P. MAUSER.

RECOIL OPERATED SMALL ARM.

APPLICATION FILED FEB. 6, 1906.

911,315.

Patented Feb. 2, 1909.

3 SHEETS—SHEET 1.

Fig. 2.

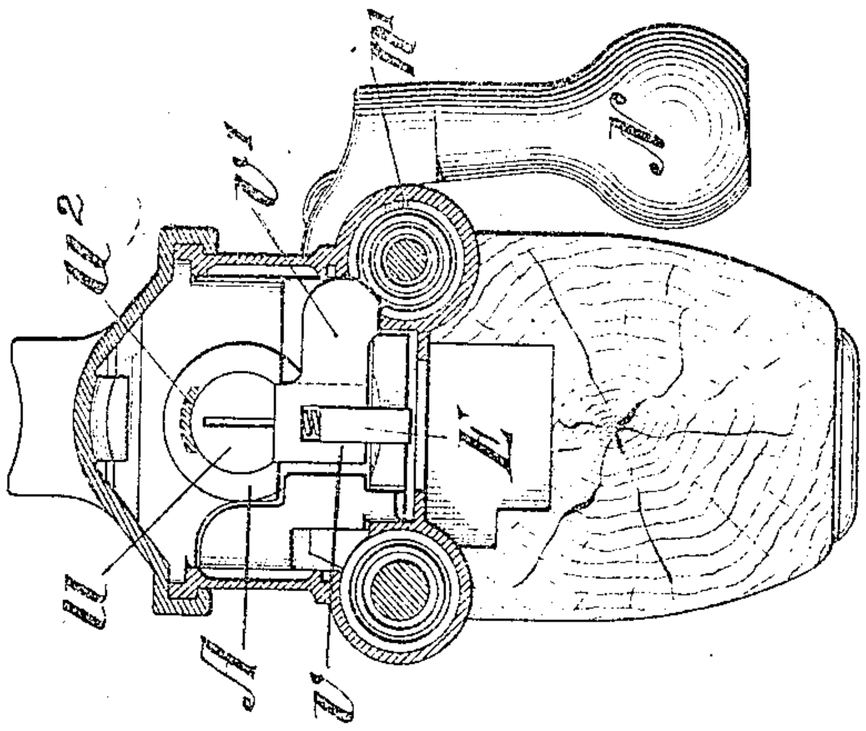
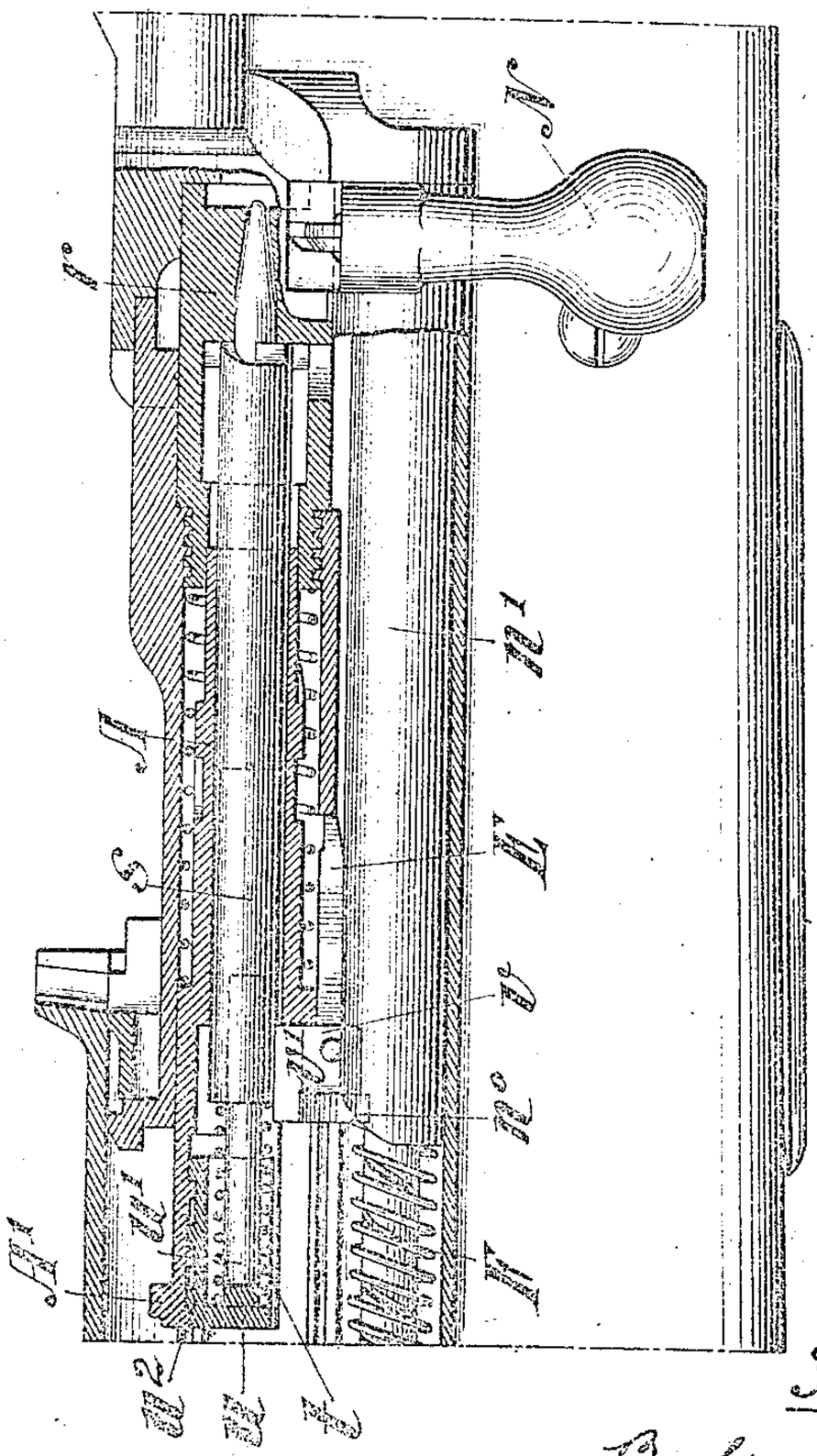


Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 4.

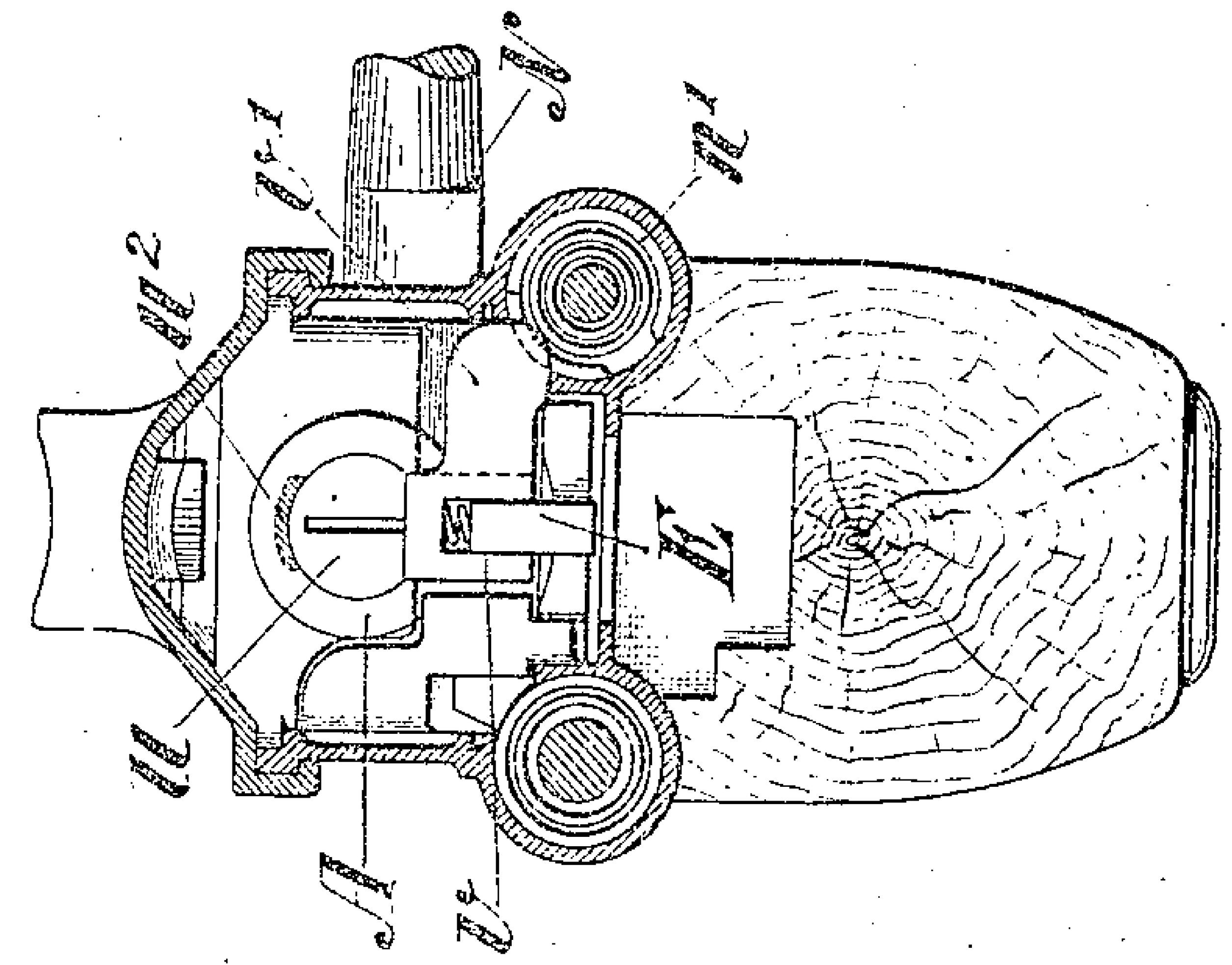
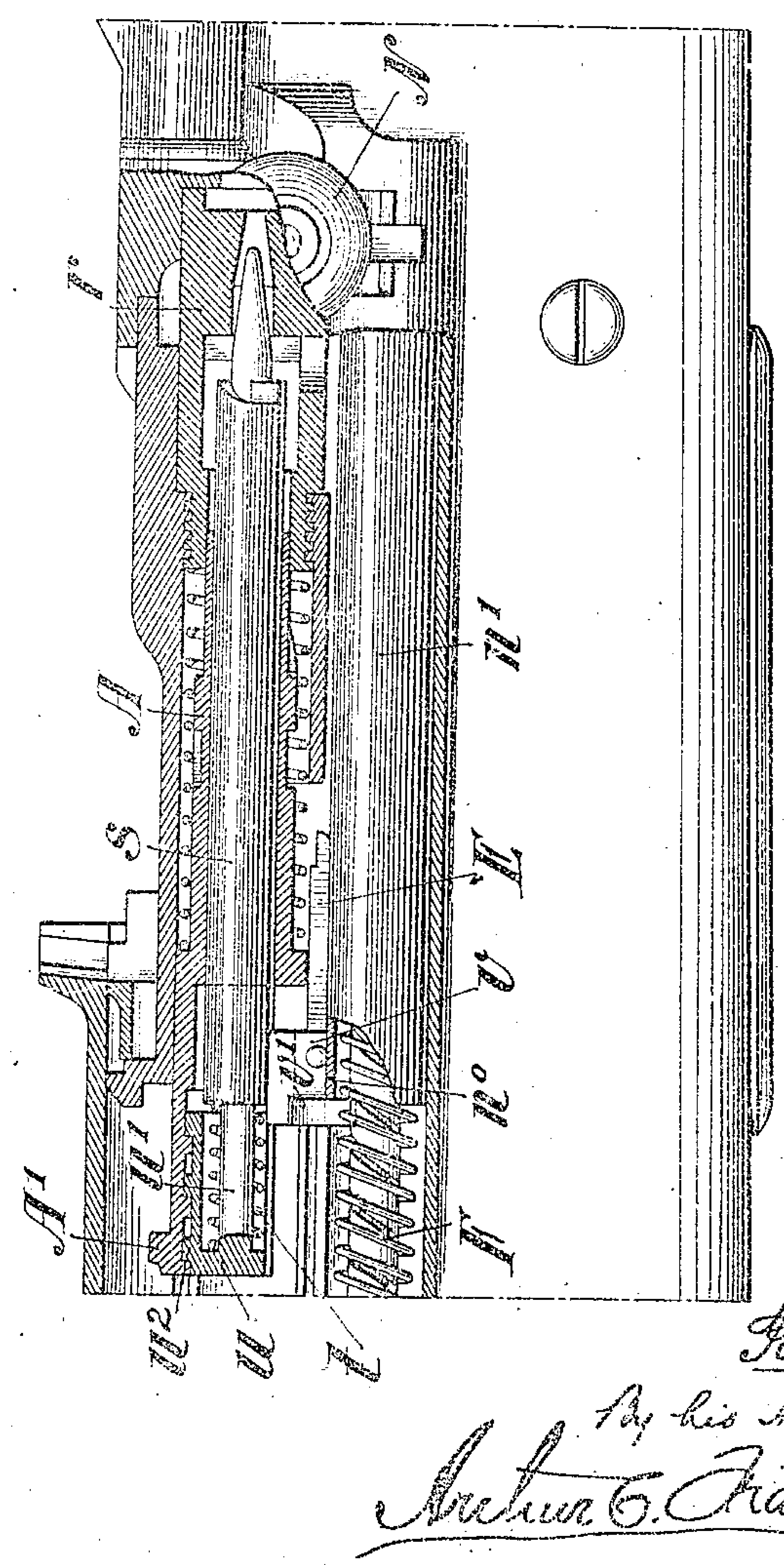


