No. 889,279. PATENTED JUNE 2, 1908.

J. WARNANT.

PISTOL.

APPLICATION FILED MAY 20, 1905.

4 SHEETS—SHEET 1.

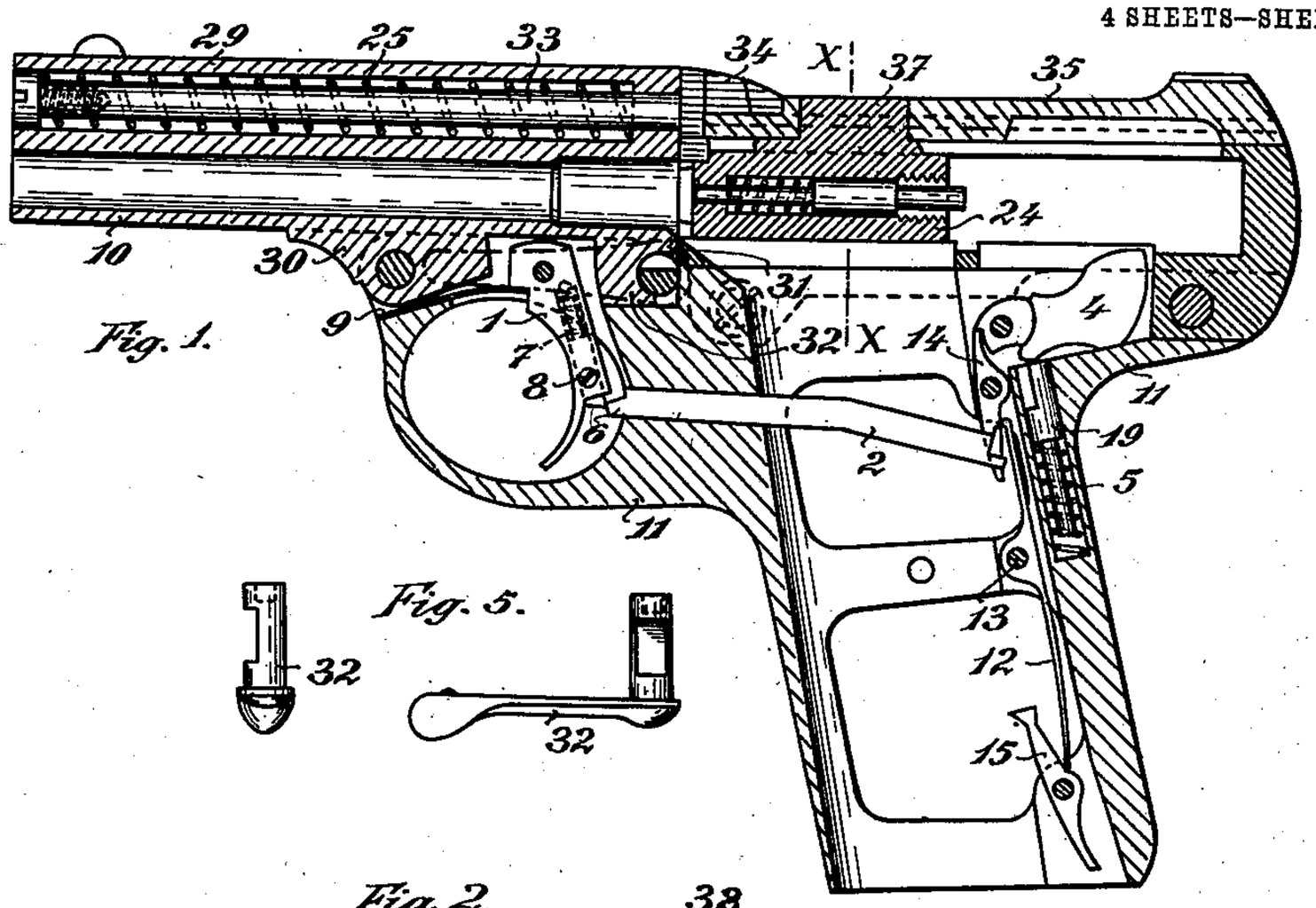

Fig. 1.

