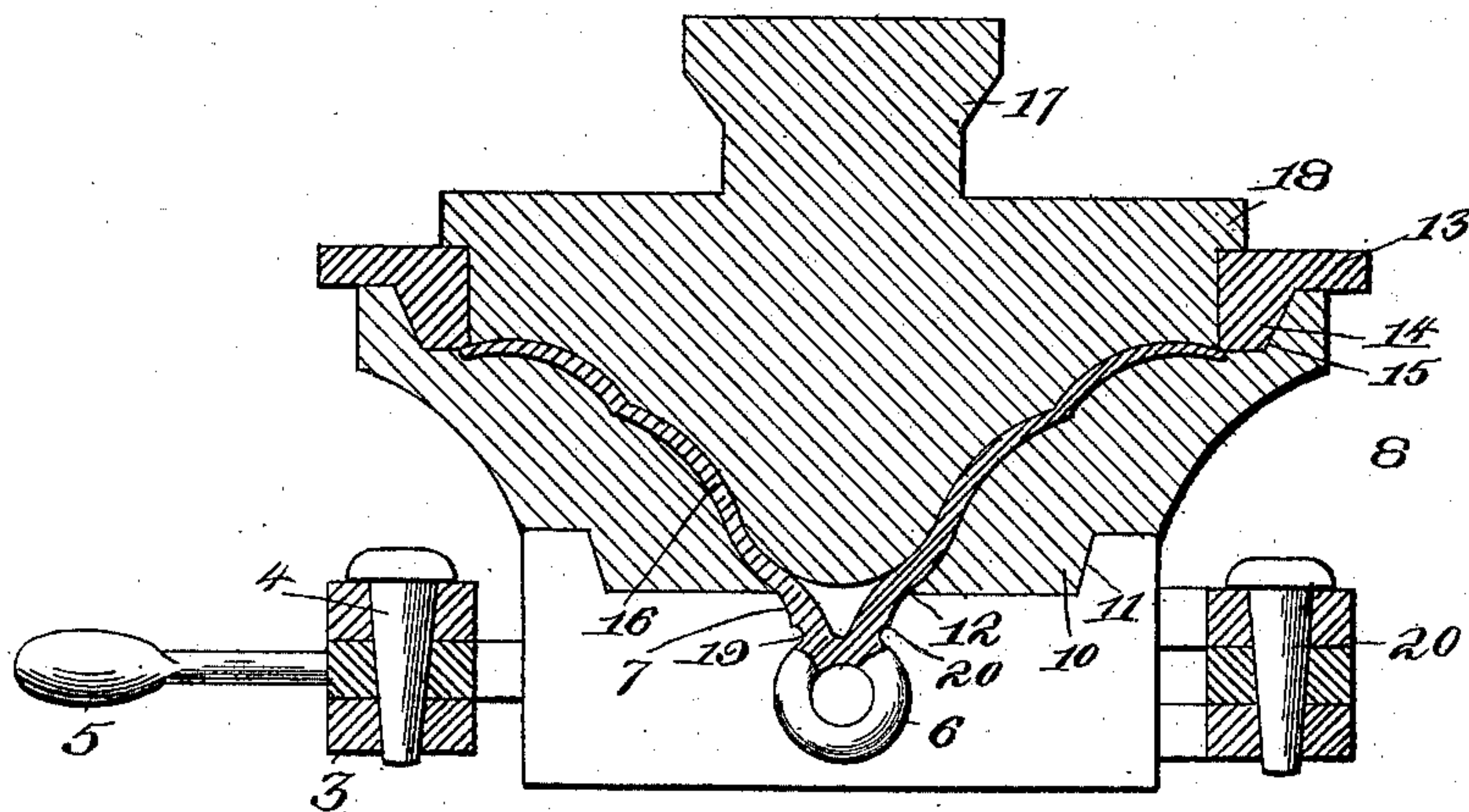


Fig. 6.

