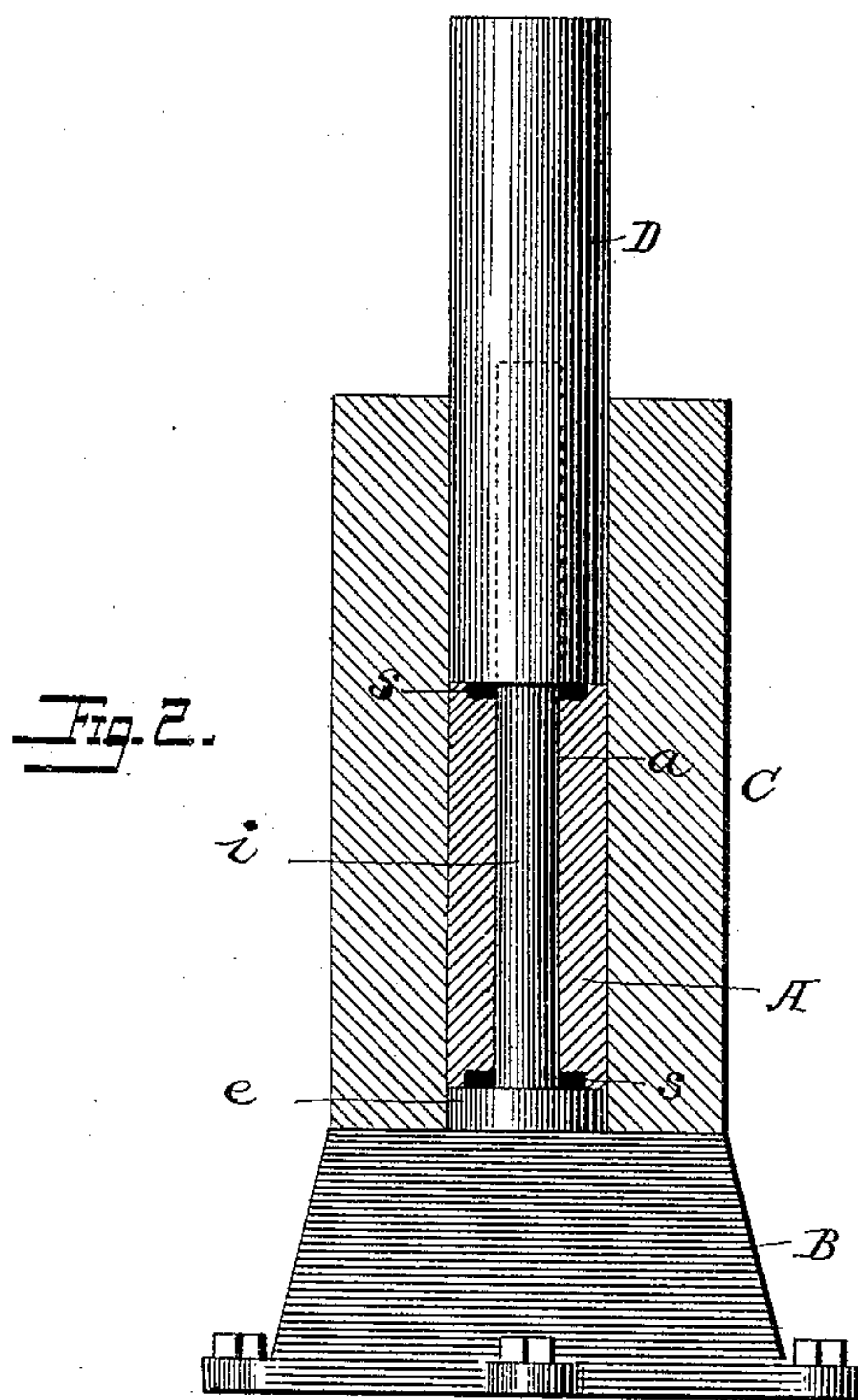
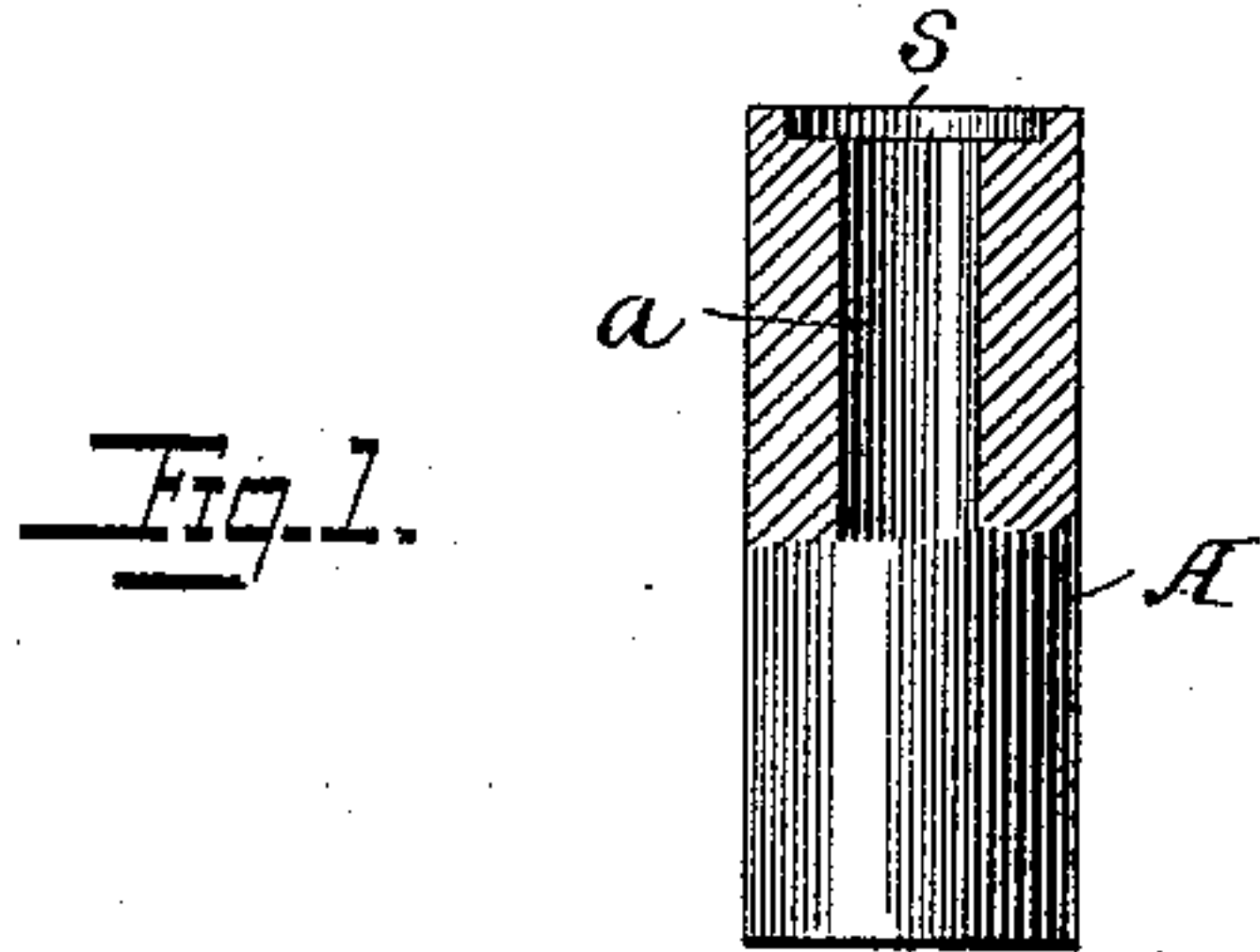


