N. THOMPSON.

Improvement in Firing-Mechanism for Ordnance.

No. 130,452. Patented Aug. 13, 1872.

Fig: 1.

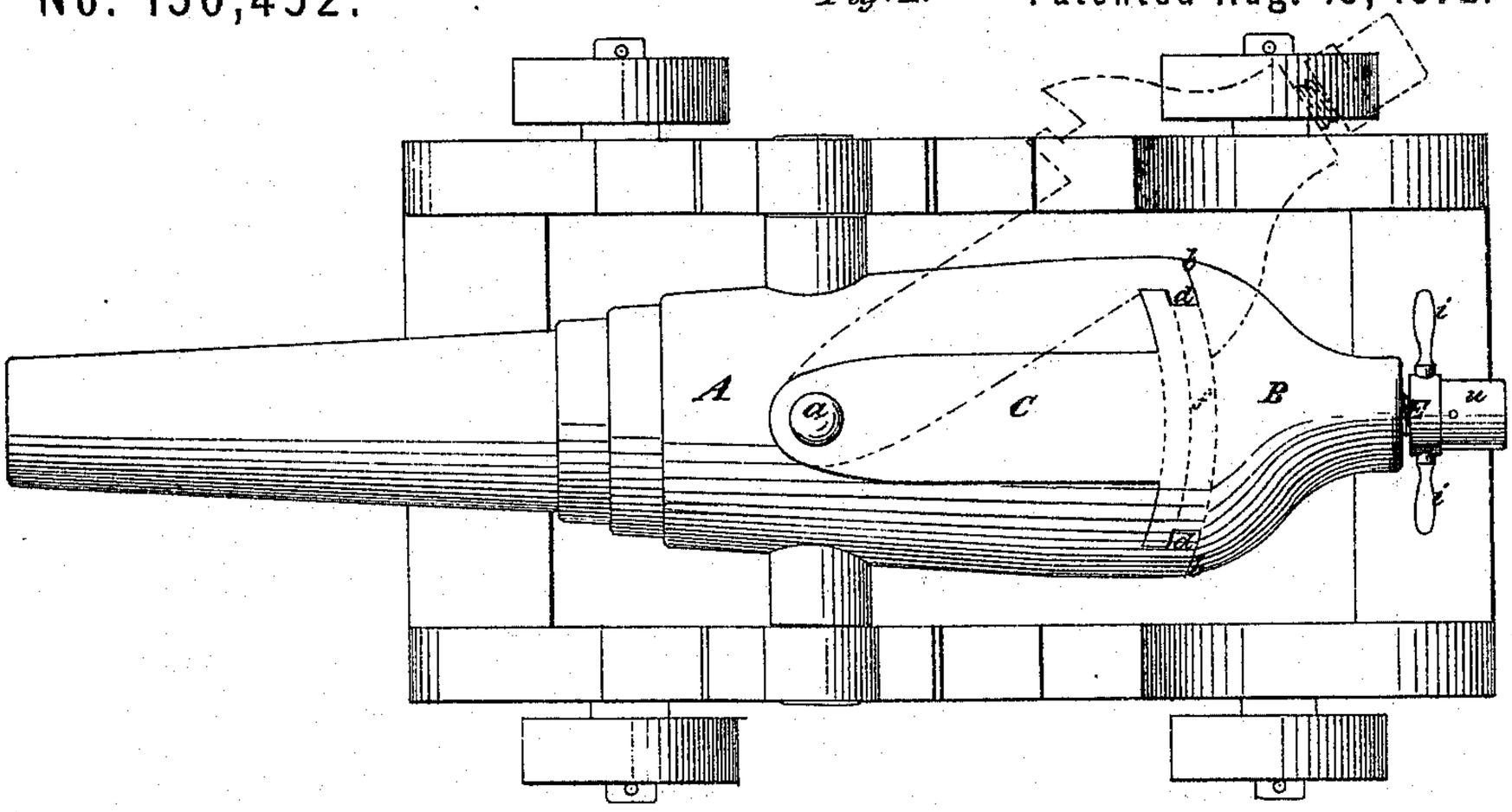


Fig: 2

