

(No Model.)

2 Sheets—Sheet 1.

S. B. PRATT.

TOY MORTAR.

No. 300,638.

Patented June 17, 1884.

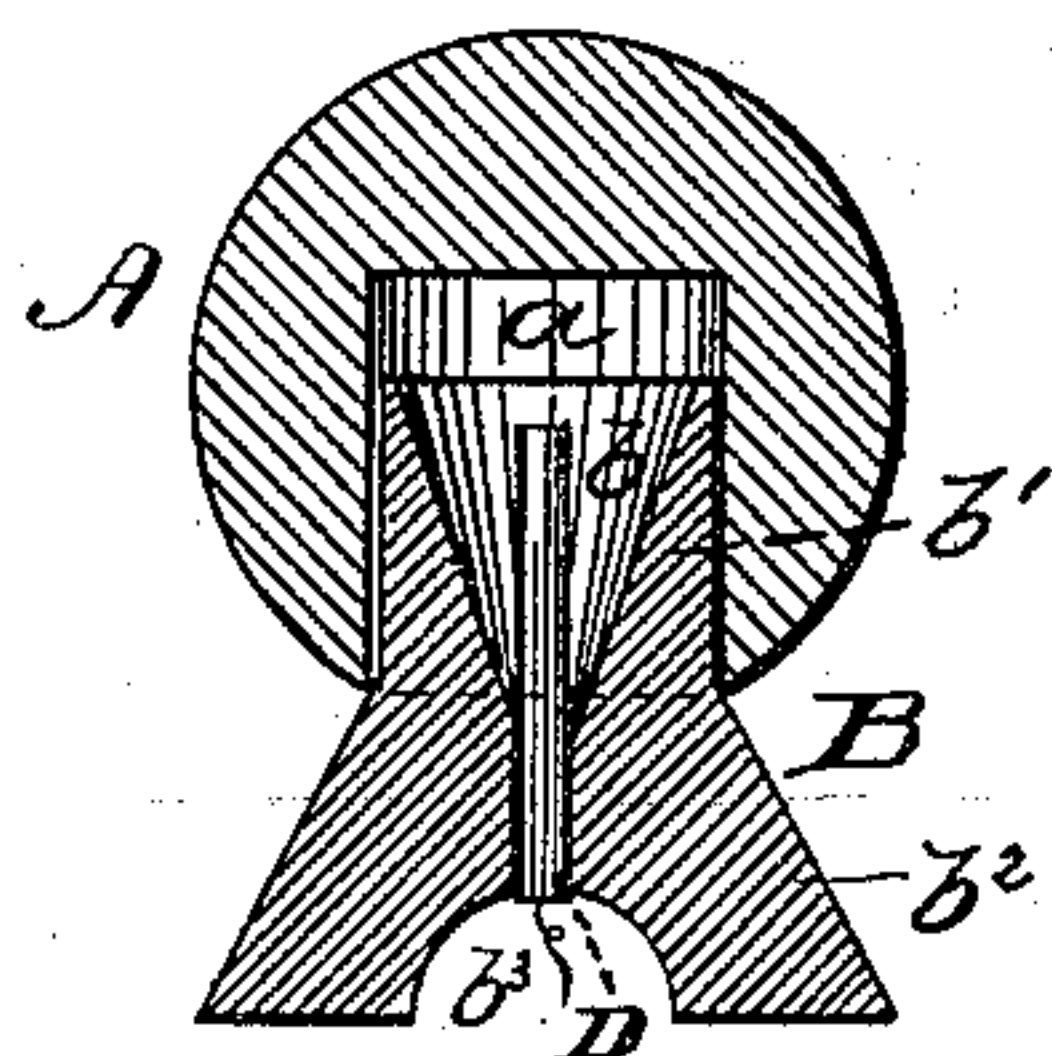


Fig. 1.

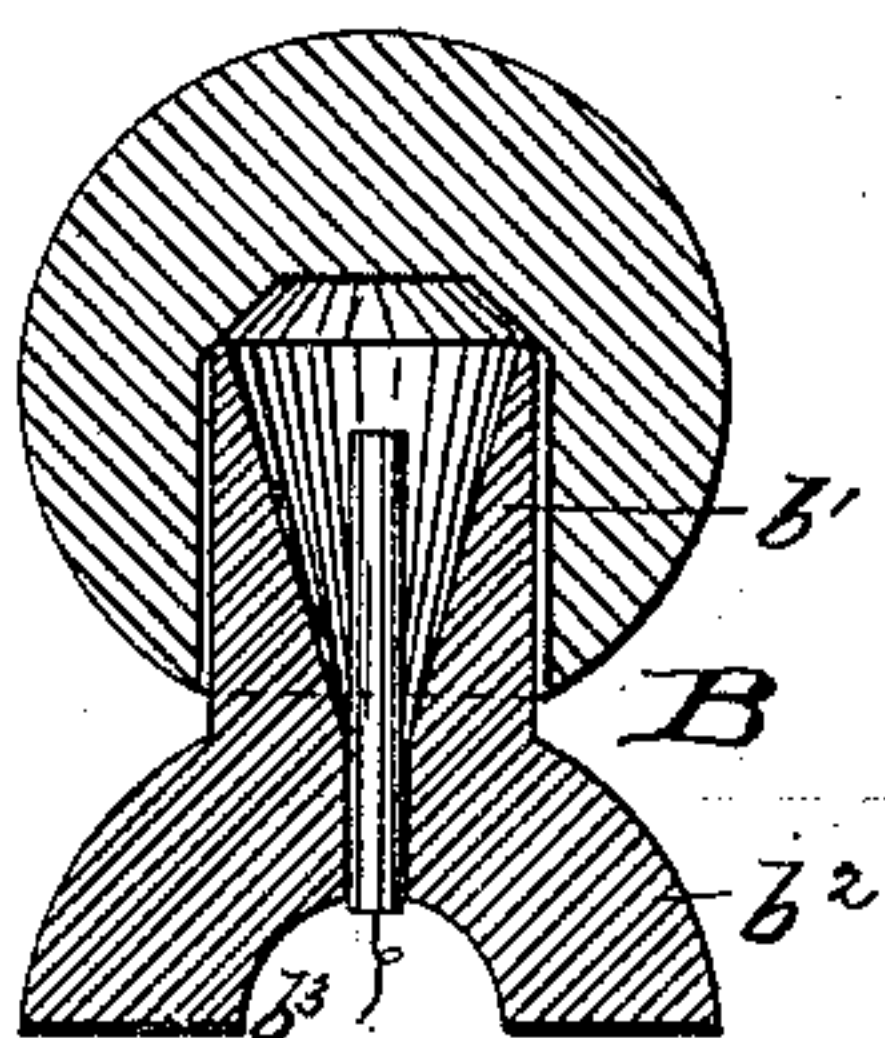


Fig. 2.