(No Model.)

A. WEED.
METHOD OF MANUFACTURING BULLETS.

No. 444,474.

Patented Jan. 13, 1891.



WITNESSES
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UNITED STATES PATENT OFFICE.

ALFRED WEED, OF TARRYTOWN, NEW YORK.

METHOD OF MANUFACTURING BULLETS.

SPECIFICATION forming part of Letters Patent No. 444,474, dated January 13, 1891.

Application filed March 20, 1890. Serial No. 344,615. (No model.)

To all whom it may concern:

Be it known that I, ALFRED WEED, a citizen of the United States, residing at Tarrytown, Westchester county, New York, have
5 invented certain new and useful Improvements in Methods of Manufacturing Bullets, of which the following is a specification.

The object of my invention is an improvement in that class of bullets which have longitudinal openings, and also a method of
10 manufacture hereinafter fully set forth, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in part longitudinal section, illustrating the character of bullet which
15 it is my object to manufacture. Fig. 2 is a longitudinal section illustrating the method of manufacture and appliances used.

In constructing the bullet A, which is provided with a longitudinal opening *a*, and
20 which exteriorly may be either cylindrical or polygonal, I make use of a two-part die, consisting of a base-block B, a body C, and a plunger D.

25 In the body C is an opening *b*, corresponding in form to the external shape of the bullet and adapted to receive a corresponding plunger D and a lug *e* upon the base-block B. Centrally from the lug *e* extends a pin or mandrel *i*, corresponding in form to that of the
30 longitudinal opening *a* of the bullet. The body C of the mold being placed upon the base B, the plunger D being removed, a sufficient quantity of metal to form the bullet is
35 poured into the mold, where it will surround the mandrel *i*.

As the articles thus formed would be lack-

ing in uniformity and would be liable to have air-openings and other irregularities, I subject each body of metal after casting to compression by means of the plunger D, which is
40 forced a definite distance by any suitable press into the mold, thereby compacting the metal so as to cause it to fill the mold to the height of the mandrel, condense the metal,
45 and impart sharpness of outline. By this means the different bullets are rendered perfect and uniform in shape and weight.

It will be evident that the bullets may be made in molds, each provided with a series of
50 openings or chambers for casting a series of bullets at one time.

In order to further increase the efficiency of the projectile, I form a depression or recess
55 in the forward end, leaving a surrounding annular rib or flange, which is readily bent or mushroomed as the bullet strikes, and which thereby results in making an opening or wound much longer than the diameter of the
60 bullet.

Without limiting myself to the precise construction of parts shown, I claim—

The within-described improvement in the manufacture of bullets, substantially consisting in casting the bullet upon and condensing
65 and swaging it upon a mandrel, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED WEED.

Witnesses:

DE B. WILMOT,
DANIEL E. DELAVAN.