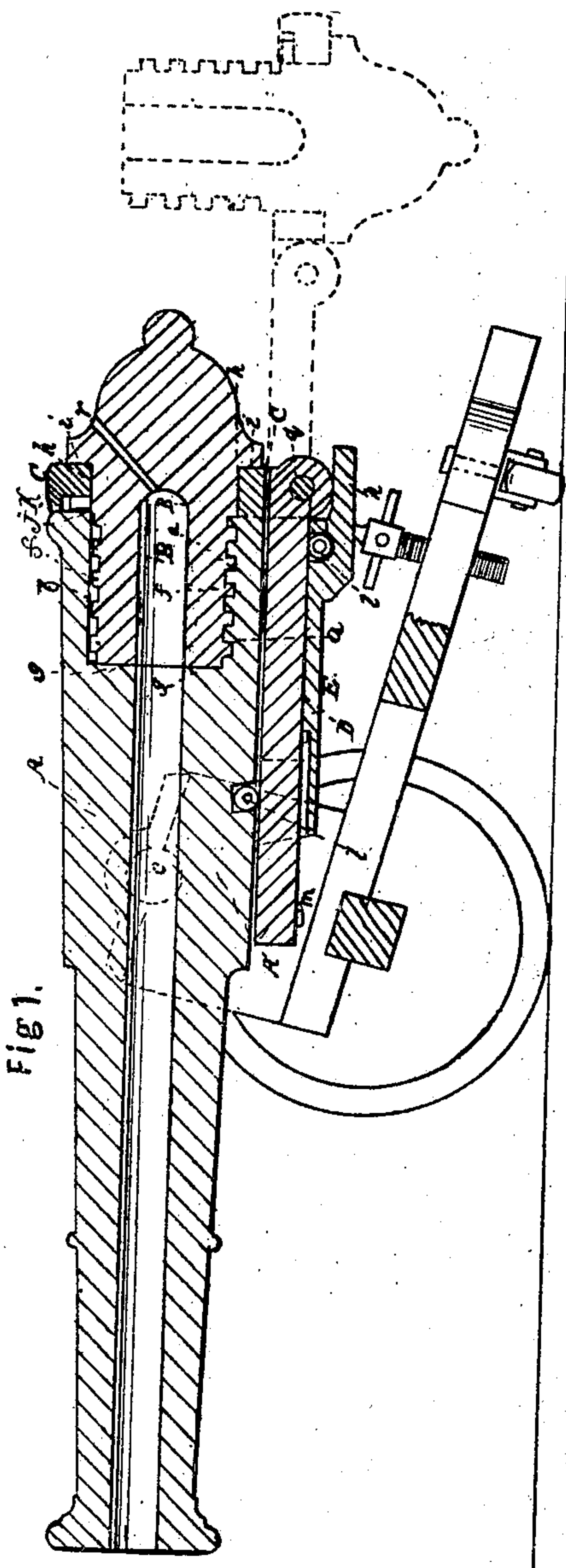


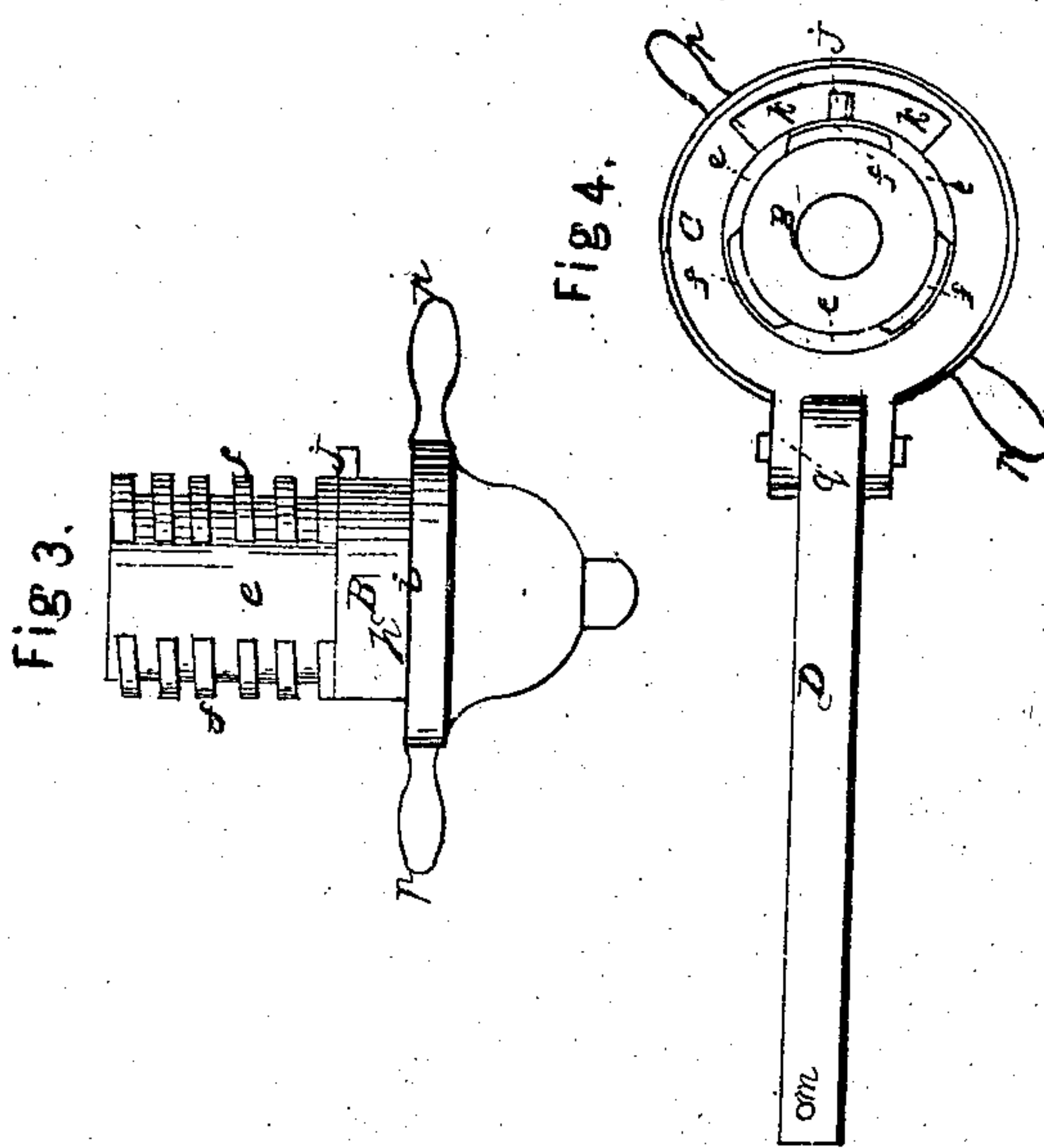
