

(No Model.)

A. WOEBER.
TARGET TRAP.

No. 316,590.

Patented Apr. 28, 1885.

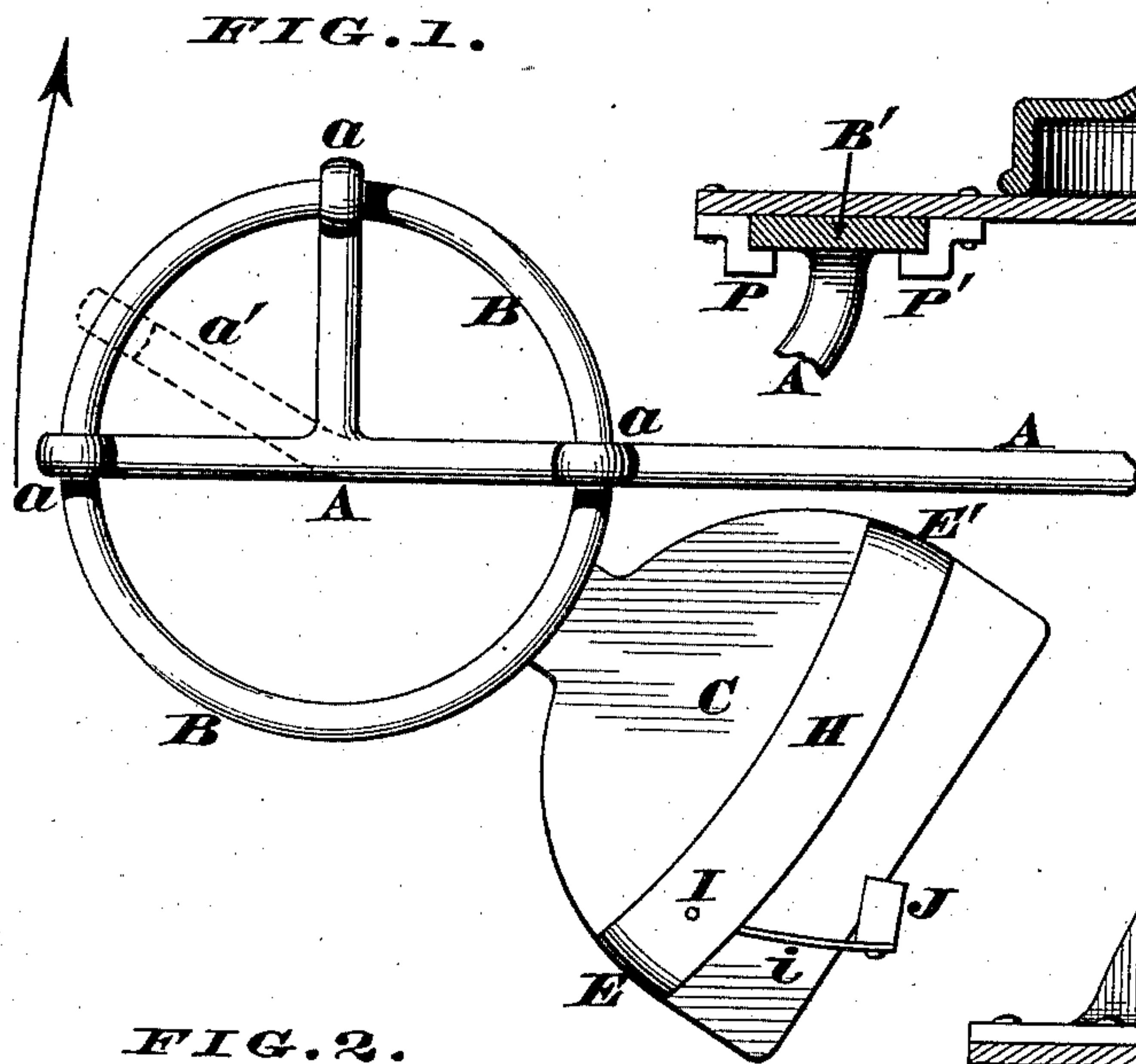


FIG. 2.

