

A. BALL.
Lubricating Bullets.

No. 47,784.

Patented May 23, 1865.

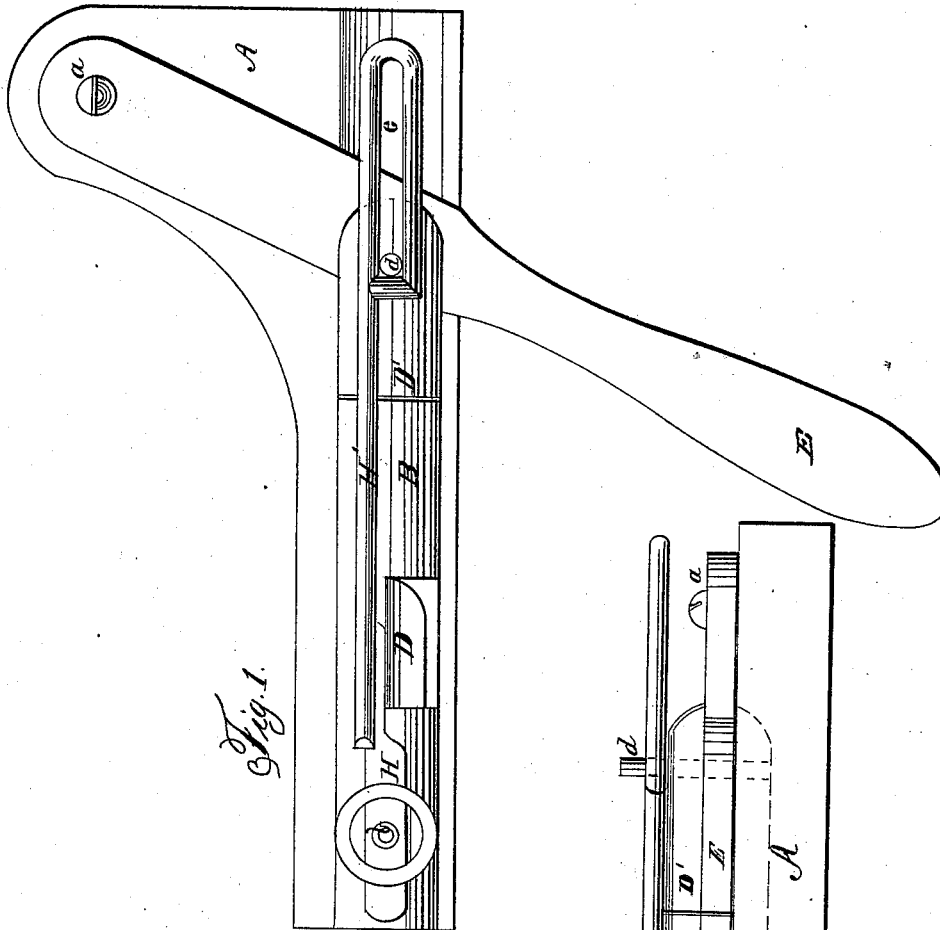


Fig. 1.

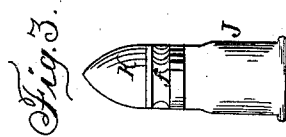


Fig. 3.

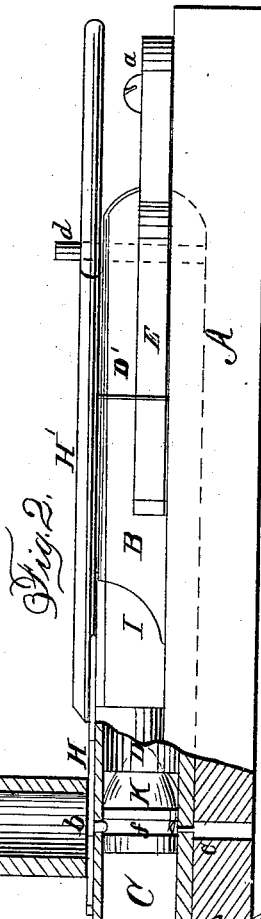


Fig. 2.

Witnesses

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IMPROVEMENT IN MACHINES FOR LUBRICATING BULLETS.