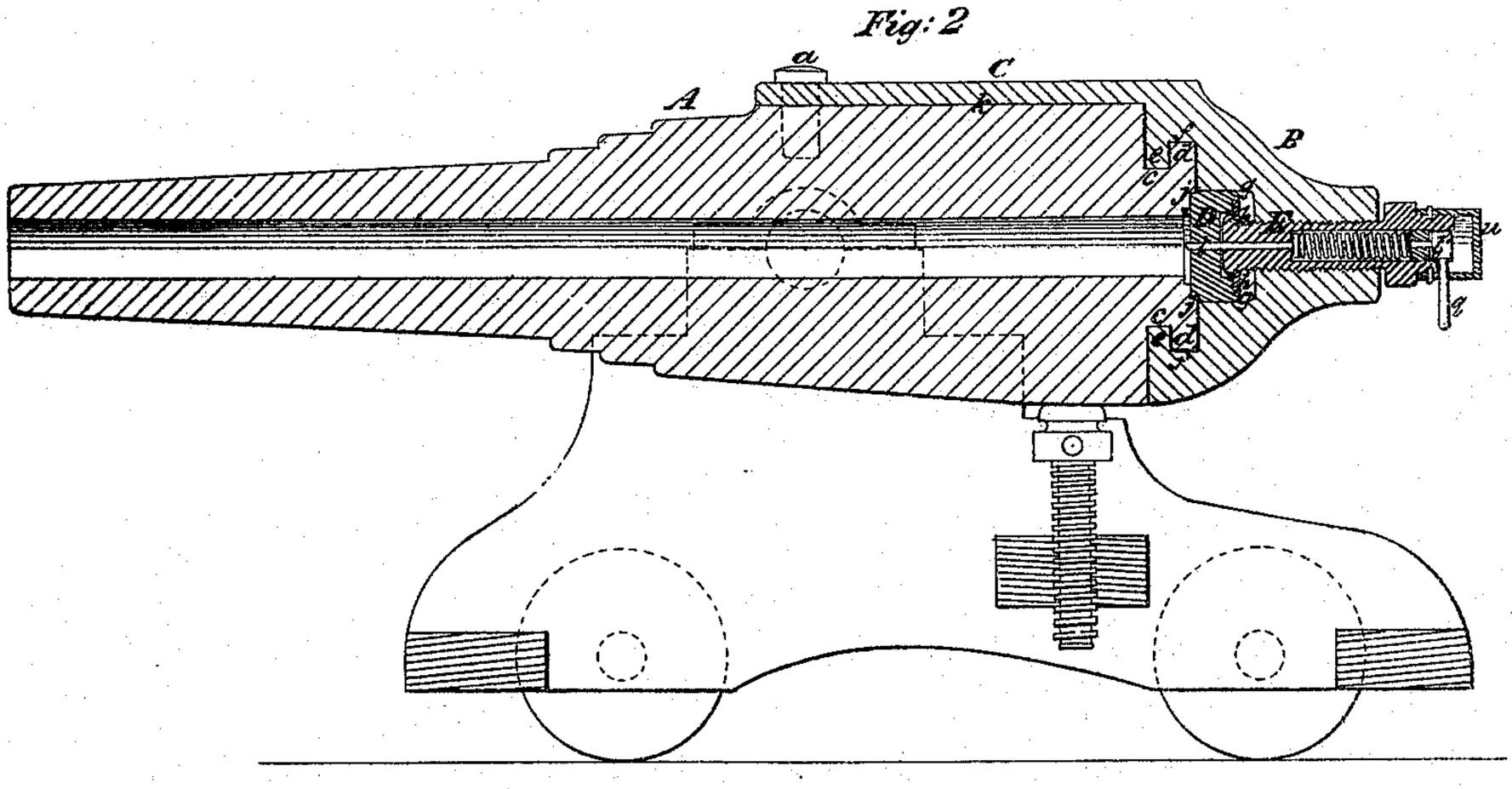


*Fig: 4.**

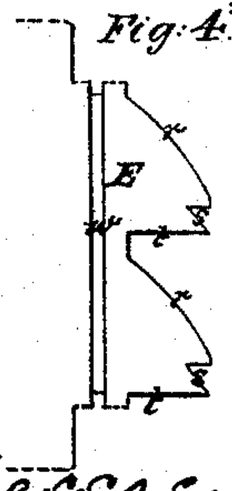


Fig: 3.

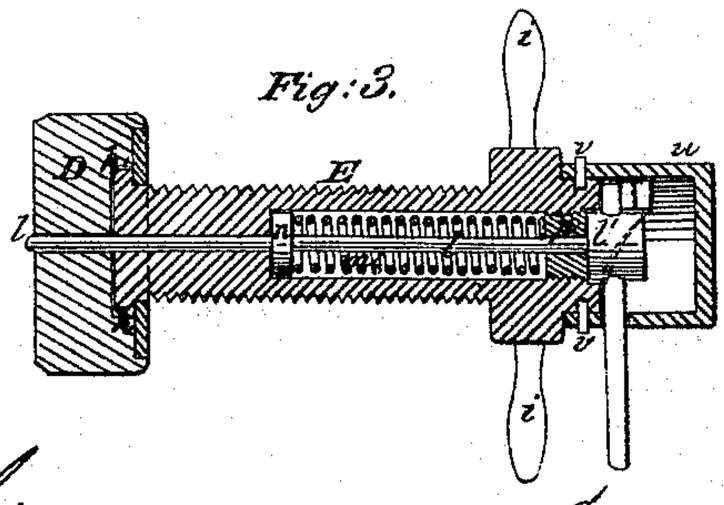
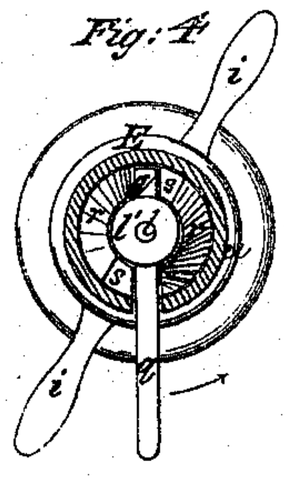