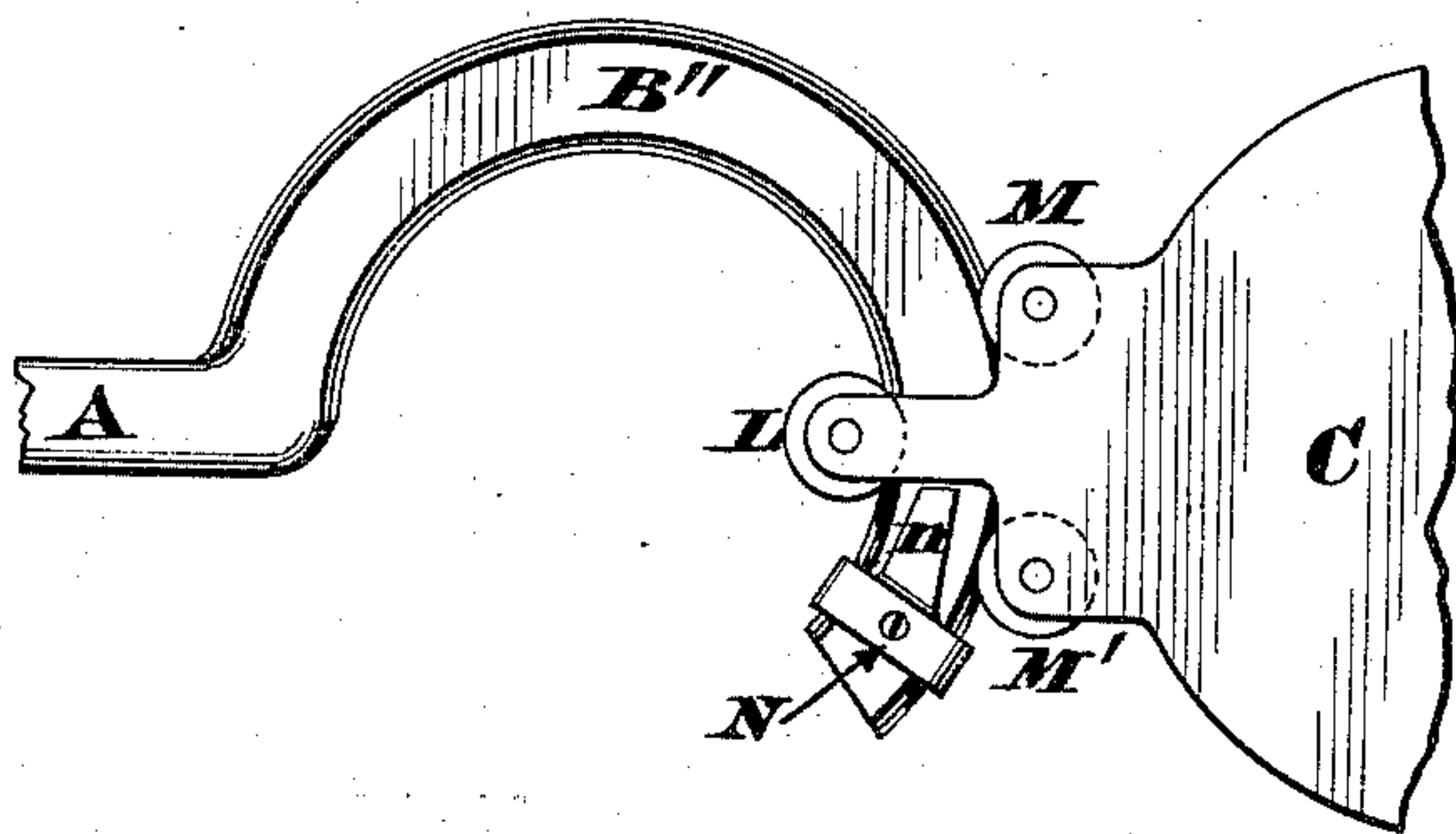
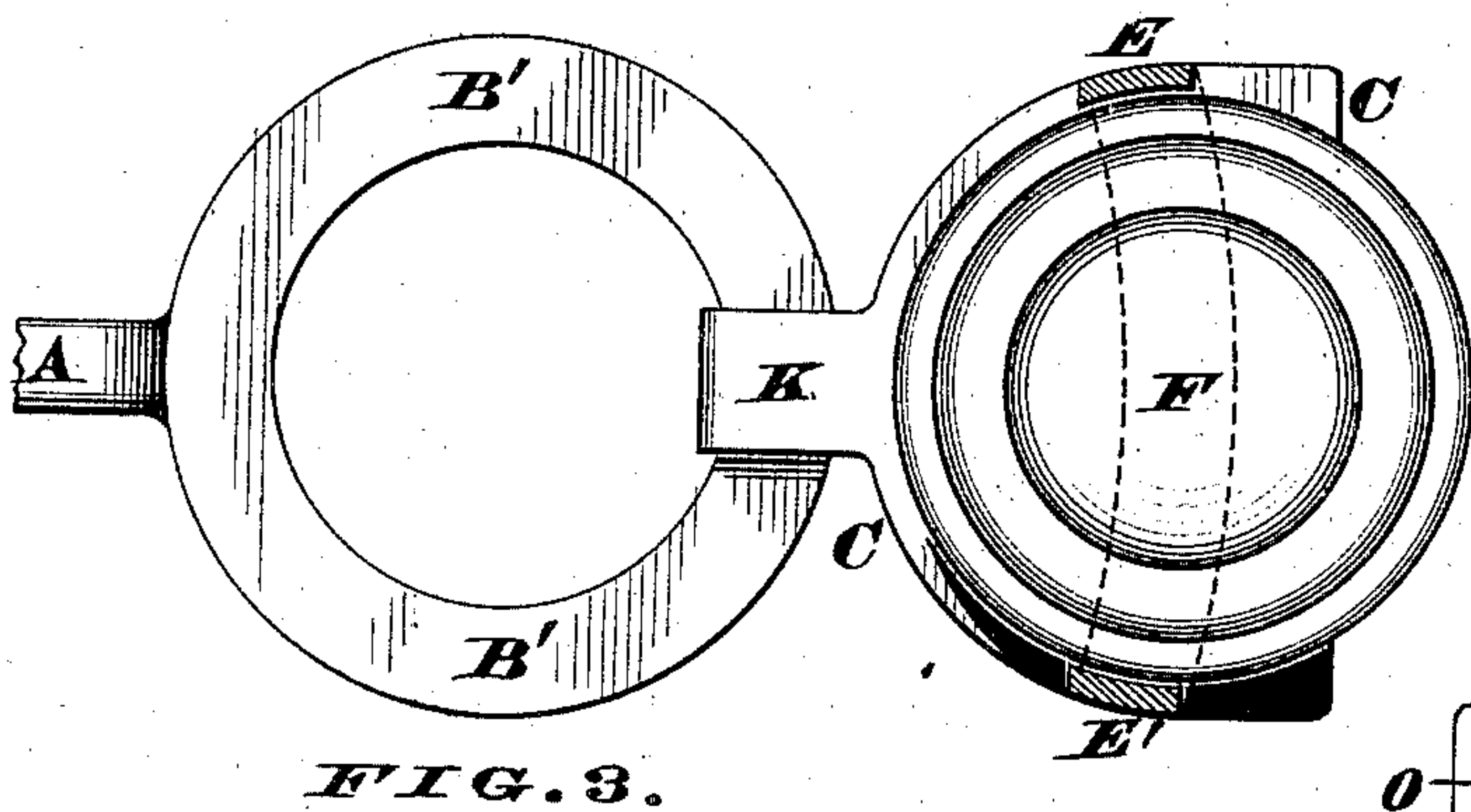


