

(No Model.)

2 Sheets—Sheet 1.

F. C. DAMM.

TARGET TRAP.

No. 368,911.

Patented Aug. 23, 1887.

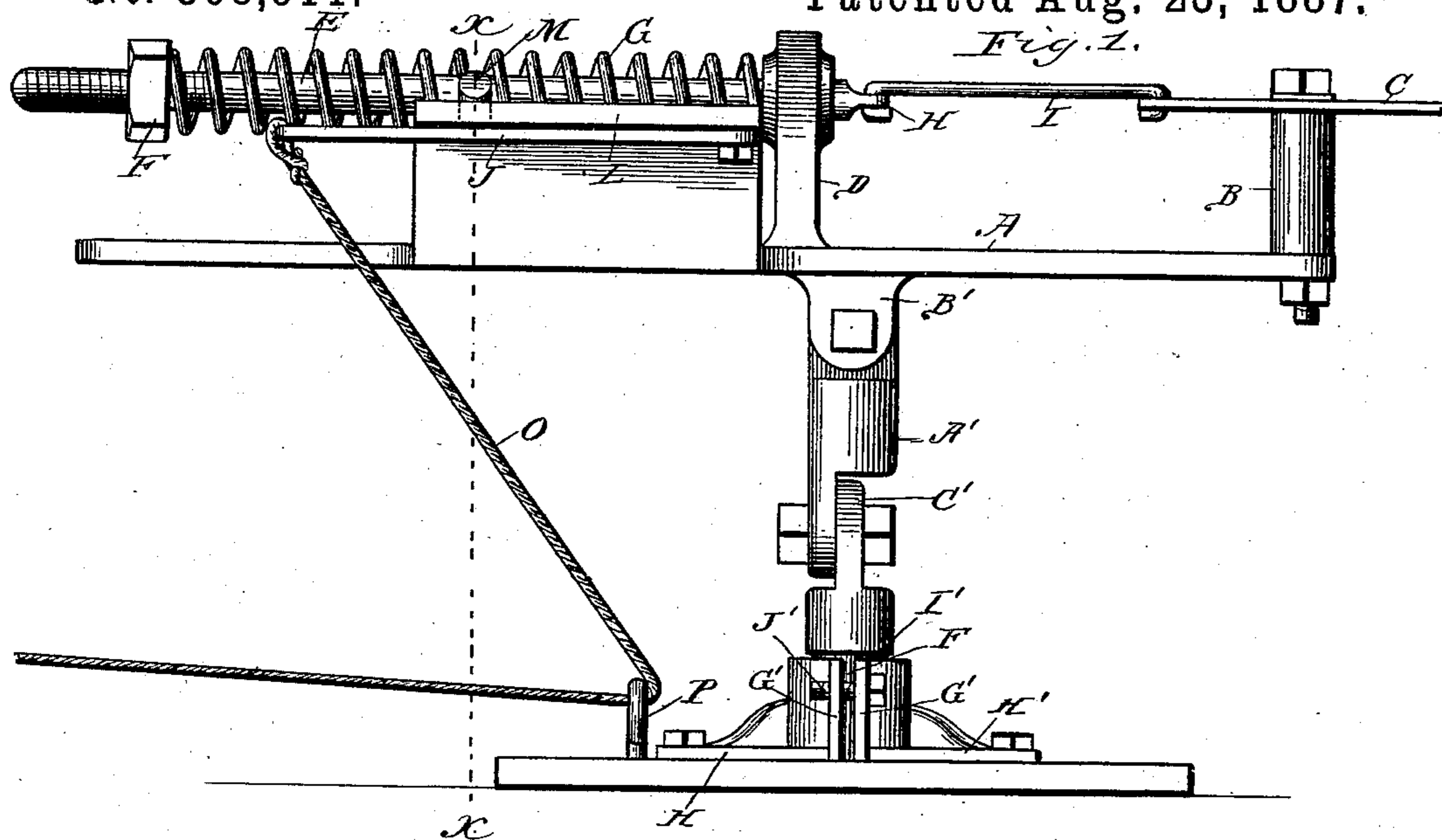


Fig. 2.

