

(No Model.)

3 Sheets—Sheet 1.

A. G. NOLCKEN.  
MAGAZINE FIREARM.

No. 551,143.

Patented Dec. 10, 1895.

Fig. 1.

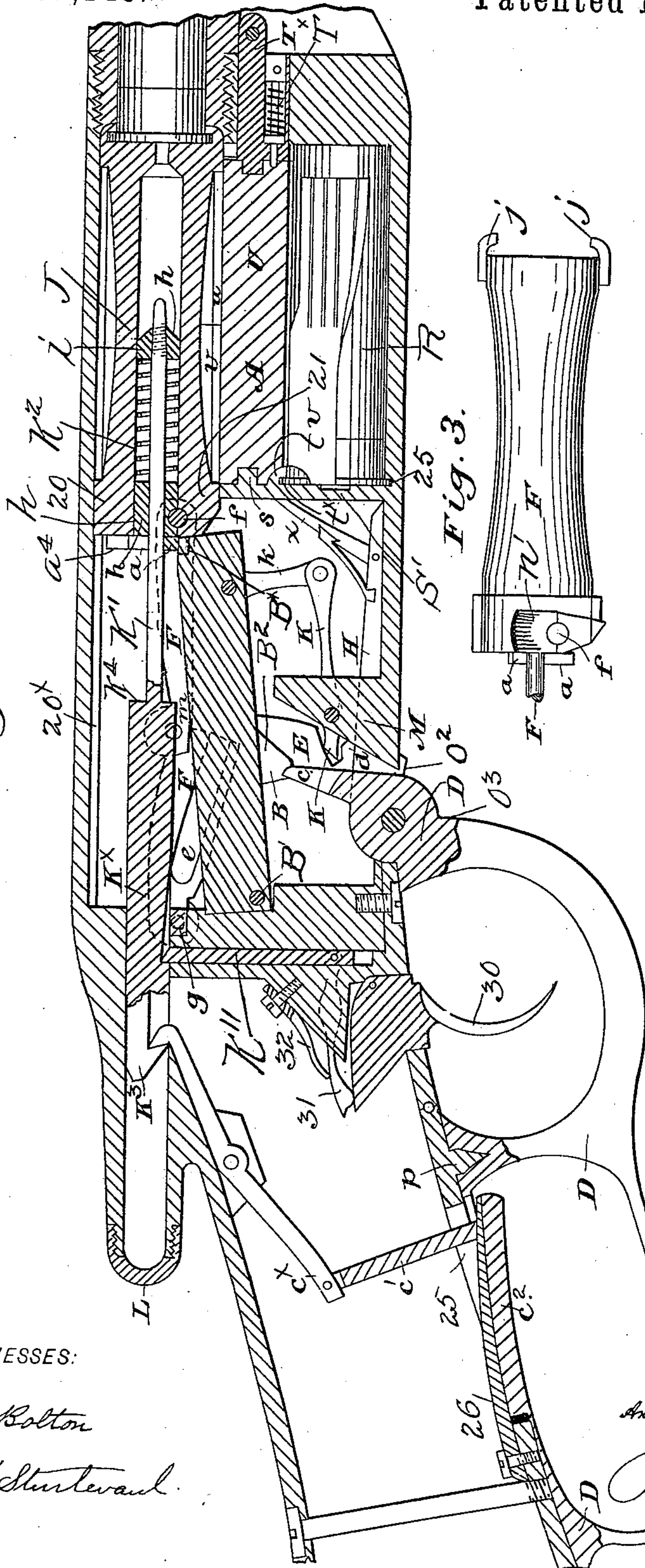


Fig. 3.



Fig. 6.



Fig. 7.

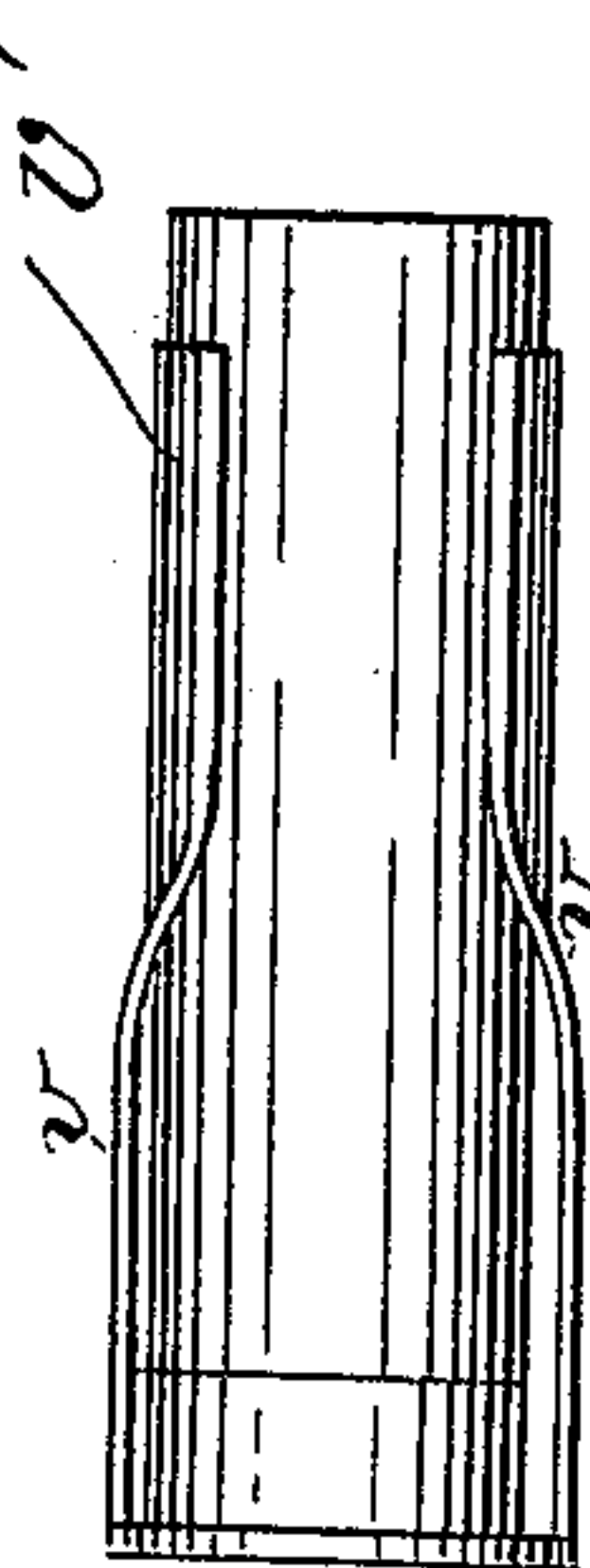
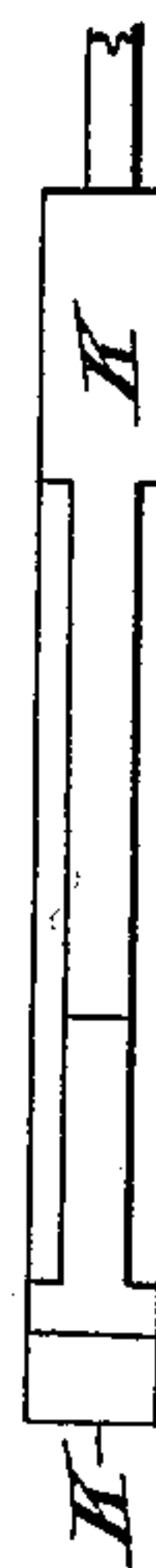


Fig. 15.



