

A. J. Eddy,

Casting Projectiles.

No 37,388.

Patented Jan. 13, 1863.

Fig. 2.

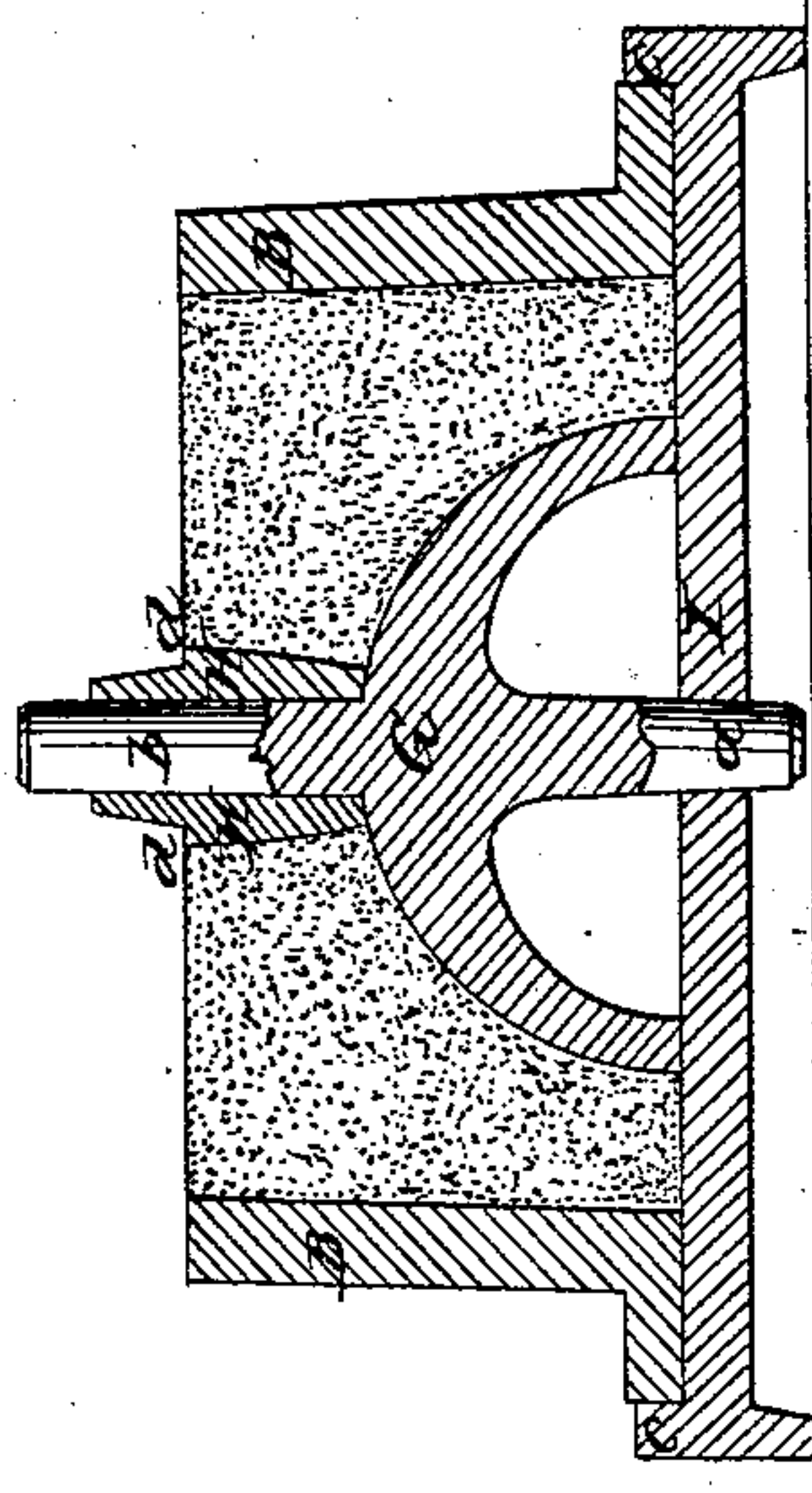


Fig. 3.

