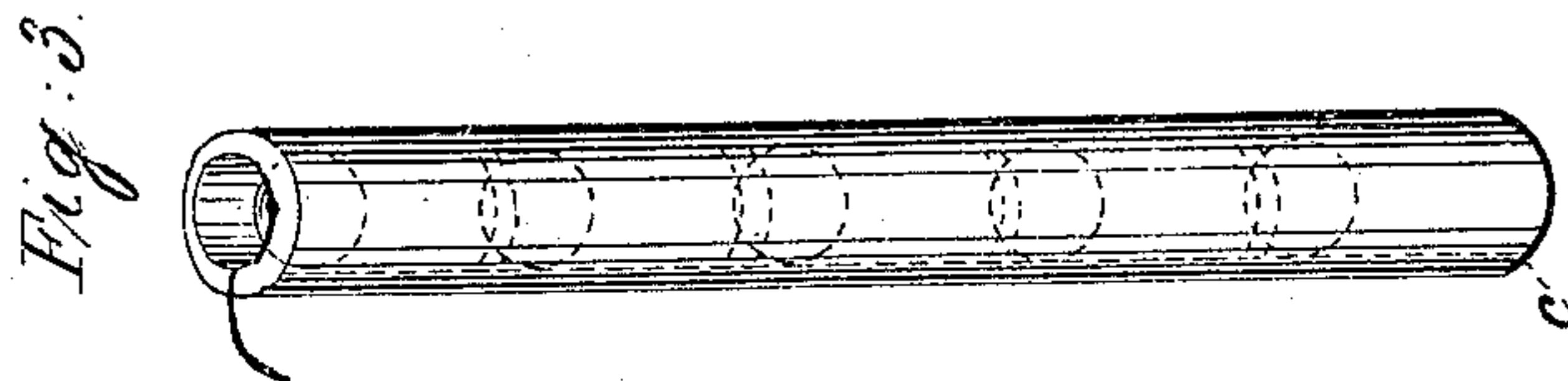
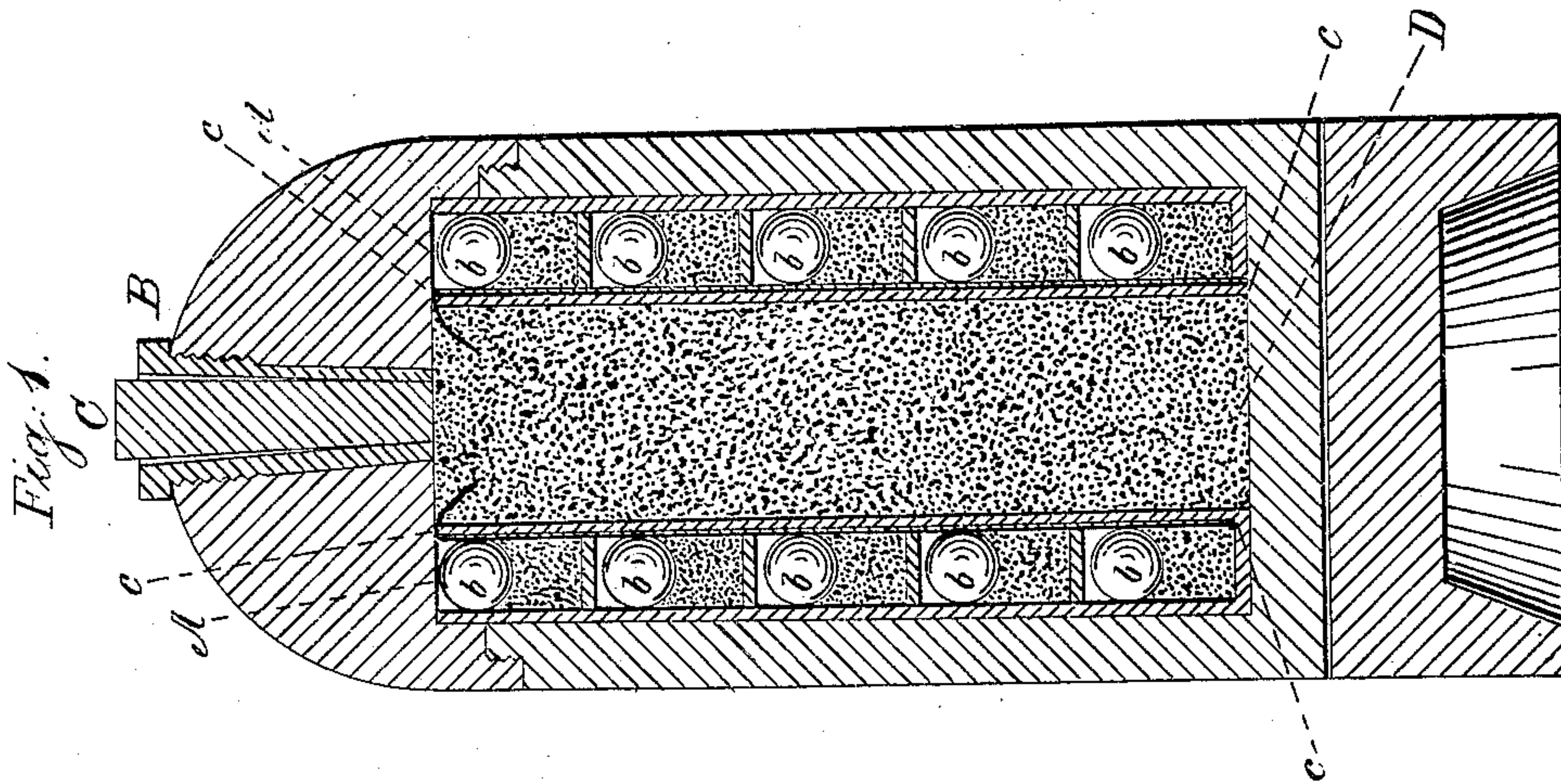