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E. H. Sturtevant

INVENTOR

Axel Gustavus Nolcken

ATTORNEYS

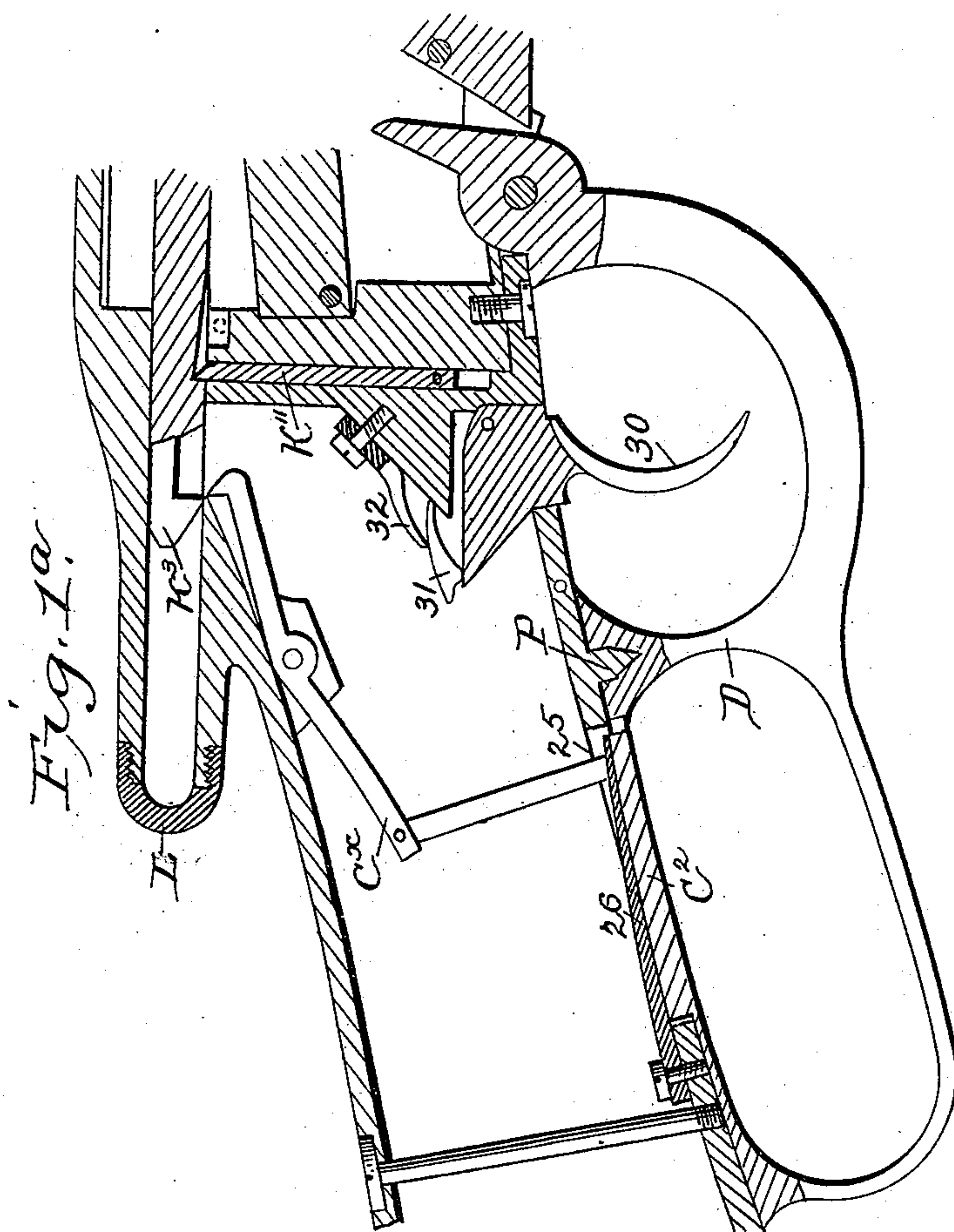
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No. 551,143.

Patented Dec. 10, 1895.