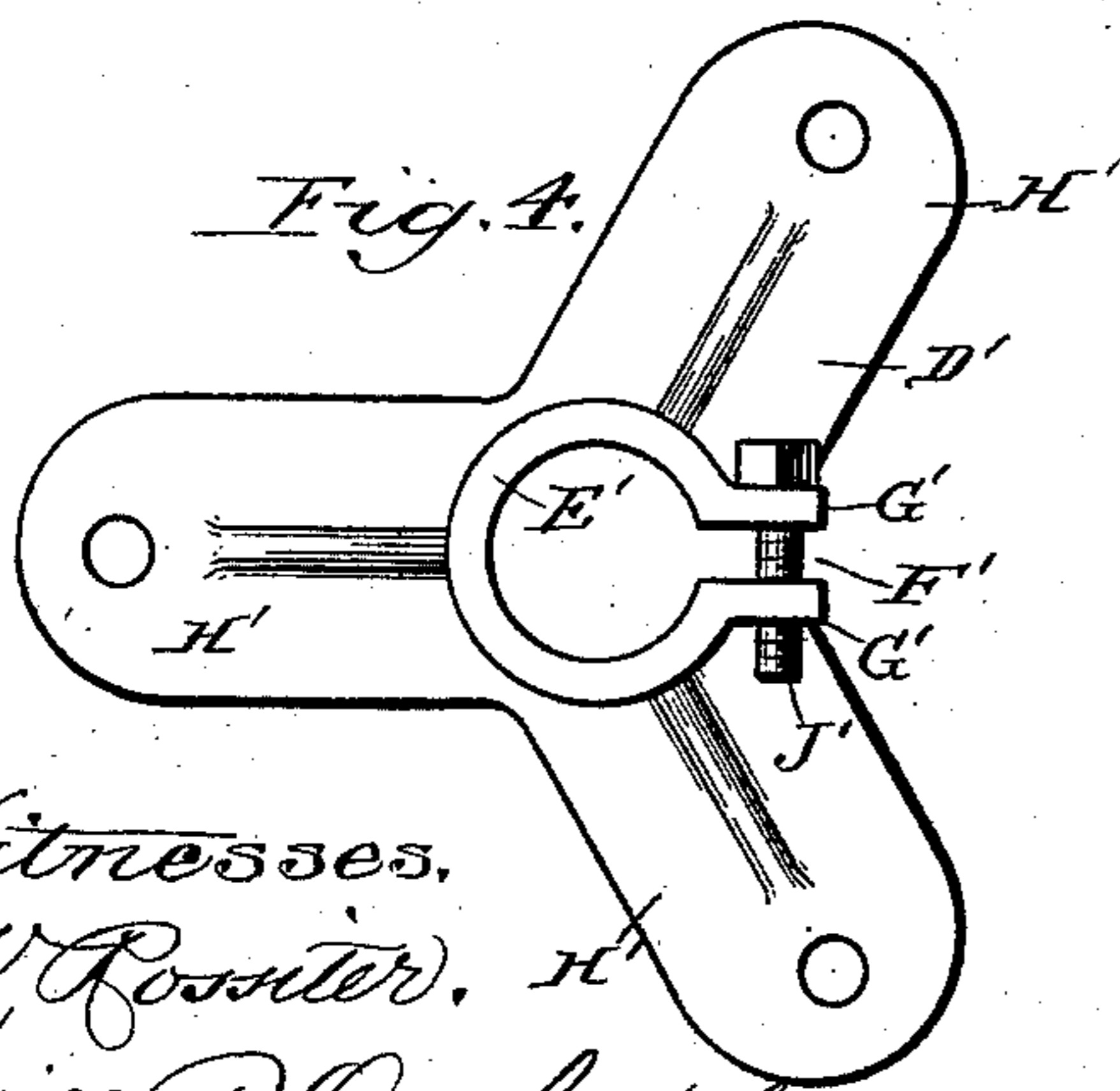
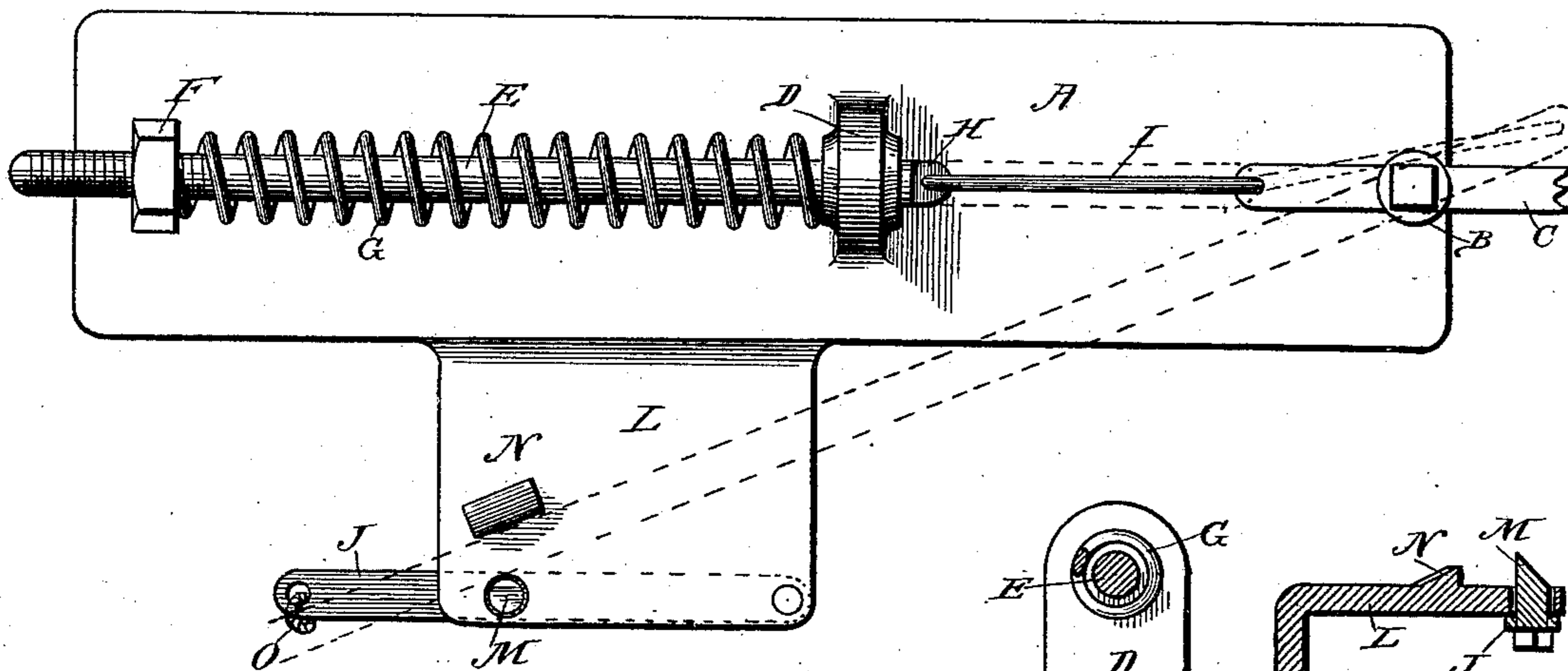


Fig. 4.