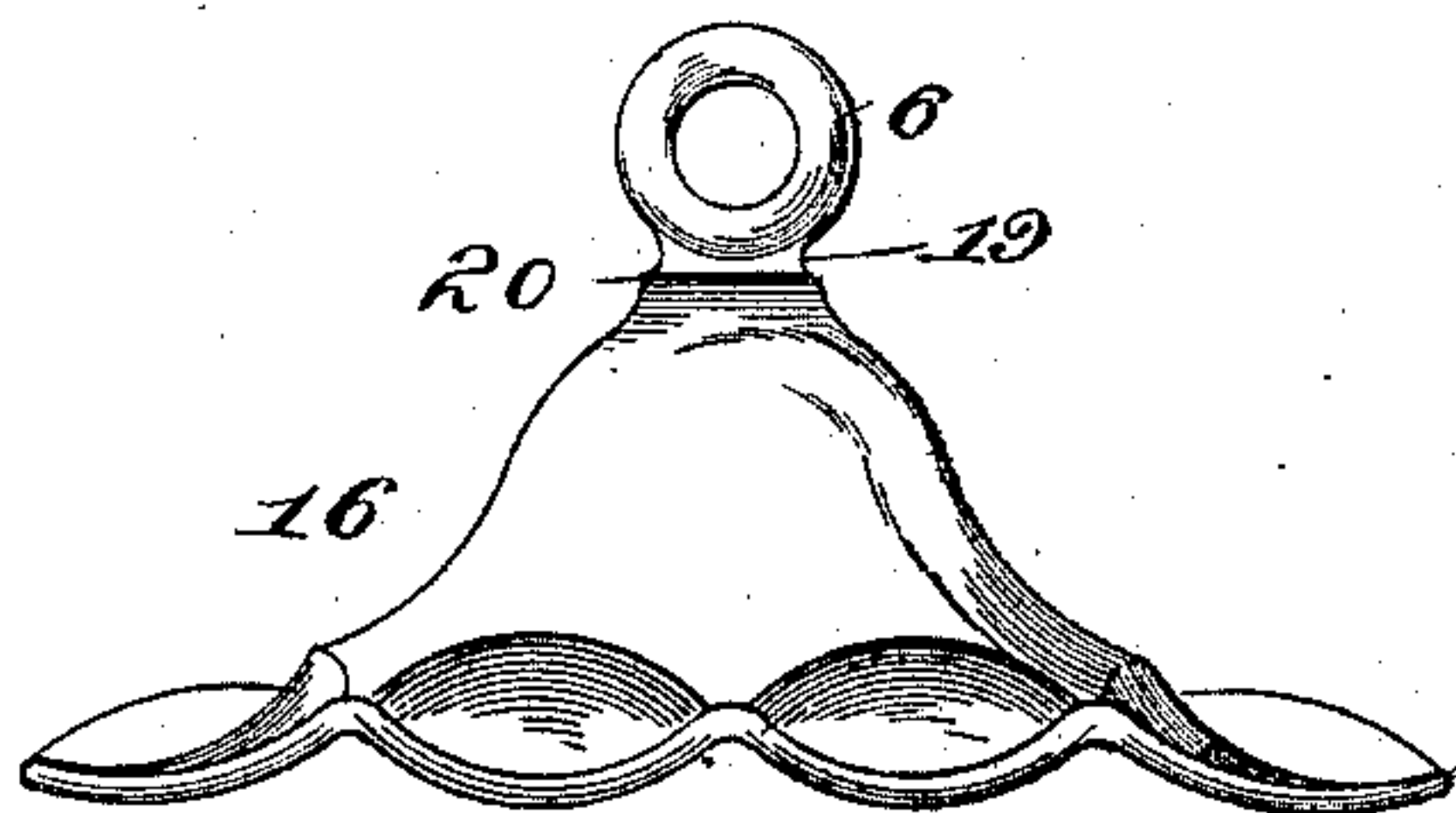


Fig. 7.