Specification forming part of Letters Patent No. 47,784, dated May 23, 1865.

To all whom it may concern:

Be it known that I, ALBERT BALL, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Machines for Lubricating and Sizing Bullets; 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, in which—

Figure I represents a top or plan view of my improved device. Fig. II represents a side view, the reservoir and a part of the front being in section; and Fig. III represents a section of a metal shell and a top view of the bullet in position.

In the drawings, A represents the base of the machine, upon which rests the cylinder-frame B, which contains the chamber, receptacle, or cylinder C, within which works a piston, D, the latter being operated by a lever, E, which is pivoted to the rear of piston D, and also to base A at *a*. From the top of the cylinder-frame rises the lubricating-reservoir F, within which works the piston G. The reservoir F communicates with the cylinder C by means of the small hole or opening *b*, while directly below the opening *b* is a small vent-hole, *c*, which passes through the cylinder-frame B and base A.

H is a sliding valve, which is operated by pin *d* in the lever E. Pin *d* works in a slot, *e*, in the end of arm H', so that valve H is operated at each forward and back motion of lever E, the forward motion of lever E opening the valve, as indicated in the drawings.

The operation is as follows: The lubricating matter is placed in the reservoir F, generally in a cool state, and by the aid of the piston G pressure is applied thereto; or the pressure may be applied in any other suitable manner. Lever E being back and valve H closing the opening *b*, a bullet, K, is inserted into chamber C through the opening I, with the point of the bullet toward the end of piston D, which is grooved out to fit the end of the same. Lever E is now moved forward, whereby piston D forces the bullet into position under the reservoir, which holds the lubricating matter, as indicated in Fig. 11, and also opening valve H, so that the lubricating substance is free to pass down and fill

the groove *f* in the bullet, the air escaping through the vent-hole *c*. Lever E is now forced back, whereby the valve H is closed and piston D withdrawn. Another bullet is now inserted into the chamber or receptacle C, the same as the first, and lever F moved forward again, the last bullet forcing the first one out and taking its groove under the opening *b*, which is filled, and the operation repeated.

Instead of one reservoir for lubricating matter, two or more may be employed, so that in working the machine very rapidly the groove or grooves in the bullets will always be filled.

By the attachment of proper mechanism the bullets may be fed automatically, and the machine worked by any suitable power. Again, by properly arranging the shells at the mouth of chamber C, the bullets can be forced into the loaded shells as they leave said chamber. It will also be observed that the bullets will all be sized as they pass through chamber C; and in case the bullets are to be reduced considerably in size it may be well to have the chamber a little larger at the place where they are inserted. By my invention the lubricating substance is closely packed into the groove in the bullet, while the latter is left clean and accurately sized, the whole operation being performed in a most expeditious manner. The plan is now being adopted of entering the bullet into the shell, so as to cover the groove, since, when the groove is left out, the lubricating matter renders the frequent handling of the cartridges inconvenient, while if they happen to drop into dirt or sand it adheres to them and injures them very much for use; hence it is necessary that each bullet should be properly sized and its groove filled with the lubricating matter, so that it can be inserted into the metallic shell J in a true and expeditious manner. In case there are several grooves to be filled in the same bullet, then additional openings *b* and vent-holes *c* should be provided. The rear of piston D, is enlarged, and has a shoulder, D', which strikes against the part B, as indicated in the drawings.

Having described my improved machine for sizing and lubricating bullets, what I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination, with a cylinder or proper receptacle for holding the bullet, of an

opening to admit the lubricating matter to the groove in the bullet, and a vent-hole for the escape of the air, substantially as described.

2. The combination, with a cylinder or chamber for holding the bullet, of a reservoir or reservoirs for holding the lubricating substance, and a plunger or its equivalent for forcing the lubricating matter while cool into the grooves in the bullets, substantially as set forth.

3. The combination, with the bullet-cylin-

der C, of the piston D and valve H, substantially as described.

4. The construction and arrangement of mechanism in such a manner that bullets may be sized and their groove or grooves filled with a lubricating substance at one and the same operation.

ALBERT BALL.

Witnesses:

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