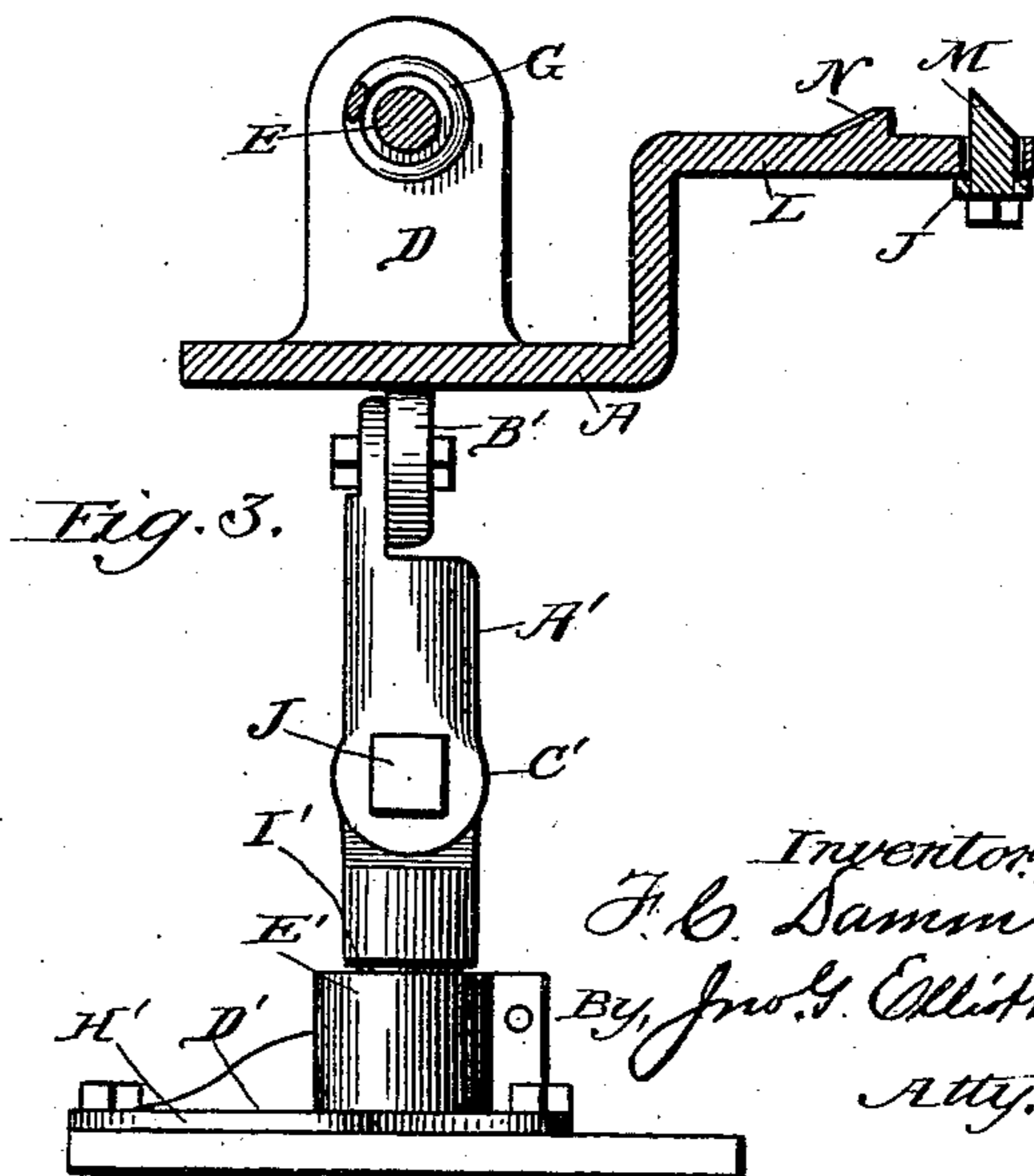


Fig. 3.