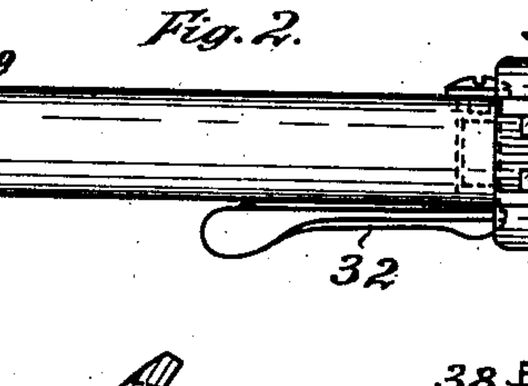

Fig. 5.

Fig. 2.

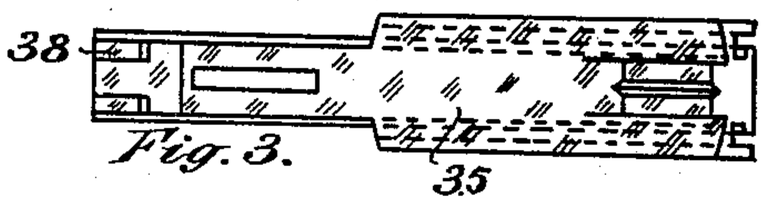

Fig. 3.

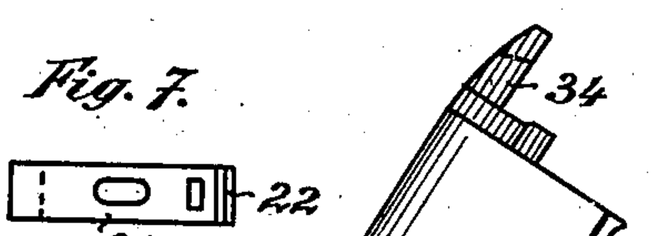

Fig. 7.

