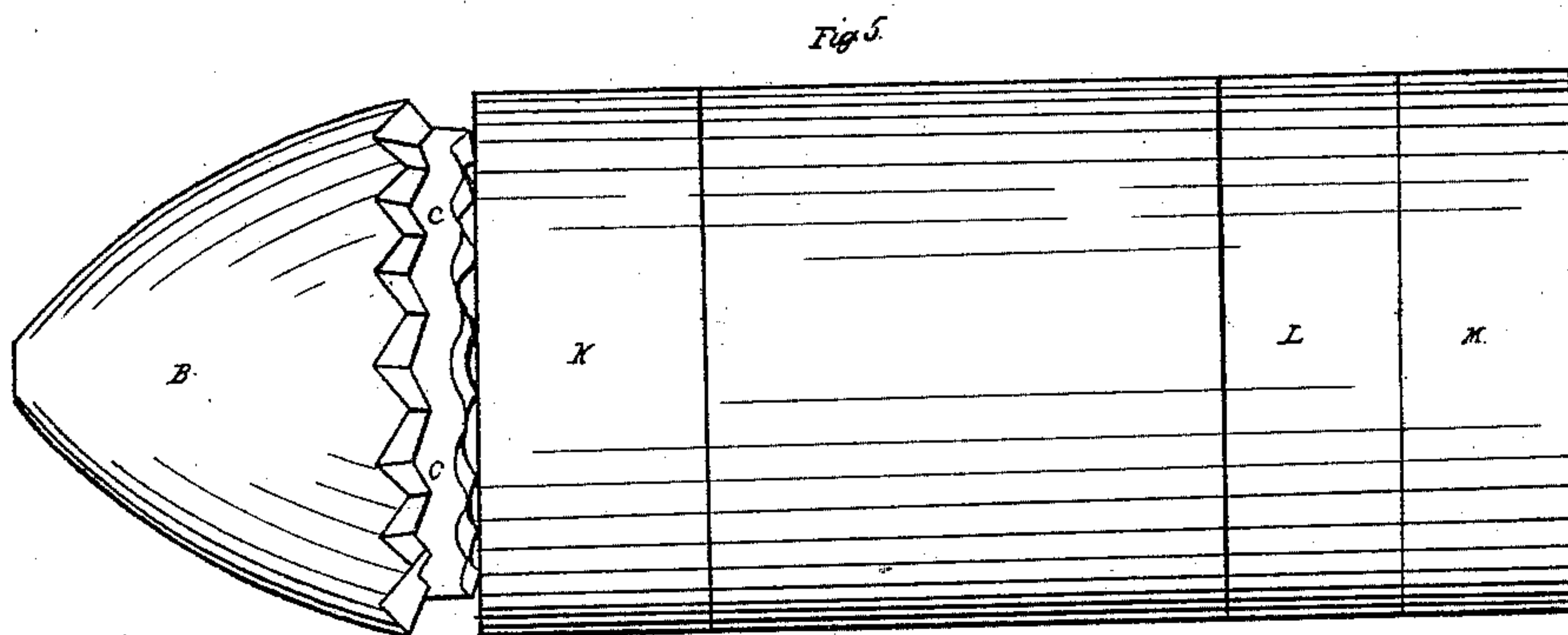