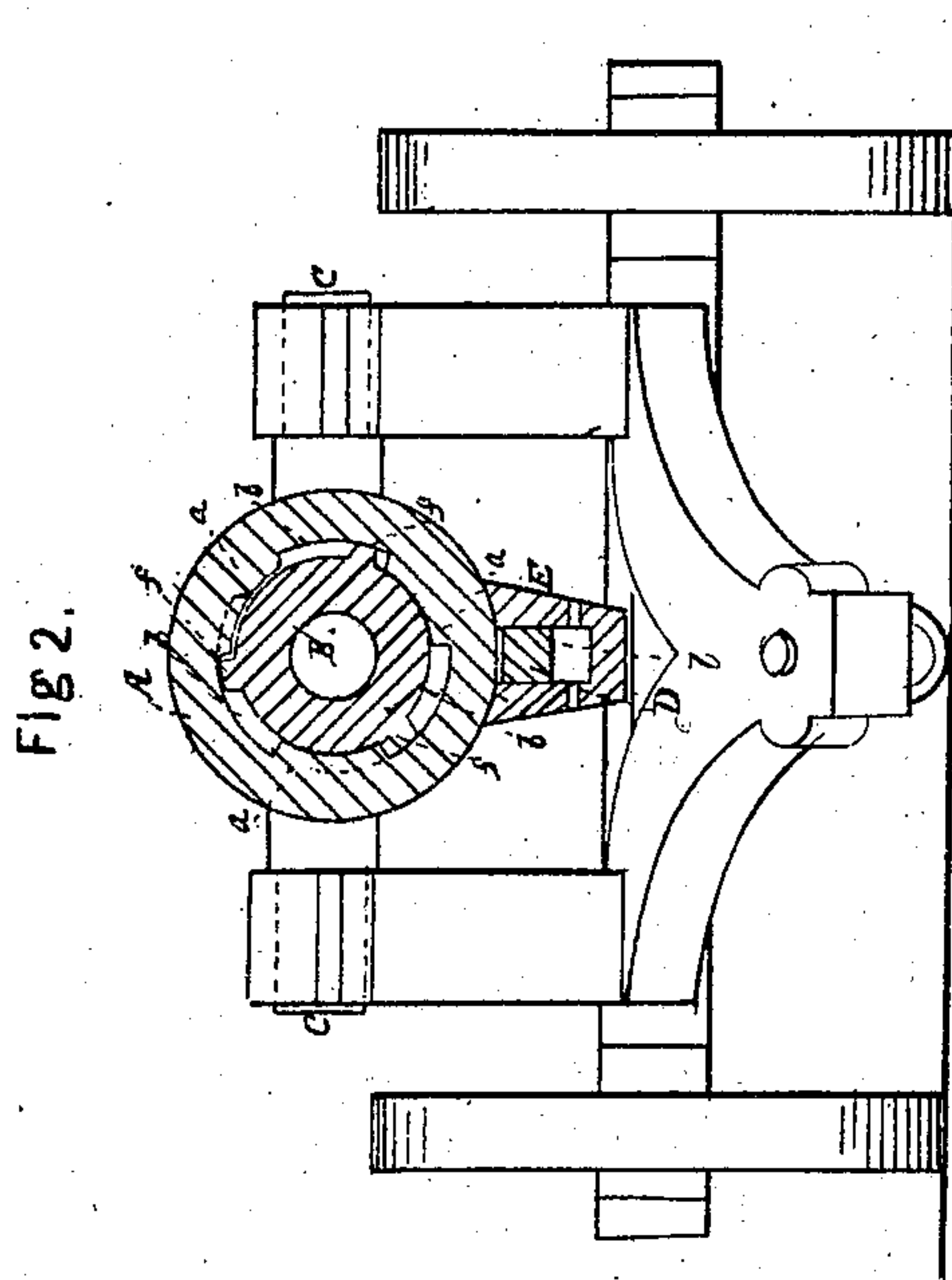
C. F. LIESEN.
Breech-Loading Ordnance