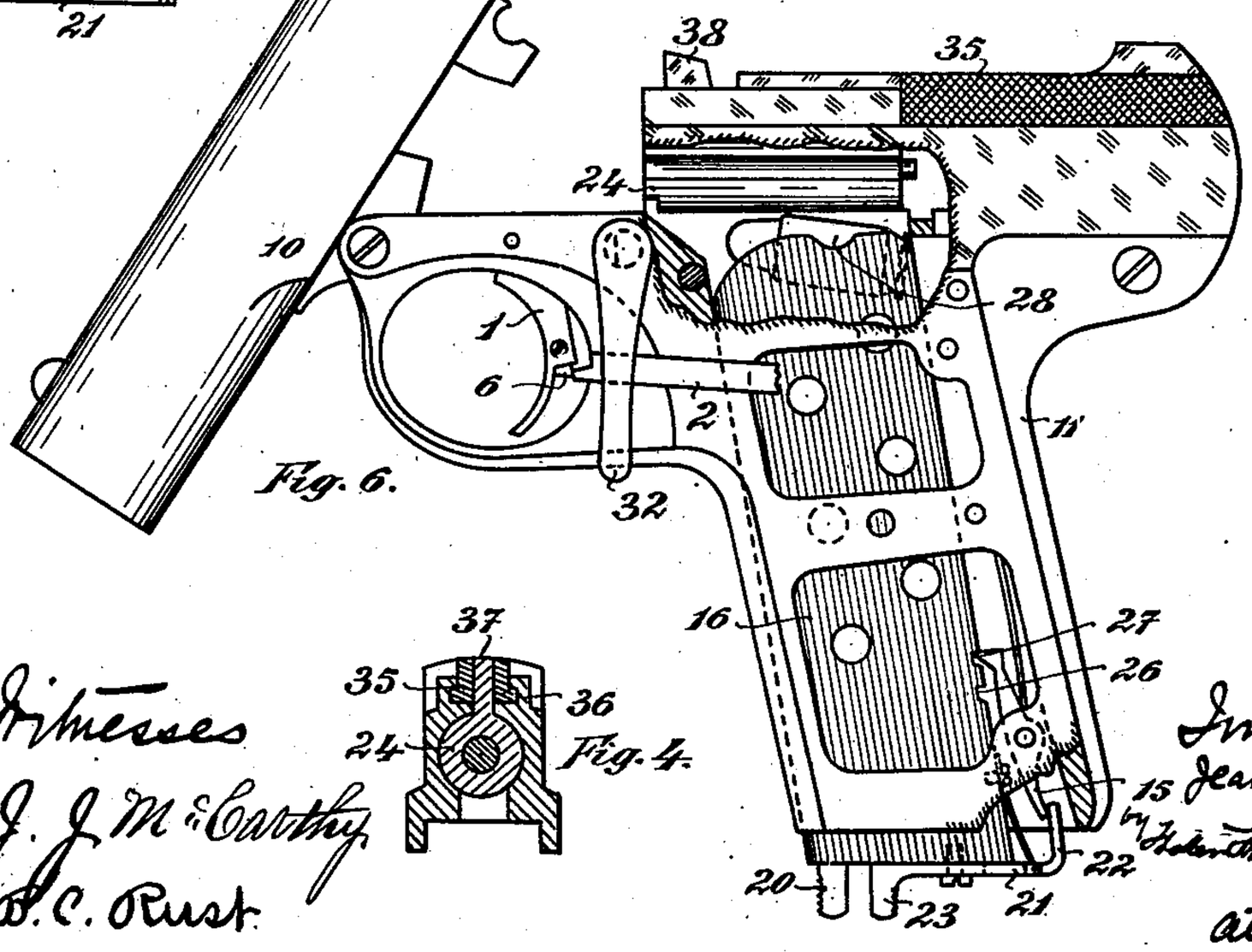

Fig. 6.

Fig. 4.

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4 SHEETS—SHEET 2.

