

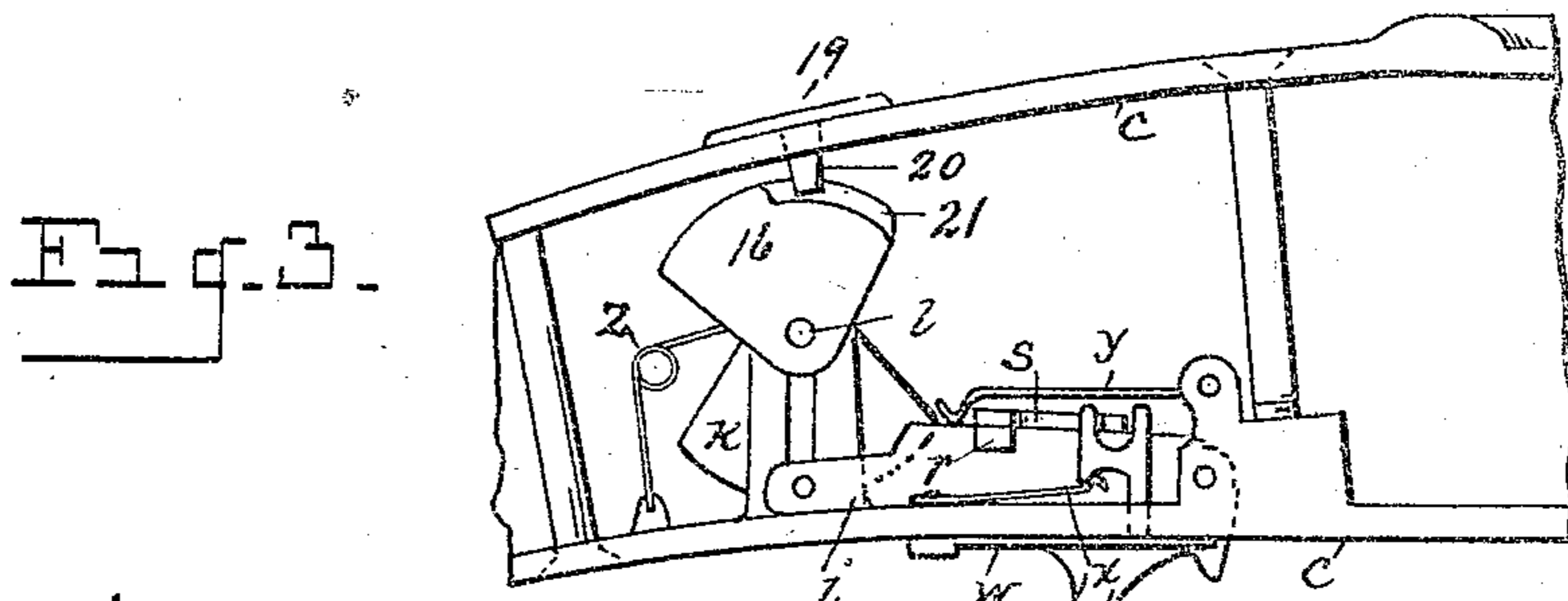
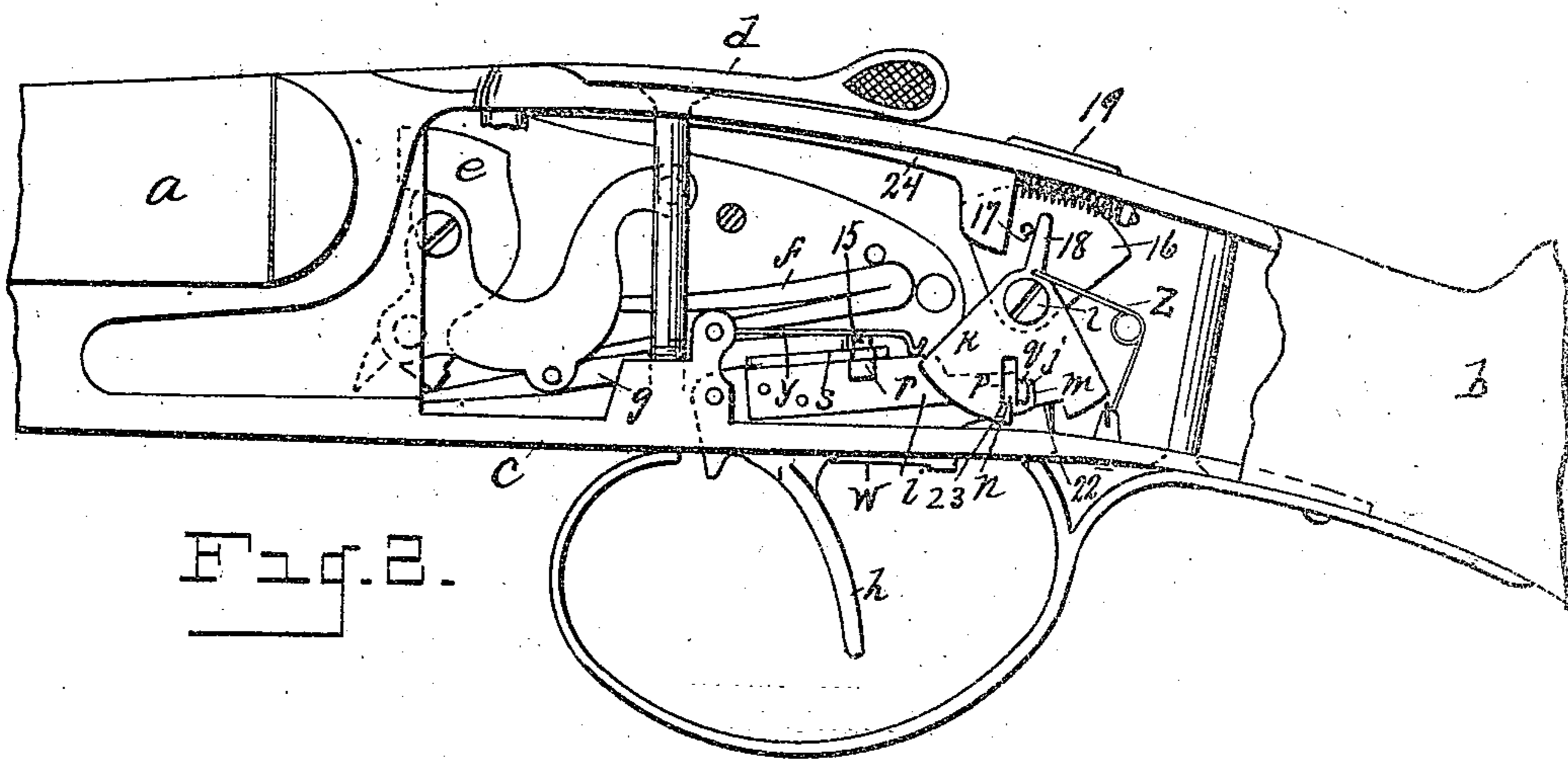
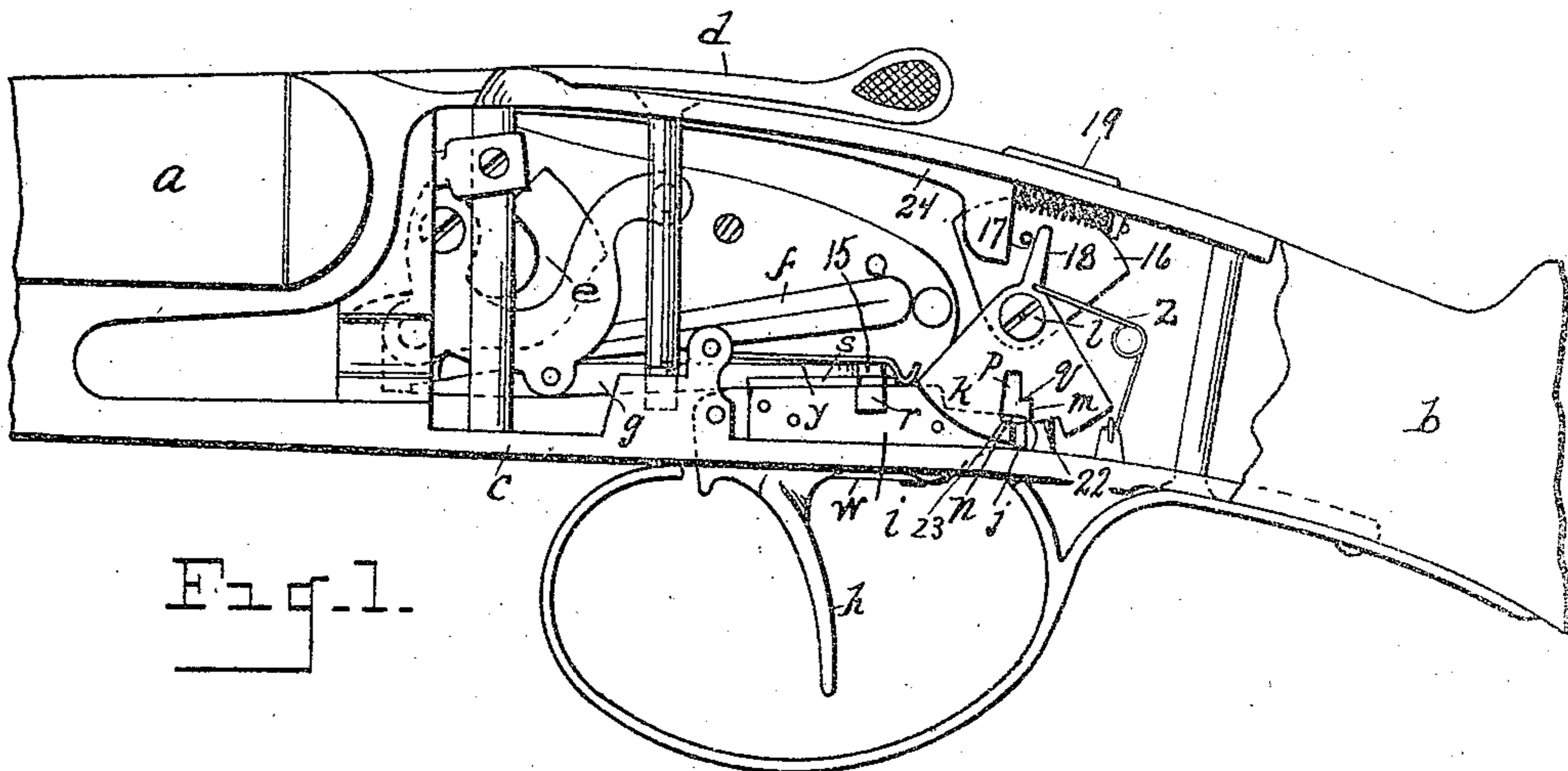
No. 891,401.