FIG. 4.

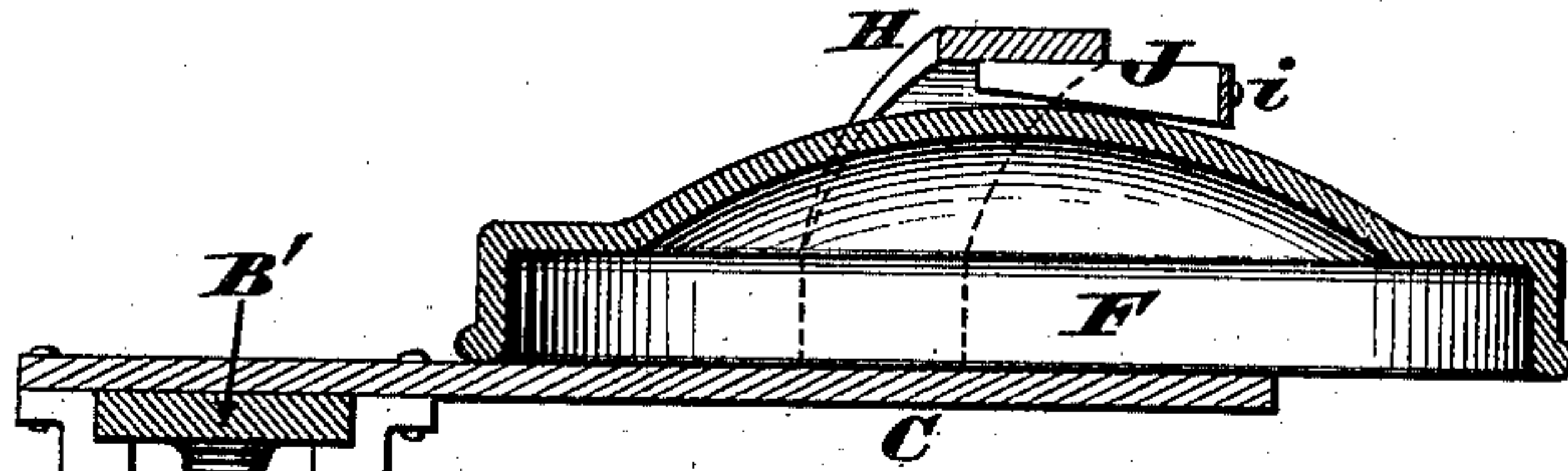


FIG. 5.

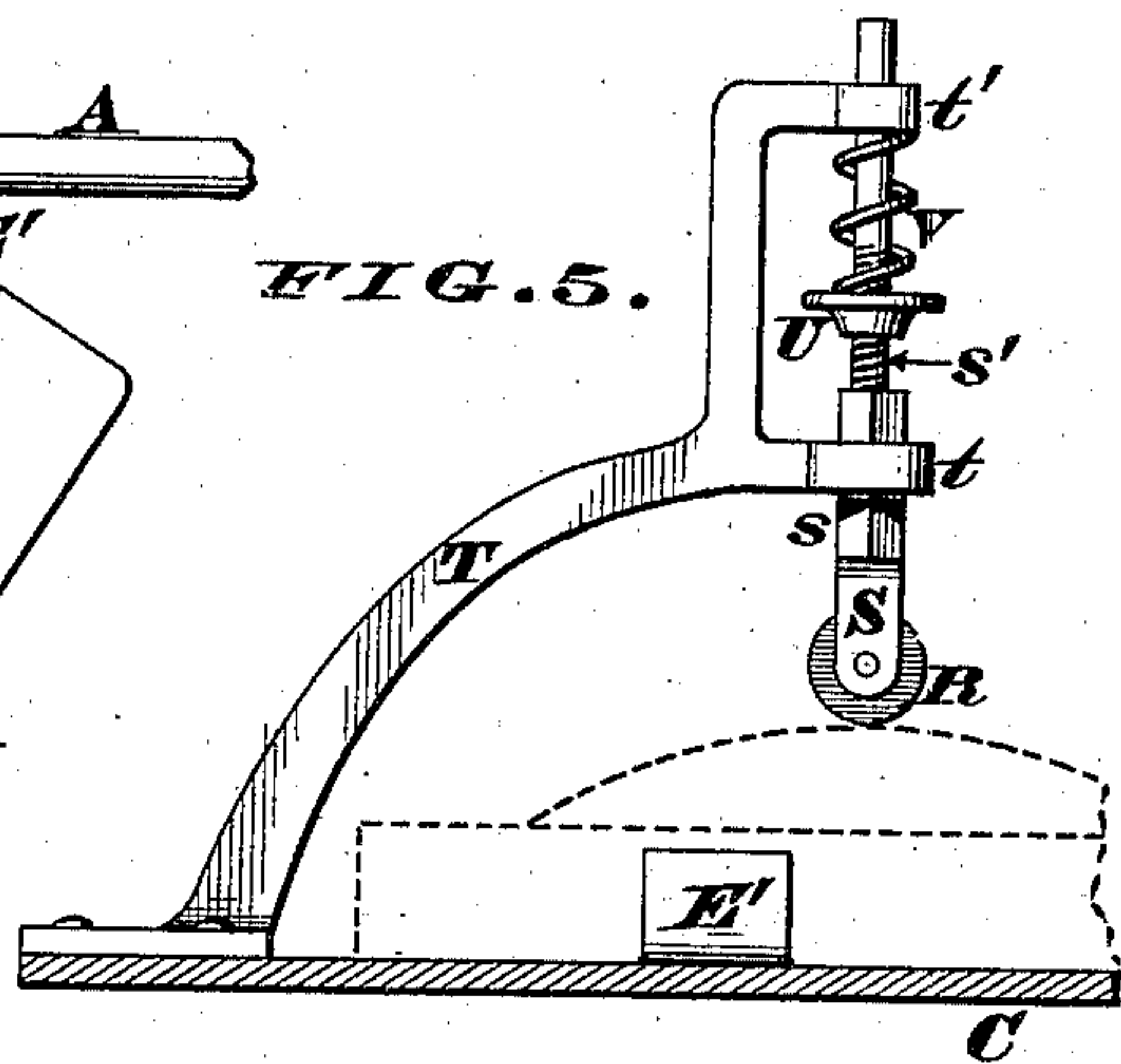


FIG. 6.