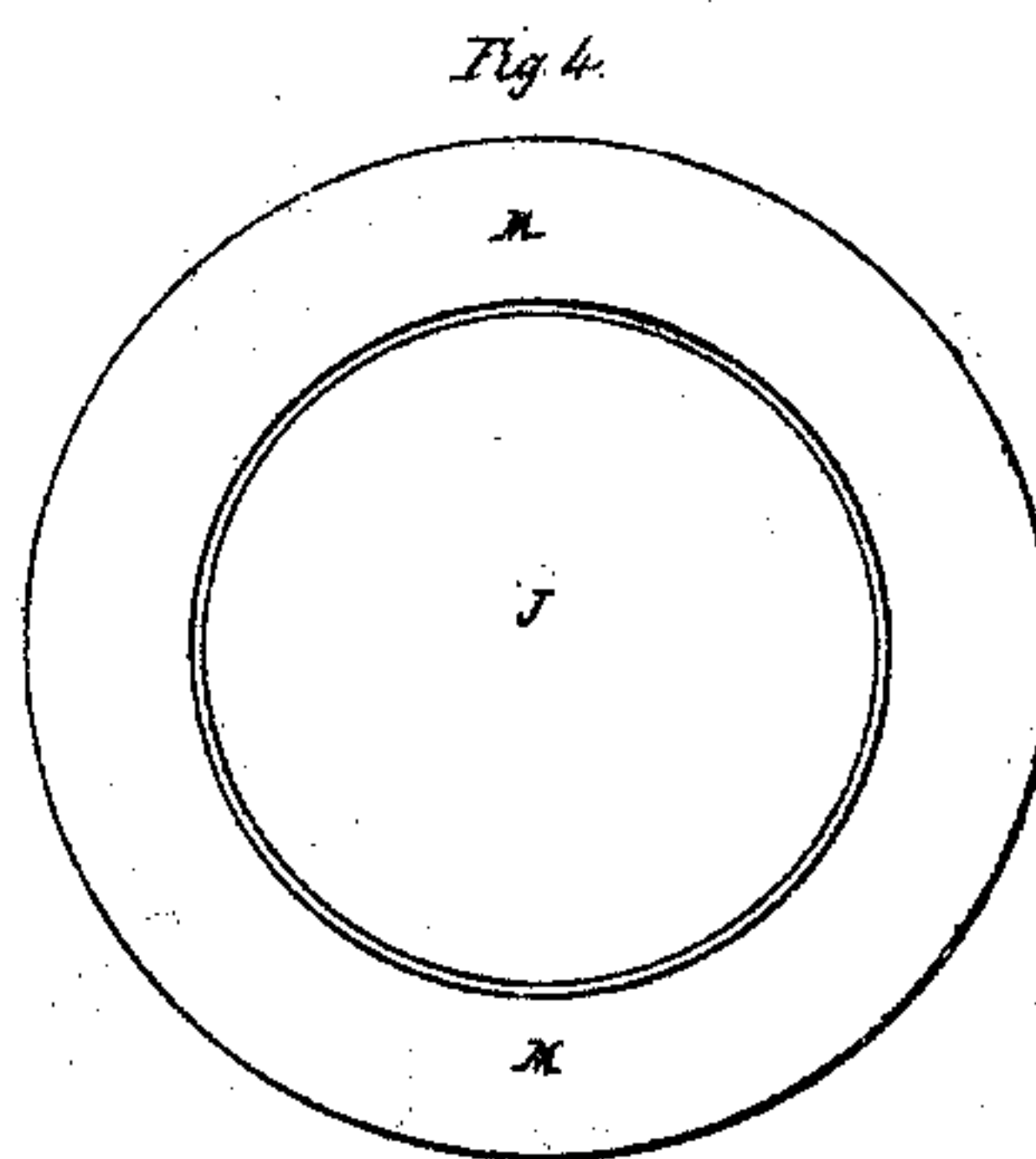
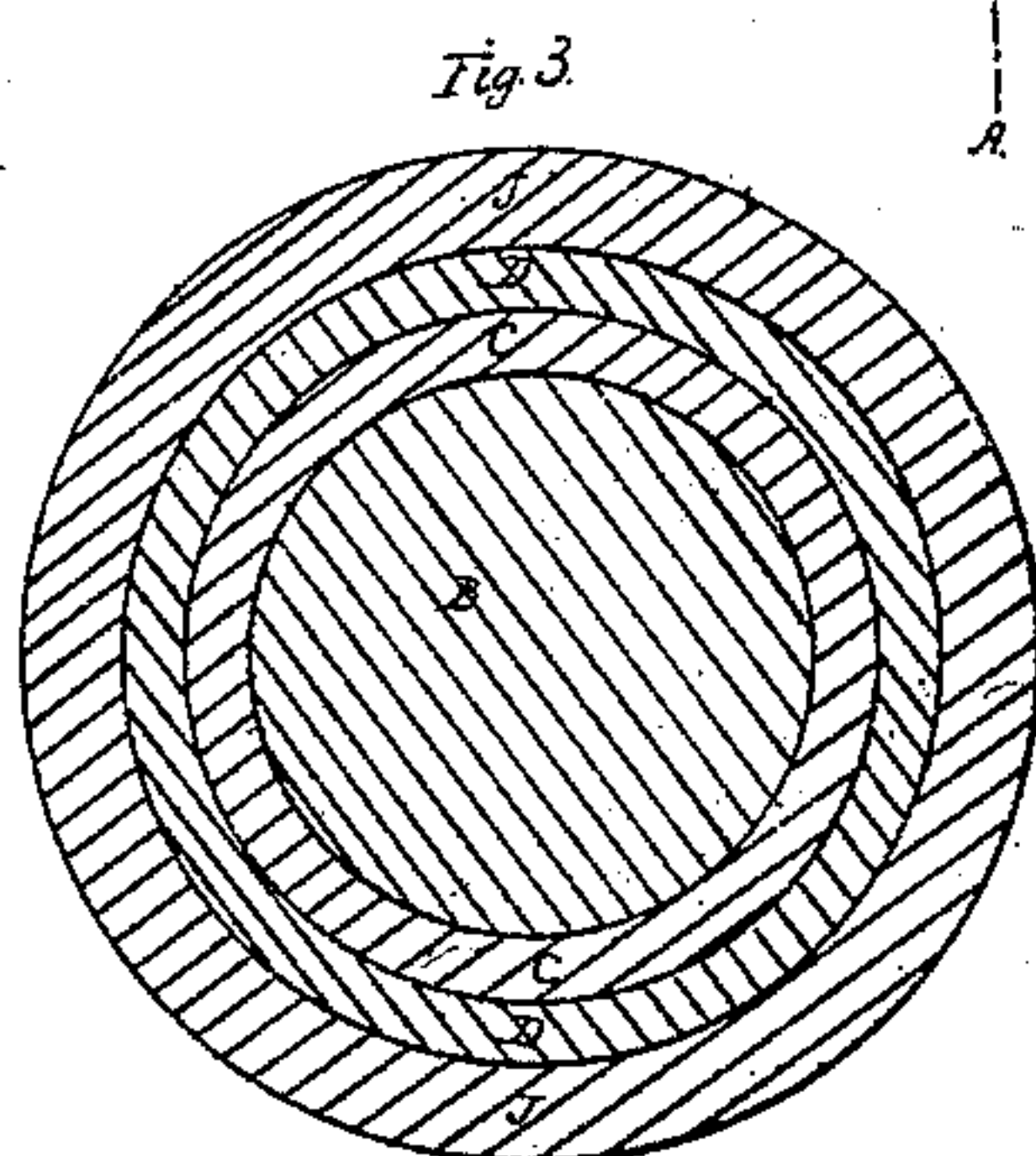