PATENTED JUNE 23, 1908.

A. P. BRUSH.  
FIREARM.

APPLICATION FILED JUNE 11, 1908.

3 SHEETS—SHEET 1.



—Witnesses.—  
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E. M. Spielburg.

—Inventor.—  
Alanson P. Brush  
By his attorney  
Newell S. Wright

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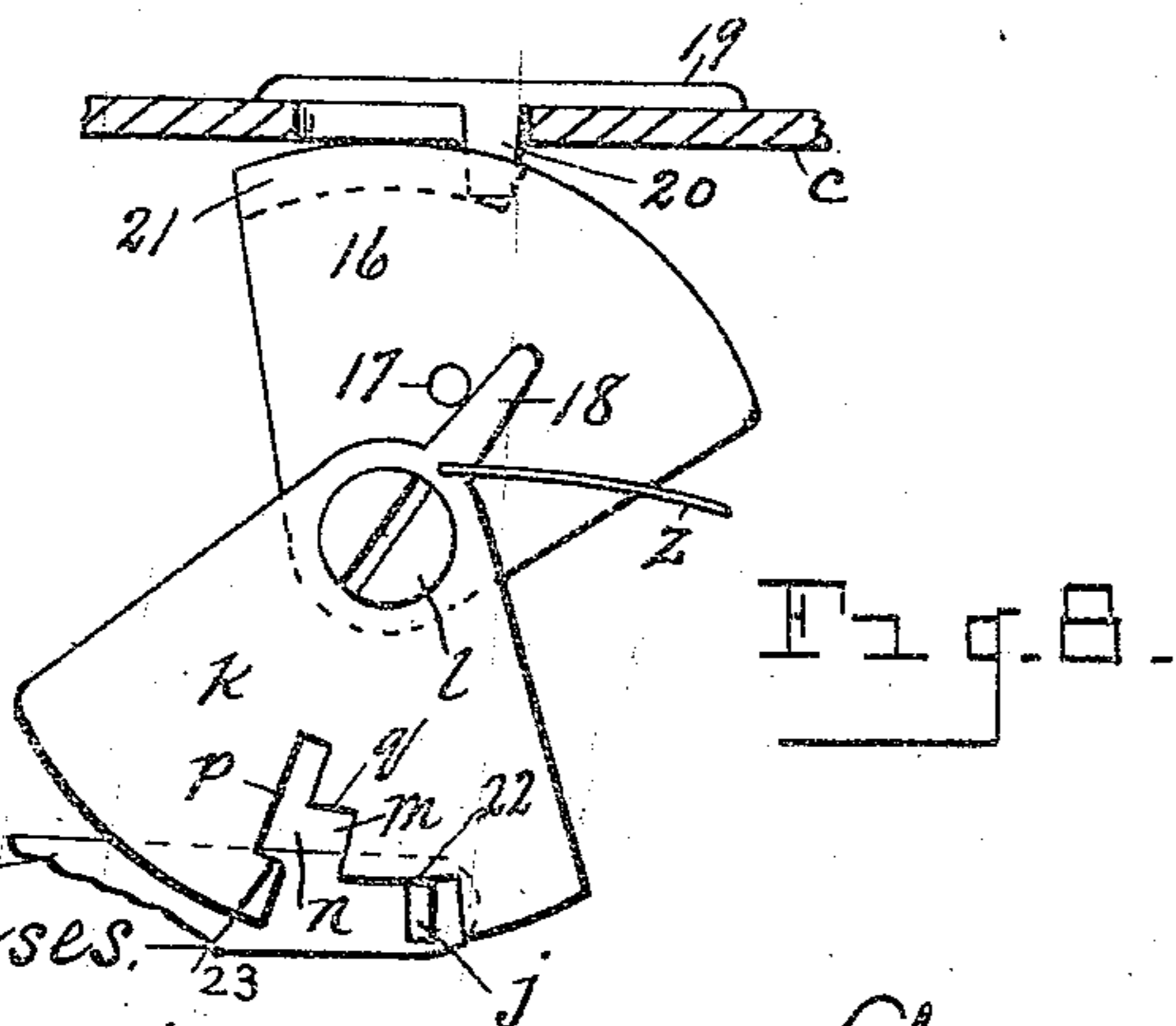
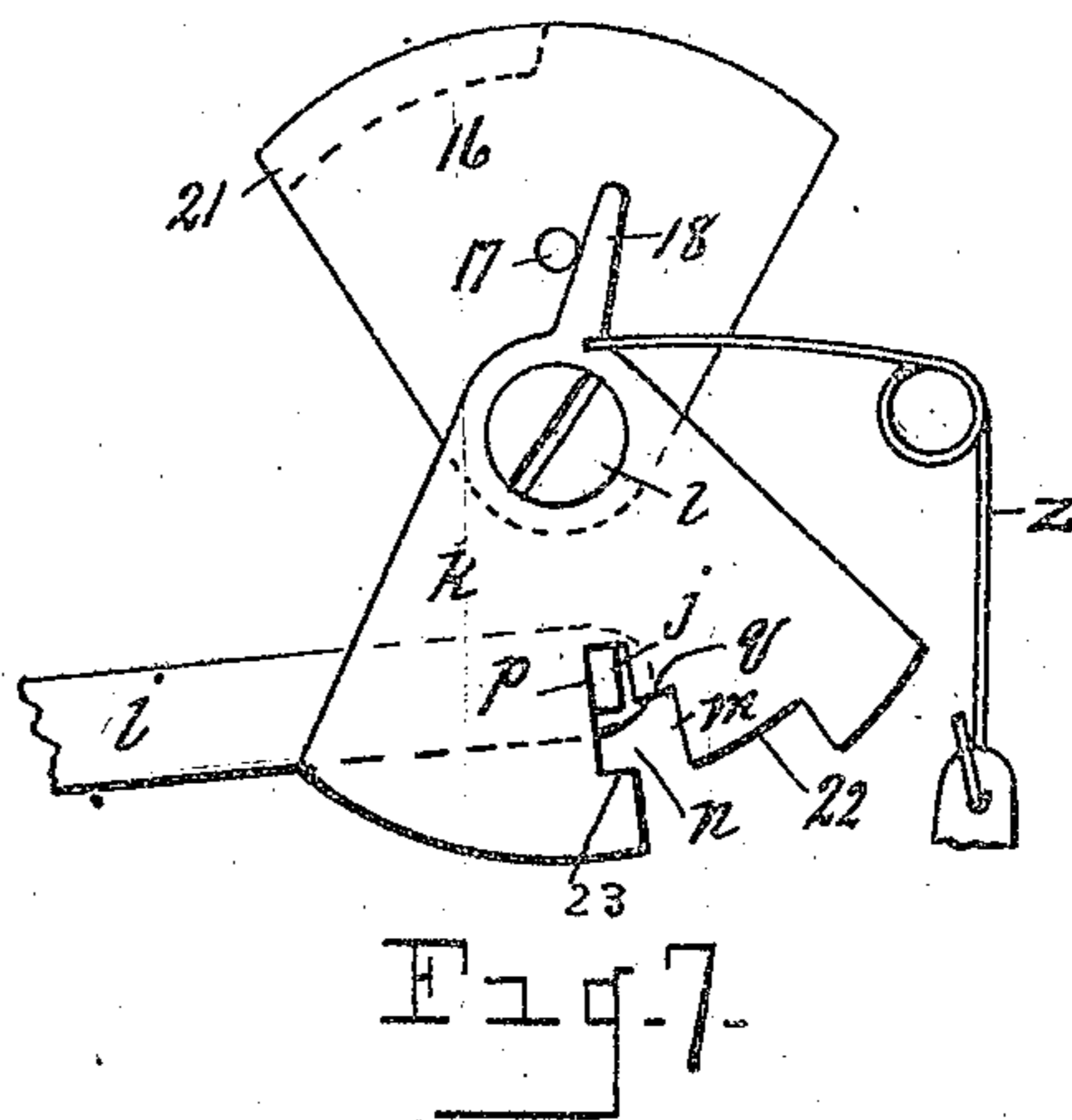