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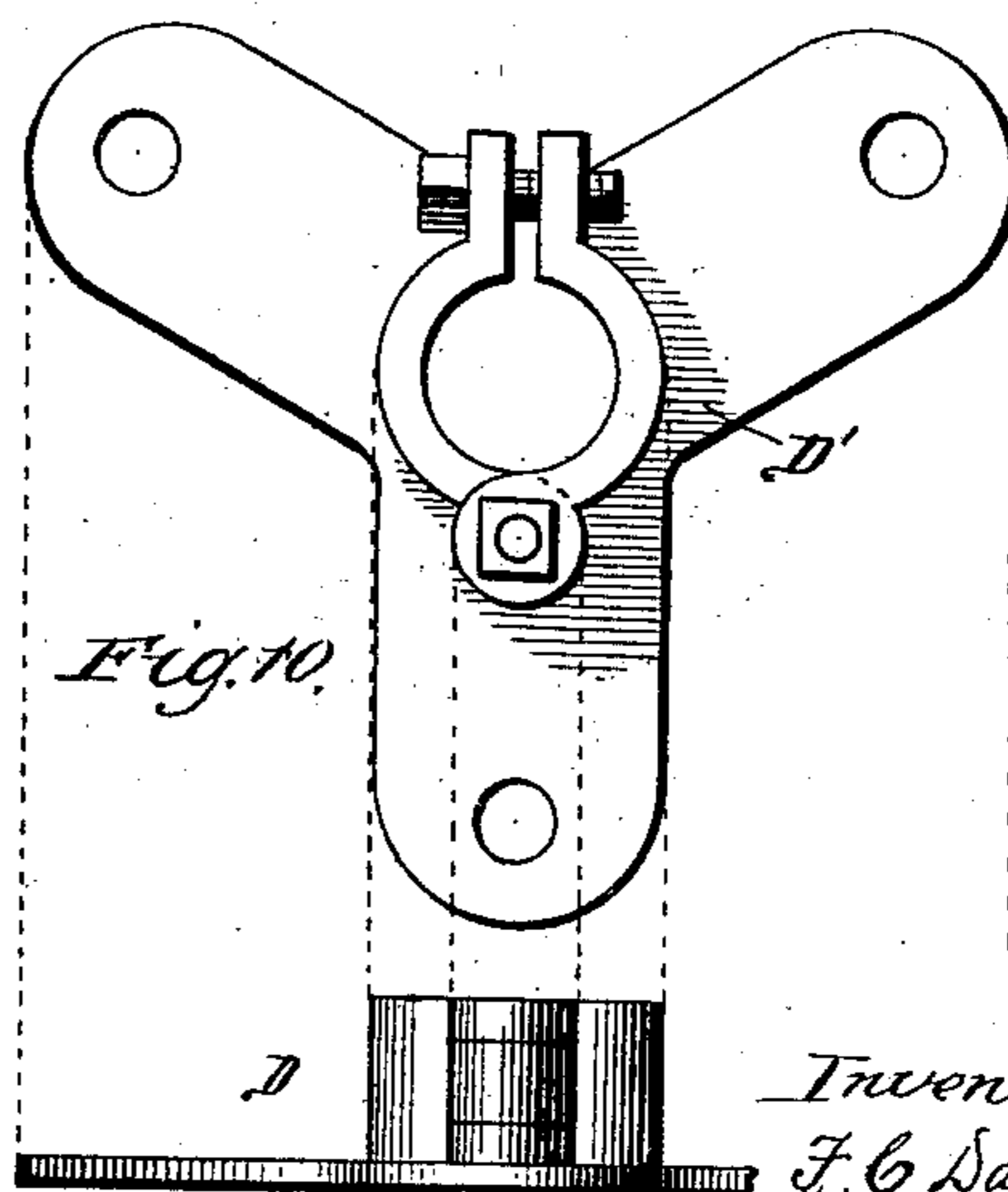
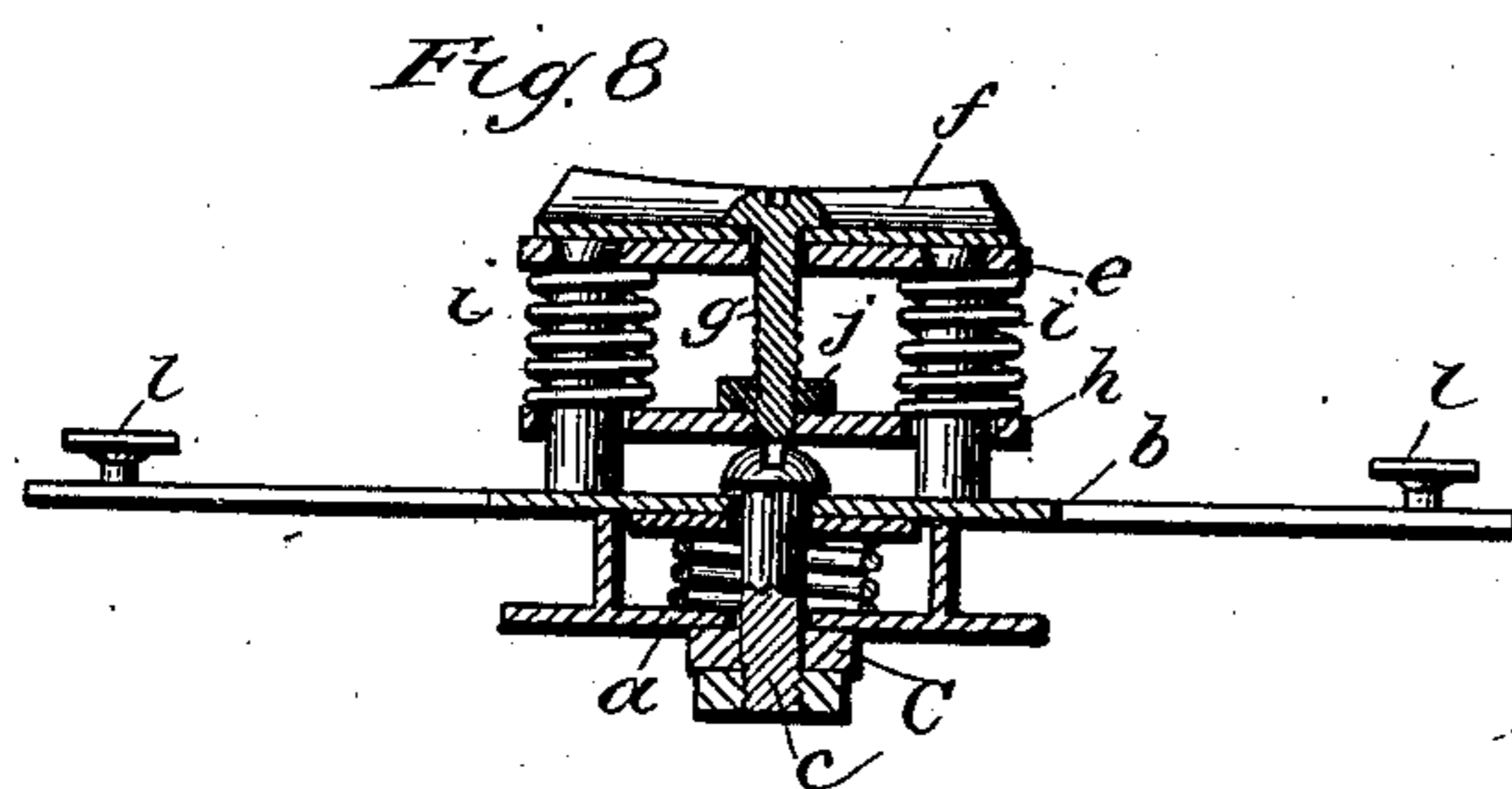