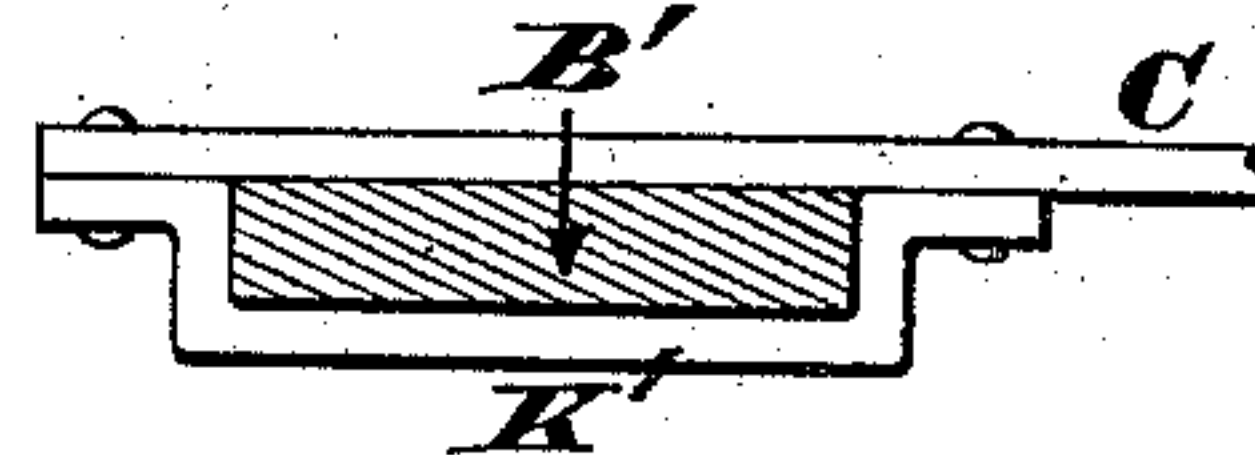


FIG. 7.