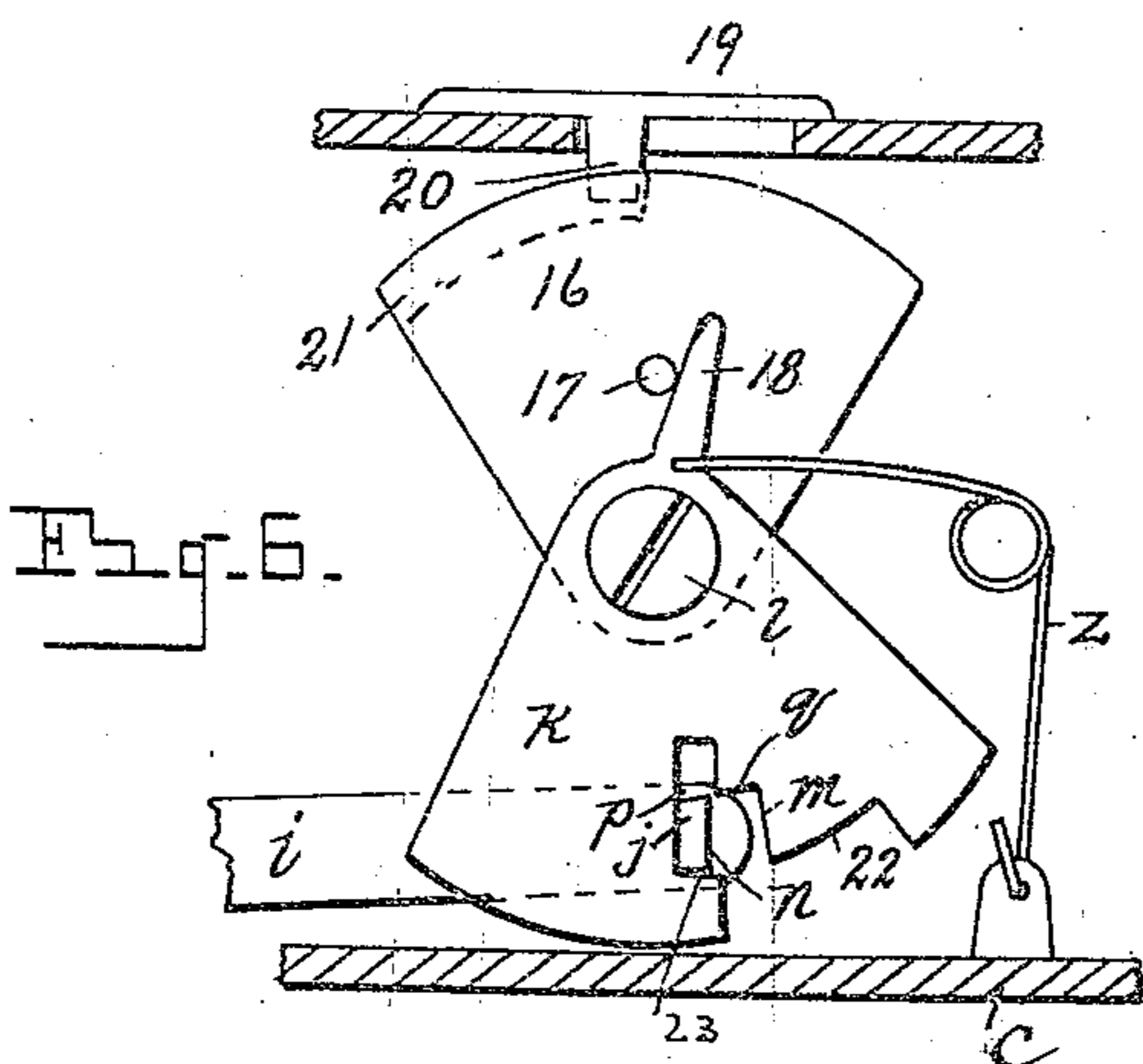
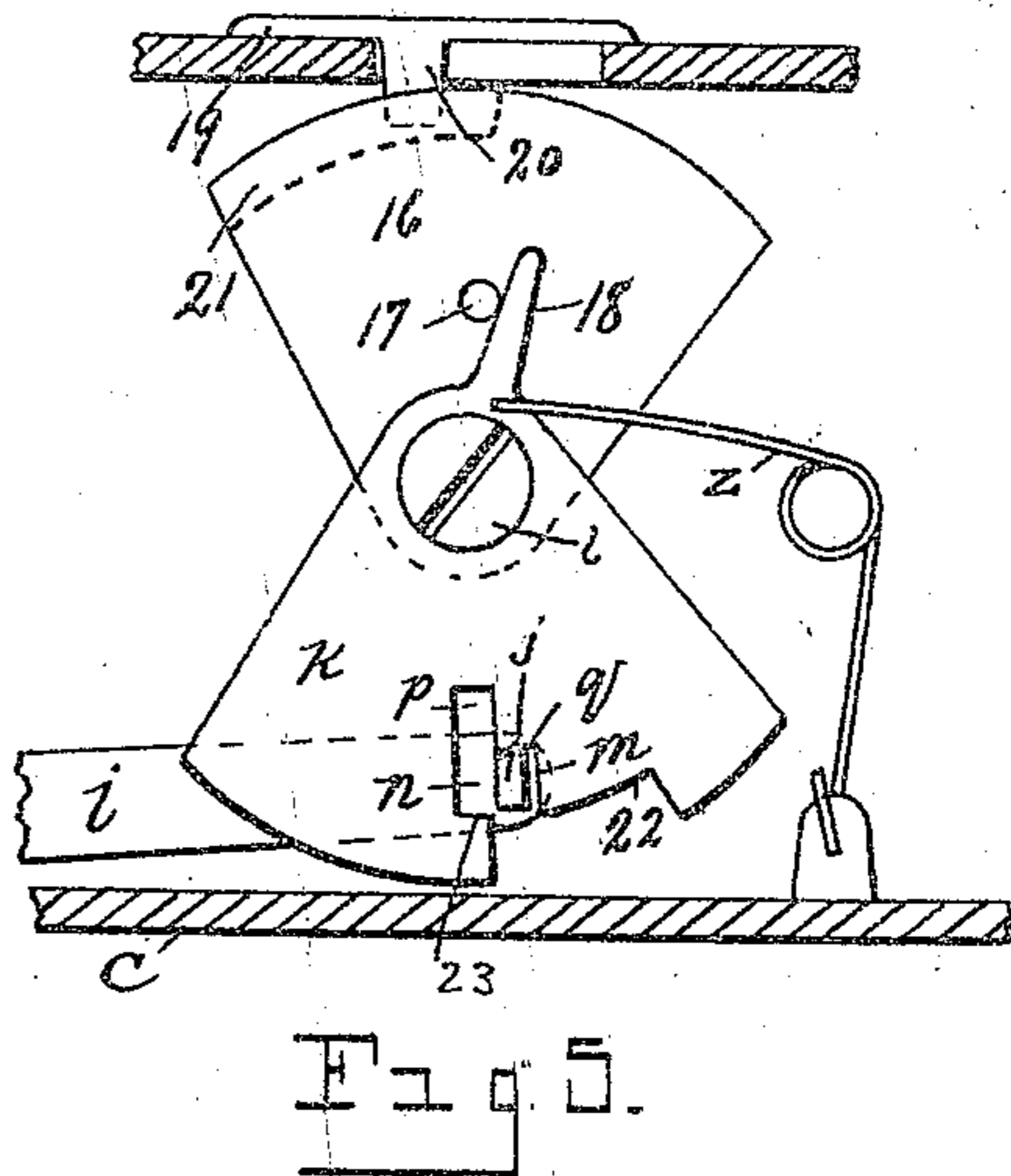
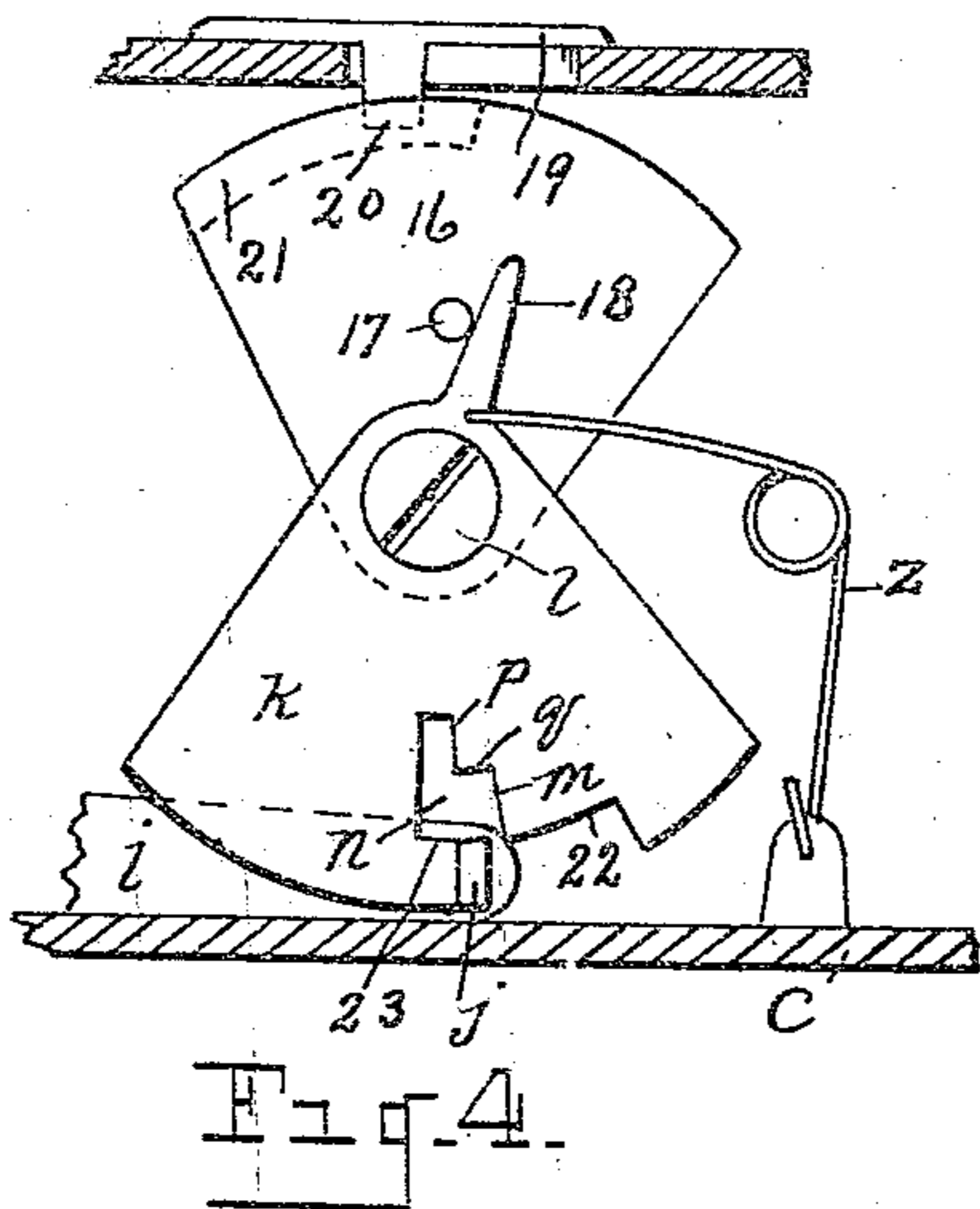
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3 SHEETS--SHEET 2.