Fig. 3.



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RECOIL OPERATED SMALL ARM.

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3 SHEETS—SHEET 3.

Fig. 6.

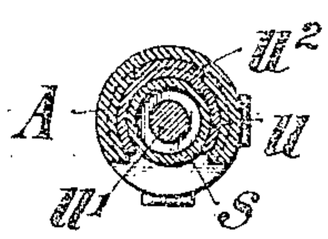


Fig. 5.

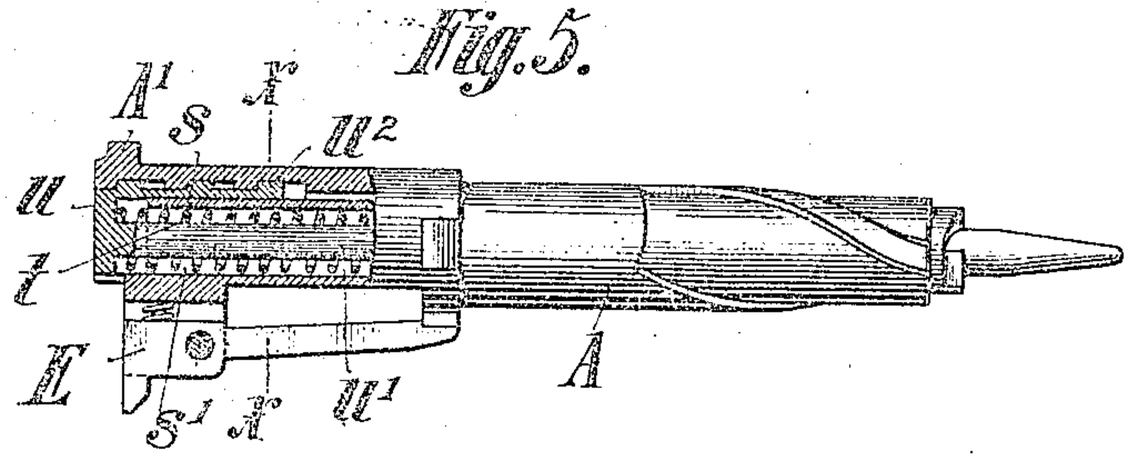


Fig. 8.