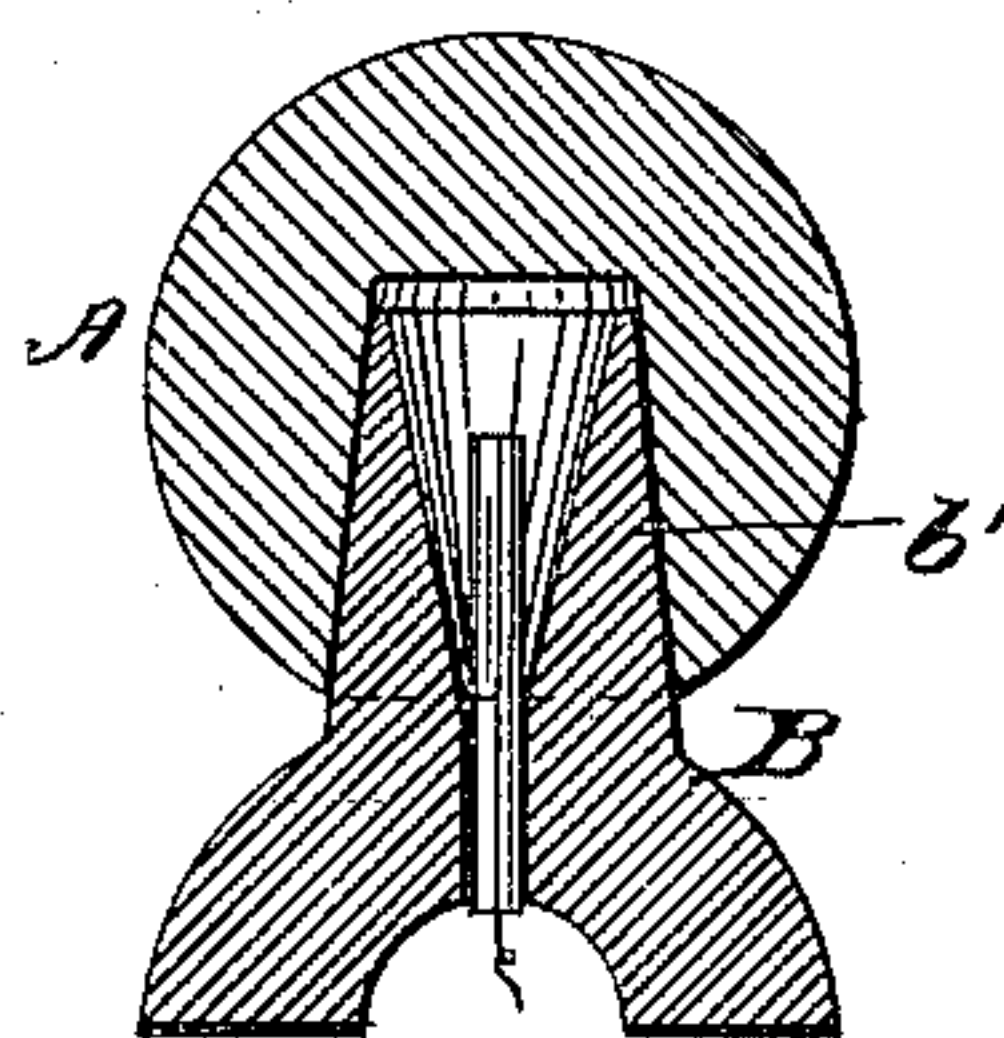


Fig. 3.

