

J. ROYAL.
Fire-Arm.

No. 210,968.

Patented Dec. 17, 1878.

Fig: 1.

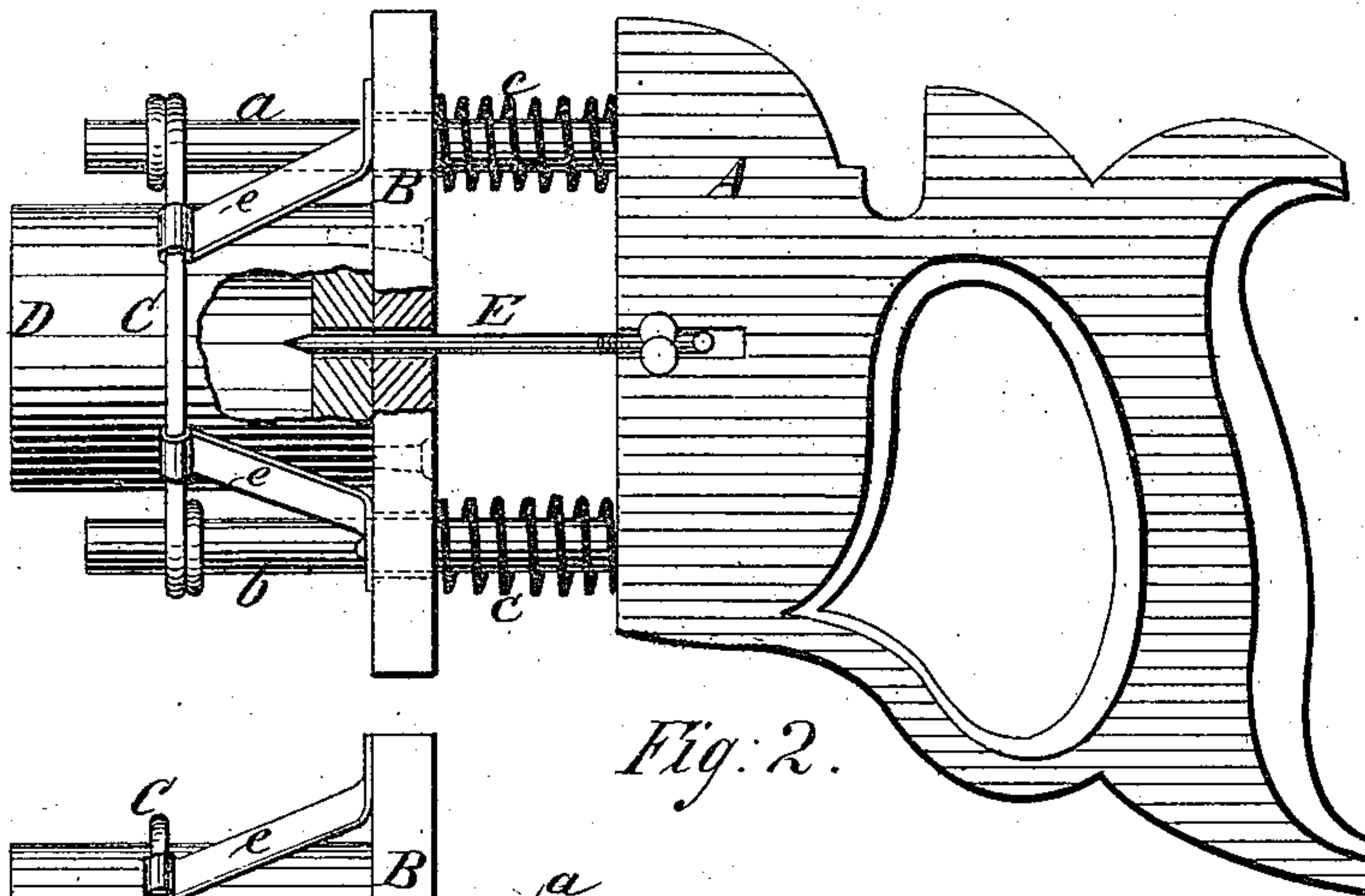


Fig: 2.