-Witnesses. <sup>23</sup>  
O. B. Baenziger.  
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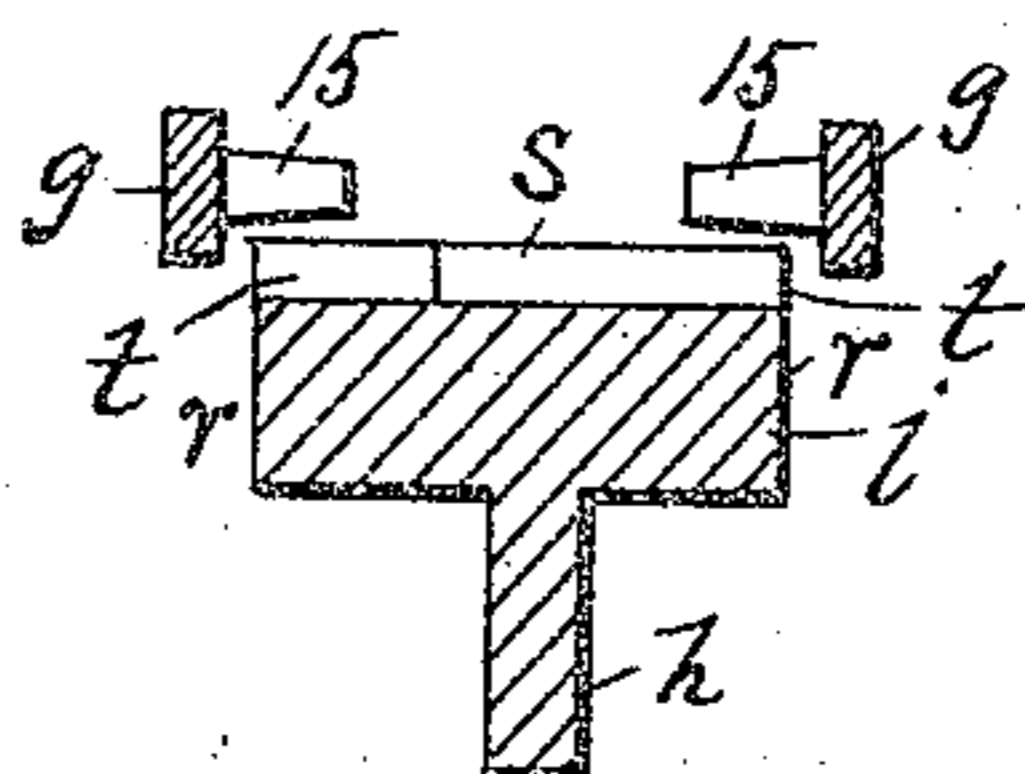
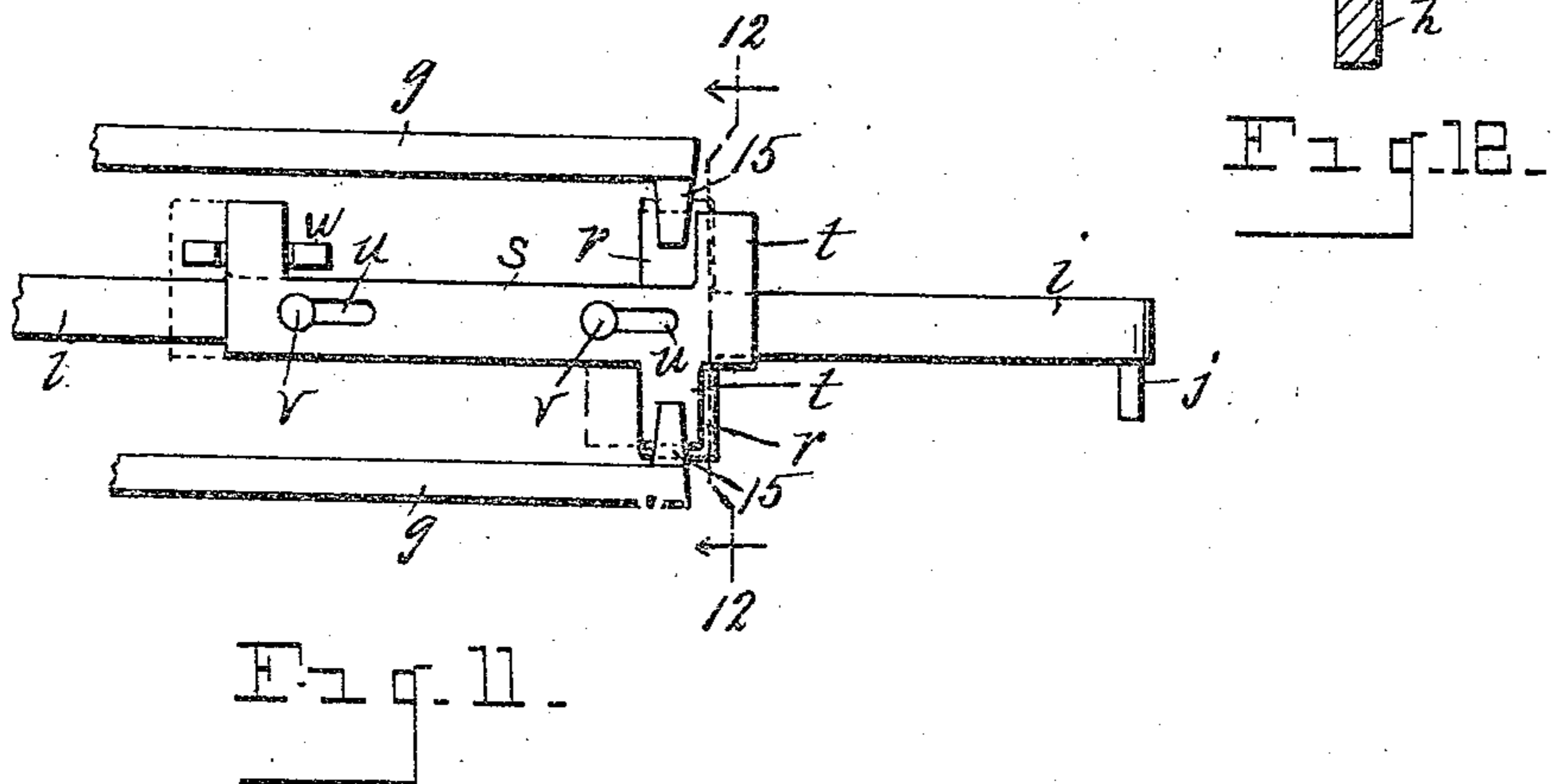