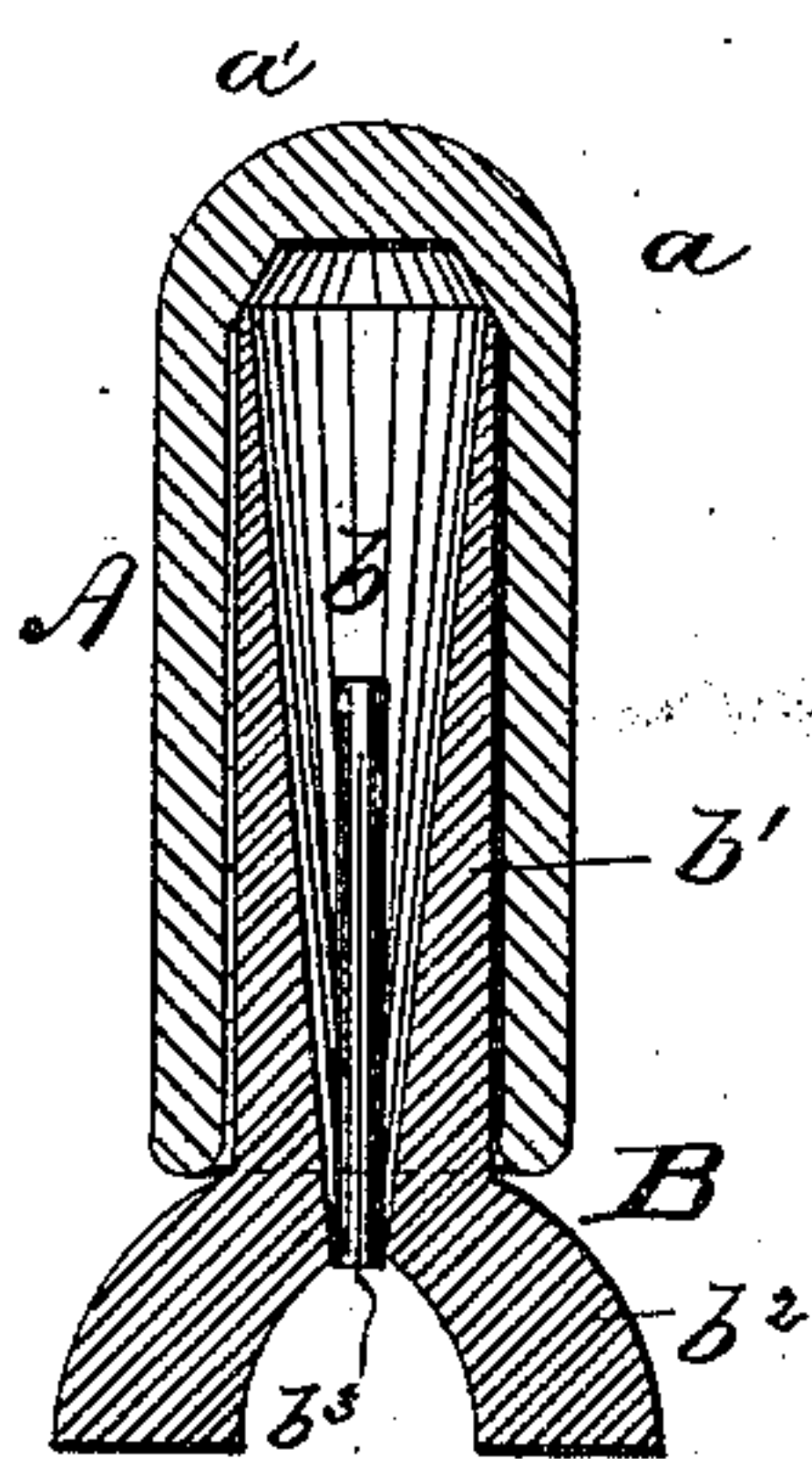


Fig. 4.

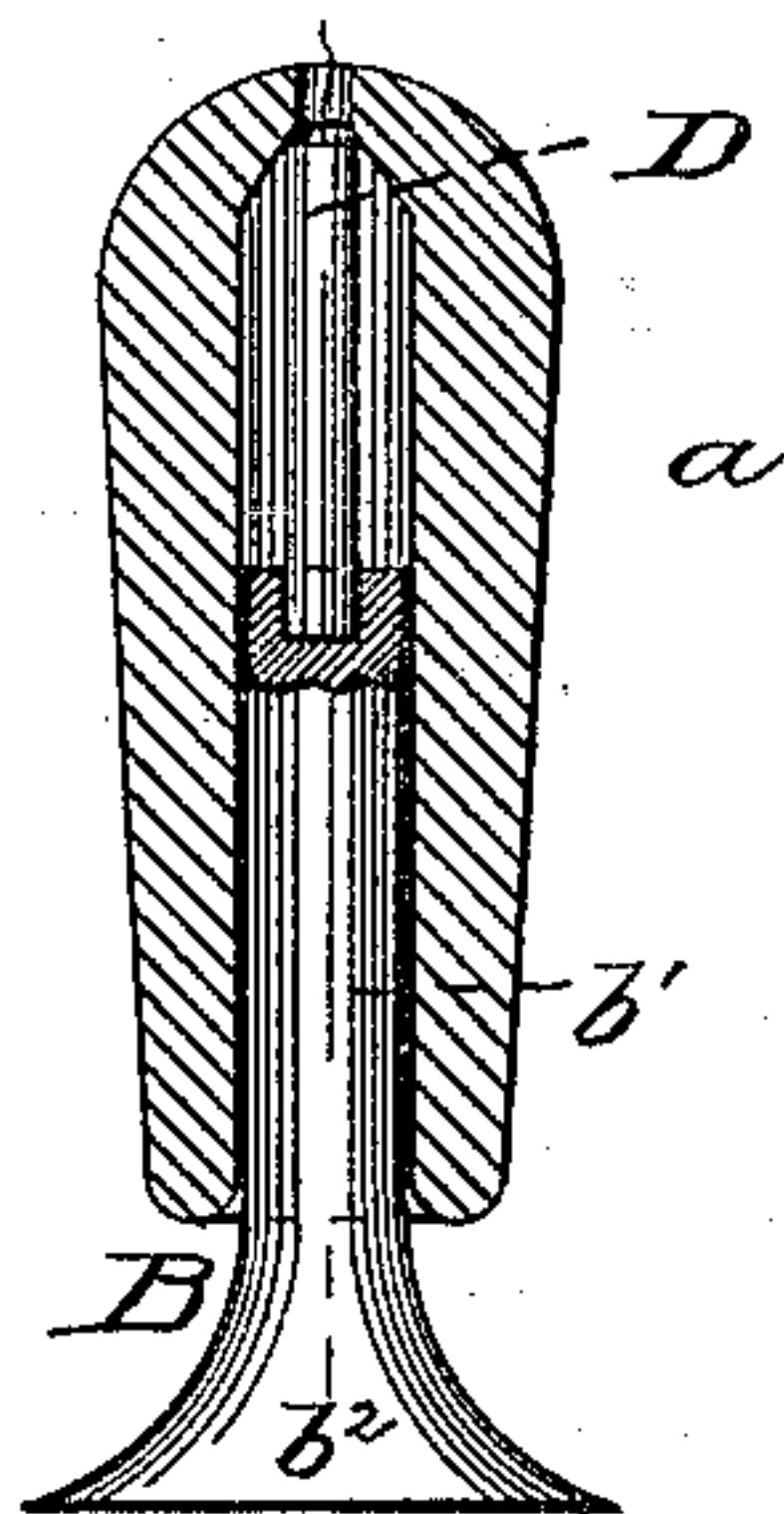


Fig. 5.