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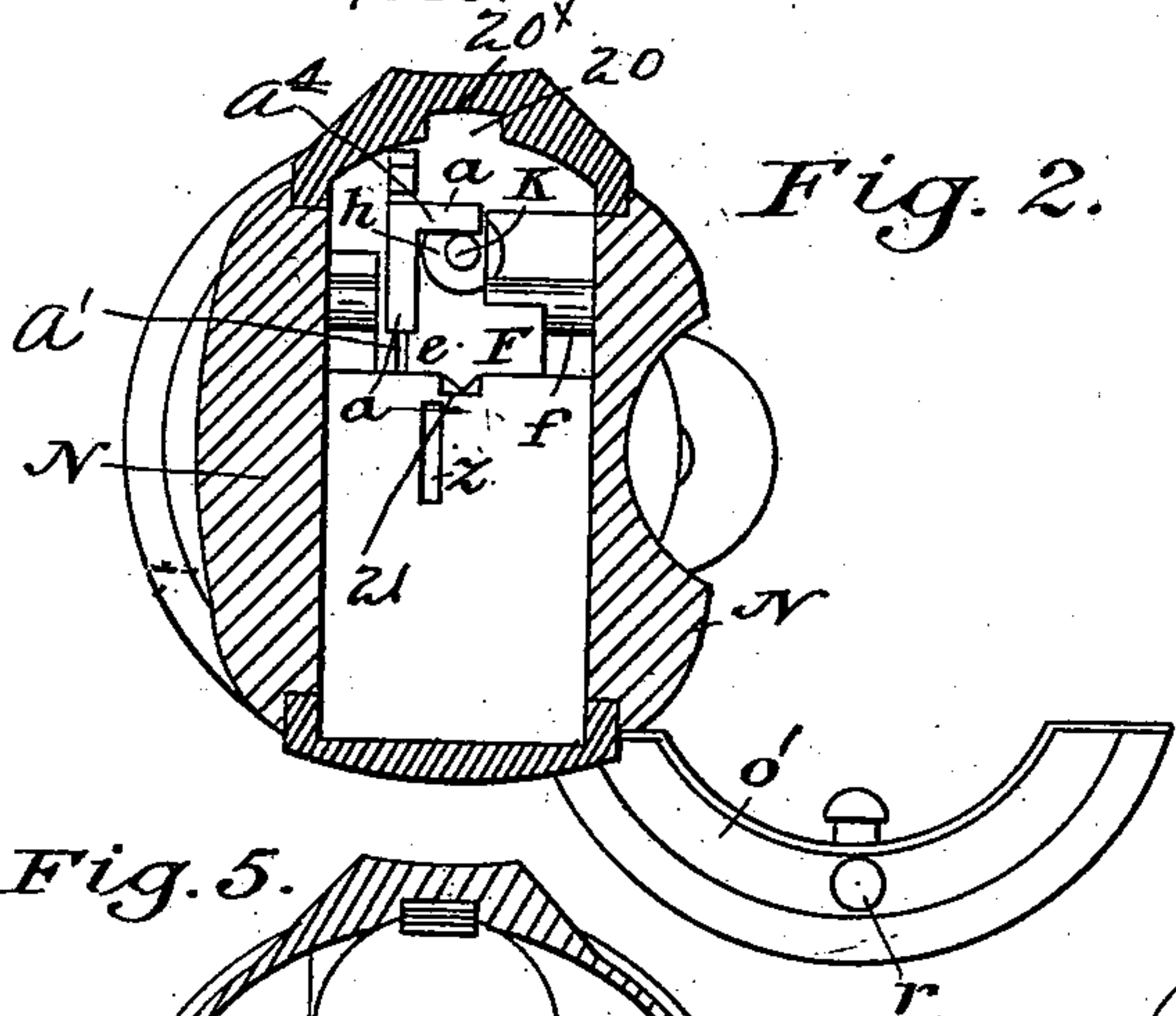
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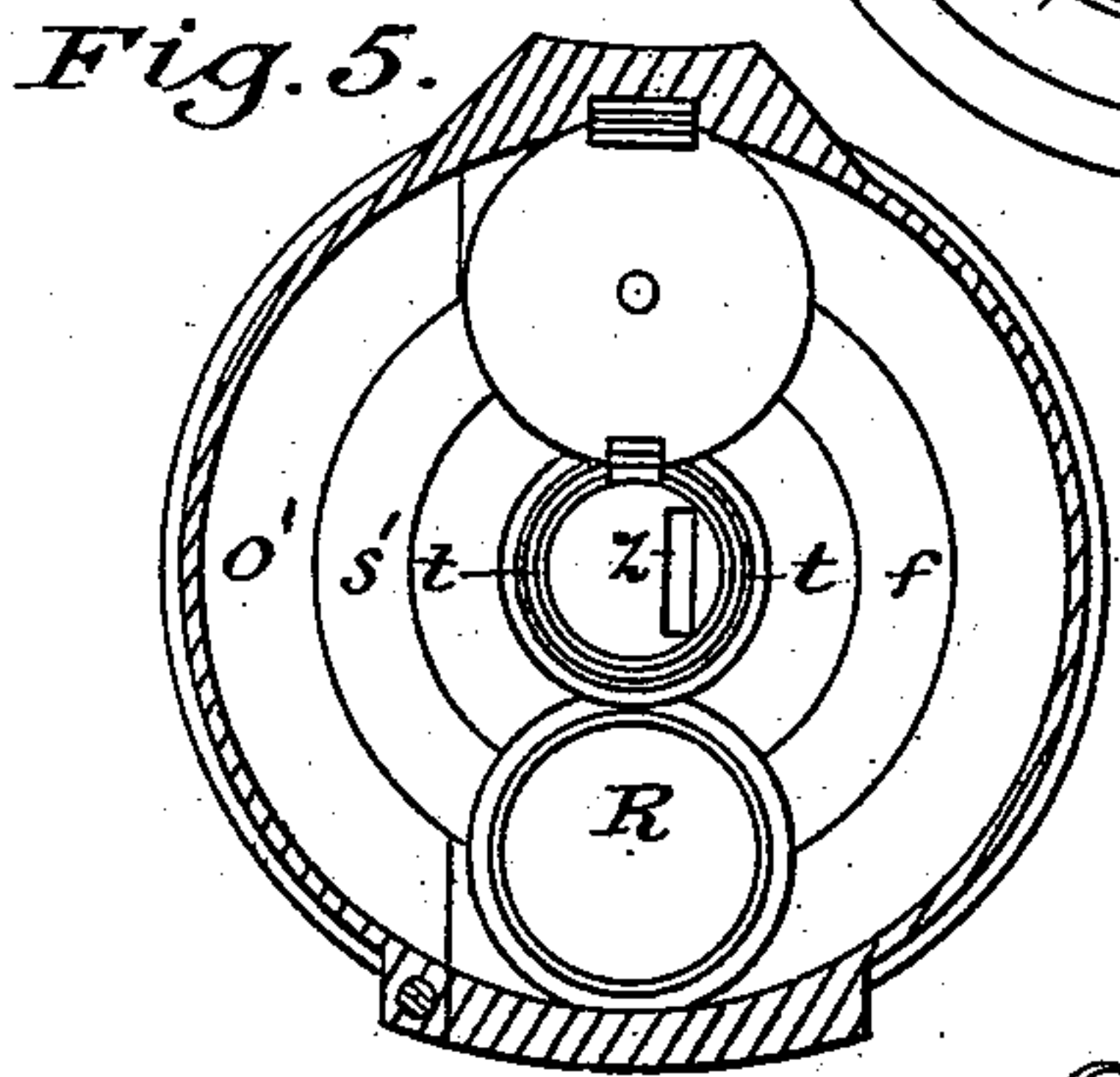
A. G. NOLCKEN.  