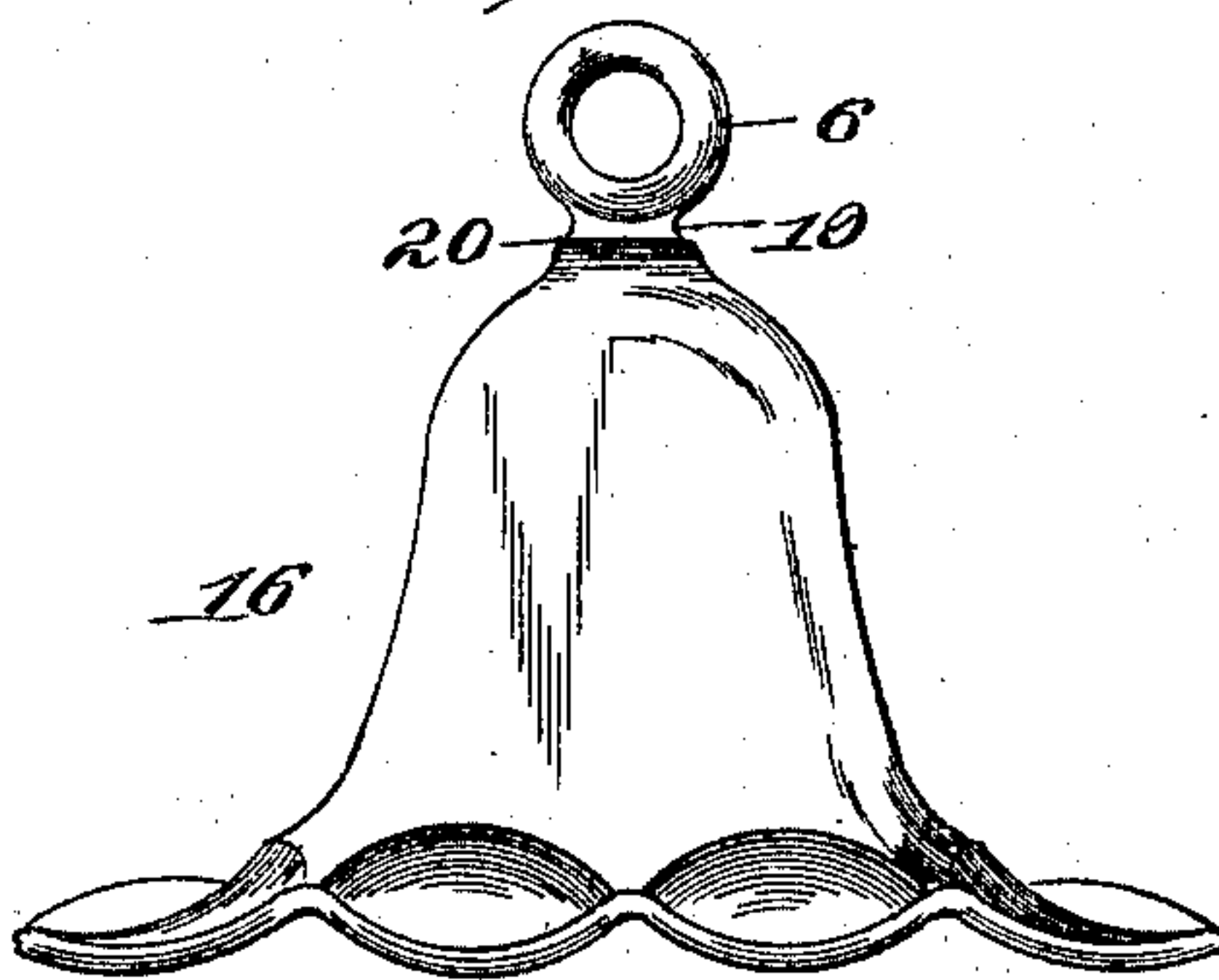
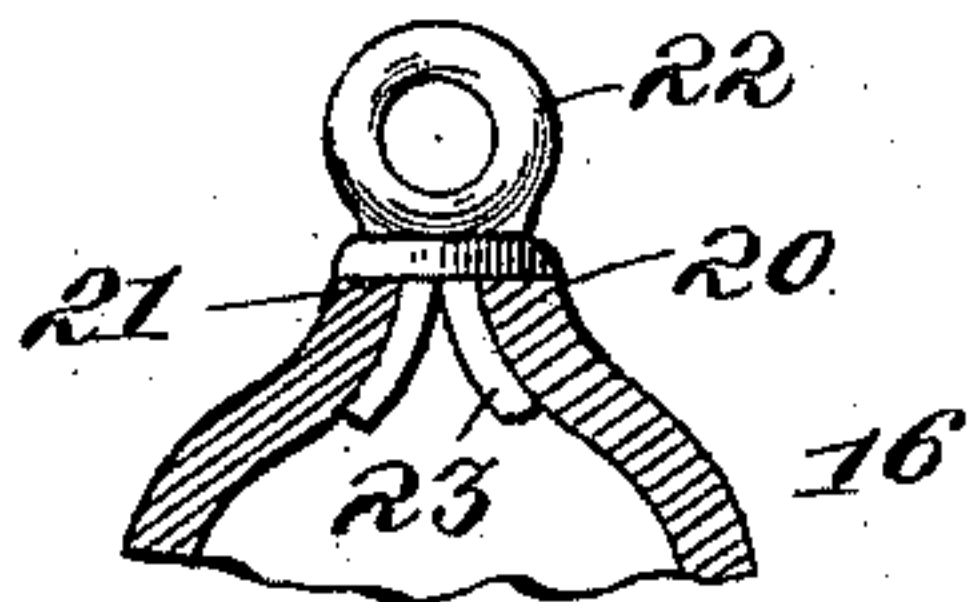