Fig: 4



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UNITED STATES PATENT OFFICE.

NATHAN THOMPSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FIRING MECHANISMS FOR ORDNANCE.

Specification forming part of Letters Patent No. **130,452,** dated August 13, 1872; antedated August 9, 1872.

Specification of Improvements in Breech-Loading Ordnance, invented by NATHAN THOMPSON, of the city of Brooklyn, in the county of Kings and State of New York.

The invention consists in a firing-pin working through the breech of the gun, and having applied to it within the said breech a spring which presses it forward, and being furnished at its rear end with a lever or arm which works against the surface of a cam, which is so formed or provided upon the rear end of the said breech that by turning the said firing-pin by means of its lever or arm, the said lever or arm, by working against the face of the said cam, will be made, first, to draw back and cock the said firing-pin, and afterward to let it off, so that the spring will drive it forward to produce the ignition of a fulminate priming applied to the cartridge with which the gun is loaded.

The invention is applicable either to muzzle-loaders or breech-loaders.

The improvements are illustrated in the accompanying drawing, in which—

Figure 1 is a plan of a gun with my invention applied. Fig. 2 is a central vertical longitudinal section of the same. Fig. 3 is a central longitudinal section on a larger scale than Figs. 1 and 2 of the breech-plug, showing the firing-pin and its appurtenances. Fig. 4 is a back view, corresponding with Fig. 3, a cap which covers the end of the firing-pin being shown in section to expose to view the said pin and the cam on the end of the screw. Fig. $4^{\times}$ is a plane projection of the surface of the said cam.

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

A, in Figs. 1 and 2 and 4, is the body or barrel of a gun bored throughout. B is the main breech-piece. This is represented in Figs. 1 and 2 as being arranged to swing on a pivot, *a*, placed some distance forward of the breech.

The screw E and plug D are bored centrally throughout for the reception of the firing-pin *t*, which passes right through them; and the screw E is counterbored from the rear for the reception of a collar, *n*, (see Fig. 3,) formed on the said pin, and the spiral spring *m*, which is coiled around the said pin for driving it forward to produce the ignition of the fulminate priming with which the cartridge used in the gun is furnished for the purpose of firing it, the rear end of the said spring bearing against the end of a hollow screw-plug, *p*, screwed into the rear end of the screw E, and the front end of the said spring pressing against the collar *n*. The head *l'* of the firing-pin, which projects outside of the rear end of the screw E, has inserted through it and secured in it transversely a long pin or lever, *q*, which works against the cam-surface formed around the counterbore of the screw E on the rear end thereof. This cam-surface consists, as shown in Figs. 3, 4, and $4^{\times}$ of two spiral inclines, *r r*, the higher or more prominent end of each of which unites with a shallow step, *s*, whence there is a deeper step, *t*, to the bottom of the other incline. The operation of the firing-pin is produced by turning it by means of the lever *q* in the direction of the arrow, shown in Fig. 4. This may be done by a lanyard attached to the said lever. The turning of the said lever moves it from the bottom to the top of the inclines *r r*, and thereby draws back the firing-pin and compresses the spring *m*. When the lever passes the end of the inclines it slips over on the steps *s s*, where it will rest, the firing-pin being then cocked. By a further turn of the lever and pin the lever is caused to pass over the step *t*, and the spring then draws the pin forward with force enough to produce the ignition of the priming and the firing of the cartridge. The cam and the head of the firing-pin are covered by a cap, *u*, which is attached to the head of the screw E by pins *v v* working in a groove, *w*, on the said head, and permitting the cap to turn with the firing-pin.

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

1. In ordnance, in combination with the breech thereof, the firing mechanism herein described, consisting of the firing-pin *b* provided with an operating lever, *q*, spring *m*, and the cam *r*, substantially as and for the purpose specified.

2. The combination, with the firing-pin *b* and its operating lever *q*, of the cams *r*, provided with notches *s*, whereby the firing-pin is withdrawn and held either at half or full cock, substantially as specified.

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