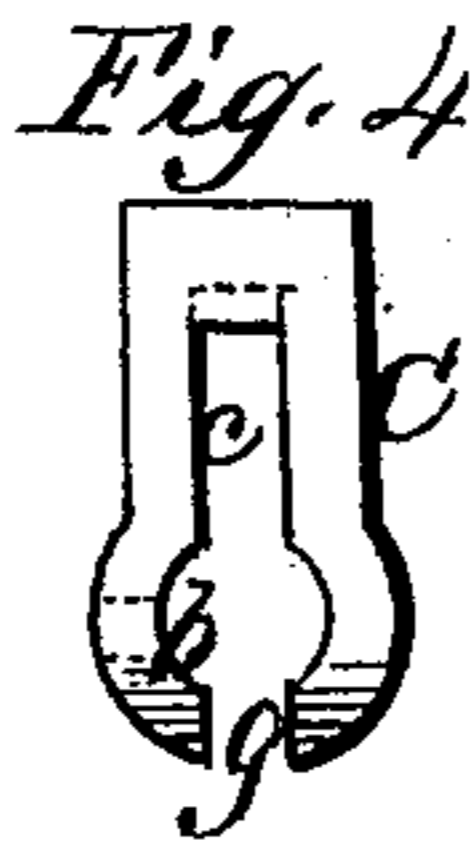
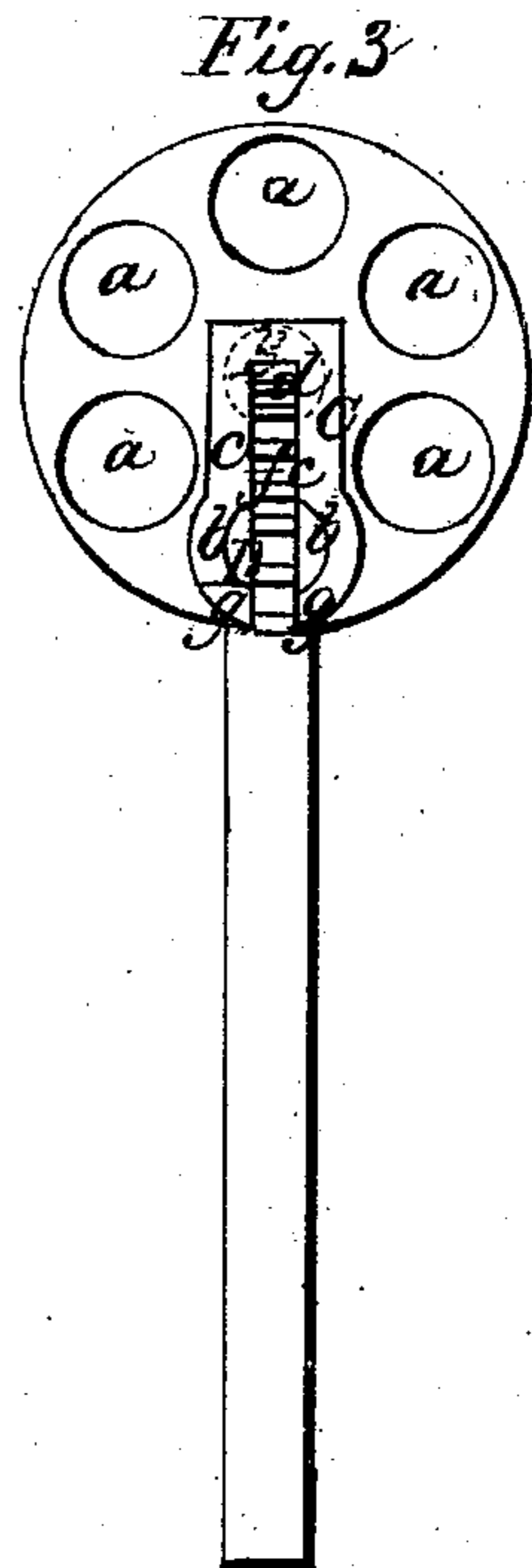