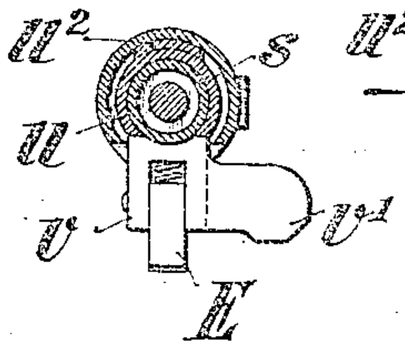


Fig. 7.

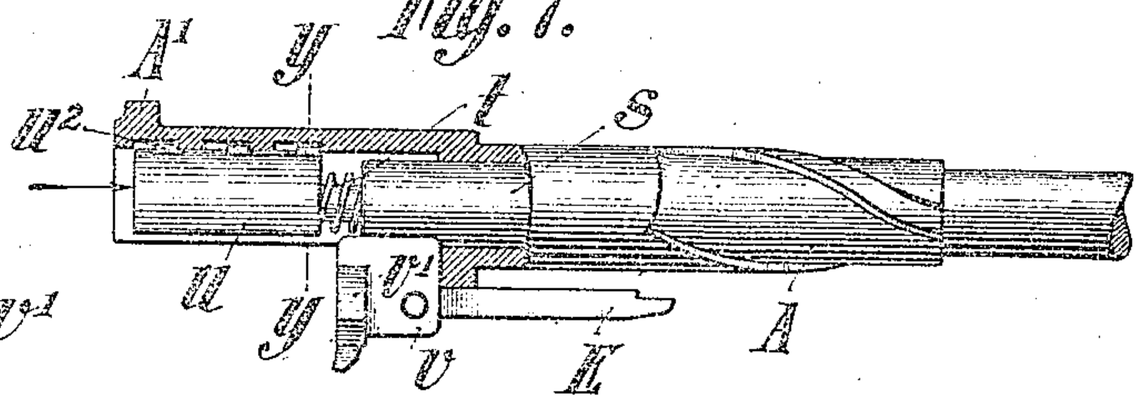


Fig. 10.

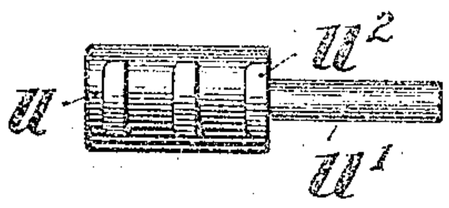


Fig. 9.

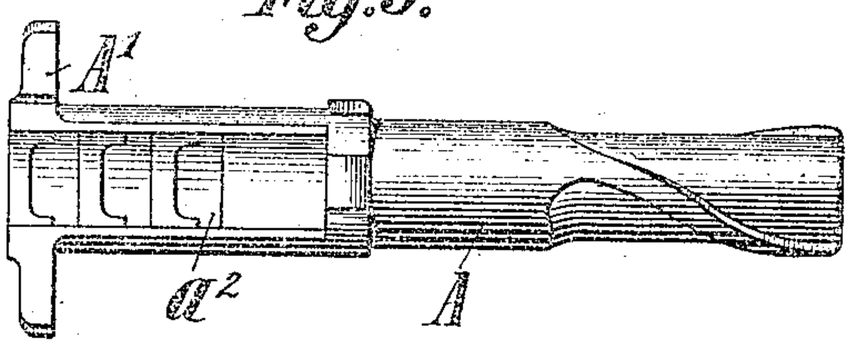


Fig. 12.

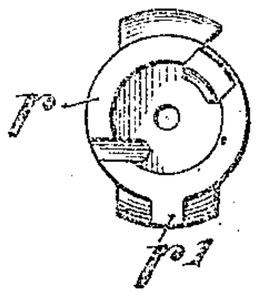
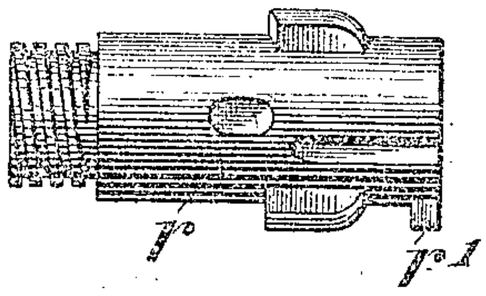


Fig. 11.