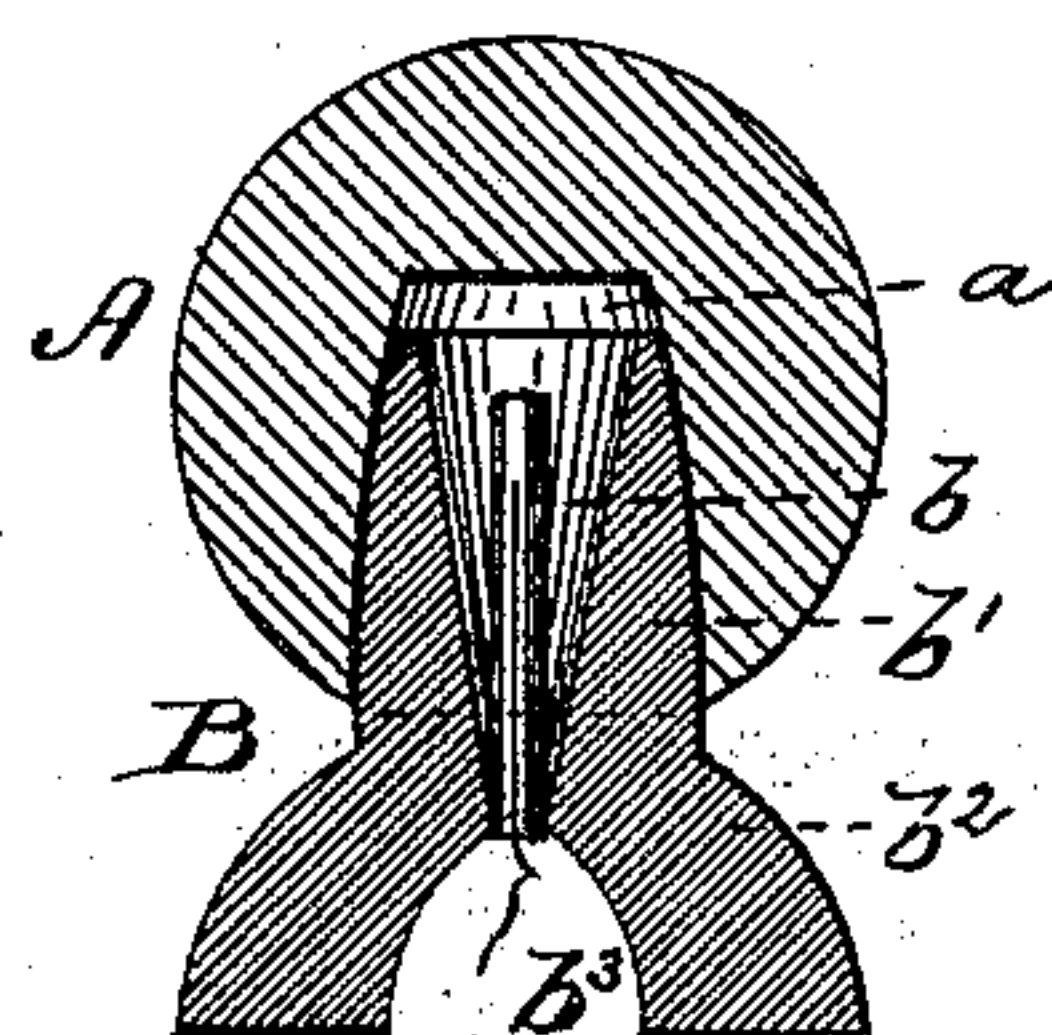


Fig. 6.

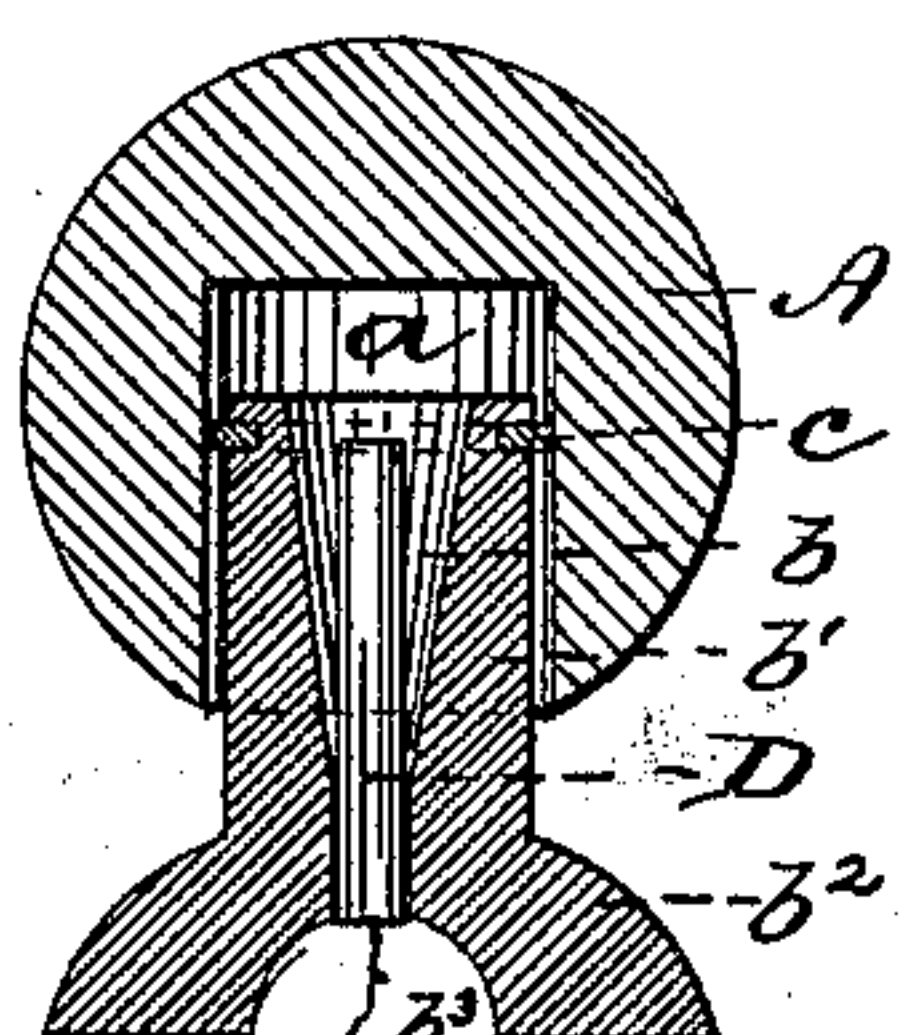


Fig. 7.