No 33,530.

Patented Oct. 22, 1861.



Witnesses:
W. C. Smith
J. W. R. R. R.



Inventor:
C. F. Liesen
by M. H. C. Allen

UNITED STATES PATENT OFFICE.

CHARLES F. LEISEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BREECH-LOADING ORDNANCE.

Specification forming part of Letters Patent No. 33,530, dated October 22, 1861.

To all whom it may concern:

Be it known that I, CHARLES F. LEISEN, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Breech-Loading Cannon; 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, in which—

Figure 1 is a central longitudinal section of a cannon constructed according to my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a side view of the chambered breech. Fig. 4 is a plan of the breech and the ring and slide by which it is attached to the body of the gun.

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

My invention consists in a certain novel mode of applying a chambered breech in combination with the body of a cannon, whereby very great facility is afforded for loading.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A is the body of the gun, having formed upon it the trunnions *c c*. This body is bored right through, counterbored from the rear much larger than its bore, and has cut in its counterbore a female screw-thread, *a a*, Figs. 1 and 2, portions of which, at equal distances apart, are removed by forming grooves *b b*, Fig. 2, in the counterbore in a direction parallel with the axis and at equal distances apart. I prefer to make these grooves *b b* of such width that the portions of the thread left standing between them shall be of a width about equal to the said grooves.

B is the breech, which, as well as the body A, may be of any metal commonly used for cannon. This breech is chambered for the reception of the powder and ball, has cut upon its exterior a screw-thread, *d*, to fit the screw-thread *a* in the body, and has the said thread removed by cutting grooves *e e* in a direction parallel with the axis of the breech, the said grooves corresponding in number with the grooves *b b* in the body A, and the width of the portions of the thread *f f* left between the said grooves being equal to or rather less than the width of the grooves *b b*, so that they may

pass freely through the said grooves with a movement of the breech parallel with the axis of the bore, such movement being preparatory to a slight turn of the breech to screw it up tight against the front face, *g*, of the counter-bore of the body A. A portion, *h*, of the exterior of the breech, in rear of its screw-thread, is made cylindrical, and in rear of this portion *h* is a broad shoulder, *i*. On the rear portion of the breech are handles *p p*, by which to turn it.

C is a stout ring, of wrought-iron or other metal, in which the portion *h* of the breech fits to turn easily with the shoulder *i* close against the back of said ring.

j is a pin inserted securely in the breech, to confine it in the ring C. This pin *j* is received within the recess *k* in the front of the ring C, that it may not prevent the said ring from fitting close up to the rear end of the body, and the length of this recess, which limits the movement of the said pin *j*, is just sufficient to allow the breech to turn from the position in which the threads *f f* are in grooves *b b* to the position in which the breech is screwed up tight, and vice versa. The ring C is connected at its bottom by a hinge-joint, *q*, with a slide, D, arranged below the body A, where it is fitted to slide, in a direction parallel with the bore, in a fixed guide, E, secured to the bottom of the body, the said guide being fitted with friction-rollers *l l*, to reduce the friction of the slide, and the said slide being furnished with a stop, *m*, to prevent it from being drawn farther out from the guide E than is necessary. The guide is cast with a protuberance, *n*, upon which the elevating-screw F acts.

The operations of opening the breech, loading, and closing the breech again, are effected in the following manner: The breech is turned by taking hold of the handles *p p*, from the position shown in Fig. 2, to the position in which the screw-threads *f f* are opposite the grooves *b b*, and then drawn bodily backward out of the counterbore of the body, the ring C and slide D coming back with it and supporting it, and when withdrawn from the counterbore the breech is allowed to drop to the upright position shown in Fig. 1 in red outline, in which position it presents the mouth of the chamber upward for the reception of the cartridge and the projectile, after which it is

raised up again to a horizontal position and pushed forward again into the counterbore and turned to bring its threads into or between the threads *ff* and screw it up tightly, when the cannon is ready for firing, which is effected through the vent *r* in the breech.

I do not claim either the screw-breech having portions of its threads cut away in the manner described, or the attachment of a breech by a hinge to the slide; but.

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

The combination of the chambered breech constructed and fitted to the body of the gun, as described, the ring C, and the slide D, when the whole are arranged to operate and to present the breech for loading in the position and condition herein described.

CHAS. F. LEISEN.

Witnesses:

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