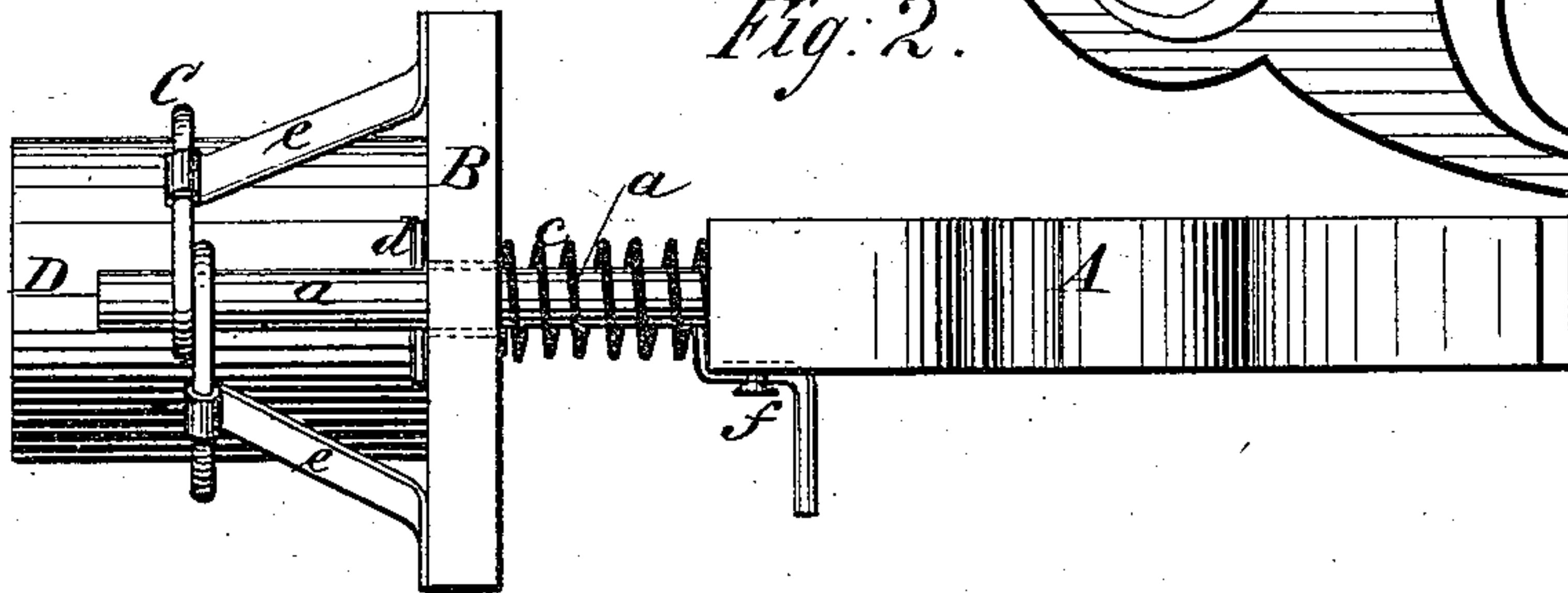
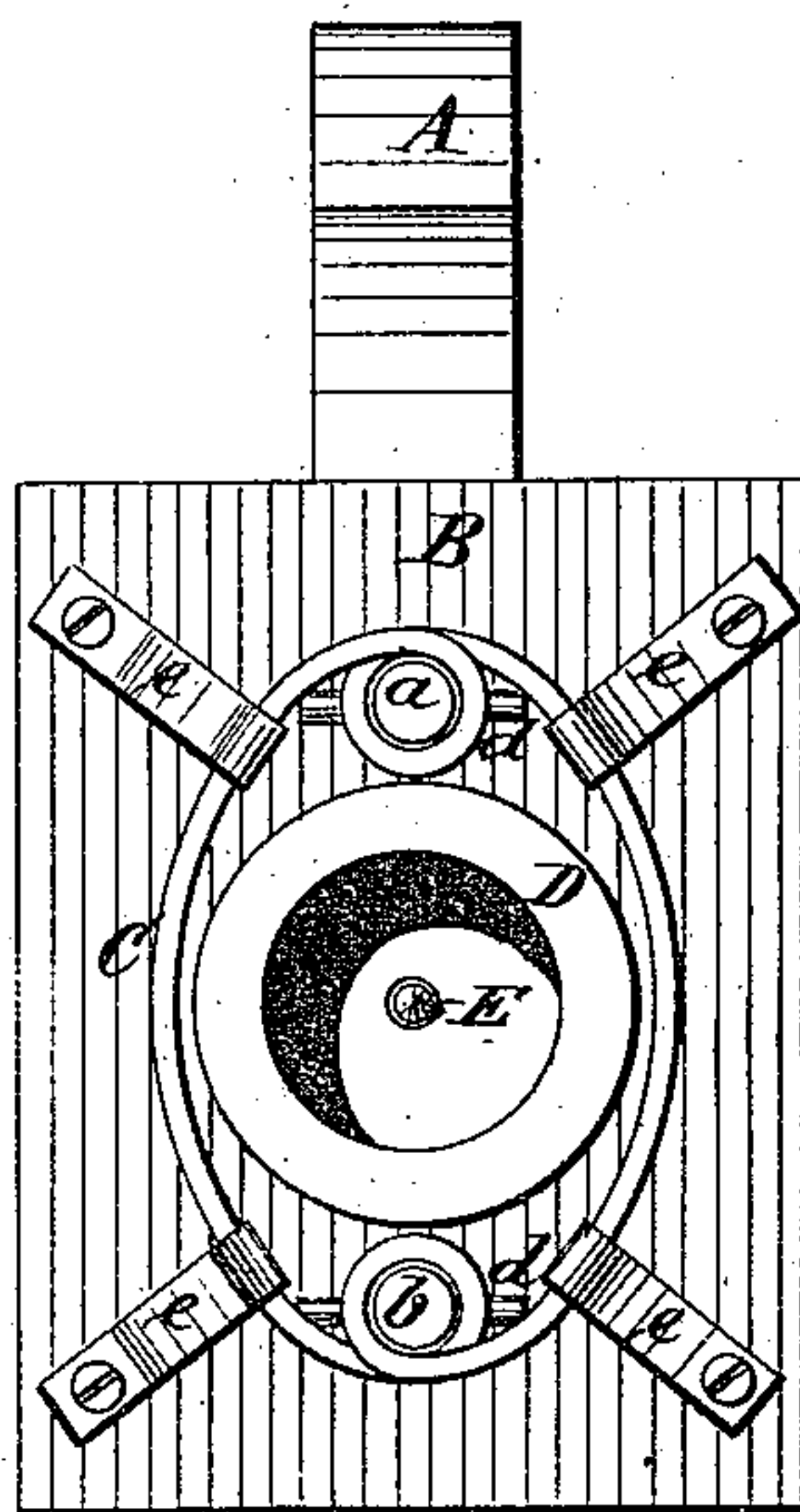