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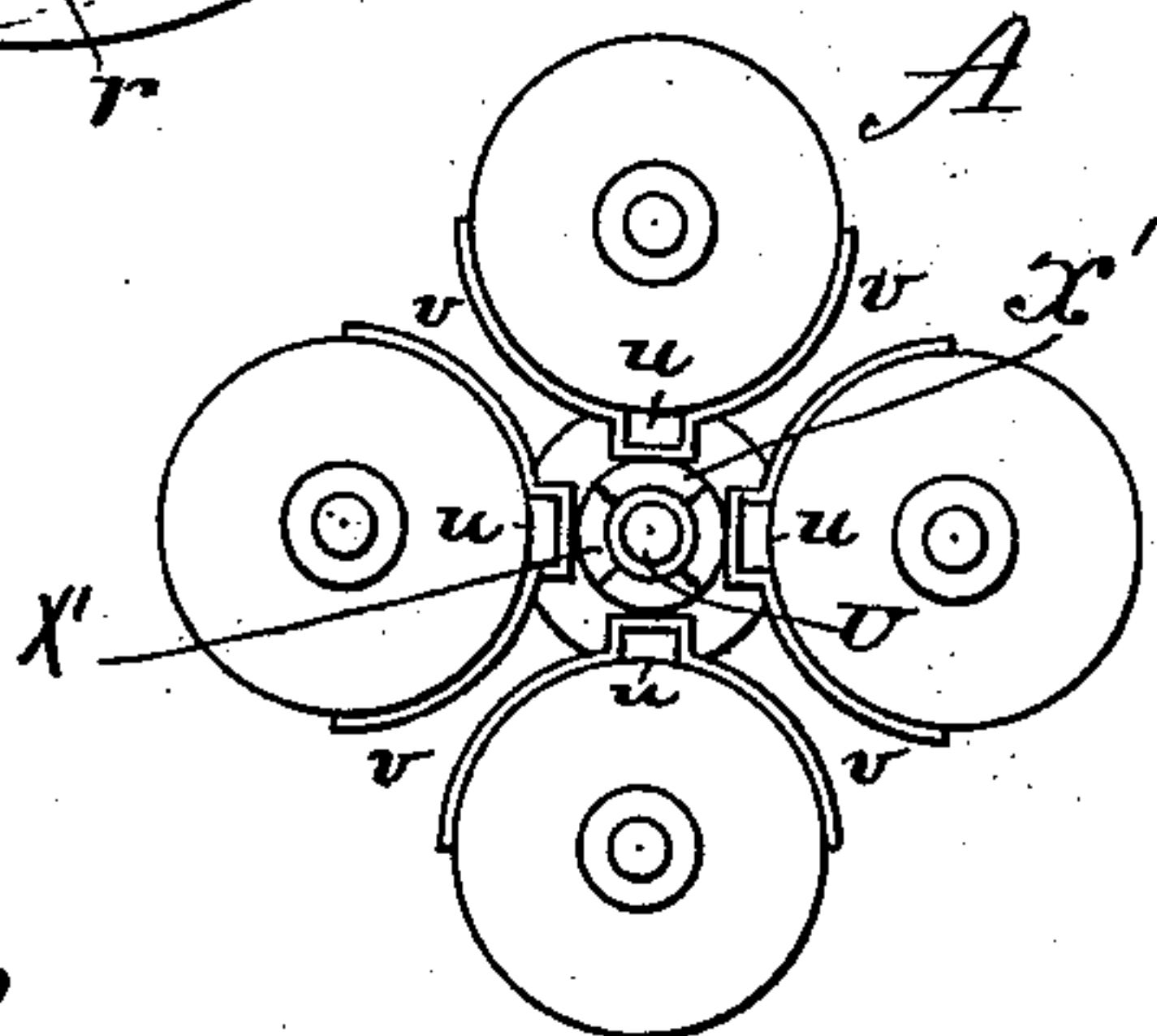
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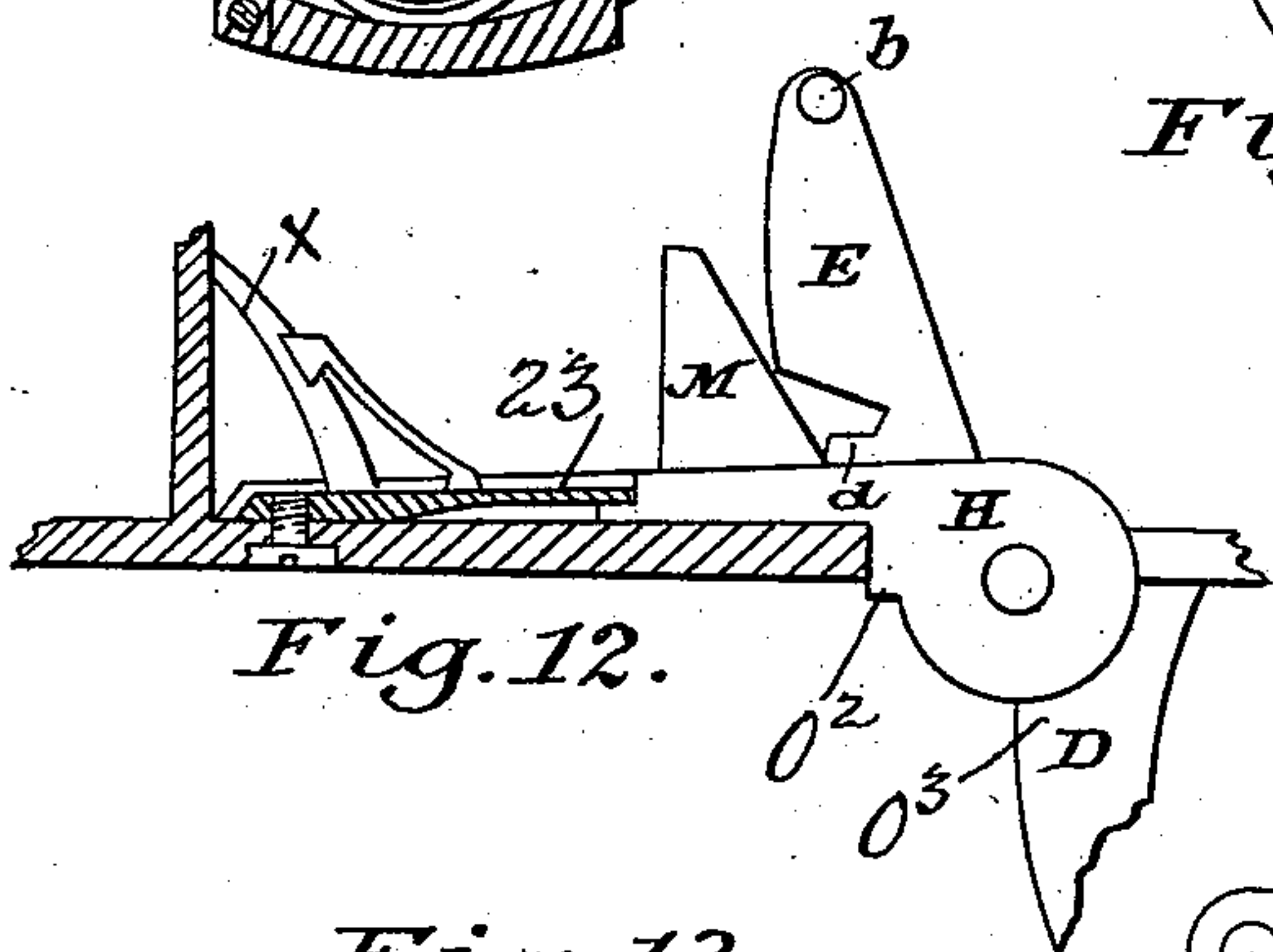
*Fig. 2.*