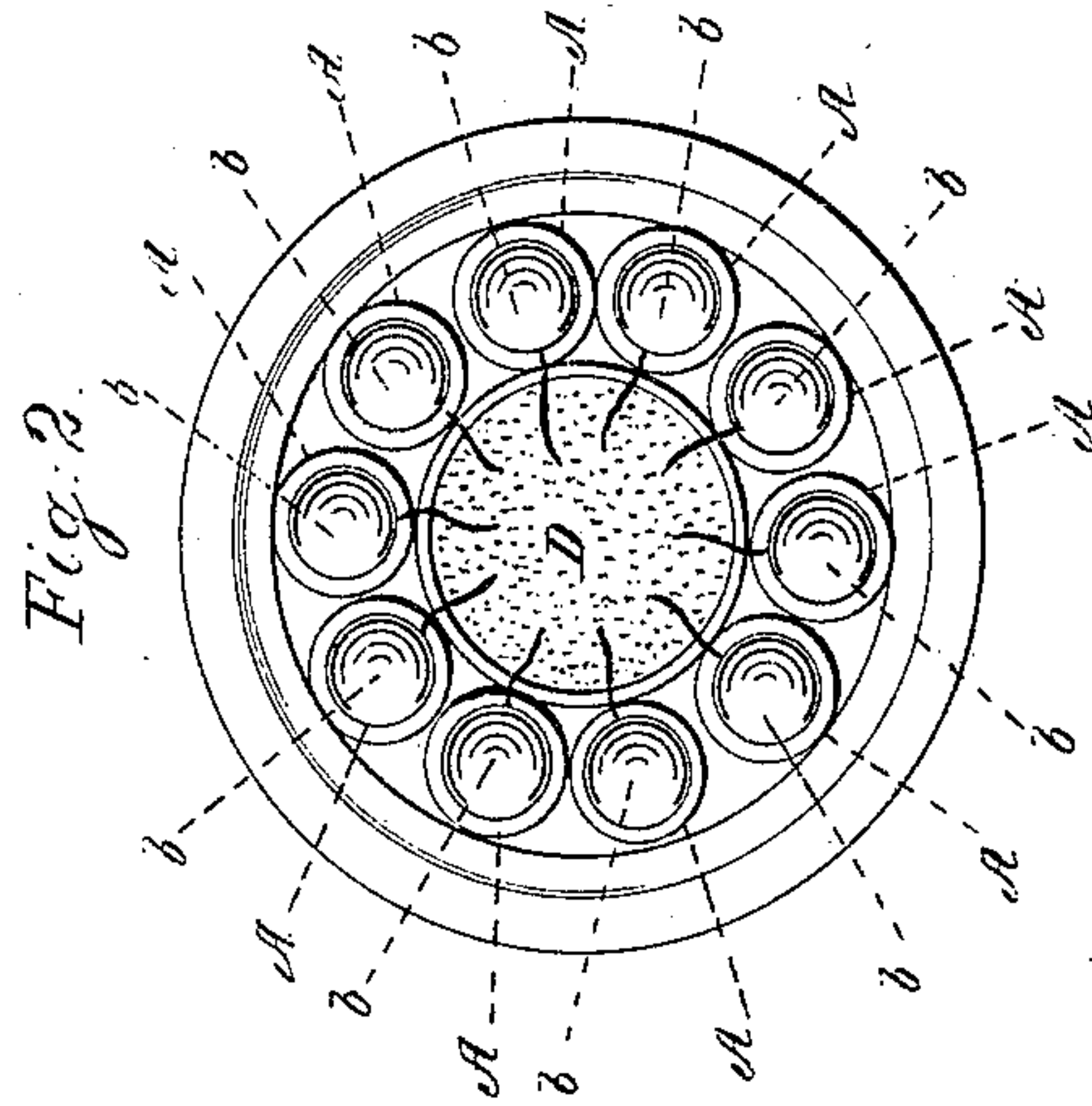