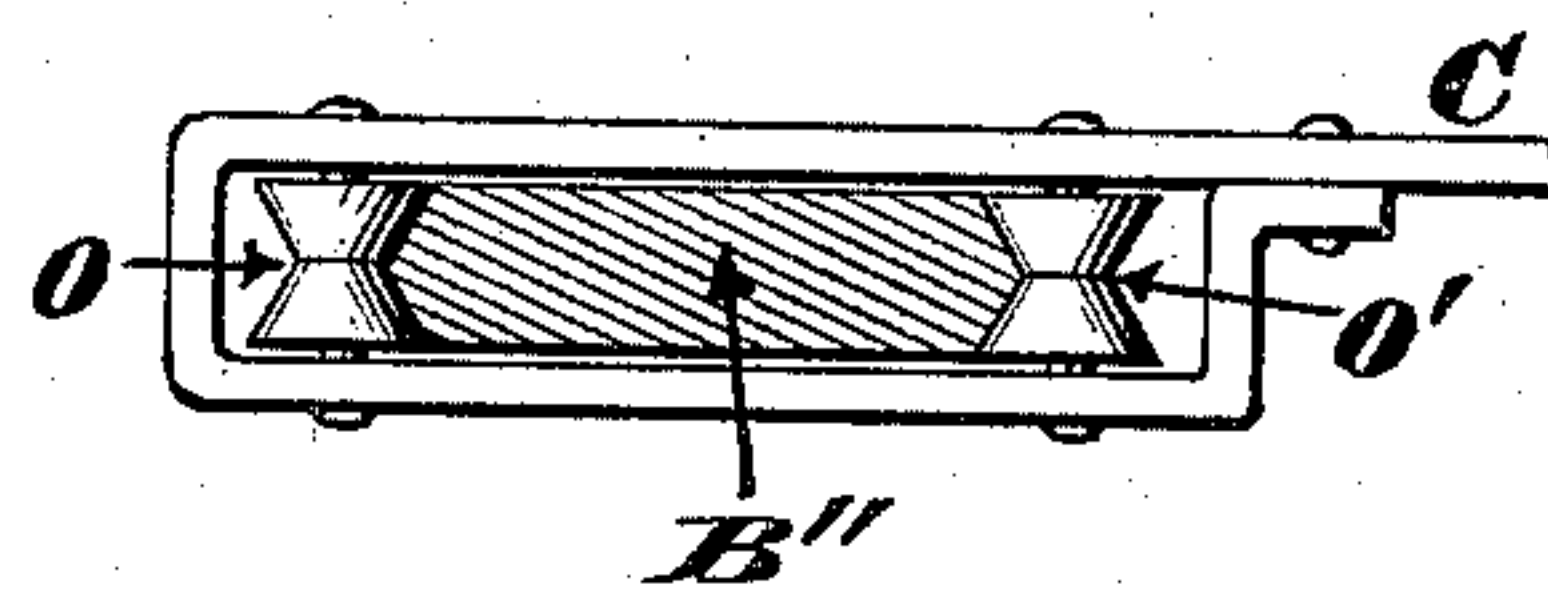
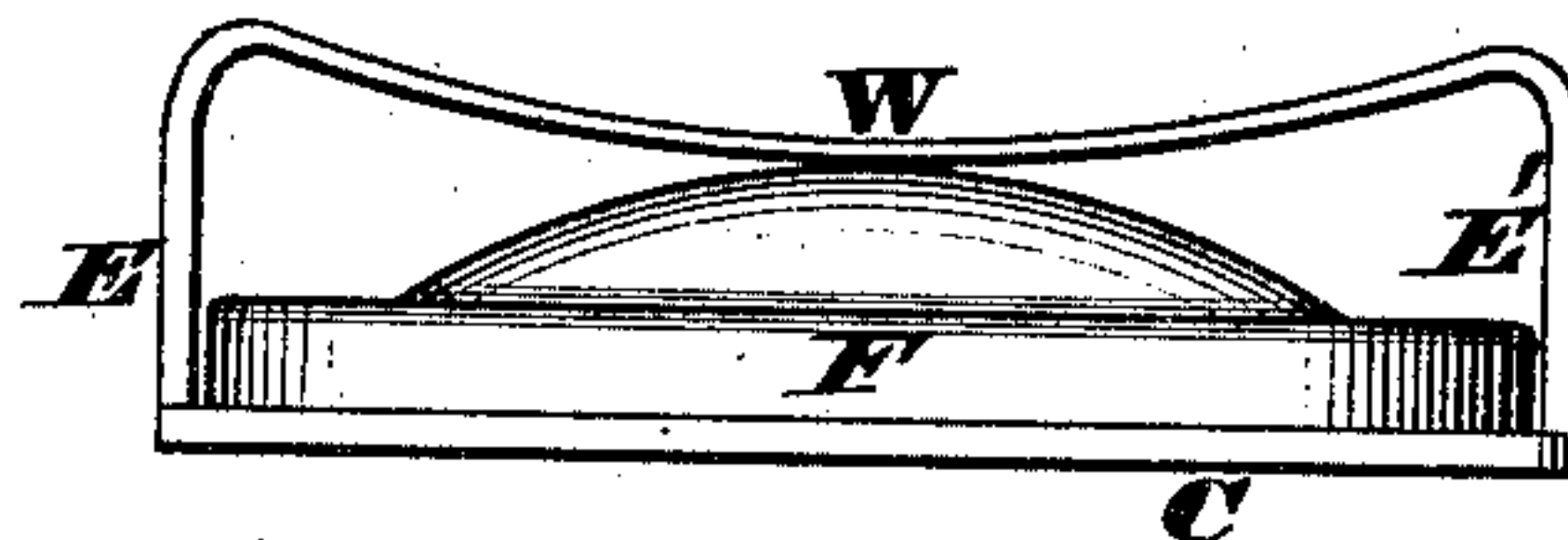