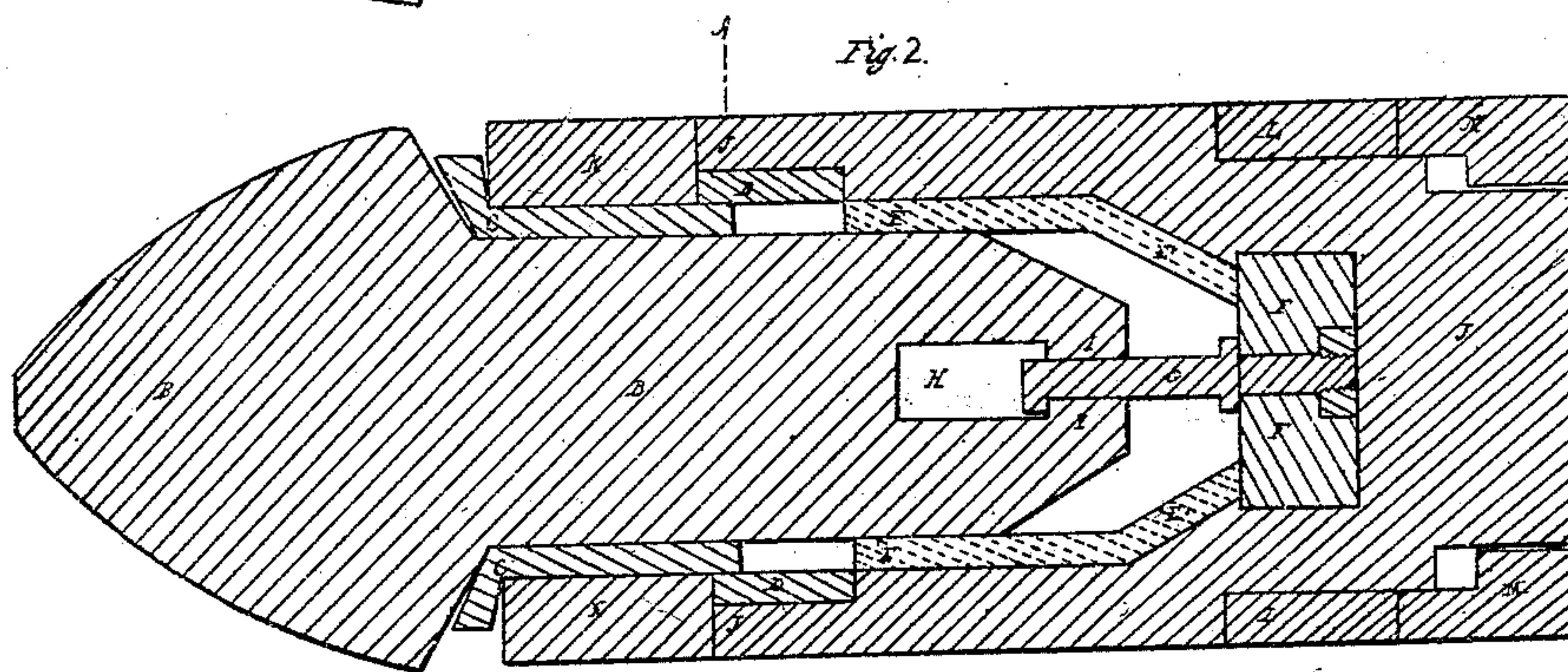