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UNITED STATES PATENT OFFICE.

PAUL MAUSER, OF OBERNDORF-ON-THE-NECKAR, GERMANY, ASSIGNOR TO THE FIRM OF WAFFENFABRIK MAUSER ACTIENGESELLSCHAFT, OF OBERNDORF-ON-THE-NECKAR, GERMANY.

RECOIL-OPERATED SMALL-ARM.

No. 911,315. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed February 6, 1906. Serial No. 299,707.

To all whom it may concern:

Be it known that I, PAUL MAUSER, royal commercial councilor, a subject of the King of Würtemberg, residing at Oberndorf-on-the-Neckar, in the Kingdom of Würtemberg, Germany, have invented certain new and useful Improvements Relating to Recoil-Operated Small-Arms, of which the following is a full, clear, and exact description.

This invention relates to improvements in the recoil-loading rifle having a movable barrel shown and described in specification of Patent No. 783123.

According to the present invention, I provide a rotary sleeve which is open at its rear end to permit the insertion of the firing pin, and which is provided with a closure against which the firing pin spring re-acts, such closure being provided with an elongated pin forming a guide for the firing pin spring. This construction very greatly facilitates the assembling of the parts.

In a construction of the aforesaid patent, the weapon is provided with a knob or handle for adjusting the weapon for use either as a magazine loader or as a single loader. This knob or handle is adapted to connect or disconnect the propelling spring for the breech bolt. In this construction a sleeve is provided which is connected with the knob and forms a guide or casing for the breech bolt. According to my present invention, I utilize such sleeve to provide an auxiliary means for withdrawing the fire pin to a slight extent so that it does not protrude from the bolt head. By this means if a cartridge misses fire and the breech is opened by hand to extract it, there is no danger of the firing pin coming in contact with the percussion cap of the cartridge so that accidental explosion is prevented.

The improvements which form the subject matter of the present invention are illustrated in the accompanying drawings.

Figure 1 shows the lock of the recoil loading rifle, partially in section, in the locked position, that is to say, with the breech piece bolted or locked and the knob or handle turned down into the position for magazine loading. Fig. 2 is a rear view of Fig. 1. Fig. 3 shows the rifle with its knob or handle brought into a horizontal position for opening the breech by hand. Fig. 4 is a vertical section of Fig. 3. Fig. 5 is a longitudinal section of the rotary sleeve with the firing pin in its rear position. Fig. 6 is a transverse section of Fig. 5 on the line x—x. Fig. 7 is a longitudinal view, partially in section of the parts with the firing pin in its forward position. Fig. 8 is a transverse section on the line y—y of Fig. 7. Fig. 9 is a view from below of the firing pin support, that is to say, of the rotary sleeve. Fig. 10 is a plan of the coupling mechanism detached. Figs. 11 and 12 are respectively a side elevation and a front view of the bolt head for closing the breech chamber.

Referring first to the arrangement of the parts of the striking mechanism, the firing pin s is arranged within the rotary sleeve A and has its front part solid and furnished with the well known oblique shoulders as has heretofore been usual, while there is provided within its rear part a recess s^1 within which there is arranged the firing pin spring t. This recess s^1 is closed at its rear end by the closure u, the projections u^2 of which have a bayonet joint connection with correspondingly formed slots in the recess provided in the rear part A^1 of the rotary sleeve. The firing pin spring t bears against the inner wall of the closure u and thereby prevents it from being accidentally rotated from its locking position. This closure is moreover furnished with a pin u^1 which projects into the recess s^4 of the firing pin s and serves to receive the spring t. When assembling the mechanism the firing pin s and its spring t which is situated in the recess s^1 thereof, are pushed into the breech bolt carrier of the rotary sleeve A. The rear part of the sleeve is closed by the closure u, which as already mentioned, forms a bearing for the firing pin spring; the closure being pressed against the spring, whereby the latter is compressed and the pin u^1 is inserted into the recess s^1 of the firing pin s. This being effected the closure u overcoming the resistance of the firing pin spring t, is forced into the rotary sleeve A until its projections stand opposite to the slots a^2 of the sleeve whereupon the coupling is effected after the manner of a bayonet joint by rotation through an angle of 180°. The mechanism can be taken apart in reverse order, that is to say, the closure u is first pressed inwardly until its projections u^2 have become disengaged from the recesses a^2, whereupon it can

; rotated through an angle of 180° and the osure u together with the firing pin can be ithdrawn.