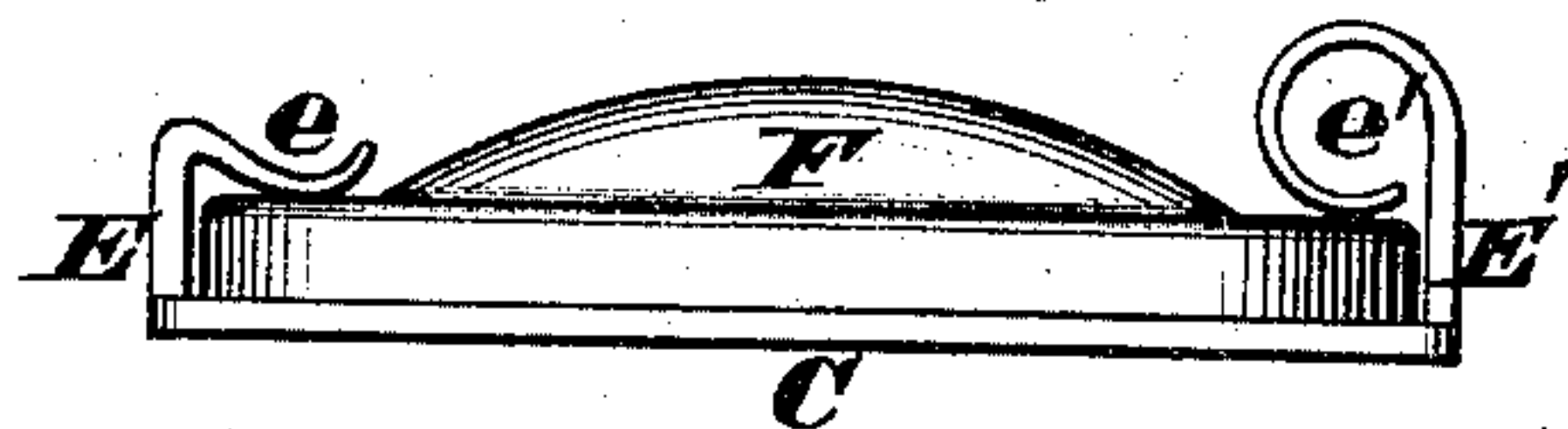