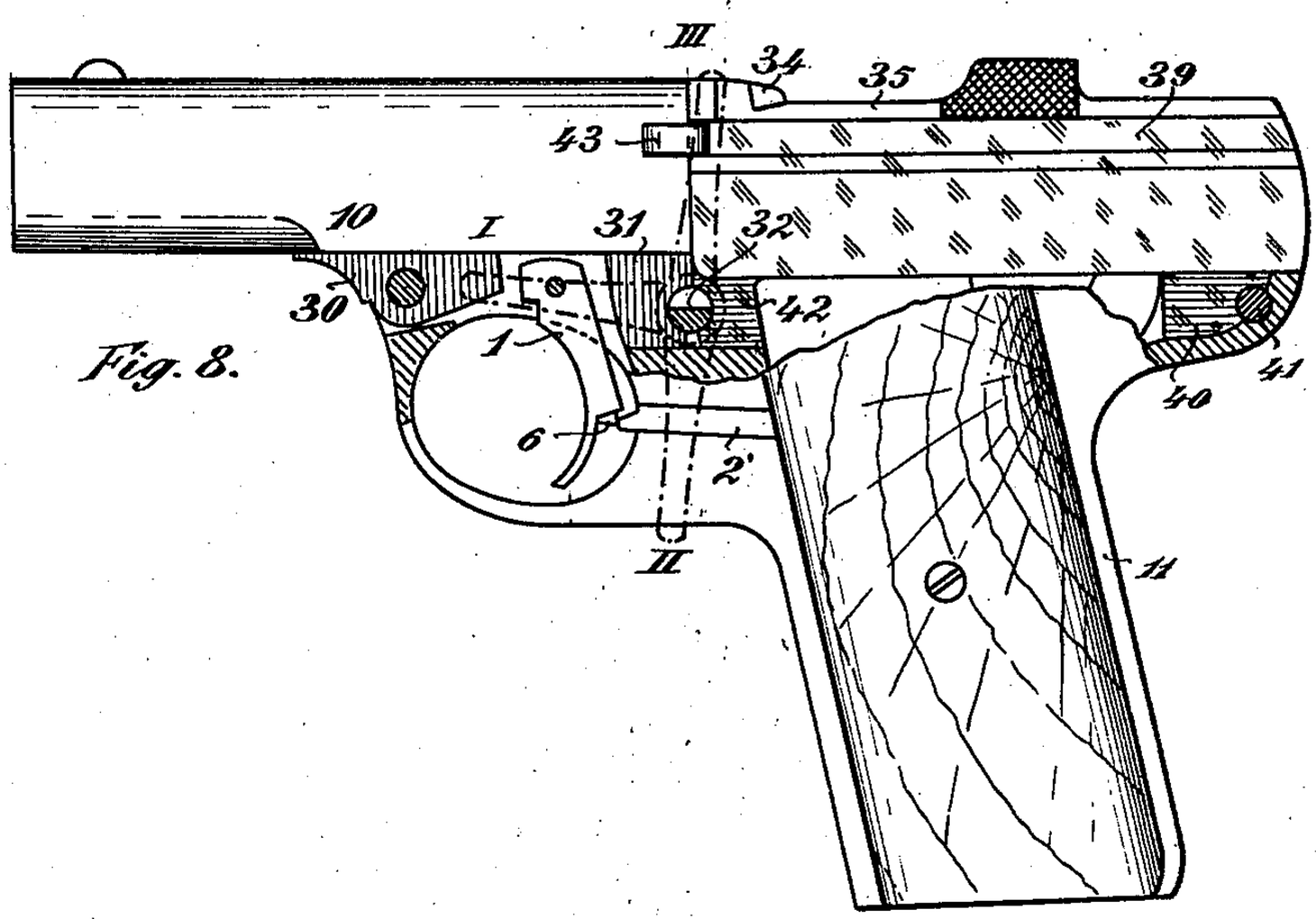

Fig. 8.

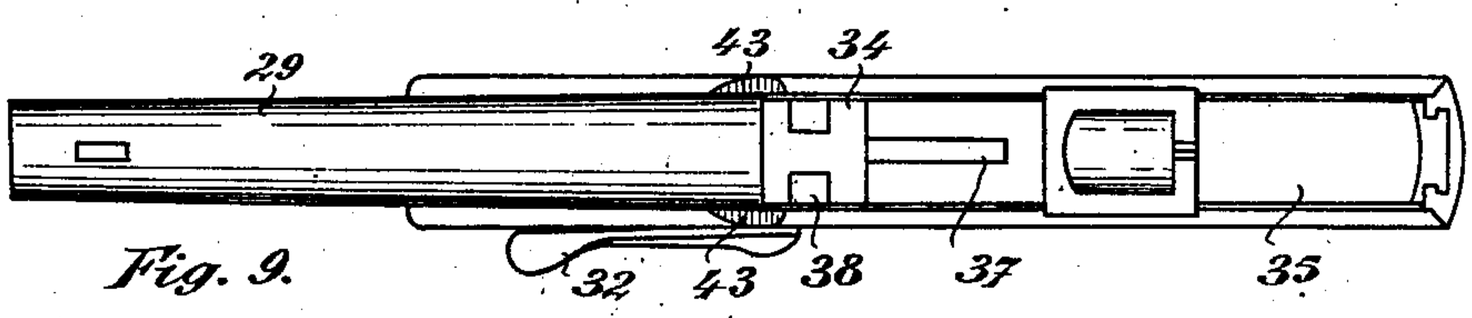

Fig. 9.

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4 SHEETS—SHEET 3.

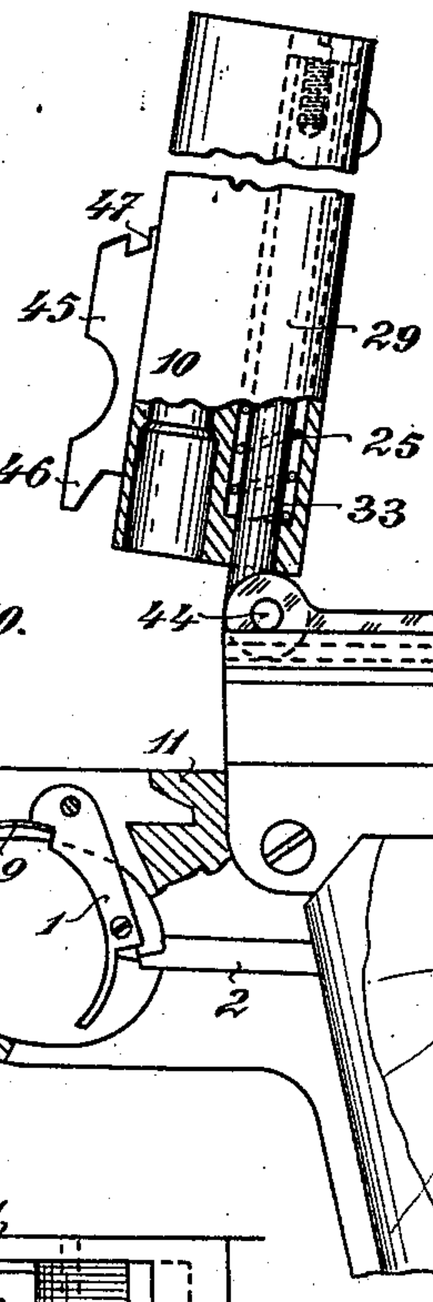

Fig. 10.