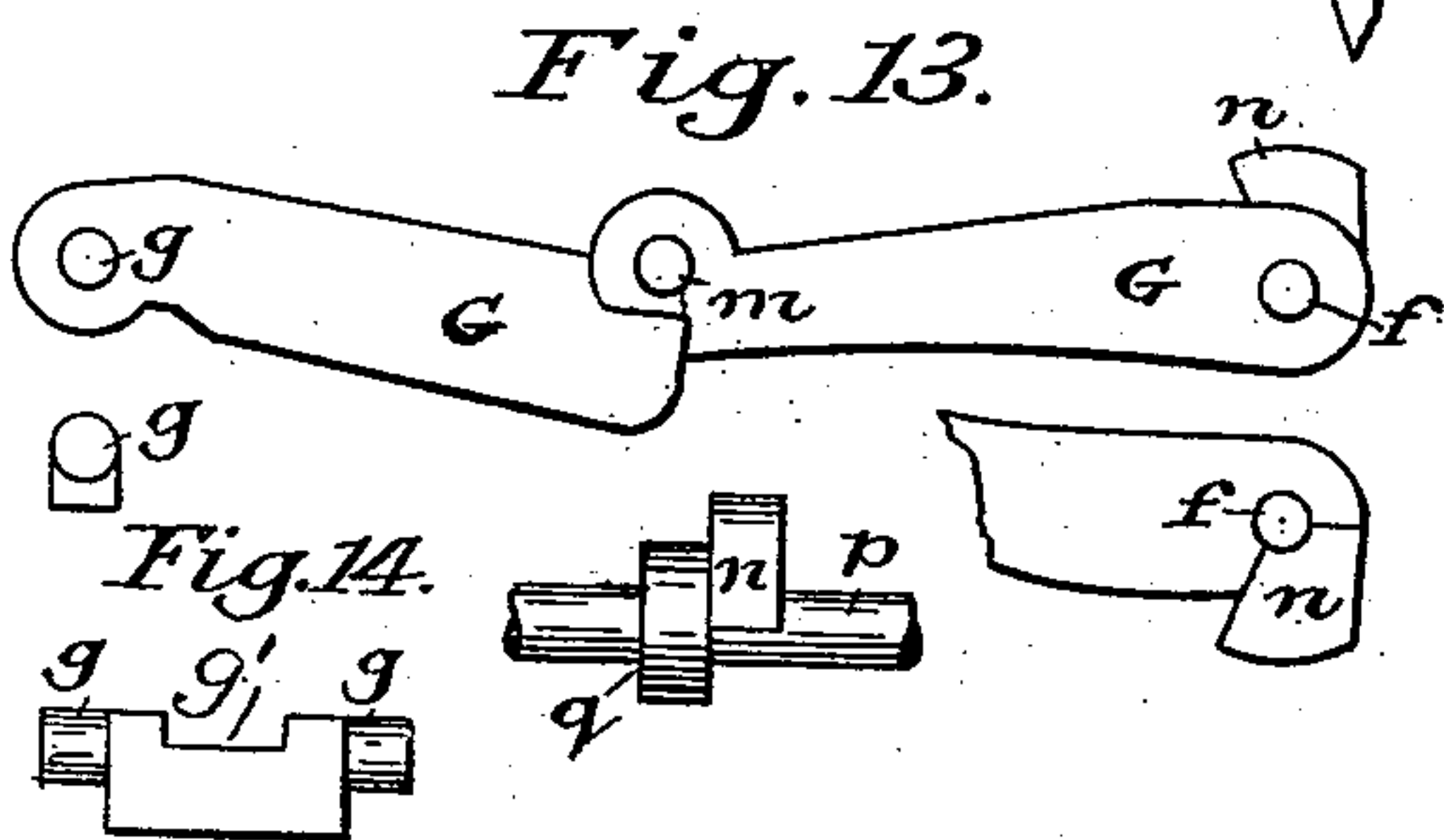
*Fig. 5.*



*Fig. 4.*



*Fig. 12.*



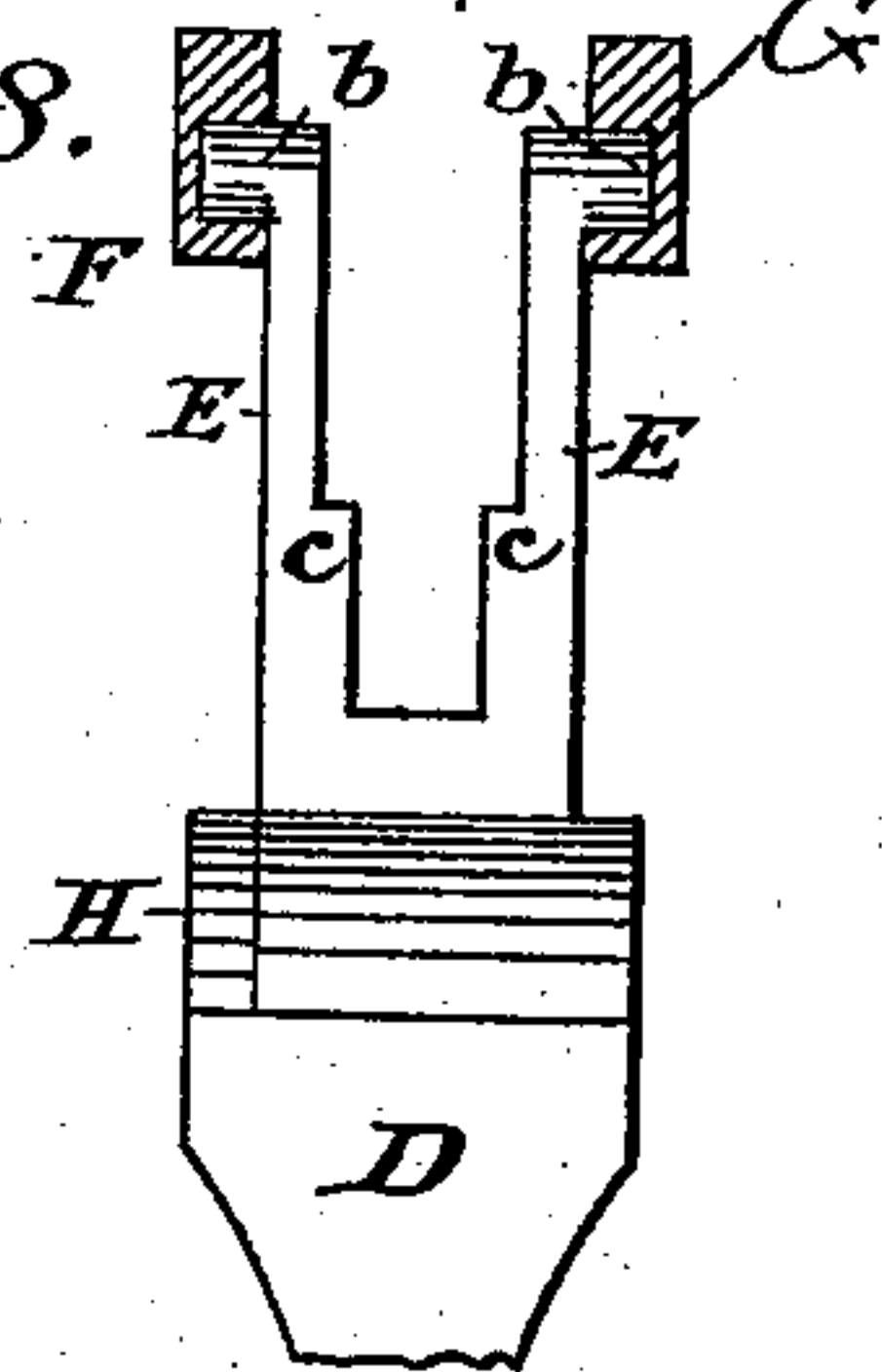
*Fig. 13.*

*Fig. 14.*

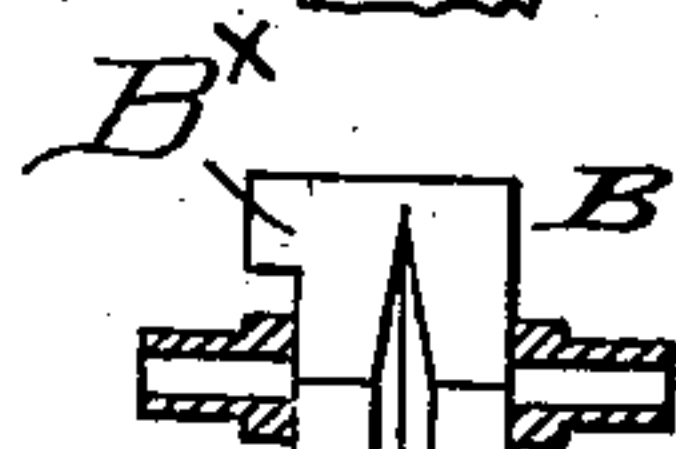
WITNESSES:

C. B. Bolton

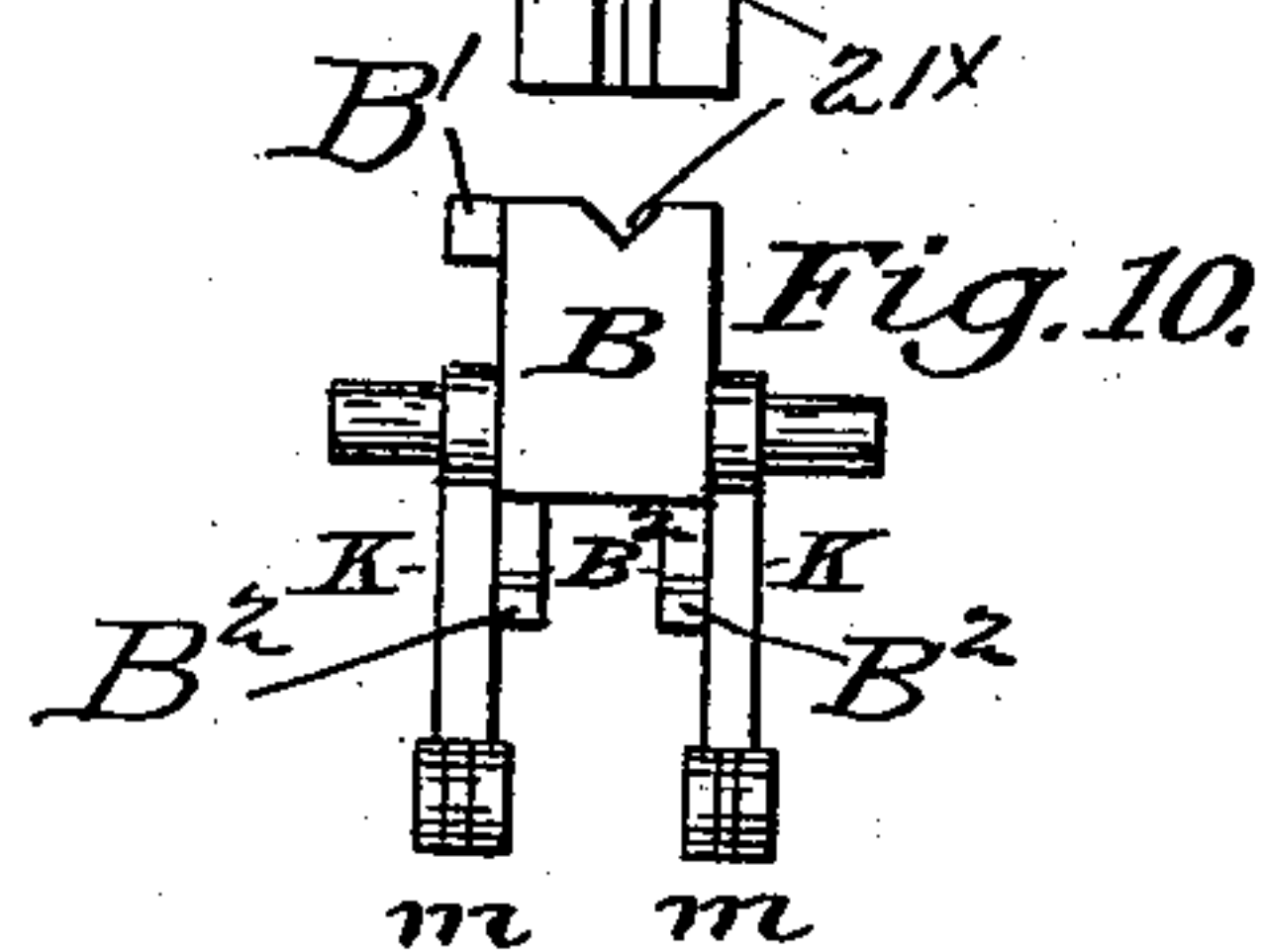
E H Sturtevant



*Fig. 8.*

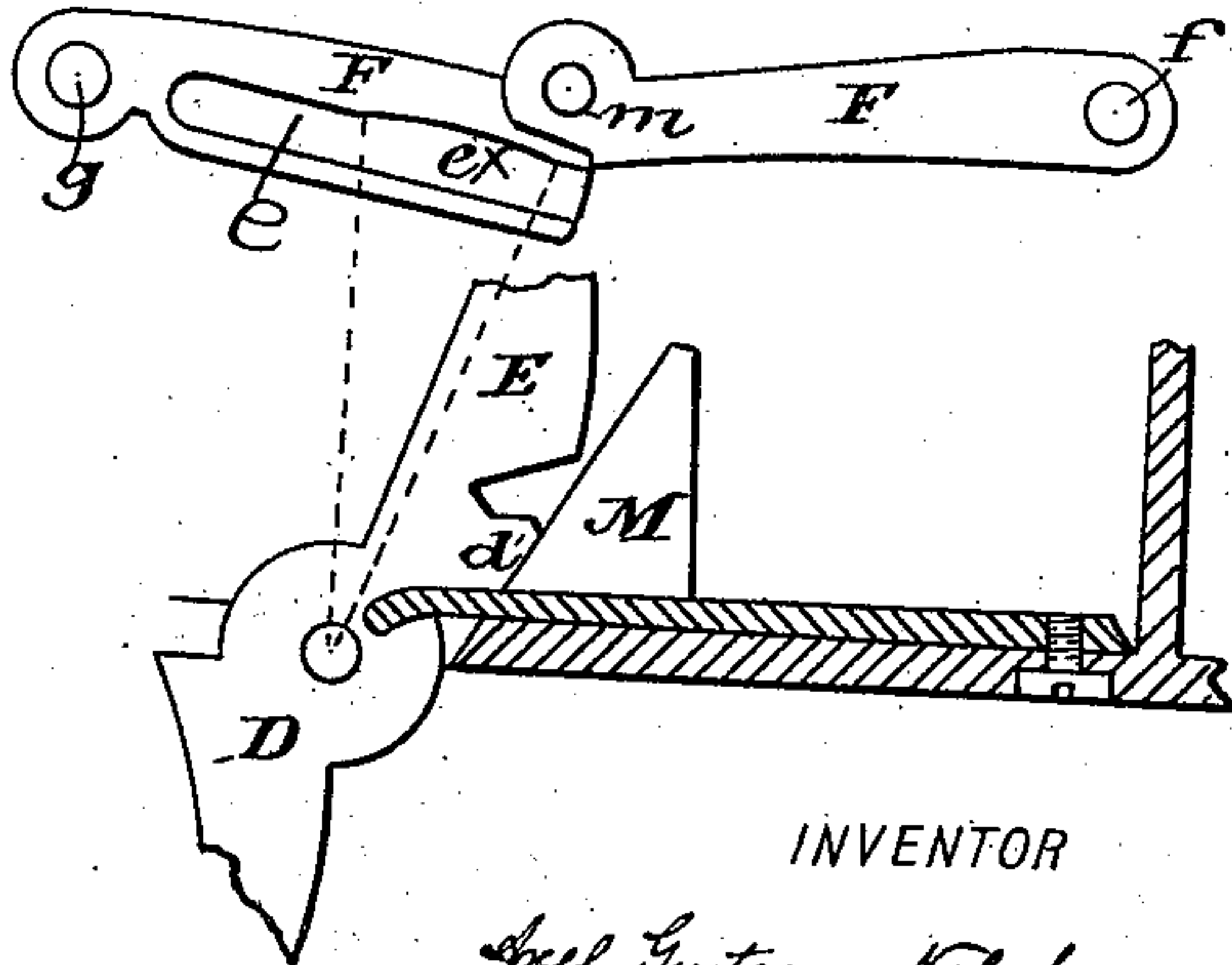


*Fig. 9.*



*Fig. 10.*

*Fig. 11.*



**INVENTOR**

Arkel Gustavus Volcken

BY

ATTORNEYS



# UNITED STATES PATENT OFFICE.

AXEL GUSTAVUS NOLCKEN, OF MOISEKATZ, RUSSIA.

## MAGAZINE-FIREARM.

SPECIFICATION forming part of Letters Patent No. 551,143, dated December 10, 1895.

Application filed February 2, 1893. Serial No. 460,738. (No model.) Patented in Belgium January 2, 1893, No. 102,842; in England January 3, 1893, No. 120, and in Austria-Hungary June 16, 1893, No. 1,773 and No. 1,752.

*To all whom it may concern:*

Be it known that I, AXEL GUSTAVUS NOLCKEN, a subject of the Emperor of Russia, residing at Moisekatz, per Verro, Livland, Russia, have invented certain new and useful Improvements in Magazine-Firearms, of which the following is a specification.

This invention has been patented in Belgium, January 2, 1893, No. 102,842; in England, January 3, 1893, No. 120, and in Austria-Hungary, June 16, 1893, No. 1,773 and No. 1,752.

My invention relates particularly to a revolving magazine, a rising and falling breech-block arranged to automatically operate a lock for the firing-pin, and a safety-lock for the firing-pin arranged to be controlled by a movable lever at the trigger-guard.

In the drawings, Figure 1 is a central vertical section of the arm with parts in elevation. Fig. 1<sup>a</sup> is a detail view of the trigger-guard and its connection to the safety-catch, showing the parts in a different position. Fig. 2 is a transverse section in rear of the rotary magazine and breech-bolt. Fig. 3 is a side view of the bolt; Fig. 4, a rear detail view of the rotary cartridge carrier or magazine. Fig. 5 is a transverse section through the magazine-chamber. Fig. 6 is a side view of the axle of the rotary magazine. Fig. 7 is a plan view of one of the cradles of the magazine for holding cartridges. Fig. 8 is a detail of part of the guard-lever, showing the connections between the same and the breech-bolt. Fig. 9 is a top view of the recoil-block. Fig. 10 is an end view of the same with attached parts. Fig. 11 is a side view of the parts shown in Fig. 8. Fig. 12 is a detail of the connection between the guard-lever and the rotary magazine. Figs. 13 and 14 are detail views, and Fig. 15 is a bottom plan view of the firing-pin shank.