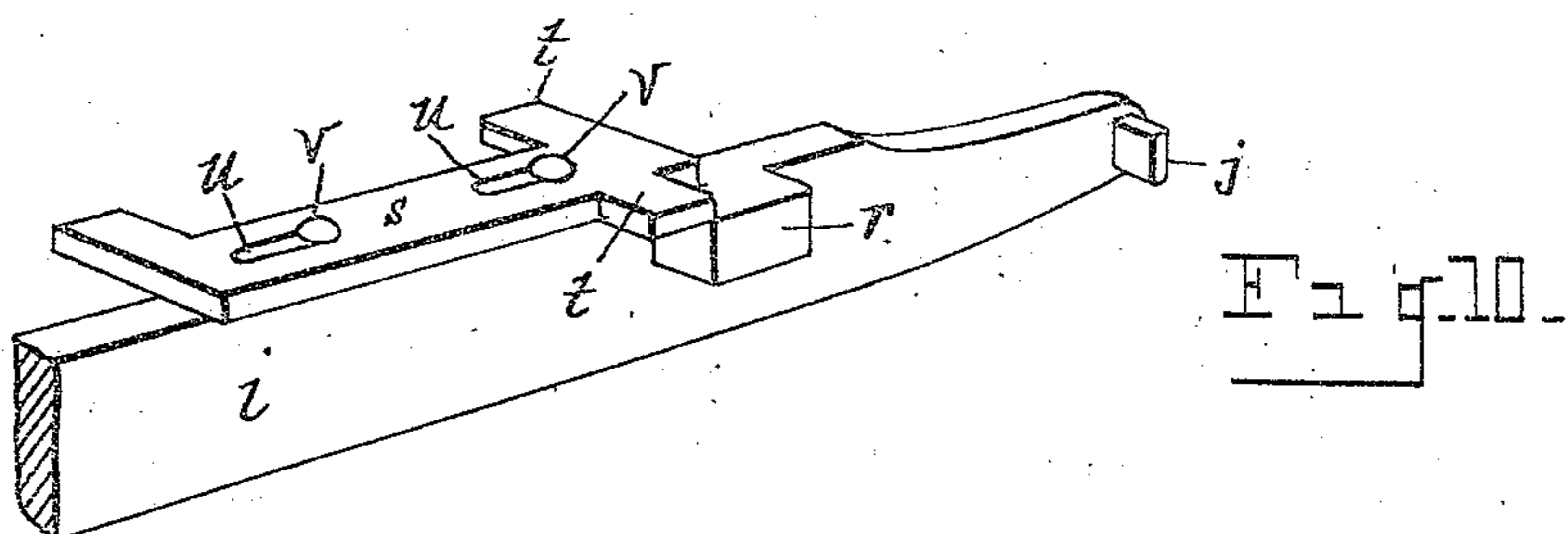
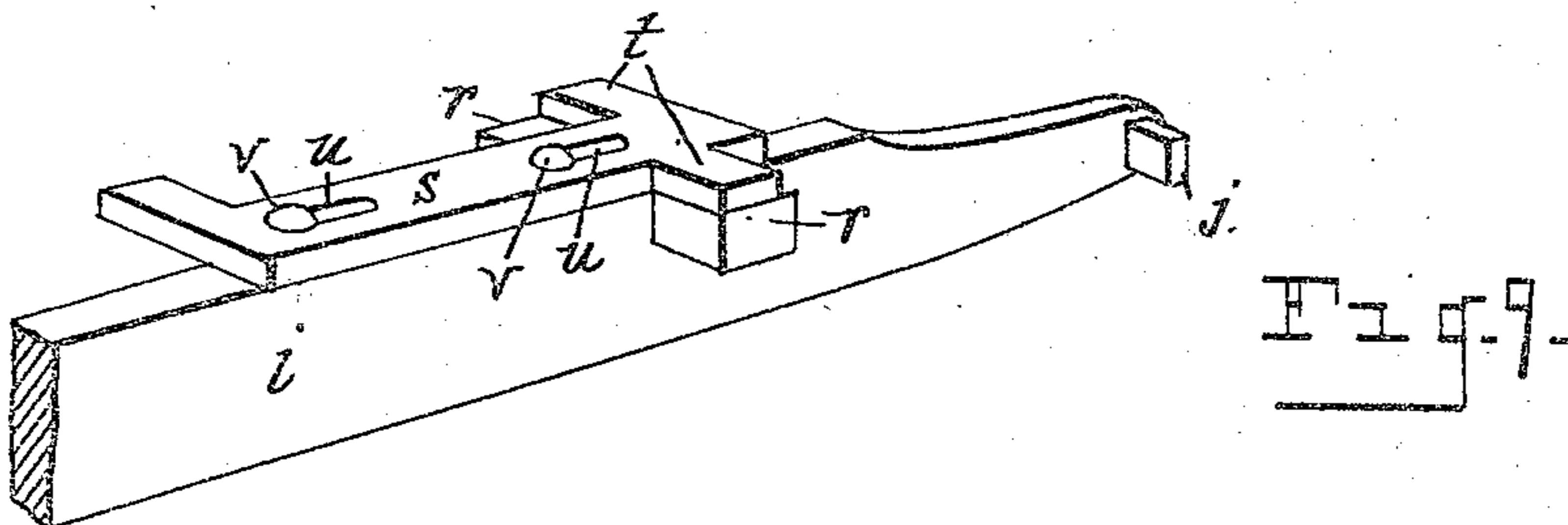
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3 SHEETS—SHEET 3