J. LONG.
Projectile.

No. 84,635.

Patented Dec. 1, 1868.



Witnesses.

A. C. Webster

Alex. D. Bailie

Inventor.

Jacob Long



JACOB LONG, OF SHAVER'S CREEK, PENNSYLVANIA.

Letters Patent No. 84,635; dated December 1, 1868.

IMPROVEMENT IN EXPLOSIVE PROJECTILES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JACOB LONG, of Shaver's Creek, in the county of Huntingdon, in the State of Pennsylvania, have invented a new and improved Projectile or Loaded Shell; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in loading a "shell" with ten barrels or tubes, each containing five full musket-charges of powder and musket-balls, and provided with fuses, which shall ignite from the explosion of the shell. The shell having exploded, the said barrels will be thrown in every direction upon the ground, and commence discharging their contents, which continuous discharge will be kept up until they have discharged their entire contents, so that each "shell" will, after having done the damage of an ordinary explosive shell, be equal to fifty rounds of infantry.

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

Figure 1 represents a sectional view of a rifled shell, made of metal, the sides or walls of the shell being only sufficiently heavy to resist the action of the gun in discharging it.

B represents a movable top piece, securely fastened by means of a screw or other appliance.

The entire centre or chamber of the shell is hollow, and around the wall of the shell are arranged ten barrels or tubes A, made of wrought-iron or other suitable material, each loaded with five musket-balls, *b*, and five charges of powder, and grooved on the inner side so as to admit a fuse or quick-match, as shown by the red line *c*.

These barrels or tubes are secured in their places by plaster of Paris, or other suitable material, and form, as it were, part of the wall of the shell.

The centre of the shell is then loaded with powder, D, enough to explode the shell, which, upon the dis-

charge of the gun, is ignited by the fuse, as represented by C.

When the shell explodes, it ignites the several fuses or quick-matches contained in the barrels or tubes, and scatters said barrels, with fragments of the shell, in every direction, thus, in its first action, doing the damage of an ordinary explosive shell.

The fuses in said barrels, having been ignited by the explosion of the shell, they successively discharge the balls with which they are loaded.

Over each ball a gum wad is placed to prevent the respective charges from igniting simultaneously, and to give more force to the discharge.

Figure 2 represents an end view of the shell, with the top removed, and shows the barrels A secured in position, the leaden bullets *b*, and the fuse or quick-match *c* by which they are ignited, and the chamber of the shell D.

Figure 3 represents one of the tubes or barrels with which the shell is loaded.

There may be more or less than ten barrels or tubes arranged in the shell, according to the size of it, and the capacity of the gun for which it is intended, or the size balls it is desired the barrels shall discharge.

These tubes or barrels may be loaded with more or less than five charges of powder and ball, according to their size.

While I disclaim, as new and original, the idea of loading shells with other explosive shells, shot or grapnel,

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

The combination of a loaded shell with the barrels A, each containing several charges of powder and ball, arranged so as to discharge their contents in succession after the bursting of the shell, substantially as described.

JACOB LONG.

Witnesses:

A. C. H. WEBSTER,
ALEX. D. BAILIE.