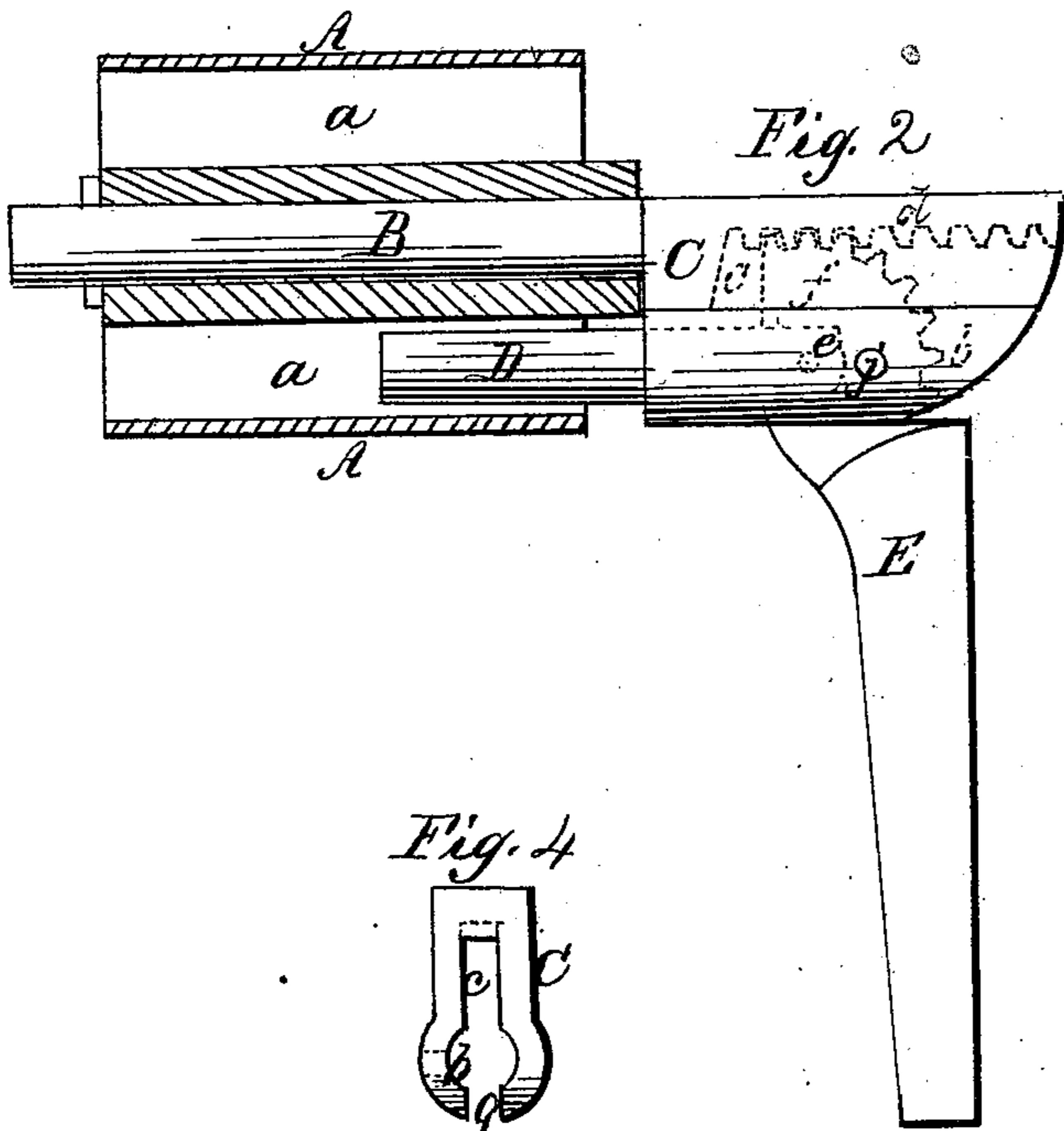
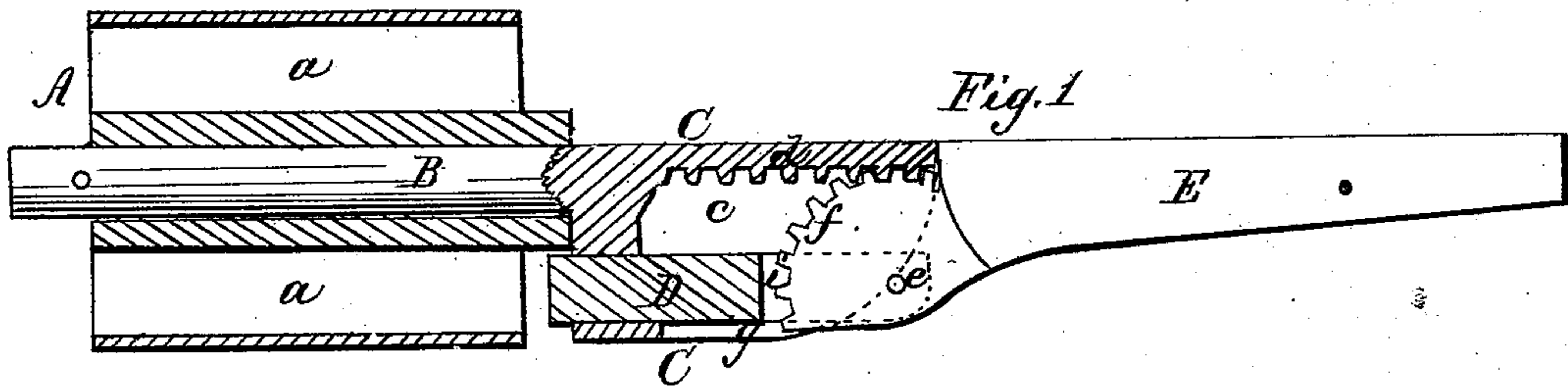