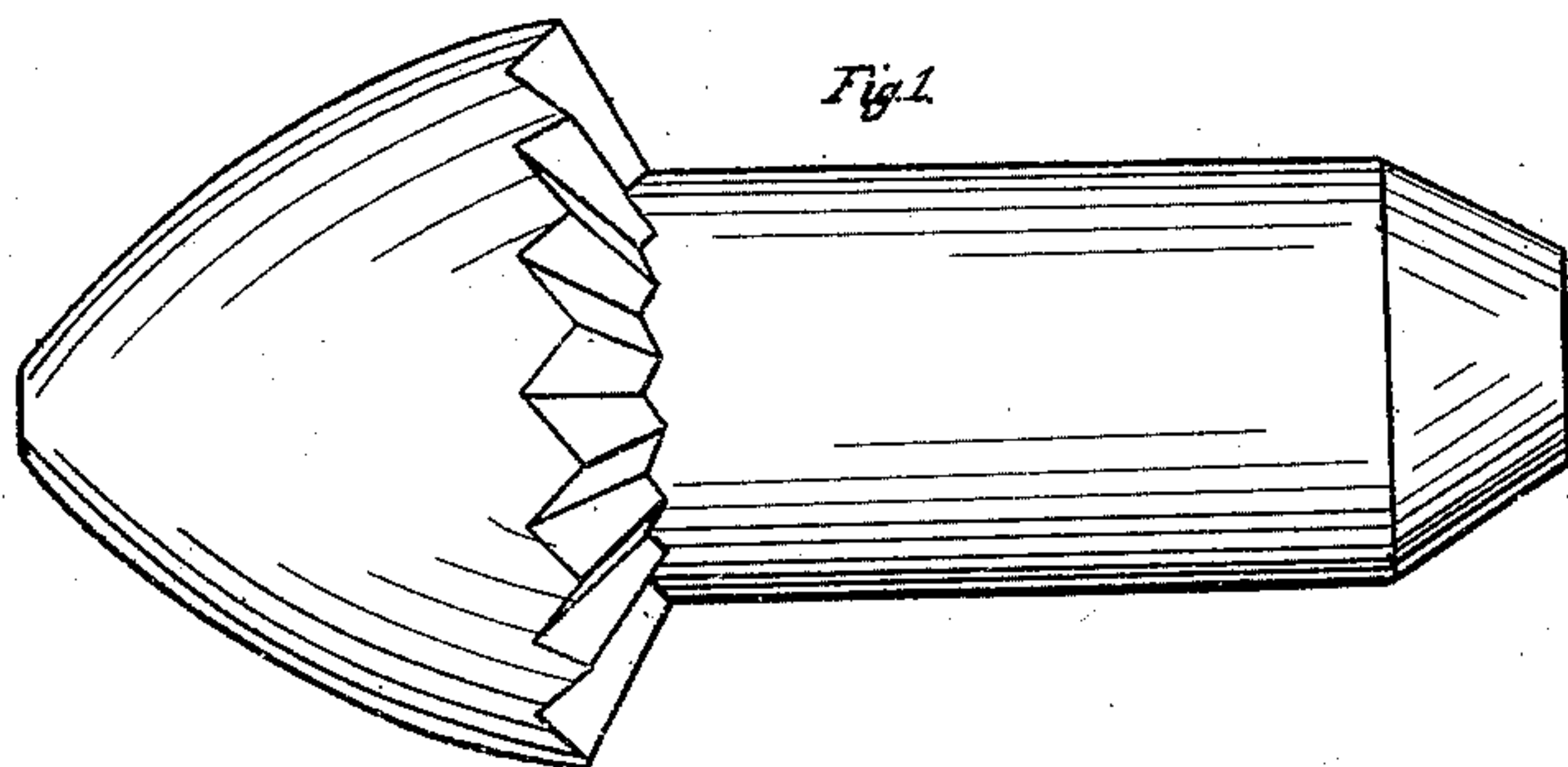