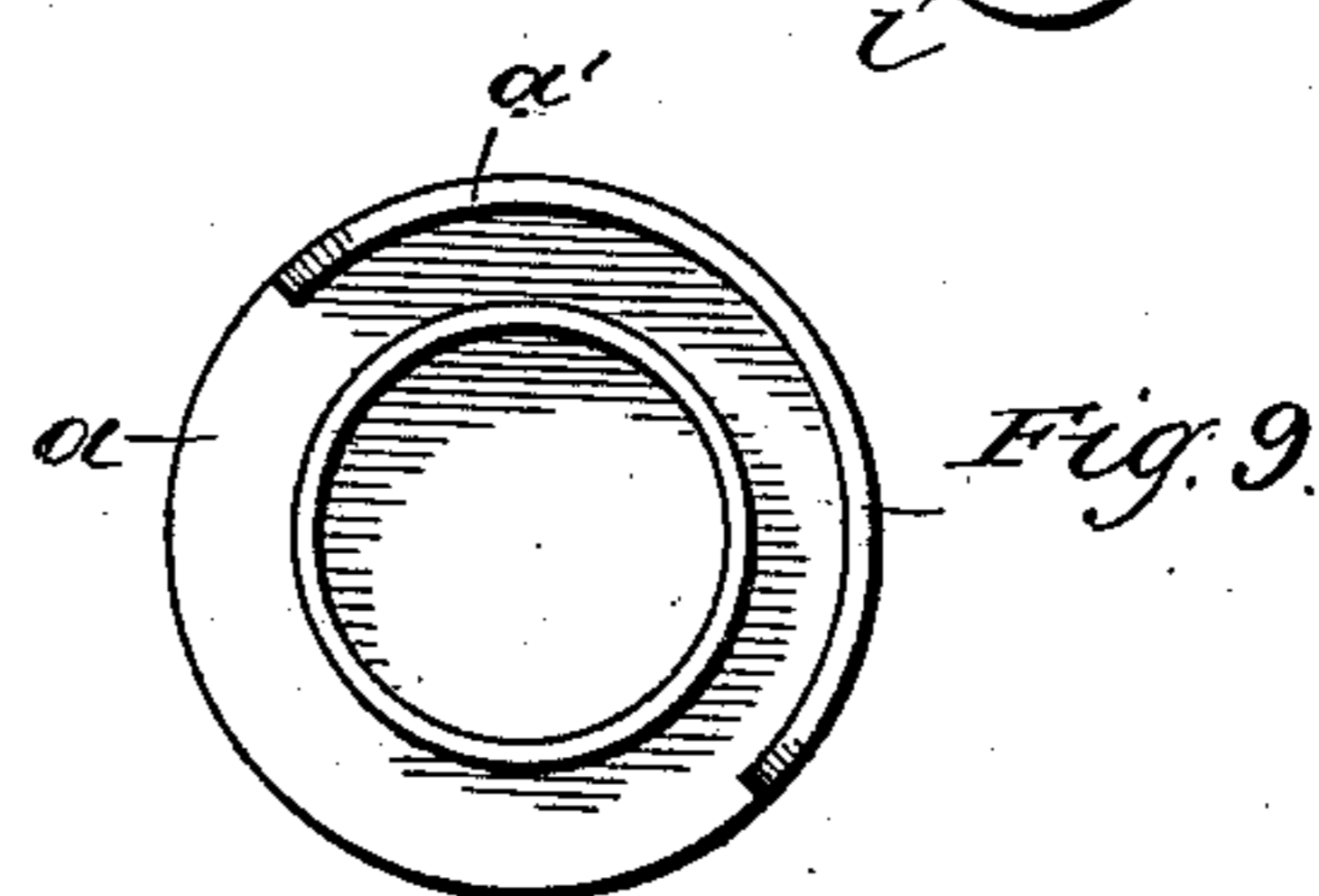
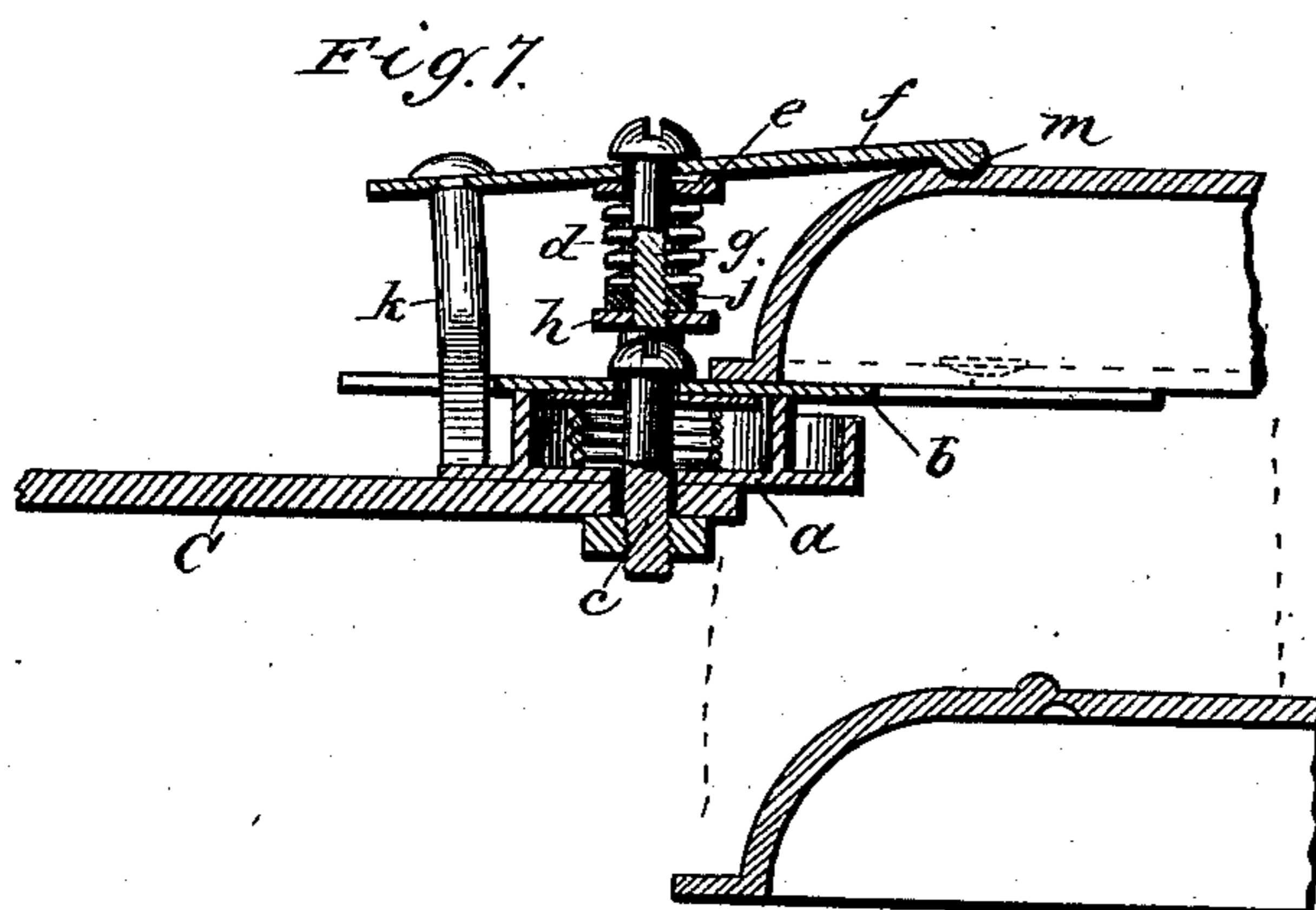
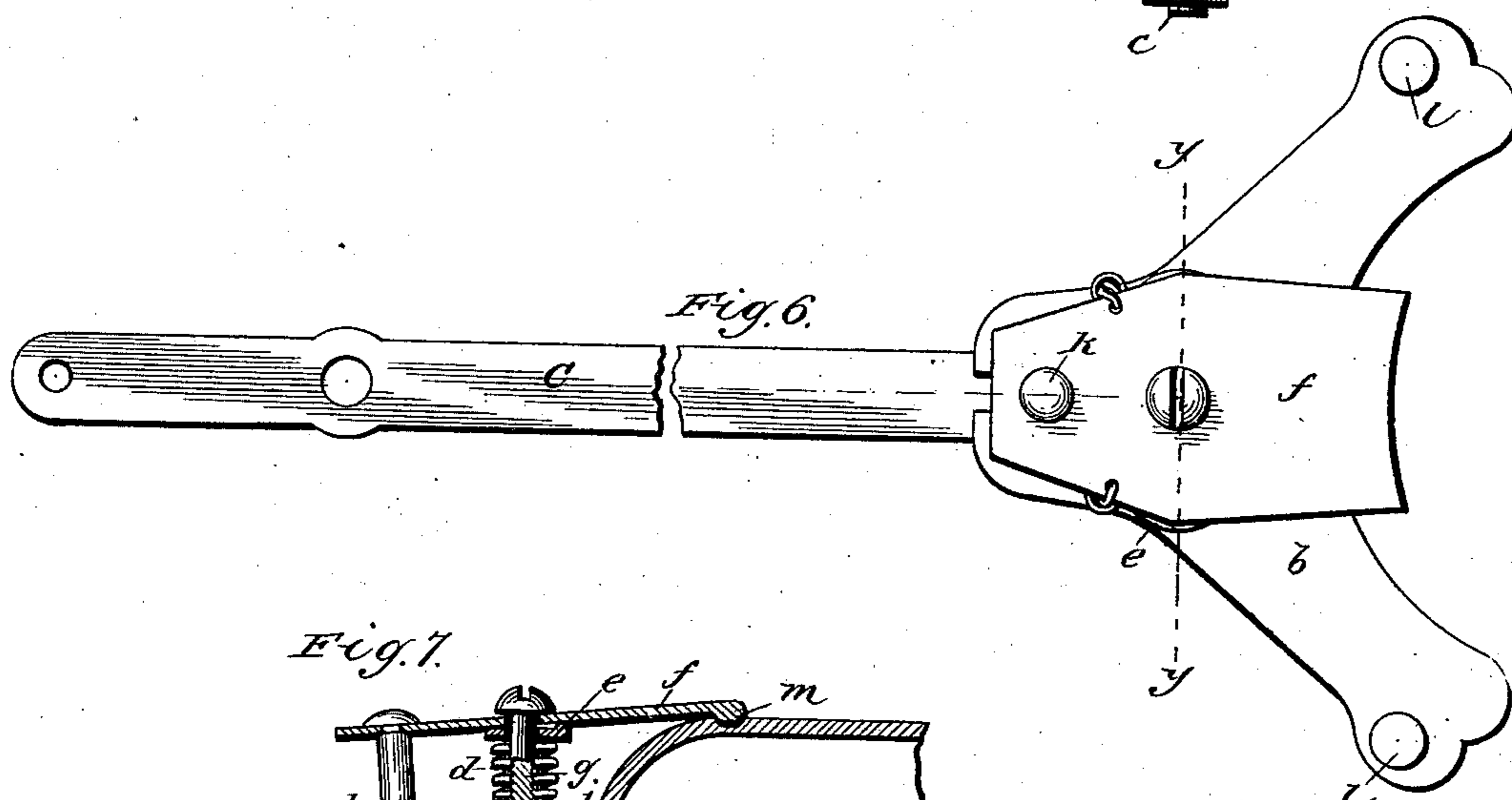