The breech-bolt J is operated to and from the barrel by the toggle-levers F G, there being a pair G on the right of the arm, as in Fig. 8 at G, and in Fig. 13, and a pair F at the left of the arm, as in Fig. 8, said latter pair being also shown in Figs. 11 and 1. The arms of each pair are pivoted together at *m*, their rear ends are pivoted to the frame at *g*, and

their front ends to the breech-bolt J, Fig. 1, at *f*, the pivot-pin also serving to hold the plug *h* in place, said plug being arranged at the rear end of the bore of the sliding breech-block, and through which plug the front reduced part of the firing-pin K passes. The toggle-arms are operated by the arms E, having lateral studs *b* at their upper ends entering the slots *e* in the inner faces of the rear members of the toggle-arms. The arms E are formed with the guard-lever D, as shown in Figs. 1, 4, and 11, and when the lever is in the position shown in Fig. 1 the arms of the toggle will be straightened out or more nearly coincident and the bolt will thus be seated, as in Fig. 1, and will be so held. When the guard-lever D is thrown down, the studs *b*, moving rearwardly, will throw down the central toggle-joint *m* and the breech-bolt will be thus retracted.

The locking of the breech-bolt is effected by the rising and falling block B, pivoted to the frame at B' and having depending studs B<sup>2</sup>. The forward end of this block is operated vertically by a link *k* pivoted thereto from a lever K pivoted to the stud M of the frame and operated by the shoulders *d* on the arms E. As shown in Fig. 8, there are two of these arms E, and the recoil-block B fits in between them and has two of the studs B<sup>2</sup>, Fig. 10, and there are also separate pairs of levers K and link *k*, Fig. 10, one for each side of the breech-block. The depending studs B<sup>2</sup> are borne upon when the lever D is closed in the position of Fig. 1 by shoulders *c c* on the arms E, and thus the recoil-block B is supported.

The grooves *e* of the toggle-arms are formed with a curved portion, as *e*<sup>x</sup> in Fig. 11, and the arrangement is such that the block B will move down before the breech-bolt J begins to move back and the block will not be raised to the highest position until after the breech-bolt has been thrust home to its seat. The pivot-pin *g* for the rear toggle-arms is notched centrally at *g'*, Fig. 14, so as to allow the rectangular shank K<sup>x</sup> of the firing-pin to pass through.