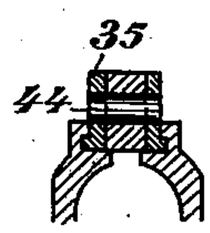

Fig. 11.

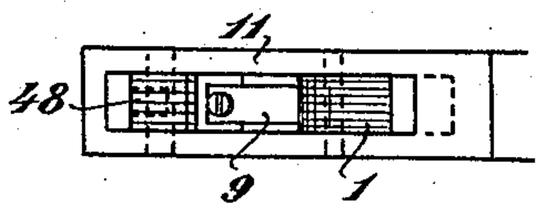

Fig. 12.

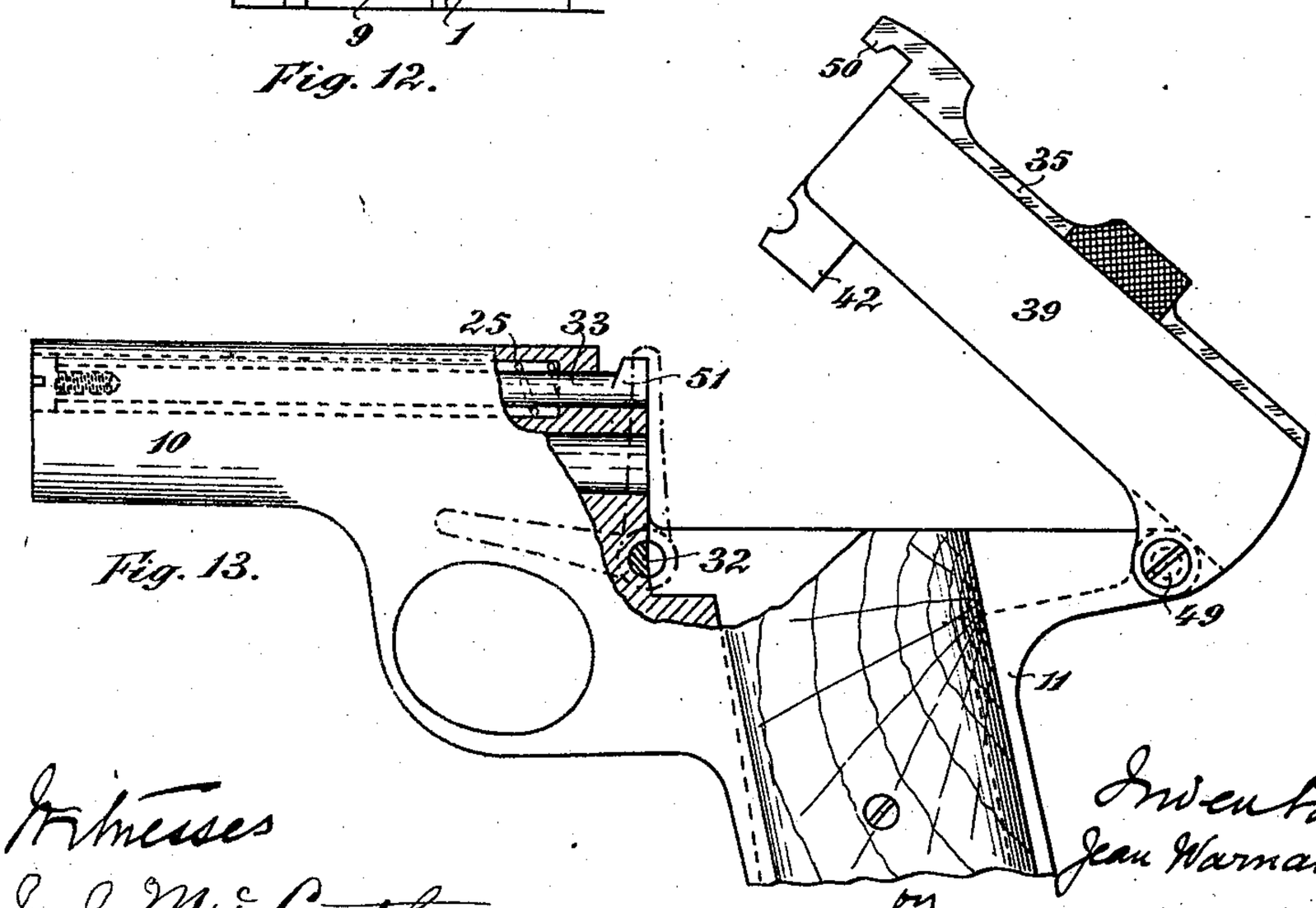

Fig. 13.