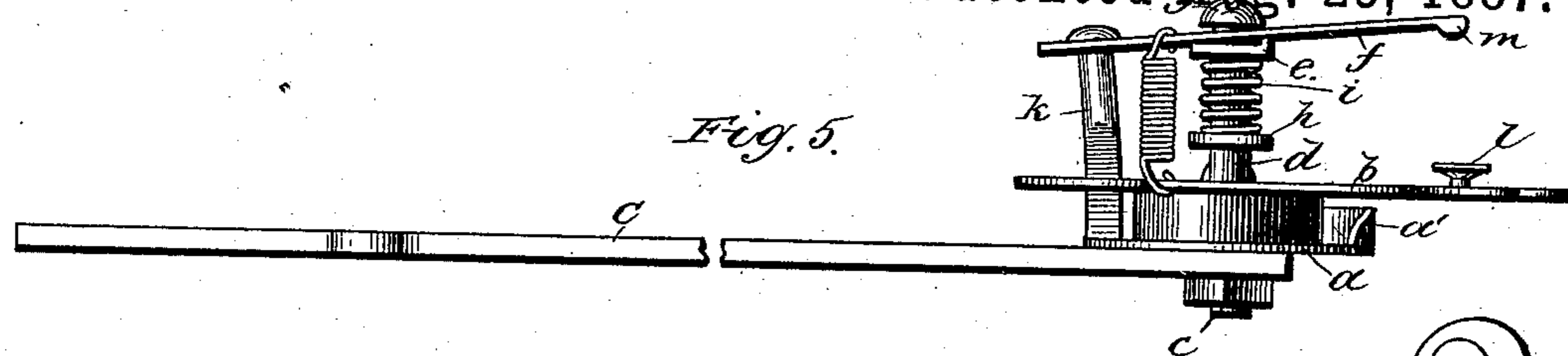
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2 Sheets—Sheet 2.