L. P. JENKS.
Sabot for Hot Shot.

No. 39,930.

Patented Sept 15, 1863.



Witnesses:

George L. Rice
S. L. Sawyer

Inventor:

L. P. Jenks

UNITED STATES PATENT OFFICE.

LEMUEL P. JENKS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN COMPOUND SABOTS FOR HOT SHOT.

Specification forming part of Letters Patent No. **39,930**, dated September 15, 1863; antedated October 2, 1862.

To all whom it may concern:

Be it known that I, LEMUEL P. JENKS, of the city of Boston, Suffolk county, State of Massachusetts, have invented a new and Improved Mode of Arranging Shot and Sabots for Rifled Ordnance, by which they are enabled to be heated before discharging; 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 placing a non-conductor or non-conductors between the shot and the sabot.

In the drawings annexed, Figure 1 represents a view of the shot without the sabot. Fig. 2 is a section of the shot and sabot. Fig. 3 is a section of Fig. 2 at the time of the arrows A A. Fig. 4 is an end view of Fig. 5, and Fig. 5 is a view of the shot and sabot ready for placing in the gun.

In the drawings, B B, Fig. 2, is a section of the shot, which is in the form of a rounded cone, joined by its base to a cylinder of a little more than half the diameter of the said base and of length not quite twice its diameter. To the other end of the cylinder is joined by its base (of the same diameter as the cylinder) a frustum of a cone whose apex end is half the diameter of its base. At its base the first-named rounded cone is serrated all round from the outside to the cylinder named. (See Figs. 1 and 5.) The serrations are inclined from outside to cylinder at an angle of twenty-two and one-half degrees, or thereabout. (See Figs. 1 and 2.) Fitting into them are similar serrations formed by a shoulder or lip, which projects all round from the end of a hollow cylinder, C C, Figs. 2 and 5, of one and three-fourths inch in length, or thereabout, and three-sixteenths of an inch thick, of pottery-ware. The hollow cylinder of pottery fits loosely upon the cylindrical part of the shot.

Enveloping for about one-quarter of an inch the lower part of the pottery-ware cylinder C C is another cylinder, D D, Fig. 2, of one inch in length, and the same thickness as the first named.