Fig. 8.



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UNITED STATES PATENT OFFICE.

THEODORE CREIGHTON, OF DUNKIRK, INDIANA.

SMOKE-SHADE, SMOKE-BELL, &c.

SPECIFICATION forming part of Letters Patent No. 612,582, dated October 18, 1898.

Application filed November 13, 1897. Serial No. 658,491. (No model.)

To all whom it may concern:

Be it known that I, THEODORE CREIGHTON, a citizen of the United States, residing at Dunkirk, in the county of Jay and State of Indiana, have invented certain new and useful Improvements in Processes of and Apparatus for Making Smoke Shades, Bells, &c.; 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.

My invention has relation to improved smoke-shades, smoke-bells, &c.; and the apparatus consists in the novel construction and arrangement of its parts, as hereinafter described.

The object of the invention is to provide a means whereby articles of the nature indicated may be quickly and cheaply made and ornamented, the further object of the invention being that the shades or bells may be formed with rings made integral or with rings made of different material and firmly attached to the article.

The further object of the invention is to provide a bottom mold, said bottom mold being adapted to form the ring and the upper portion of the article, and to provide a number of top molds, said top molds containing impressions of different designs or shapes and each having a corresponding plunger, the bottom mold being adapted to operate in conjunction with any one of the top molds.

In the accompanying drawings, Figure 1 is a sectional view of a top mold and the plunger and a side view of one of the members composing the bottom mold. Fig. 2 is a side view of a plain or unornamented smoke-shade as produced by the apparatus shown in Fig. 1. Fig. 3 is a side view of a smoke-bell as produced by an apparatus similar to that shown in Fig. 1. Fig. 4 is a sectional view of the upper portion of the bell or shade, showing the ring removed. Fig. 5 is a sectional view of an ornamenting top mold and plunger and a side view of one of the members composing the bottom of the mold. Fig. 6 is a side view of an ornamented smoke-shade as produced by the apparatus as shown in Fig. 5. Fig. 7 is a side view of an ornamented smoke-bell as produced by an apparatus similar to that shown in Fig. 5. Fig. 8 is a sec-

tional view of the upper portion of the smoke shade or bell with a metallic ring attached thereto. Fig. 9 is a side elevation of a device for ornamenting the articles as shown in Figs. 2 and 3.

The apparatus consists of the bottom mold 1, said mold consisting of two members, each of the members having suitable perforated lugs, the perforations of the lugs adapted to register with each other and receive the hinged pin 2. At the opposite side similar perforated lugs 3 are provided. The perforations of said lugs are adapted to register and receive the hinge-key 4. Each member of the bottom mold is provided with a handle 5. The bottom of the mold 1 is adapted to form the ring 6 and the upper portion 7 of the article, and each member composing the mold 1 is provided with suitable registering recesses adapted to form the parts 6 and 7 of the article. The top mold 8 consists of one annular piece, the said top mold having handles 9 9, as shown in Fig. 1. The bottom of the top mold 8 is provided with a projection 10, which is adapted to enter the recess 11, formed in the upper side of the bottom mold 1. The top mold 8 is provided with the lower central opening 12, said opening being sufficiently large to permit the ring 6 to pass there-through after the article has been formed.