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TARGET TRAP.

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UNITED STATES PATENT OFFICE.

FREDRICK C. DAMM, OF DECATUR, ILLINOIS, ASSIGNOR TO THE CLEVELAND TARGET COMPANY, OF CLEVELAND, OHIO.

TARGET-TRAP.

SPECIFICATION forming part of Letters Patent No. 368,911, dated August 23, 1887.

Application filed July 2, 1886. Serial No. 206,909. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK C. DAMM, a citizen of the United States, residing in Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Target-Traps, of which the following is a specification.

This invention relates to an improvement in target-traps, in which a horizontal spring-actuated throwing-arm is adjustably and pivotally secured upon a supporting base or frame, but is more particularly designed as an improvement on United States Letters Patent No. 328,565, granted me October 20, 1885.

In this patent is shown a trap so constructed that the trapper may control the direction of throw of the target, the standard or supporting-post being stepped in a suitable casting or base, in which is a countersunk spring bearing against the end of the standard to produce sufficient friction to prevent a free rotation of the standard in the base. In practice, however, I have found it difficult to obtain a spring of sufficient and lasting strength to accomplish this object, or, if a spring of sufficient strength is employed, it requires more power to seat the standard in the base than can readily be employed by hand.

One of the objects of this invention is to provide a base for supporting the standard which shall be capable of such adjustment that the standard may be readily rotated therein and at the same time prevented from being accidentally thrown out of the proper angle, or the standard may be rigidly secured at any desired angle.

Another object is to provide a throwing-arm for a target-trap, by means of which the target may be held firmly in position on said arm during a portion of the throw thereof, and automatically released at the desired point for producing the proper flight of the said target.

Other objects are to provide a holder for the target having frictional contact between the holder and the top or crown of the target, whereby the rim thereof may be relieved from the strain heretofore imposed upon it to hold the target in place and the liability of fracture of the target be reduced; to provide such a holder with a yielding clamping-jaw, whereby

frictional contact between the target and holder may be produced; to provide the said clamping-jaw with a depending flange or rib for seating in a corresponding depression in the target, whereby the necessity for excessive frictional contact between said target and the jaw and the consequent liability of fracture to the former may be avoided; and, finally, to provide means for automatically releasing the said yielding clamping-jaw, and to provide certain other details of construction necessary to the proper carrying out of my invention, as illustrated in the accompanying drawings, in which—

Figure 1 illustrates a side elevation of a trap embodying my invention; Fig. 2, a plan view thereof; Fig. 3, a transverse vertical section on line *x x*, Fig. 1; Fig. 4, a detail plan view of the base; Fig. 5, a detail side elevation of the throwing-arm and holder; Fig. 6, a plan view thereof; Fig. 7, a central longitudinal section of the same; Fig. 8, a transverse vertical section; Fig. 9, a detail view of the cam-plate; Fig. 10, a modification of the base.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the bed-plate of my trap, having provided thereon an upright post, B, cast with or otherwise rigidly secured thereto, upon the top face of which is pivoted the throwing-arm C of my trap, the construction and operation of which will be fully described farther on. Projecting upwardly from the said bed-plate, about centrally of the length thereof, is another post, D, forming a bearing for a screw-threaded rod, E, working loosely through said post. The rear end only of this rod E is screw-threaded to receive a jam-nut, F, between which and the post D extends a spiral spring, G, coiled upon the said rod E, the tension of which is regulated by the adjustment of the jam-nut F. The opposite or forward end of the rod E is flattened and has an eye, H, formed therein, through which projects one end of the link I, the opposite end of which engages a similar eye formed in the rear end of the throwing-arm to the rear of its pivot, the said arm when thus pivoted constituting a lever of the first class.

It is obvious that when the forward end of the throwing-arm is drawn backward the rear end thereof will be correspondingly advanced, carrying with it, through the medium of the link I, the rod E, thereby compressing the coiled spring sleeved on said arm.

To maintain the throwing-arm in its drawn-back position against the tension of the said spring, and thereby provide a trigger for releasing the arm to make the cast at the proper time, I employ the spring-catch device more clearly illustrated in Figs. 1, 2, and 3, consisting of a flat steel spring, J, riveted at one end thereof, as shown at K, to a lateral projection, L, of the bed-plate, and having a stud or latch, M, rigidly secured thereto at a point intermediate the ends thereof, working through a hole or perforation provided in the extension L. This latch M has the face thereof inclined or beveled, as is usual in such devices, over which rides the throwing-arm, thereby depressing it, the said arm striking against a stop or lug, N, cast with and projecting from the face of the extension L, between which lug and the latch, which returns to its elevated position by reason of its spring-seat, the said arm is held.

The free end of the spring J has secured thereto one end of the latch-cord O, which passes downwardly through an eye, P, and thence backwardly to the trapper, by means of which cord the trapper is enabled to depress the spring J, thereby drawing the latch down through the bed-plate, out of the path of the throwing-arm when the tension of the contracted spring G is permitted to throw the arm forward to its normal position and cast the target.

On the forward or free end of the throwing-arm is provided a target-holding device, consisting of a horizontal cam-plate, *a*, above which and on the hub thereof is mounted the bottom plate, *b*, of the holder, rigidly secured in position by the screw-bolt *c*, passing through the said plate, cam, and throwing-arm, but which plate is free to turn or oscillate upon the said bolt as a pivot. Projecting upwardly from this plate, on each side of this pivoting-bolt, are two short posts, *d d*, connected at the top thereof by a cross-bar, *e*, rigidly secured to said posts, which cross-bar has the forward edge thereof slightly turned up, or a flange projecting upwardly therefrom, forming a fulcrum for the top plate or yielding jaw, *f*, of said target-holder. This yielding jaw is held in position by a screw-bolt, *g*, passing centrally through said jaw and working loosely through a perforation formed in the cross-bar *e*, the lower screw-threaded end of which bolt works through a screw-threaded hole formed centrally in a second cross-bar, *h*, extending between the posts *d d*, the perforations in the ends thereof, through which said posts pass, being sufficiently large to permit the free vertical movement of the said cross-bar *h*.