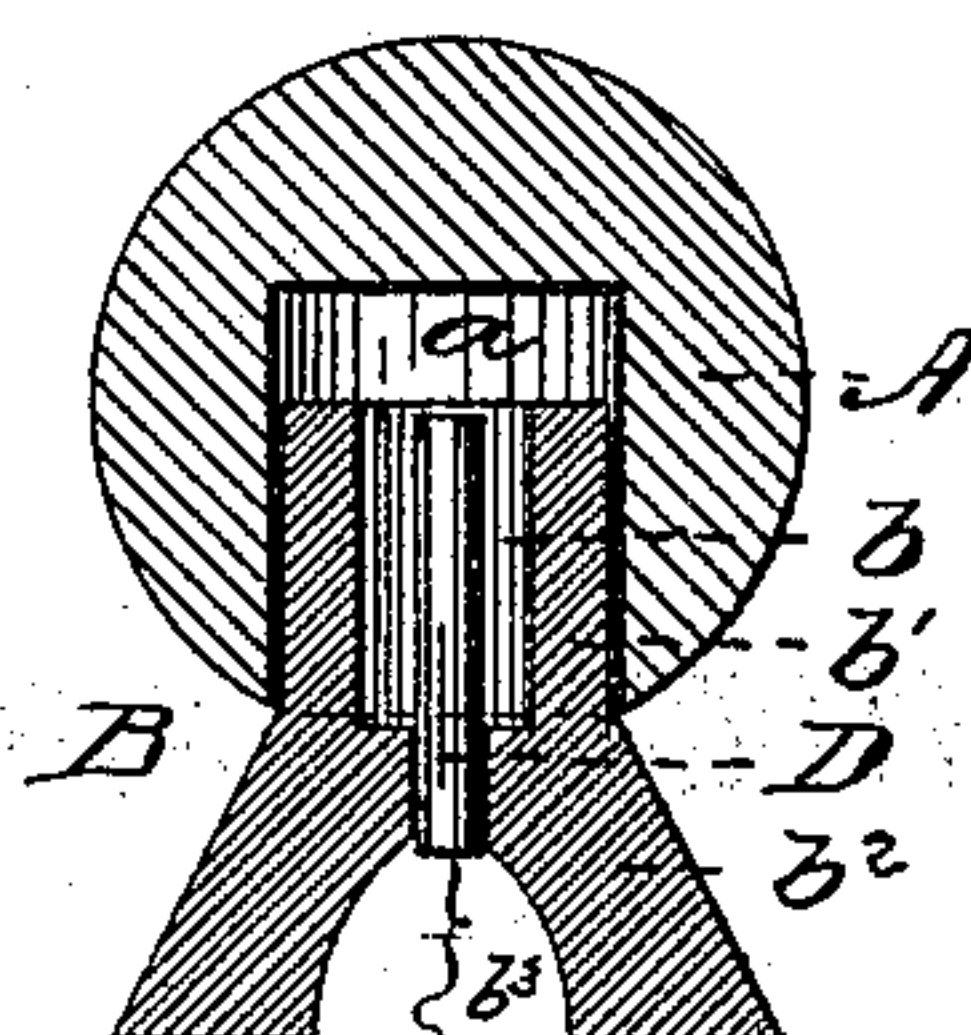


Fig. 8.

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2 Sheets—Sheet 2.

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No. 300,638.

Patented June 17, 1884.

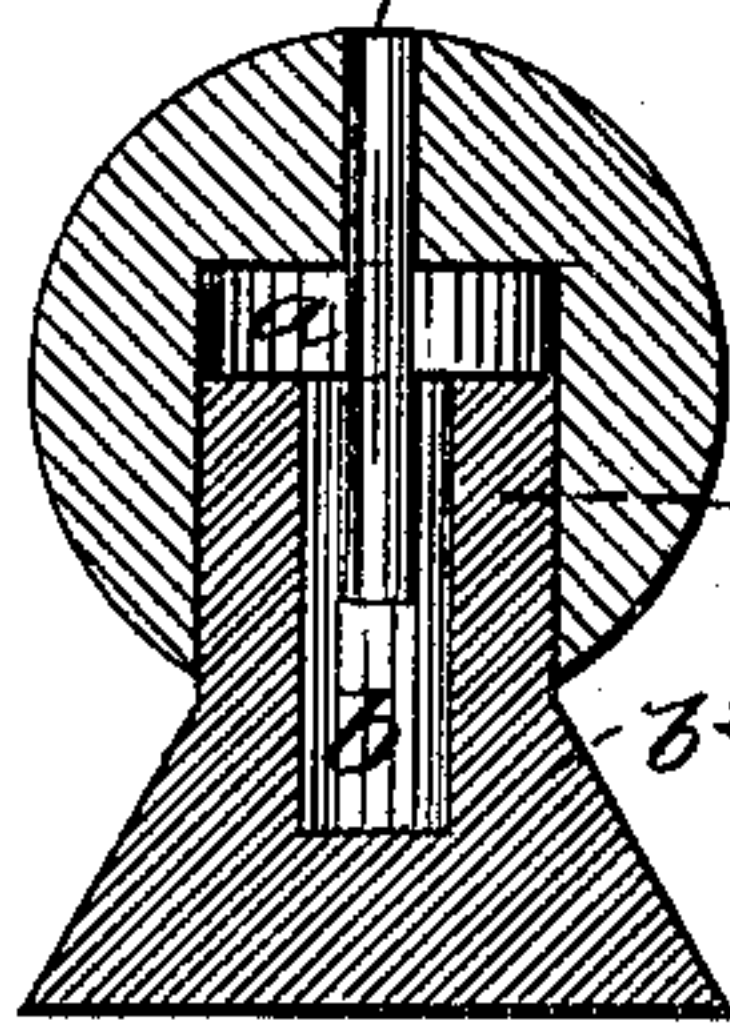


Fig. 9.

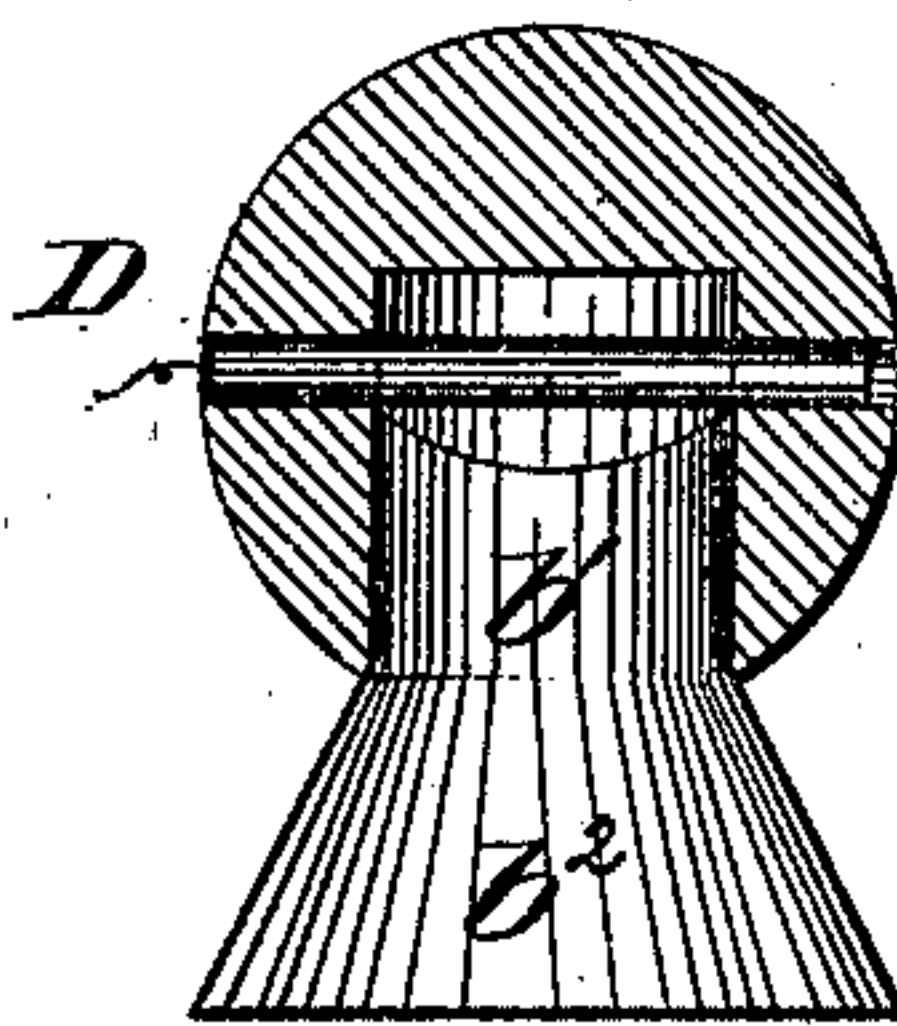


Fig. 10.