FIG. 8.



Attest:
S. S. Connerly,
C. F. Herringer.



Inventor.
Amos Woerber
By James H. Layman
Att'y.

UNITED STATES PATENT OFFICE.

AMOS WOEBER, OF CINCINNATI, OHIO.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 316,590, dated April 28, 1885.

Application filed February 24, 1885. (No model.)

To all whom it may concern:

Be it known that I, AMOS WOEBER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Target-Traps, of which the following is a specification, reference being had to the accompanying drawings.

The present invention relates to those traps which employ throwing-arms for projecting flying targets in such a manner as to be readily shot at by sportsmen; and the first part of my improvements comprises a novel combination of devices wherewith a practically semicircular motion is imparted to the holder that carries said targets. This motion is preferably obtained by attaching the target-holder rigidly to a ring or disk and then causing said ring to describe a semicircular path within suitable keepers or guides located near the free end of the throwing-arm; or the same result may be accomplished by fastening a ring immovably to the free end of said arm and arranging the target-holder to travel freely around said ring, as hereinafter more fully described.

The second part of my improvements consists in providing the target-holder with a device that will permit the ready liberation of the target the instant the throwing-arm has reached its maximum velocity, said device being wholly automatic in its operation and not dependent upon any other part of the trap for its action, as hereinafter more fully described.

The third part of my improvements comprises a novel combination of devices that enables the traveling target-holder to swing around the fixed ring with the least possible friction, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a plan of the preferred form of my trap, the holder of the same being shown in the proper position for receiving a target. Fig. 2 is a sectioned plan of a modification of the trap, a target being fitted within the holder, and the latter being shown as having reached a point where the target is about to be discharged. Fig. 3 is a plan of another modification of the invention. Fig. 4 is an enlarged vertical section of the holder with a target applied there-

to. Fig. 5 is a side elevation of the preferred device wherewith the target is temporarily fastened to the holder. Figs. 6 and 7 are enlarged sections of two different forms of devices that couple the traveling target-holder to the fixed ring. Figs. 8 and 9 are modifications of the devices that fasten the target to the holder of the trap.

A represents a portion of the sending or throwing arm of an ordinary target-trap, which arm may have the desired swinging motion imparted to it either by a coiled spring or other appliance, as the device used for producing this motion is no part of my invention. This arm is provided with a sufficient number of guides or boxes, *a*, to preserve a ring, B, in a proper position, and yet allow said ring to travel freely within said guides. Ring B has rigidly attached to it the target-holder C, which holder consists of a plate provided at its opposite edges with upwardly-projecting stumps E E', said stumps being somewhat in the rear of the center of the target or saucer F, as seen in Fig. 2. Furthermore, these stumps E E' support a yoke, H, that curves or projects forward for the purpose of bringing its center about in line with the crown or apex of the saucer or target F, said yoke having pivoted to it at I a rod, chain, or other connection, *i*, whose free end carries a wedge, J, adapted to be inserted between said yoke and target-crown, as seen in Fig. 4.