As shown in Fig. 1, the interior of the mold 8 is shaped so as to form a plain or unornamented article. The ring 13 is provided on its under side with an annular projection 14, said projection being adapted to enter a recess 15, formed in the upper portion of the mold 8, the inner edge of the ring 14 passing beyond the upper flared edge of the article 16. The plunger 17 is adapted to pass within the ring 13, the lower portion of the plunger being shaped substantially as the shape of the interior of the mold 8. The plunger 17 is provided with an annular flange 18, which is adapted to come in contact with the upper face of the ring 13, and thus limit the downward movement of the plunger. Sufficient space is left between the inner wall of the ring 8 and the outer face of the lower portion of the plunger 17 to form the article 16, as indicated in Fig. 1. At the point of junction between the ring 6 and the portion 7 of the article 16 the annular recess or indentation 19 is made. The

lower end of the plunger 17 in forming the article comes within the plane of said indentation or recess 19, as indicated by the dotted line *xx* in Fig. 1. The portion 7 of the article 16 is thickened, as at 20, said thickness extending annularly around the portion 7.

In the construction of the apparatus as shown in Fig. 5 the parts are substantially the same as that just described, with the exception that the interior of the mold 8 is provided with suitable recesses or scallops to ornament the article 16, the plunger 17 having similar recesses or scallops. Any number of molds, as shown in Fig. 5, may be provided, each mold having a different design for ornamenting the article, and every mold 8 being adapted to be operated with but a single bottom mold 1. Thus during the process of ornamenting the upper portion of the article, including the portion 7, the ring 6 is not changed, but remains the same.

The process and the operation of the apparatus are as follows: The plunger 17 and the ring 13 being removed from the mold 8 and the said mold 8 being in position upon the mold 1, the molten glass is dropped into the mold 8. The ring 13 is then put in place in the mold 8 and the plunger 17 descends and forces the molten glass in shape. Thus the articles are formed. After a suitable number of blank or plain articles, as shown in Figs. 2 and 3, are thus made, and should it be desired to ornament any of them, the articles to be ornamented are attached to a holder 24, as shown in Fig. 9, said holder being of any ordinary construction. The former 25 is located on the floor or any other flat surface. After the article is attached to the holder 24 the said article is reheated and is then put over the former 25, and is thus scalloped or ornamented. Fig. 9 represents the ornamented article in the act of being lifted from the former 25.

If it is desired that the article should have an integral glass ring, the article after it leaves the apparatus, as shown in Fig. 5, is completed. However, should it be desired that the article have a metallic ring, as shown in Fig. 8, the hinge-key 4 is removed and the members composing the bottom mold 1 are swung apart on the hinged pin 2. Thus the bottom mold is removed from the ring 6 and the portion 7. The operator then strikes the ring 6 a lateral blow and the ring is knocked off along the line *xx*, as shown in Fig. 1.

This single operation removes the ring 6 and opens the perforation 21 (see Fig. 4) in the top of the ring. A metallic ring 22 can then be attached to the top of the article, the said metallic ring having the extensions 23. The said extensions after being inserted through the perforation 21 are spread on the under side of the article, as shown in Fig. 8, and thus the metallic ring is securely held in position. The thickened portion 20 prevents the possibility of the upper portion 7 of the article from splitting or cracking during the operation of knocking the ring off. The glass will always break along the indentation or recess 19, as that is the weakest point, as the balance of the article is firmly braced by the mold 8. These ornamented articles may be turned out and placed upon the market with integral glass rings 6, or the said rings 6 may be removed, as above described, and metal rings substituted in place thereof. After the article is finally removed it is annealed by any ordinary process and then is toughened and made durable. In reheating the article it is not converted back into the molten state, but it is simply heated until it is softened, so that it will assume the shape of the remaining mold or former. By having certain compositions of glass material melted together in the pot or crucible a variety of colors of pleasing effect may be produced in the article by the reheating of the article after it is first melted. The colors, for instance, will be opal and ruby, crystal and opal, green and purple, blue and opal, amber and opal, &c. The colors are thus produced without any additional labor.

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

A smoke bell, shade or other similar article, consisting of a body portion, a projection extending from the top thereof, a depression or recess located at the point of junction between the body portion and the projection and the body portion being thickened just below the said depression or recess, the inner surface of the article entering the plane of said recess or depression.

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

THEODORE CREIGHTON.

Witnesses:

JOSEPH ZEHNER,
ALBERT M. POLAND.