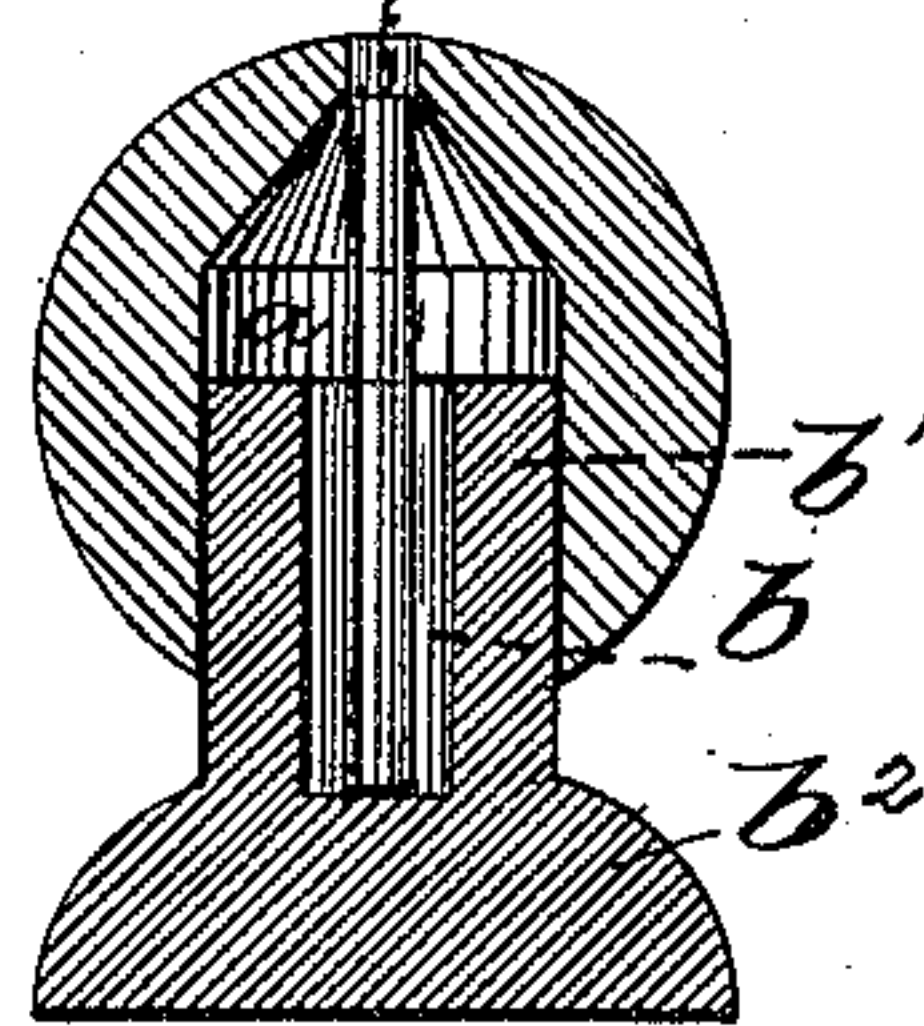


Fig. 11.