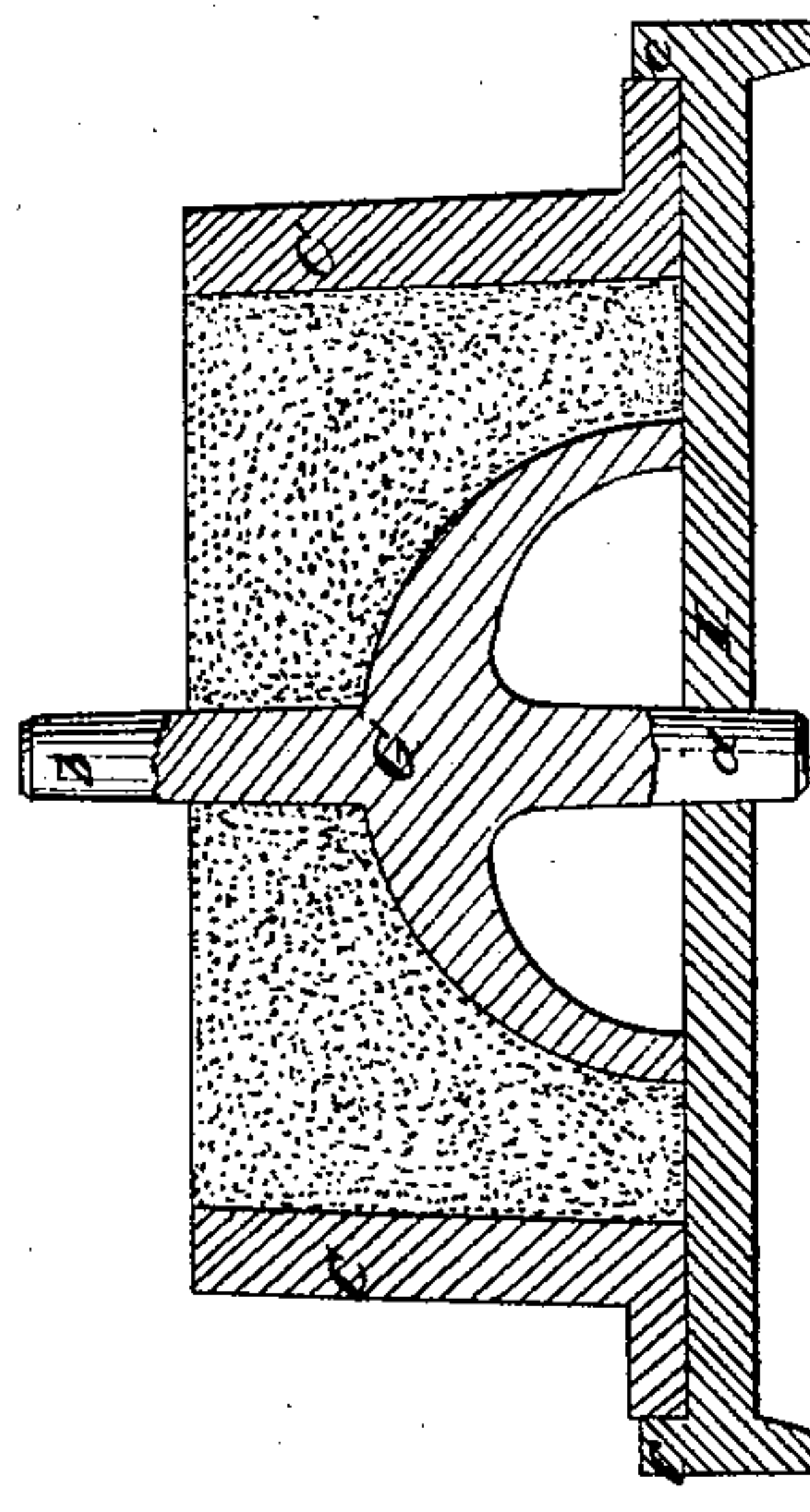
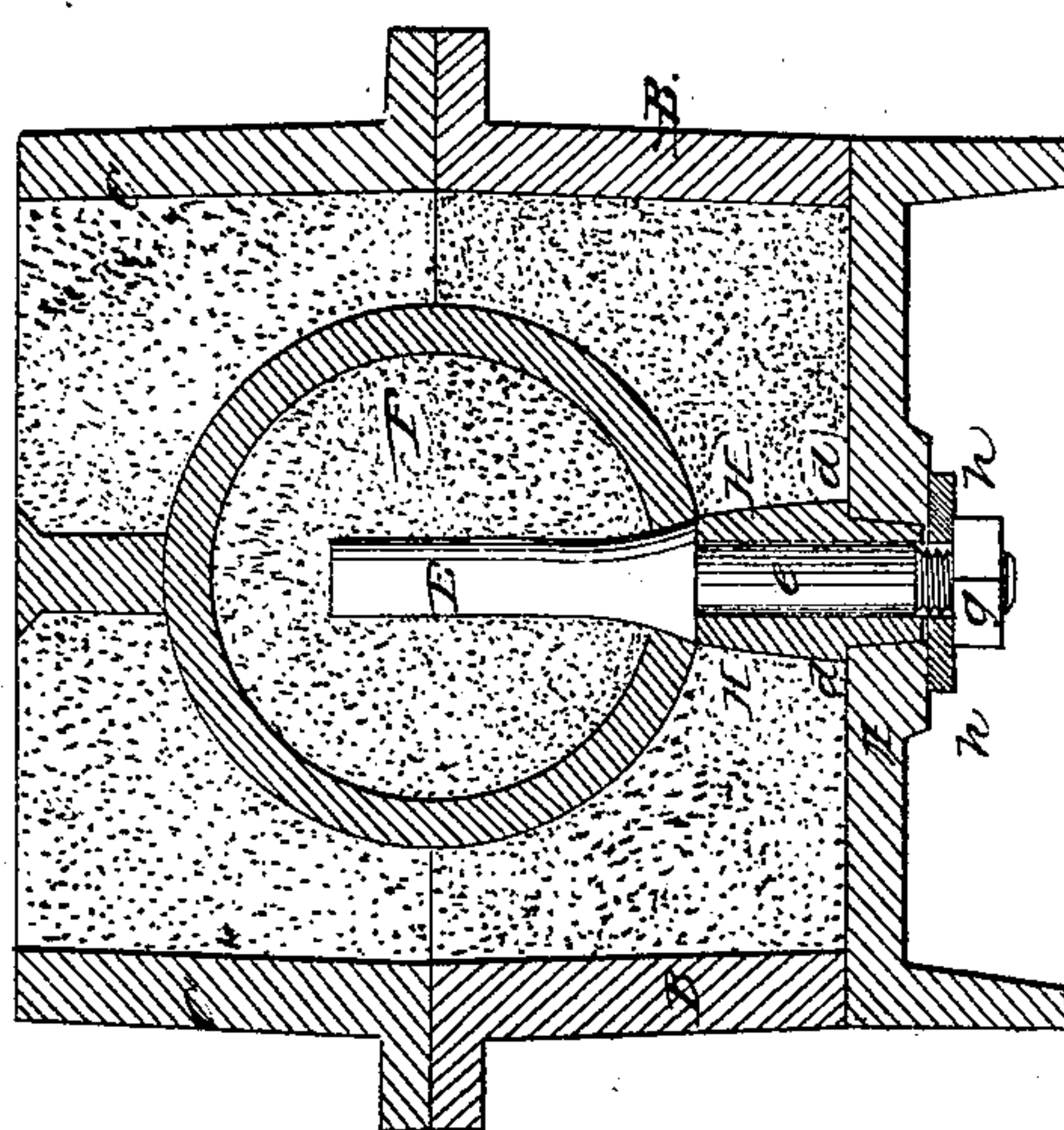