Fig: 3.



WITNESSES:

Achilles Sehehl.
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UNITED STATES PATENT OFFICE.

JARVIS ROYAL, OF ROCHELLE, ILLINOIS.

IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. 210,968, dated December 17, 1878; application filed November 9, 1878.

To all whom it may concern:

Be it known that I, JARVIS ROYAL, of Rochelle, in the county of Ogle and State of Illinois, have invented a new and useful Improvement in Fire-Arms, of which the following is a specification:

This invention relates to an improvement in fire-arms of the mortar class, the object whereof is to furnish a small arm for firing from the hand, in which a large caliber is obtained, while the barrel is very short in proportion thereto.

A further object is to provide means for taking up the recoil, and thus prevent injury to the hand of the soldier or other person using the weapon.

It consists of a short barrel fixed to a plate which bears against spiral springs, incasing rods projecting through the said plate, which are fixed to the handle or stock, whereby when the arm is fired the recoil is taken up by the said springs and its force expended without injuring the hand of the firing party.

In the accompanying drawings, Figure 1 is a side elevation of my improved small-arm. Fig. 2 is a top view of the same, and Fig. 3 is a front view.

Similar letters of reference indicate corresponding parts.

Referring to the drawing, A represents the handle or stock of my small-arm or hand-mortar. It is preferably made like a saw-handle, as shown, though I do not confine myself to this form.

From the end of the handle project the rods *a b*, on which are spiral springs *c*, one end bearing against the end of the stock.

B represents the base of the mortar. It is made of metal, and has two holes, through which the bolts are passed. The base rests against the ends of the springs, and is secured in contact with the same by keys *d*, passed through the bolts on the opposite side of the base from the springs, so that it is held firmly and securely between the keys and the springs, and at the same time a fixed connection of the base with the stock is obtained.

To prevent the base-plate from losing its position of perpendicularity with the axis of the stock, guides are furnished, composed of the ring C, looped around the rods *a b* and sustained by the angle-plates *e*, one end looped over the ring, and the foot connected with the face of base-plate B by screws. The loops in this ring C, sliding on the rods, guide the base-

plate as it is moved backward from the effects of the recoil, and thus prevent it from losing its proper position at right angles to the axis of the stock and barrel.

To the center of the face of the base-plate is secured the mortar D, having a very large caliber in proportion to its length. Its connection with the base-plate is made in any convenient manner to secure strength.

E is the needle with which the cartridge is exploded. It projects through the base-plate into and through the breech of the mortar, so that it can puncture the cartridge. It is provided with right-angular bends *f*, so as to bring it on the right-hand side of the stock at a convenient point to be reached by the finger. It is, of course, operated by a suitable spring.

The operation of my invention is as follows: The cartridge is inserted in the mortar, and exploded by means of the needle E. The recoil that follows the discharge throws the base-plate back; but as it is sustained by the springs *c* these retract, and thus take up most of the force of the recoil, and relieve the hand from the shock that generally follows the discharge of fire-arms.

This weapon is of especial usefulness in fighting at close quarters, as repelling boarders from ships, and in similar situations. Its great caliber enables it to carry very formidable and effective ammunition, while its length is such that it can be used where rifles and the ordinary pistols are useless.

Either shot or shells can be used as ammunition for this arm. The saw-handle gives an unusual leverage for aiming. I can use a caliber so large that the other hand need to be held up under the handle so as to sustain it. A caliber of one-half ($\frac{1}{2}$) or two (2) inches can thus be used, equivalent at short range to the wall-pieces that arm a curtain at Fortress Monroe.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

As an improvement in fire-arms, the base-plate held on rods *a b*, in contact with springs *c*, which take up the recoil, in combination with the mortar D, rods *a b*, and stock A, substantially as described.

JARVIS ROYAL.

Witnesses:

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