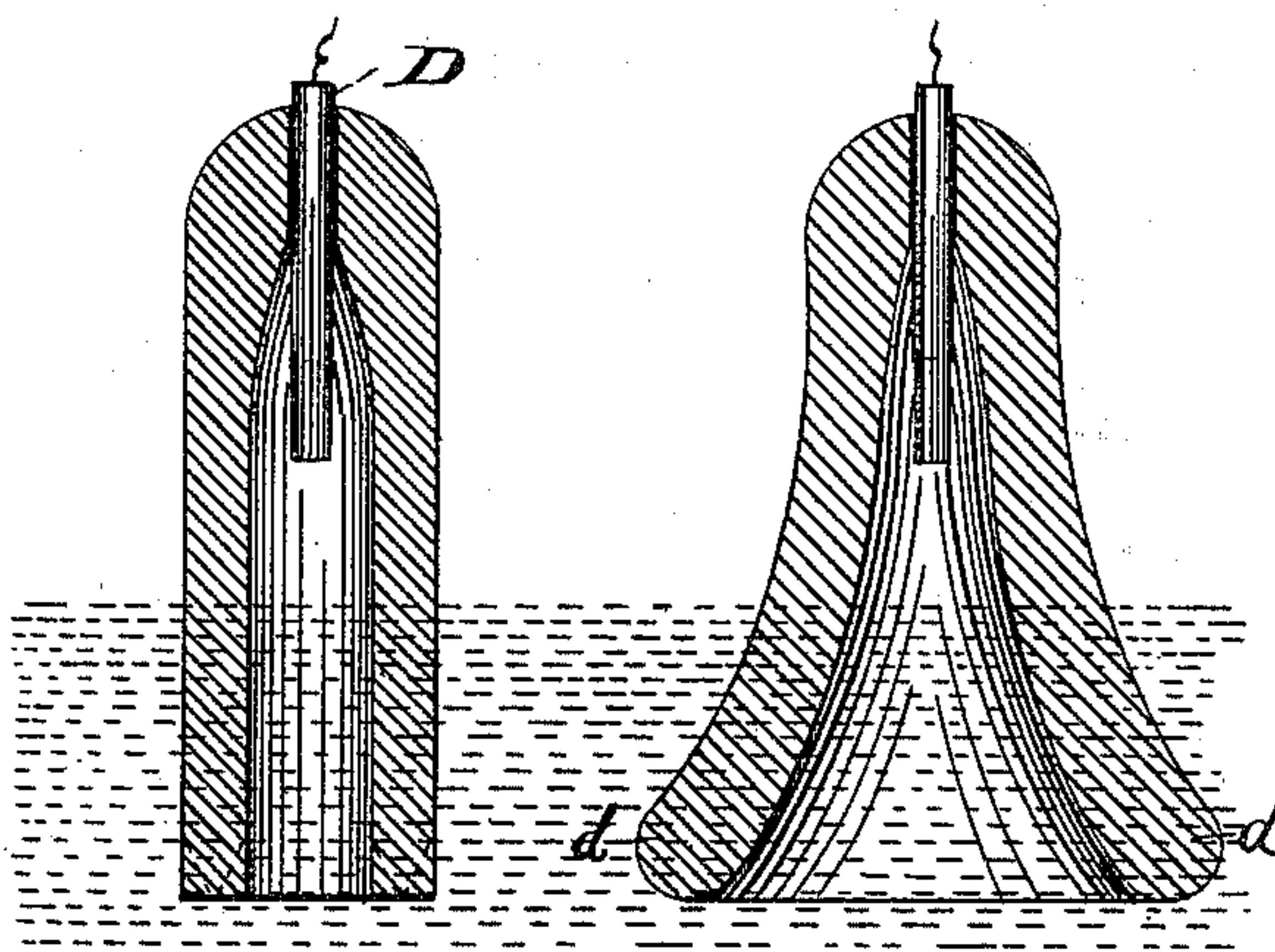


Fig. 12. Fig. 13.

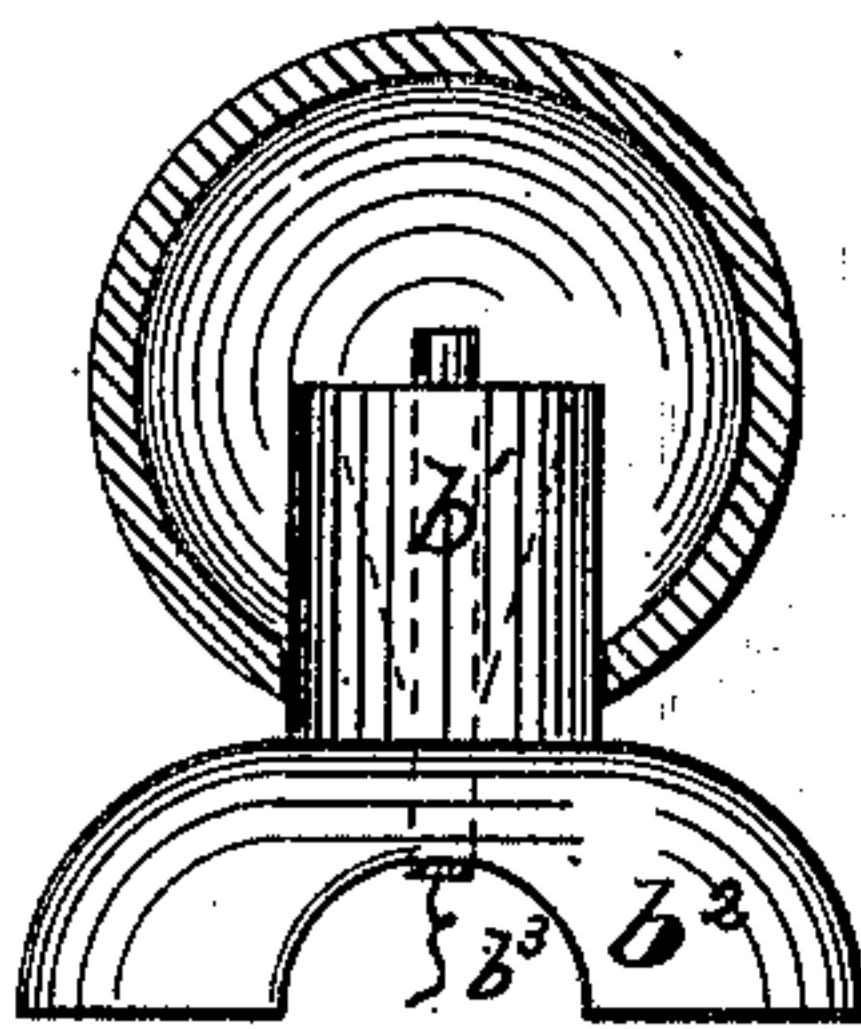


Fig. 14.

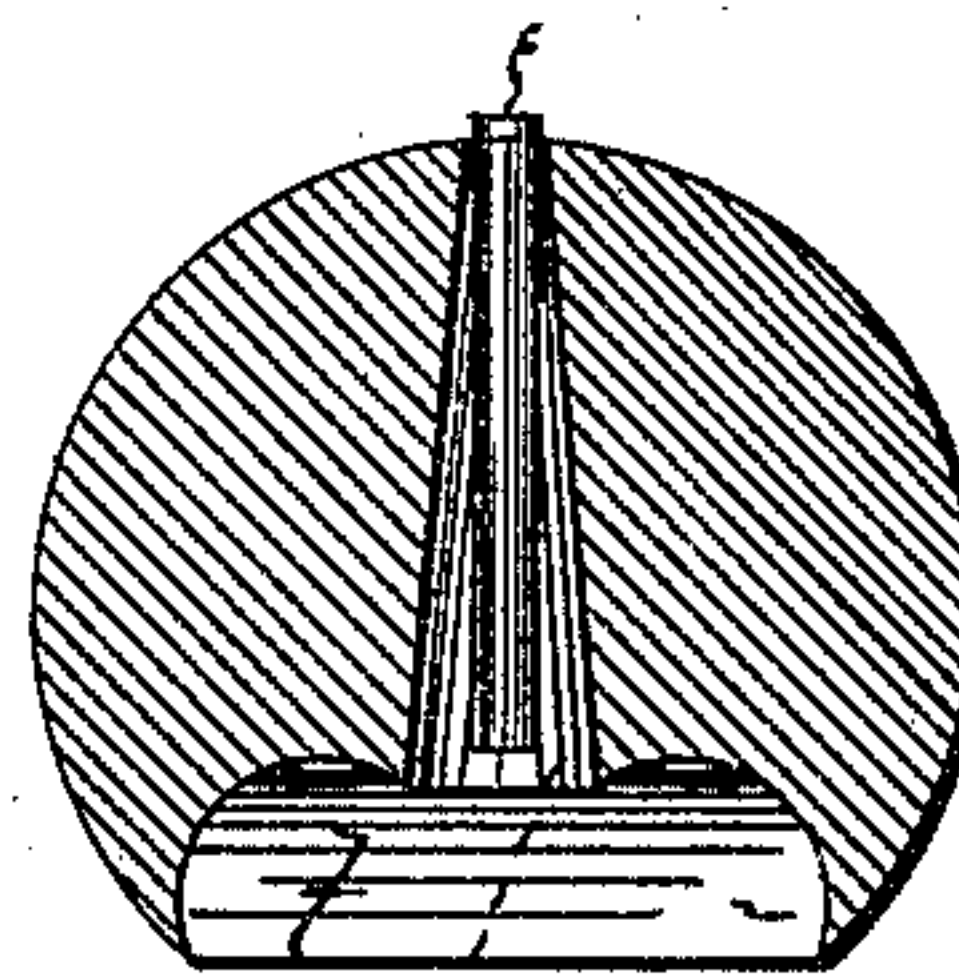


Fig. 15.