At the lower end of the cylinder D D is a hollow cylinder, E E, Fig. 2, of plaster-of-paris, of the same thickness and diameter internally as the cylinder C C. To the end of

this cylinder E E is joined the hollow frustum of a cone, E' E', Fig. 2, of plaster-of-paris, of the same thickness with the cylinder E E, and whose interior space fits upon the lower end of the shot.

F F, Fig. 2, is a flat cylindrical piece of pottery-ware, called the "sabot-plug," of about one and three-fourths inch in diameter and three-fourths of an inch in thickness, placed close to the plaster-of-paris casing, and with its center in a line with the axis of the shot. Through the middle of this sabot-plug F F projects toward the shot a piece of metal, G, Fig. 2, of one-fourth of an inch in diameter and about two inches long, whose lower end is firmly secured in the piece of ware F F by a nut and screw, and its forward end for one-eighth of an inch is squared and bent at a right angle.

In the bottom or breech end of the shot, at H, Fig. 2, is a cylindrical aperture of one and one-half inch depth and one-half of an inch in diameter, whose lower part is filled by a plug at I I, Fig. 2, cast in it, in practice, through which plug is a slit reaching nearly across its diameter, and of the same width as the thickness of the bent end of the piece of metal or fastener G. Through this slit, when the shot is placed in the sabot, passes the upper bent end of the piece of metal or fastener G, when, the shot being partially rotated on its axis, the shot is firmly held by the fastener G and its attachments. The sabot-plug F F is firmly fixed in the bottom of a piece of wood, J J J, Fig. 2, cylindrical externally, and interiorly conforming in shape to the external shape of the plaster-of-paris cylinder, &c., E E E' E', and the pottery-ware cylinder or ring D D, to the upper or muzzle side of which ring D D the wood reaches, and at the lower or breech end this wooden part of the sabot is continued solidly for one and one-half inch beyond the breech side of the sabot-plug F F.

Between the muzzle end of the wooden case J J J and the serrated lip or shoulder of pottery-ware at C C, Figs. 2 and 5, is a compressible band, K K, Fig. 2, preferably of canvas-duck cemented by india-rubber or other cement, whose outside is of the same diameter with the wooden case J J J. This ring K K fits closely upon the pottery-ware cylinder C C. The lower external part of the wooden case J

J J is provided with another compressible band, L L, Fig. 2, of less width and thickness than K K, which ring is compressed by a short cylinder of wood, M M, Fig. 2, of the same diameter externally as the case J J J, fitting so as to slide upon the end of the wooden case J J J, which is diminished in diameter for one inch from its end by one-eighth of an inch, and for one-fourth of an inch farther by five-eighths of an inch. This cylinder M M is one and one-eighth inch long, and for one-half of an inch from its upper or muzzle end its interior diameter is one-half of an inch greater than for the balance of its length.

The operation of my contrivance is this: The shot B is taken out of the sabot and heated, and then cleansed. The sabot being placed with its muzzle end up, the hot shot (handled by pinchers applied at the ears, one of which is seen at N, Fig. 1,) is placed in the sabot, and being twisted, the fastener G holds the sabot, &c., firmly attached to it, when, the shot being lifted, the sabot comes with it, and all are placed in the cannon previously prepared for their reception, and are discharged in the ordinary manner.

The object of my arrangement is to place a non-conductor between the hot shot and the sabot and its bands.

I do not confine myself to the use of pottery-ware or of plaster-of-paris as a non-conductor. I sometimes use soapstone or other heat-bearing natural or artificial stone for that purpose; and sometimes I mix black-lead or graphite in my pottery-ware; and sometimes I place a thin ring of vulcanized rubber or other elastic heat-bearing substance between the serrations of the hot shot and the serrations of the pottery-ware which fit upon them; and sometimes I cut down the shot in diameter, so that nothing but the sabot and bands touch the gun.

I do not confine myself to any peculiar form of shot or to any peculiar form of sabot, as it is obvious to any one acquainted with the already contrived shots and sabots that my invention is readily applicable to some of them.

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

The interposition between the shot and sabot or its attachments of a non-conductor or non-conductors of heat, substantially as described.

LEMUEL P. JENKS.

Witnesses:

GEORGE L. RICE,
S. L. SAWYER.