H. S. NORTH.
Revolver.

No. 19,868.

Patented Apr. 6, 1858.



UNITED STATES PATENT OFFICE.

HENRY S. NORTH, OF MIDDLETOWN, CONNECTICUT.

IMPROVEMENT IN REMOVABLE RAMMERS OF REVOLVING FIRE-ARMS.

Specification forming part of Letters Patent No. 19,868, dated April 6, 1858.

To all whom it may concern:

Be it known that I, HENRY S. NORTH, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in that description of Fire-Arms known as "Revolvers;" 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, forming part of this specification.

This invention relates to that description of revolvers whose chambered cylinder rotates on an axis parallel with the bore of the barrel.

It consists in a certain novel, simple, and effective method of applying a rammer to ram the charges in the chambers of the cylinders.

Figure 1 in the accompanying drawings exhibits a longitudinal section of the chambered cylinder of a revolver and a view of the rammer, partly in section. Fig. 2 exhibits a similar view of the cylinder, but exhibits the rammer entire and in a different position to that represented in Fig. 1. Fig. 3 is a front view corresponding with Fig. 2. Fig. 4 is an end view of the base-pin or arbor on which the cylinder rotates.

Similar letters of reference indicate corresponding parts in the several figures.

A is the chambered cylinder. *a a* are the chambers. B is the base-pin or fixed arbor upon which the cylinder A rotates. This base-pin B is furnished with a head, C, that stands in front of the cylinder, and in the front part of the head, or part farthest from the cylinder, there is a cylindrical passage, *b*, parallel with the axis of the pin, for the plunger D of the rammer to slide in, said passage being at such distance from the center of the pin B that the chambers *a a* can be brought exactly opposite to it by the rotation of the cylinder. At the back of the cylindrical passage *b* there is a narrow and parallel passage, C, at the back of which there is a straight-toothed rack, *d*, whose pitch-line is parallel with the axis of the cylinder and with the plunger D, and in front of the said passage, opposite to C, there is an open passage, *g*, of the same width as C.

E is a lever for operating the plunger D, said lever being pivoted by a pin, *e*, into a slot, *i*, in the plunger, and being furnished with a rigidly-attached toothed sector, *f*, that is concen-

tric to the pivot *e* and thin enough to work in the passages *c* and *g*, and of proper radius and pitch to gear with the rack *d*. The lever E and plunger D are not connected together till after they are put in their places; but after this plunger has been put in the passage *b* and the sector *f* put into the passages *g c* and into the slot *i* of the plunger the pin *e* is inserted through a transverse opening, *j*, provided for the purpose, through the passage *b*. This pin, which is only just big enough to pass through the plunger, or it could not work in the passage *b*, by securing the sector and plunger together prevents either slipping or being drawn out of its place; but when the lever is worked on the pin *e* the sector is caused to creep along the rack *d* and move the plunger longitudinally, the concentricity of the sector *f* to the pin *e* and parallelism of the rack *d* with the plunger-passage *b* permitting the most perfect freedom of motion, and the passage *b* guiding the plunger straight into the chambers after they have severally arrived opposite to it. When the lever is moved up to the position shown in Fig. 1, in which position it lays close against the barrel, it draws forward the plunger D to such a position as to permit the rotation of the cylinder; but by moving it down to the position shown in Fig. 2 the plunger D is caused to move back into that chamber which happens at the time to be in the line with the plunger.

The usual method of applying the rammer to fire-arms of the revolver kind is to have the rack and chamber parts attached directly to the frame which supports the barrel. Indeed, said rack and chamber commonly form a part of said frame, and are not connected with the base-pin. The result is that the barrel cannot be removed without separating the lever and the rammer by knocking out the pivot which connects them, and then removing said parts. It is also very difficult and expensive to cut the rack and chamber so true when thus attached to the frame that the rammer will move on an exact parallel with the base pin, and the method of cutting is expensive on account of the difficulty of applying the necessary instruments. This difficulty arises from the fact that the frame stands in the way and prevents convenient manipulation and application of tools.

My improvement obviates all of the above

objections, and also presents new and important advantages. By having the rack and chamber made in the head of the base-pin all of the parts may be readily and cheaply cut by the usual machinery. There can be no liability to unevenness in the line of movement of the rammer, for if one tool or cutting-instrument is correctly made all the chambers and racks will be cut exactly right. Again, in order to remove the barrel, it is only necessary to turn a single screw, when the base-pin, lever, and rammer are all detached from the arm, but are not separated from each other. They are also restored to their places with the same fa-

cility. The rammer parts are thus made independent of every other portion of the fire-arm.

What I claim, and desire to secure by Letters Patent, is—

Having the rack *d* and passage or chamber *b* made in the head of the base-pin B, substantially as described, thus rendering the rammer independent of every other part and facilitating its removal and construction, as herein set forth.

HENRY S. NORTH.

Witnesses:

EDWARD B. SAVAGE,
JONATHAN BARNES.