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UNITED STATES PATENT OFFICE.

SAMUEL B. PRATT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO EATON & PARKER, OF NEWARK, NEW JERSEY.

TOY MORTAR.

SPECIFICATION forming part of Letters Patent No. 300,638, dated June 17, 1884.

Application filed February 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL B. PRATT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Toy Projectiles; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in projectile-impelling devices adapted to be used as a toy, especially those in which the impelling force is supplied by a suitable explosive confined in a base, acting upon a projectile arranged upon or around said base, or arranged in the projectile itself, as described hereinafter, and is intended, by the various forms of construction, to vary the arrangements of the parts, whereby the projectile force of the explosive is greatly increased, as set forth hereinafter.

The invention consists in the construction, operation, and arrangement of parts substantially as illustrated in the drawings, and described and claimed hereinafter.

Referring to the accompanying drawings, embracing two sheets, Figs. 1, 2, 3, 4, 6, 7, 8, 9, 11, 12, 13, and 15 are sectional views, and Figs. 5, 10, 14 partly in section.

In carrying out my invention I employ, as one general form of construction and principle of action, the devices shown in Figs. 1, 2, 3, 4, 6, 7, and 8, which consist of a projectile, A, of any suitable material, as wood, rubber, leather, metal, &c., and of such conformation as deemed best, a spherical form being preferred, as shown in several of the figures, said projectile having an opening or base-receptacle, *a*, therein. The devices further consist of a base, B, of the same or different material as the projectile, having a chamber, *b*, therein to receive the explosive, a fire-cracker being preferable, said base consisting of the portion *b'*, adapted to enter the opening in the projectile,

and a broadened portion, *b*², having a groove or hole, *b*³, therein connecting with the chamber *b*, said groove *b*³ serving to admit the air necessary to support combustion to the explosive placed in the chamber *b*. The opening in the projectile, in this form of construction, extends but partly through the same, and may be made of various shapes, either angular or curved the entire length thereof, or a portion of the length. As shown in Figs. 1, 7, 8, 9, and 10, the sides of the opening in the projectile are straight and parallel the entire length thereof, the portion *b'* of the base conforming thereto. In Fig. 3 the opening and base are tapering. In Fig. 6 the opening is concave, and the portion *b'* of the base convex, or may be vice versa. In Figs. 2 and 4 a portion at the inner end of the opening is tapering, the object of these different forms being to cover the various methods of causing the projectile to fit tightly upon the base, so as to secure the requisite resistance to enable the projectile force of the explosive to gather strength enough to impel the ball to the desired height or distance. The ball or projectile may be pressed tightly down upon the tapering sides of the portion *b*² of the base, or the top of the part *b'* of said base pressed against the tapering, either angular or curved, sides *a'* of the projectile-opening, as shown in Figs. 2 and 4.

If desirable, the portion *b'* of the base may be recessed, and packing *c* fitted into said recess, as shown in Fig. 7; or the sides of the projectile-opening may be recessed and packing arranged therein, the object being to hold the projectile upon the base and provide the requisite resistance.

In the construction shown in Figs. 1, 2, 3, 4, 6, 7, 8, and 14 the fire-cracker D is placed in the chamber or perforation *b* with the fuse downward. In Figs. 5, 9, 11, 12, 13, 15 the fire-cracker is placed with the fuse upward, the opening in the projectile in this case extending through the same. When the opening in the projectile extends entirely there-through in a continuous straight line, forming a perforation, the end of the said perforation is reduced in diameter to about the size of a

fire-cracker, which is the kind of explosive preferred, so as to hold the said fire-cracker therein, as shown in Figs. 5 and 9. The other end or portion of the perforation is much larger, so as to permit the insertion of the base.

The chamber in the base for the reception of the fire-cracker or explosive may be straight, tapering, or partly tapering, and straight or curved. Said chamber may extend entirely through the base, or but partly through, as shown in Figs. 5, 9, and 11.

The projectile shown upon a base of a given construction may be used upon a base of a different construction, and vice versa, as desirable.

The projectile illustrated in Fig. 14 is a rubber ball arranged upon the base. That shown in Fig. 12 is oblong in form, and is adapted to be driven into the ground, (represented by the dotted lines,) the ground answering as a base in this case. Fig. 13 shows a projectile similar to Fig. 12, but having spread arms *d*, said projectile being adapted to be placed in water or other liquid which furnishes the desired resistance and base.

Fig. 15 shows a spherical projectile having a fire-cracker receptacle or perforation and a chamber, *f*, in the bottom adapted to rest upon the ground.

In Figs. 12, 13, and 15 the explosive is arranged in the projectile itself, which construction is simple, effective, and economical.

In Fig. 10 is illustrated a modified arrangement of the invention, the fire-cracker being placed in a perforation at an angle—preferably a right angle—to the base-opening *a* in said projectile.

A great advantage attained by arranging the projectile around the base having an explosive therein is that all the force of the explosion is conserved and directed against the projectile.

In operating the device the projectile is placed tightly upon the base, the fire-cracker inserted therein and fired, the force of the explosion separating the projectile and base, sending the former into the air.

The projectile and base may be inclined at any angle, so as to impel said projectile in any direction, vertically, obliquely, or horizontally.

Having thus described my invention, what I claim is—

1. A projectile having a chamber on its under side, in combination with a base adapted to enter said chamber, the base having a vertical perforation therethrough, serving as a charge-chamber, and provided with an opening at the bottom of sufficient size for the insertion of the charge, substantially as shown and described.

2. A base having a vertical perforation therethrough for the reception of the charge, and provided with openings at the top and bottom of sufficient size for the insertion of the charge, in combination with a projectile having a chamber on its under side and adapted to fit over the base, substantially as shown and described.

3. A projectile having a chamber therein, in combination with a base adapted to enter said chamber, and provided with a perforation therethrough for the reception of an explosive, and a packing arranged upon the portion of the base which enters the chamber, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of February, 1884.

SAML. B. PRATT.

Witnesses:

F. F. CAMPBELL,
OLIVER DRAKE.