Proceeding now to the device by means of hich the rifle can be adapted for use either ; a single or as a magazine loader, the ar- ingement resembles that of the said prin- pal patent, the forward-propelling spring being passed over a pin that is arranged ithin a lateral projection upon the lock using and is surrounded by a longitudinal eeve n^1 to the front end of which is at- ached the knob or handle N, which can be irned into a horizontal or a vertical posi- on. When this knob is turned into the orizontal position, which occurs when the reech is to be opened by hand, the connec- on between the barrel and its forwardly ropelling spring is interrupted while when ne hand knob is turned into a vertical posi- on, the spring F is coupled to the barrel.

The rear end of the sleeve n^1 has an ob- que end n^0 against which there bears a pro- ection v^1 that extends laterally from the lotted part v, by means of which the arrest- ng lever E is pivoted in the usual manner n the rear end of the firing pin. As may be een from Fig. 3, the point of the firing pin is in this manner withdrawn behind the fore nd of the bolt head r by the action of the blique end n^0 of the sleeve n^1, when the reech is opened by hand, that is to say, hen the knob N is brought into the hori- ontal position. As already mentioned, this esults in the important advantage that in he event of a misfire preceding the open- ng of the breech, the point of the firing pin s withdrawn from the percussion cap while he chamber is still closed, so that even if the artridge should explode during the unlock- ng of the breech bolt, no injury would hereby be inflicted upon the user of the rifle, s the breech would still be closed. The fact hat the point of the firing pin is, during he opening of the breech, removed from the ercussion cap at the same time prevents the ccurrence of accidental explosion which ight happen owing to vibration of the oint if it were in the percussion cap during he operation of opening the breech.

The bolt head r is, at the part which trikes the cartridge, when the breech piece s moving forward, furnished with a small rojection r^1 which extends downwardly to considerable distance, and which, when the reech piece is in the position referred to, nters the magazine and becomes engaged ehind the edge of the uppermost cartridge. Even if the cartridge lies at a somewhat ower level than usual it will consequently still be caught hold of by the bolt head by means of its projection r^1 which grips the cartridge, not only close to its edge, but even somewhat lower down and the cartridge will thus under all circumstances be firmly held and introduced into the cartridge chamber. It is therefore absolutely impossible for the cartridge not to be caught by the bolt head or to slip away from it, and there is no necessity for employing a bolt head of larger dimensions than usual.

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

1. In an automatic fire arm, the combination of a firing pin, a carrier for the latter comprising a rotary sleeve and a closure for said sleeve, said sleeve having internal recesses and said closure having external projections adapted to fit said recesses, said sleeve being adapted to permit the insertion of said closure in one position and said closure being adapted to turn until its projections are opposite said recesses, and to engage the same by a rearward movement of said closure.

2. In an automatic fire arm, the combination of a firing pin, a carrier for the latter comprising a rotary sleeve and a closure for said sleeve, said sleeve having internal recesses and said closure having external projections adapted to fit said recesses, said sleeve being adapted to permit the insertion of said closure in one position and said closure being adapted to turn until its projections are opposite said recesses, and to engage the same by a rearward movement of said closure, said firing pin having a spring and said closure having a forwardly extending pin serving as a guide for said spring.

3. In an automatic fire arm having a movable breech bolt, a firing pin, and means for moving said breech bolt and cocking said firing pin, an auxiliary means for withdrawing said firing pin within the breech bolt when the latter is opened so as to avoid accidental explosion of the cartridge, said last named means comprising a projection v carried by the firing pin, said projection having a lateral shoulder v^1 and a sleeve n^1 having an oblique face n^0 on its rear end and a handle for turning said sleeve, whereby said oblique face acts upon the shoulder v^1 to withdraw the firing pin.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

PAUL MAUSER.

Witnesses:

HENRY HASPER.

WOLDEMAR HAUPT.