—Witnesses.—

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# UNITED STATES PATENT OFFICE.

ALANSON P. BRUSH, OF DETROIT, MICHIGAN.

## FIREARM.

No. 891,401.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed June 11, 1906. Serial No. 321,102.

*To all whom it may concern:*

Be it known that I, ALANSON P. BRUSH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Firearms, of which the following is a specification, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to fire arms and is more particularly designed to provide a single trigger mechanism for double barreled fire arms, whereby either barrel may be fired at the will of the operator, or both barrels in succession, my improved mechanism, however, being intended to prevent the possibility of firing the second or remaining barrel involuntarily.

My invention is intended therefore to provide mechanism for firing a double barreled gun which will enable either barrel to be fired first as may be desired, the firing of the first barrel to be followed normally by the firing of the second unless it be desired to reload and re-fire the first barrel again, and to accomplish the firing of a double barreled gun with absolute safety and without the possibility of involuntarily firing the second or remaining barrel.

In order that the end to be accomplished may be the more fully understood it will be desirable to understand the action of the fire arm in actual service, which is substantially as follows: When either barrel of the gun has been fired there is a recoil which may be termed the initial recoil, this initial recoil being resisted by the more or less elastic human body, there will follow of necessity a counter recoil, which will probably be followed by a secondary recoil, and a secondary counter recoil. These oscillations of the gun may, any or all of them, produce an involuntary pull upon the trigger, so that if a single trigger is to be operated successfully, means must be provided to prevent the trigger being forced through its secondary movement until the pulsations become too slight to produce an involuntary pull or a movement which would fire the second barrel involuntarily. Unless such mechanism be provided, the second barrel would be quite sure to be fired involuntarily.

My invention is designed therefore to provide such mechanism as will prevent a movement of the trigger after firing one barrel as

would cause the second barrel to be fired involuntarily by such oscillations of the gun.

My improved mechanism therefore embodies a single trigger mechanism together with any desired form of selective, and preferably with any desired form of elective selective mechanism, *i. e.*, means to fire either the right or left hand barrel of the weapon by the movement of the trigger through its primary movement, and to fire the remaining barrel by the movement of the trigger through a secondary movement. To this end my invention embodies such mechanism, in combination with means controlled by the oscillations of the weapon after firing, to prevent the trigger from moving through its secondary movement or travel until such oscillations are too weak to cause an involuntary pull of the trigger. To secure these ends my invention consists in the general construction, combination and arrangement of devices hereinafter described and claimed and illustrated in the accompanying drawings, in which,

Figure 1 is a view in side elevation, parts being broken away, showing the firing mechanism in normal position ready for initial firing. Fig. 2 is a similar view showing the parts in position just after the first or initial firing. Fig. 3 is a view showing parts in side elevation from the opposite side from that shown in Figs. 1 and 2. Fig. 4 is an enlarged view showing certain parts in initial position, and in which a push member is shown to reset my improved mechanism. Fig. 5 is a similar view showing the parts in position after the first or initial firing. Fig. 6 is a similar view showing the parts in position ready for the second firing. Fig. 7 is a similar view showing the parts in position after the second firing. Fig. 8 shows certain parts in safety position. Fig. 9 is a view in perspective, showing the slide on the top of the trigger for governing the firing which shall next take place at the will of the operator, the same being in position to insure the firing of the left hand barrel first. Fig. 10 is a similar view showing the slide in position to govern the firing of the right hand barrel first. Fig. 11 is a view showing portions of the mechanism in plan. Fig. 12 is a view in vertical section on the line 12—12, Fig. 11.

The desirability of a firing mechanism for double barreled fire arms whereby either barrel may be first fired at the will of the operator,

whereby the two barrels may be fired in sequence, or otherwise, by a single trigger, whereby absolute safety may be secured, whereby it will be absolutely impossible to fire the second barrel inadvertently, and whereby the mechanism shall be simple, economical and not likely to get out of order, and at the same time of superior efficiency, is evident. I have shown my invention in the accompanying drawings in connection with a conventional breech loading double barreled shot gun, in which the reloading resets the locks, *i. e.*, forces the strikers back until they are maintained in position by suitable mechanism, and in which,

I carry out my invention as follows:

In the drawings *a* represents the barrels, *b* the stock, and *c* the inclosing walls or case of the firing mechanism. A conventional top lever, used upon arms of this description for unlocking the breech mechanism, is indicated at *d* which must be moved before the cocking of the locks takes place.

My invention is designed to be used in combination with any conventional double barrel gun mechanism comprising two locks, of any desired construction having strikers indicated at *e*, customary main springs *f*, one for each striker, and sears or pawls *g*, one for each striker. My invention has to do with the operation of both the sears properly with a single trigger. To this end a single trigger *h* is provided with an extension or arm *i* having a laterally projecting lug *j*.

My invention comprises a recoil block or weight *k* to govern the operation of the trigger. Said recoil block is shown pivotally supported above the lug of the trigger, as upon a pin *l*, and is constructed with a stepped slot comprising a primary upright slot *m* into which the lug *j* moves from its normal position in the first firing, the primary slot *m* opening laterally, as shown at *n*, into a secondary upright slot *p* into which the lug *j* may move from the end of its initial movement, or from its position after the first firing, in the act of second firing. It will be observed that the construction of the stepped slot is such that at the end of the primary or initial movement the lug of the trigger in the slot *m* engages a step or shoulder *q* thereabove. Before the said lug can move upward in the secondary slot *p* it is obvious that the recoil block must swing so that the secondary slot *p* will be above the lug permitting the lug to move in the secondary slot to effect the second firing. The primary and secondary slots *m* and *p* correspond thus to the primary and secondary movements of the trigger to secure the first and second firing.

A swinging counter balance for the recoil block is provided indicated at 16, so arranged as to neutralize the effect of the counter recoil upon the recoil block. The counter balance is shown engaged with an arm 18 of the recoil

block as by a pin 17, the counter balance being movable into position to secure safety by means of a slide 19 upon the exterior of the case.