Fig. 1.



Witnesses.

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UNITED STATES PATENT OFFICE.

ANDREW J. EDDY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MOLDS FOR CASTING SHELLS.

Specification forming part of Letters Patent No. 37,388, dated January 13, 1863.

To all whom it may concern:

Be it known that I, ANDREW J. EDDY, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Molds for Casting Shells; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a central vertical section of a complete mold for a spherical shell with my improvement. Fig. 2 is a central vertical section of the lower flask, showing the manner of producing the portion of the mold contained therein, and Fig. 3 is a similar view of the upper flask.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment for holding the core-bar of a shouldered metal bush or sleeve applied in such manner as to support the core independently of the sand of which the mold is formed, and thereby prevent the displacement of the core in the mold and insure a uniform thickness of the shell in all parts.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the bed-piece or bottom of the mold, B the lower flask, and C the upper flask. E is the core-bar, and F the core. G is the pattern, of hemispherical form, made with concentric pins *a b*. H is the shouldered bush or sleeve which constitutes my invention, made of cast or wrought iron or steel. This sleeve has its interior bored of a size to fit the stem *e* of the core-bar, which is also of the same size as the pin *b* of the pattern, and the two portions above and below the shoulder *d* are tapered in opposite directions to the ends.

The mode of molding is as follows: The pattern is placed upon a board, I, with its pin *a* in a hole just large enough for its reception provided in the center of said board, as shown in Fig. 2, and the flask B is then placed upon the board in an inverted position, as shown in the same figure, and is kept concentric with the mold by a rim, *c*, provided around the board I, or by other suitable means. The bush

or sleeve H is then placed upon the pin *b* of the pattern with its shoulder *d* upward, and pushed down upon the said pin as far as the body of the pattern. The larger portion of the bush or sleeve which is now below the shoulder *d* is of such depth that the said shoulder is exactly flush with the upper edge of the flask. The sand is then packed tightly around the pattern up level with the top of the flask to form the lower half of the mold, and the flask is then removed from the board I, bringing with it the bush, which is lifted off the pattern with the mold, owing to the taper of the lower portion of the bush. The flask B is then turned over and placed upon the bed-piece A, with the smaller portion of the bush in a hole provided for its reception in the center of the bed-piece, and the shoulder *d*, being flush with the lower edges of the flask B, bears upon the bed-piece. The core having been made in the usual manner is then put upon the core-bar E, and the shank *e* of the said bar is inserted in the bush H as far as the shoulder *f*, which is provided on the said bar, and both the bar and the bush are secured by means of a nut, *g*, applied with a washer, *h*, on a screw-thread cut upon the lower part of the shank *e*, and the bush is thus made to support the core positively and rigidly in such manner as to make it independent of the sand which constitutes the surrounding or outer portion of the mold. The upper portion of the mold is molded in the flask C, as shown in Fig. 3, in the same manner as the lower portion is molded in the flask B, except that the bush H is omitted, and the top flask is then put on the bottom one, with suitable provision for keeping it concentric therewith. The cope is put on and the two flasks, the mold, and the cope secured together in the usual manner, and all is ready for pouring.

What I claim as my invention, and desire to secure by Letters Patent, is—

The metal bush or collar H, constructed and applied, in combination with the flask B, bed-piece A, and core-bar E, substantially as and for the purpose herein specified.

A. J. EDDY.

Witnesses:

TIMOTHY SHINE,
M. S. PARTRIDGE.