A spring K<sup>2</sup> in the breech-bolt J presses on the nut *i* of the firing-pin to drive the same



against the cartridge when released. The firing-pin may be removed by unscrewing the cap L at the rear of the frame, Fig. 1.

The firing-pin when retracted as hereinafter described is held by the sear K'' movable vertically in the frame and operated from the trigger 30 by the lever 31 under tension of spring 32. A safety catch or lock  $c^x$ , pivoted to the frame, engages the hook K<sup>3</sup> on the rear end of the firing-pin shank when retracted and this can be released when the guard D is in the position shown in Fig. 1, so that the spring portion  $c^2$  of the guard engages the leaf-spring 26 to operate the safety-catch  $c^x$  through the rod  $c'$  when the gunner presses on the spring  $c^2$ . The leaf-spring 26 is fixed to the frame, extends through a slot 25 in the frame, and the rod  $c'$  bears thereon. Fig. 1<sup>a</sup> shows the parts in a different position when pressure is applied to the spring  $c^2$  by the gunner. This action merely releases the safety-catch after which it is necessary to pull the trigger in order to discharge the gun, it being understood that the pressure of the gunner's hand on the spring  $c^2$  maintains the safety in released position. With the parts in position shown in Fig. 1 it will be seen that the recoil-block B abuts against the rear end of the breech-bolt J and thus locks the same in place.

The breech-bolt is of concave curvature and at its front end it has two hooks  $j$  for extracting the cartridge, and at its rear upper part it has a stud 20 moving in a groove 20<sup>x</sup> in the breech-frame and a lower V-shaped stud 21 adapted to move in a corresponding groove 21<sup>x</sup> in the upper surface of the recoil-block B when said block is lowered by the throwing down of the lever D, which, as before stated, depresses the block, so that its groove is in line with the V-shaped stud 21 and the bolt is free to be retracted. When the block is down, it is firmly supported by the stud M.

At the rear of the breech-bolt an angle safety-lock  $a$  is arranged to move vertically in a groove  $a'$ , Fig. 2. When said angle-lock is raised, so that its upper lateral extending portion  $a^4$ , Figs. 1 and 2, is raised above the line of the shoulder K<sup>4</sup> of the firing-pin, as shown in Fig. 1, the firing-pin is free to fly forward when the trigger is pulled; but when the portion  $a^4$  is down, so as to rest on the pin K', as in Fig. 2, it will be in the path of the shoulder K<sup>4</sup> and the gun cannot be fired, as the pin will be arrested by contact of the shoulder K<sup>4</sup> with the portion  $a^4$  before the percussion-cap is touched by the firing-pin. The safety-lock is held up when the block B is up by a projection B<sup>x</sup>, Figs. 9 and 10 and dotted lines Fig. 1, and the pin is now free to fly forward when the trigger is pulled.

The safety-lock may be forced down by any suitable spring.

The forward member of the pair of toggles G, as in Fig. 13, carries a spur  $n$ , arranged to

lie in the socket  $n'$  of the breech-bolt, as shown in Fig. 3, and the first movement of the parts when the lever D is thrown down will cause the spur  $n$  to engage the shoulder K<sup>4</sup> of the firing-pin and move the same back slightly, so that the safety-lock  $a$  will immediately fall in front of the shoulder K<sup>4</sup>, and thus hold the pin back and prevent any explosion until the safety-lock  $a$  is again lifted by the rise of the recoil-block and the breech-bolt is forced to its seat and the breech is fully closed.

The magazine-casing is of cylindrical form, Figs. 1, 2, and 5, having on the right-hand side a hinged flap  $o'$ , catches of any well-known construction being used at  $r$  to hold this hinged side closed. The magazine-casing throughout its circumference and the extent of the flap is provided with a groove 25 for the cartridge-flange. The end wall of the magazine-chamber has a pivot S for the axis U of the rotary magazine, and a slot  $z$ , Fig. 5, is also formed in this wall, through which the pawl  $x$ , Fig. 1, passes to engage the teeth X', Fig. 4, on the axis O of the rotary magazine. A circular projection  $t$ , Figs. 1 and 5, extends around the pivot S, forming a groove  $t'$  for the cartridge-flanges. A shallow groove S' is also formed in this wall to protect the percussion-caps against pressure and friction. The opposite end of the axis U of the rotary magazine consists of a pin T, Fig. 1. This carries a spring-pin T<sup>x</sup>, acting as a detent by engaging openings in the axis, said pin having a rounded end and automatically engaging the openings but allowing the axis to turn when pressure is applied to the pawl  $x$ . The magazine comprises the axis U, having the grooves  $u$ , Fig. 4, in which the cradles or cartridge-holders  $v$  are carried, being soldered therein. These cradles have spring portions  $v'$ , Fig. 7, at the forward ends to embrace the cartridge, while the rear portions are larger to correspond with the rim of the cartridge. The cartridge is placed in the cradle by swinging the flap  $o'$  open, and the empty shells may be removed in the same way. The firing-pin is retracted by the toggle-arms G F, when the central joint  $m$  thereof is thrown down.

The pawl  $x$  is carried by the arm H, arranged loosely on the pivot of the lever D, and the arm H is thrown up when the lever D is about completing its movement by the portion O<sup>3</sup> of said lever striking the shoulder O<sup>2</sup> on the arm H. Fig. 8 indicates that the lever D has a portion in the same plane with part of the arm H, so that the two shoulders will contact when the lever D is thrown up. A spring 23, Fig. 12, presses the arm H down as soon as the lever D begins to move upwardly.

P is a centering-pin for the guard-lever D. I claim—

1. In combination, the breech bolt, the mechanism for operating the same comprising the toggle arms arranged in pairs, the firing pin and operating mechanism, the rising



and falling recoil block arranged to lock the bolt in forward position and means for operating the same, said recoil block operating between the toggle arms.

5 2. In combination, the breech bolt, the firing pin and operating mechanism, the safety lock therefor arranged at the rear of the breech bolt, the rising and falling recoil block and operating mechanism therefor said block  
10 being arranged to lift the safety lock and to engage the rear end of the breech bolt, substantially as described.

3. In combination, the breech bolt, the firing pin, the toggle arms for operating the  
15 breech bolt, the lever D connected to the toggle arms, the rising and falling recoil block B, the connections from the lever D to the recoil block, the rotating magazine and the  
20 pawl and ratchet mechanism therefor with operating connections from the lever D to the

said pawl and ratchet mechanism, substantially as described.

4. In combination, the breech bolt, the firing pins having a hooked rear end, the catch lever  $c^x$ , the rod  $c'$  for operating the same, 25 the spring 26 extending through an opening in the frame and engaging the rod and the guard lever D having a portion  $c^2$  for engaging the spring 26, whereby the firing pin may be released by pressure on the guard lever 30 portion  $c^2$  operating the spring 26 and the rod  $c'$  and catch lever  $c^x$ , substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 35 two subscribing witnesses.

AXEL GUSTAVUS NOLCKEN.

Witnesses:

N. TSCHOKALOFF,  
J. HIERLENG.