The action of initial firing is as follows: Pressure upon the trigger raises the trigger against the sear of the lock of the barrel which is to be first fired. The mechanism is so made that the sear trips before the bottom of the lug *j* has cleared the corner of the step 23 of the recoil block. The resistance of the sear, as it trips, being suddenly removed from the trigger, the pressure of the finger upon the trigger is necessarily sufficient to complete the primary movement of the trigger with great suddenness, not allowing time at the end of the primary movement of the trigger for the recoil block to swing into position for the second movement of the trigger. In other words the trigger being relieved from the resistance of the sear, finishes its initial travel too quickly for the spring *z*, exerting its tension upon the recoil block to swing the recoil block into position for the secondary movement of the trigger. In consequence the lug *j* brings up against the step *q* as shown in Fig. 5. If the first barrel should fail to fire, it is obvious that a release of the pressure upon the trigger relieving the tension between the lug *j* and the step *q* would permit the spring *z* to swing the recoil block into position for the secondary movement of the trigger, after which the trigger may be pulled a second time and the second sear tripped. If, however, the first barrel fires, the weapon recoils carrying the trigger back away from the finger. The same recoil acting on the recoil block presses the recoil block forward against the action of the spring allowing the trigger to drop into its initial position as in Fig. 4. At the end of the recoil the elasticity of the human body causes a counter recoil of the weapon. This, or the instinctive following of the trigger with the finger, or both, causes an involuntary second pull of the trigger. This is, however, a very sudden pull, (it obviously could not be involuntary if it were slow) causing the lug to rise suddenly and again be brought up against the shoulder *q*. Since the recoil obviously counter acts the action of the spring *z*, the counter recoil would obviously supplement the action of the spring *z* and might during an involuntary pull cause the recoil block to swing quickly enough after the bottom of the lug *j* had cleared the corner of the step 23, to allow the trigger to continue its travel through its secondary movement. This, however, is prevented by the recoil weight counter balance 16 which has no effect upon the recoil block during recoil, but which is effective during the counter recoil, thus neutralizing the effect of a counter recoil upon the recoil block.

It will be obvious from the foregoing that

if the weapon be held with sufficient elasticity to allow or cause a secondary recoil after the counter recoil, and perhaps a secondary counter recoil after the secondary recoil, the action of the mechanism would be simply repeated each voluntary pull moving the lug from its initial position rapidly up against the step *q*. The last involuntary pull being followed by an oscillation or oscillations too weak to cause a further involuntary pull, and correspondingly too weak to overcome the action of the spring *z* leaving the lug *j* resting on the step 23, as shown in Fig. 6, after which a voluntary second pull of the trigger may fire the second barrel by raising the lug *j* through the secondary slot to position shown in Fig. 9. The recoil block is of such form and mass that its function is to control thus the movement of the trigger during the oscillations of the weapon, and so neutralize their effect after the primary or initial movement thereof, and yet leave the lug of the trigger in position ready for the second movement of the lug in the recoil block for the second firing. The recoil block therefore will effectually prevent the lug of the trigger passing continuously through the primary and secondary slots thereof, if the movement be as rapid as an involuntary movement must of necessity be, or in other words continuously through its primary and secondary movements, as a second pull of the trigger in order to discharge the gun must be slow enough to allow the recoil block to swing at the completion of the primary movement of the trigger, thereby allowing the secondary move of the trigger to move the lug *j* upward as above described in the secondary slot of the block.

In order that the operator may elect which barrel he will fire first, any suitable selective mechanism may be employed. As shown the trigger arm *i* is provided with firing lugs *r*, *r*. Located upon the arm of the trigger is a slide *s* provided with arms *t*, *t*, the one in advance of the other, the slide being shown provided also with guide slots *u*, *u*, through which pass guide pins *v*, *v* into the arm of the trigger. It will be observed that the location of the slide *s*, whether advanced or retracted, will make one of the firing lugs *r*, *r*, together with the corresponding superimposed arm *t*, *t*, thereupon, higher than the other, the selective mechanism having thus one side high and the other side low. By changing the position of the slide the reverse firing lug and corresponding arm *t* is made high, and the other low. The operator can thus readily elect which barrel of the gun shall be fired first, and set the slide accordingly. The selective mechanism is thus also made elective. The slide may be moved by any suitable means, as by an arm *w*. A spring *x* holds the slide in given position. A spring *y* restores the trigger to normal position. The

spring *z* tends to swing the recoil block into secondary position. A member 24, Figs. 1 and 2, operated by the lever *d* in any customary manner, restores the recoil block to normal position when the gun is open for reloading and the resetting of the strikers. Any other suitable means, however, may be employed for resetting the recoil block when the gun is open. The sears *g* at their rear extremities are provided with inwardly projecting arms indicated by the numeral 15, said arms projecting inward over the arms *r*, *r*, and *t*, *t*. One side of the trigger mechanism being obviously higher than the other, the higher mechanism will first engage the corresponding arm 15 of the sear and cause the initial firing. When the trigger is raised by a further pull, the other sear will be actuated to fire the second barrel. The sears are held in engagement with the strikers in any suitable manner.

The slide 19 is shown provided with a lug 20 engaging a groove 21 in the counterbalance 16. When the safety device is in position of safety the lug *j* of the trigger is held from advancement by the counterbalance being moved, together with the recoil body, so as to bring a shoulder 22 of the recoil body over said lug, as shown in Fig. 8. This, it will be seen, locks the trigger in its initial position and effectually prevents the discharge of either barrel of the gun until the safety device is moved out of locked position and into firing position.

It will be obvious then from the above description that my improved single trigger mechanism may be arranged to fire either barrel first at the will of the operator, that the liability of an inadvertent or accidental second discharge of the gun is effectually overcome, and that the firing mechanism may be locked in position of safety.

What I claim as my invention is:

1. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body, and a recoil body counterbalance to control the movement of the trigger.

2. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body constructed with a stepped slot engaging the trigger, and a recoil body counterbalance to control the movement of the trigger.

3. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body constructed with primary and secondary communicating slots to engage and control the movement of the trigger, and a recoil body counterbalance.

4. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body constructed with primary and secondary communicating slots to engage and control the movement of the trigger, a recoil body counterbalance engaging said body, and a spring exerting its tension upon said body.

5. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body constructed with primary and secondary communicating slots, an oscillatory recoil body counterbalance, and means to control the movement of the counterbalance.

6. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, a recoil body constructed with primary and secondary communicating slots to engage and control the movement of the trigger, and means to lock the said body in engagement with the trigger.

7. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body constructed with primary and secondary communicating slots, a recoil body counterbal-

ance, and means to move the counterbalance and recoil body into safety position.

8. A double firing weapon comprising strikers, a single trigger having a primary and a secondary movement, sears to control the movement of the strikers, and an oscillatory recoil body to engage and control the movements of the trigger, said trigger provided with oppositely projecting arms and a slide movable upon said arms constructed with laterally projecting arms, the one forward of the other, whereby either side of the trigger may be made higher than the other at the will of the operator for the purpose described.

9. In a double firing weapon provided with a single trigger mechanism comprising a trigger having a primary and a secondary movement, an oscillatory recoil body, and a recoil body counterbalance to control the movement of the trigger, and a safety slide to engage and move the counterbalance and recoil body into safety position.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ALANSON P. BRUSH.

Witnesses:

N. S. WRIGHT,  
E. M. SPIELBURG.