The method of using this form of target-trap is as follows: The arm A is first swung around so as to impart the desired tension to the actuating-spring, and said arm is then temporarily locked in this position. The holder C is now brought up close to said arm, as seen in Fig. 1, and the saucer F is fitted in said holder, being shoved therein as far as the stumps E E' will permit. The wedge J is then inserted between the yoke H and the crown or apex of the saucer F, so as to hold the latter with any desired firmness. These preliminary steps having been taken, the throwing-arm is unlocked and instantly swings around with great force in the direction indicated by the arrow in Fig. 1, the result of this swinging motion being to cause the holder C to describe a curved path within the boxes or other guides *a* of the arm A. As

soon as the holder reaches its utmost swing, or, in other words, when it arrives at a position about diametrically opposite the arm A, as seen in Fig. 2, the momentum of said holder ceases and causes the instant discharge of the saucer-target. The saucer first swings away from the stump E, the other stump, E', serving as a bearing or fulcrum against which it momentarily rests, by which movement a rapid axial velocity or whirling movement is imparted to the target, thereby insuring the utmost accuracy of flight. Furthermore, this sudden arrest of the holder C causes the wedge J to fly out and leave the target at liberty to escape from said holder, as previously described; but said wedge cannot be lost, because it is united to the yoke F by the rod *i*. If desired, the extreme end of the arm A may be bent laterally, as indicated by the dotted lines *a'*, to afford a more extensive swing of the target-holder.

In the modification seen in Fig. 2 a ring, B', is either cast with or secured to the extreme end of arm A, which ring serves as an annular track around which travels freely the target-holder C, said holder being coupled to said ring either with a loop, K, or a box, K', the latter being represented in Fig. 6.

In the modification of my invention seen in Fig. 3 the guide or track B'' is an incomplete ring or annulus and has ridge-shaped edges traversed by three grooved rollers, L M M', the roller L running against the inner periphery of the ring, while the other rollers, M M', bear against the outer margin thereof. These rollers are journaled in the target-holder C.

N is an adjustable clamp, which may be used for arresting the motion of said holder at any desired point. This clamp may have a lateral lug, *n*, for the holder to strike against. Fig. 7 shows this form of ridge-edged ring with a pair of grooved rollers, O O', bearing against the same.

In Fig. 4 clips P P' are shown applied to the under side of the holder C and adapted to grasp the opposite edges of the ring or guide B', which latter is constructed in the same manner as seen in Fig. 2. These clips allow the holder to travel completely around the annulus or other fixed track.

In Fig. 5 a small friction-wheel, R, is shown journaled in the lower end of a shaft, S, so as to bear upon the crown or apex of the saucer or target, said shaft being provided with a square portion, *s*, that passes through the lower bearing, *t*, of a standard, T.

s' is a screw-threaded portion of said shaft, whose upper end is unthreaded and traverses the bearing *t'* of the standard. Surrounding

this portion *s'* of the shaft, and interposed between the bearing *t'* and a nut, U, is a coiled spring, V, the tension of which can be regulated by properly turning said nut; consequently the wheel can be brought to bear upon the saucer with any desired pressure, and can be regulated to suit targets of different heights. The standard T is shown as being attached to the plate C; but it can be mounted directly upon the yoke H, in which event the wheel R would be employed instead of the wedge J.

In Fig. 8 the stumps E E' are shown connected at top by a spring-bar, W, which retains the saucer F in its proper place on the holder C; but in Fig. 9 these stumps have respectively spring terminations *e e'*, that rest on the rim of said saucer.

The principal advantage due to either of the above-described traps results from the manner in which the target-holder C is caused to describe a circular path at or near the free end of the throwing-arm A.

By properly supporting the ring B there is no danger of the holder sagging down at its outer edge, and thereby presenting the target at such an angle as would either impair its flight or throw it in a wrong direction, while at the same time this ring B carries said holder out at such a distance from the arm as to cause the former device to describe an arc of a comparatively large circle; hence any desired swing may be imparted to the holder without employing a long throwing-arm or a heavy spring to actuate the latter.

I claim as my invention—

1. The combination, in a target-trap, of a throwing-arm provided at its free end with a ring that carries a swinging target-holder, the latter being furnished with an automatic device that permits the discharge of the target, substantially as herein described.

2. The combination, in a target-trap, of the throwing-arm A, provided at its free end with a ring, B, that supports the swinging target-holder C, the latter being furnished with a standard, T, and an adjustable friction-wheel, R, for the purpose stated.

3. The combination, in a target-trap, of the swinging target-holder C, provided with anti-friction wheels O O', whereby said holder is supported on and travels around a ring, B'', the latter being applied to the free end of throwing-arm A, as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

AMOS WOEBER.

Witnesses:

JAMES H. LAYMAN,
SAML. S. CARPENTER.