Between the cross-bars *e* and *h* and sleeved upon the posts *d d* are two coiled springs, *i i*,

the tension of which operates to force the plates apart, and consequently to depress the sliding cross-bar *h*, which, carrying with it the screw-bolt *g*, firmly clamps the jaw *f* against the cross-bar *e*; but while the said screw-bolt prevents any lateral or horizontal shifting of the clamping-jaw, the said jaw is free to yield vertically as far as the springs *i* will permit, as will be readily understood from an examination of the drawings. A jam-nut, *j*, is employed in connection with the screw-bolt *g* to insure that the two cross-bars shall remain at their properly-adjusted distances apart.

Secured to the rear end of the clamping-jaw and depending therefrom is a stud, *k*, working loosely through a suitable slot in the bottom plate, *b*, the lower free end of which is designed to engage and ride upon the horizontal cam *a'*, cast with or otherwise rigidly secured to the cam-plate *a*. The effect of the engagement of this stud with the cam is to elevate the rear end of the clamping-jaws upon the flange of the cross-bar *e* as a pivot, thereby depressing the forward end of said plate and clamping the target in position, which has been previously inserted between the said jaws, with the rim thereof projecting under the heads of the stud-bolts *l*, projecting from the upper face of the plate *b*.

The forward free end of the clamping-jaw has a downwardly-projecting rib or flange, *m*, designed to hook over a corresponding rib on the target, or else engage a suitable depression formed on the face thereof. By the employment of this yielding jaw, when the target is placed in position and the holder swung around on the pivoting-bolt, the clamping-jaw will first be depressed until it comes in contact with the target, when the resistance of said target will cause the tension of the springs *i i* to be overcome, thereby holding the said target in position mainly by frictional contact, which operation is materially aided by the employment of the rib or flange on the end of the clamping-jaw, and as a result of which considerably less friction is required to hold the target in place, and it is therefore relieved of an excessive amount of friction which would otherwise necessarily have to be employed, and which would tend to crush or fracture the target. The operation of this throwing-arm in general is the same as that which commonly obtains in devices of this class—namely, the holder, when the arm is drawn back in position for throwing, is swung on its pivot until the target is properly held and the necessary amount of twist given to fly the target correctly—and when the throwing-arm is released the force of inertia operates to swing the holder on its pivot, thereby releasing the target, which flies off at a tangent in the desired direction.

In order to enable the trapper to vary the flight of the target, both as regards the direction and angle of elevation, I have provided the standard *A'*, to the upper end of which is pivotally connected a lug, *B'*, depending from

the under side of the bed-plate A, the said standard also having a joint or hinge, C', formed therein about the center of length thereof, and having its lower end stepped in a yielding base, D', for the purpose hereinafter described.

The pivot-connection between the bed-plate and the upper end of the standard and the pivot or hinge joint in the standard itself permit any desired degree of variation in the angle of flight, the former more particularly serving to compensate for the direction and velocity of the wind; but as this construction is not new I do not deem it necessary to enter into a more detailed description of the functions and operation of these parts, but will proceed with the new elements of my invention. This consists in the step or base, preferably formed of cast metal, as clearly shown in Fig. 4, having an upright portion, E', of the contour of a hollow cylinder, with a break or slot, F', interrupting the continuity of the cylinder, from which project at approximately a right angle the flanges G', the said cylinder and flanges having cast therewith the feet H', with which to secure the base to the ground or to a suitable base-plate, not necessary to be shown.

The lower end of the standard is made slightly smaller than the main body thereof to form a shoulder, I', upon which rests the weight of the trap when the said smaller end is inserted in the upright cylindrical portion E' of the base, in which the standard may be firmly held by means of the screw-bolt J', working through the flanges G', so as to draw the said flanges toward each other. In practice, however, it is not generally desirable that the standard should be held rigid against rotation in the base, but just sufficiently tight to prevent a free rotation therein, so that while the standard will not shift in the base when the trap is sprung, at the same time the standard, and consequently the trap, may be readily shifted by the hand of the trapper and without the necessity of constantly manipulating the set-screw. This is readily accomplished by making the end of the standard fit the bore of the base snugly and then operating the set-screw to produce the necessary friction, the spring of the metal forming the base operating to release the standard when the set-screw is reversed.

If desirable, the base, or at least the cylindrical portion thereof, may be formed of two parts hinged together at one end and connected by a set-screw at the other, as clearly illus-

trated in Fig. 10, for this construction may be found necessary in cases where faulty castings or uneven boring of the base may cause a fracture thereof in an attempt to spring the base so as to grasp the standard.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a target-trap, the target-holder, the fixed jaw thereof, and the yielding jaw provided with a depending flange on one end thereof, in combination with a depending stud on the opposite end thereof, a cam for engaging and elevating said stud, and a yielding pivot for said jaw intermediate the ends thereof, substantially as described.

2. The throwing-arm, means for actuating said arm, and a cam-plate rigidly secured to said arm, in combination with a bottom plate or holding-jaw axially pivoted to said plate, the top plate or holding-jaw, a vertically-yielding pivot therefor intermediate the ends thereof, and a stud depending from one end of said plate adapted and arranged to engage the cam-plate, substantially as described.

3. The throwing-arm, means for actuating said arm, and a cam-plate rigidly secured thereto, in combination with a fixed holding-jaw, a pivot-connection between said jaw and cam-plate, the upright posts secured to said jaw, the pivotal and sliding cross-bars connecting said posts, the upper holding-jaw, a yielding connection between said jaw and the sliding cross-bar, and means for actuating said holding-jaw, substantially as described.

4. The throwing-arm, means for actuating said arm, and a cam-plate rigidly secured thereto, in combination with a fixed holding-jaw, the holding-pins secured thereto, a pivot-connection between said jaw and cam-plate, the upright posts secured to said jaw, the pivotal and sliding cross-bars connecting said posts, the upper holding-jaw, a screw-bolt passing through the pivotal cross-bar and connecting the upper jaw with the sliding cross-bar, spiral springs sleeved on said upright posts between the pivotal and sliding cross-bars, the depending rib or flange on the free end of said upper jaw, and a depending stud rigidly secured to the opposite end of said jaw adapted and arranged to come in contact with the cam-plate, substantially as described.

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Witnesses:

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