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PISTOL.

APPLICATION FILED MAY 20, 1905.

4 SHEETS—SHEET 4.

Fig. 14.

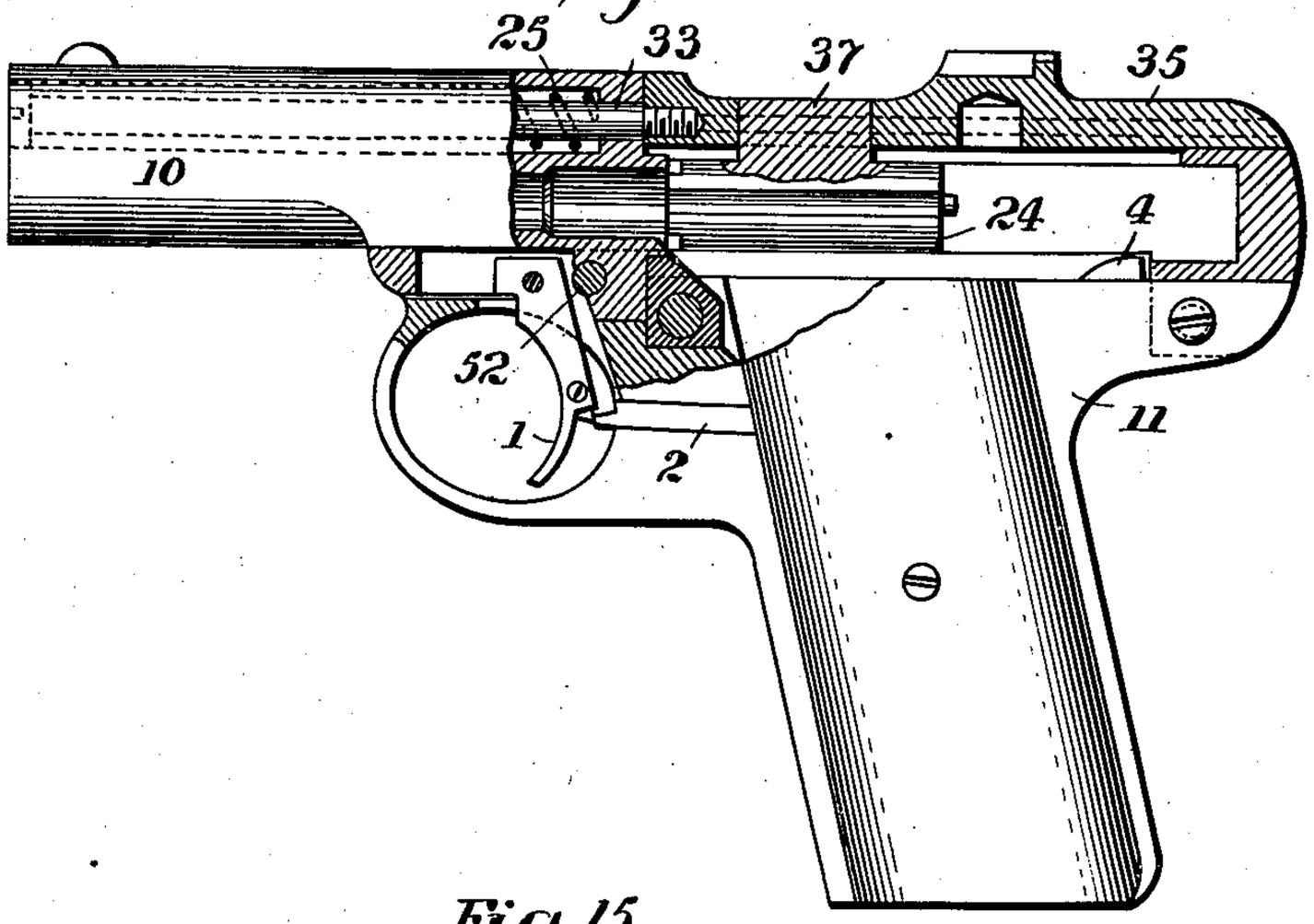

Fig. 15.

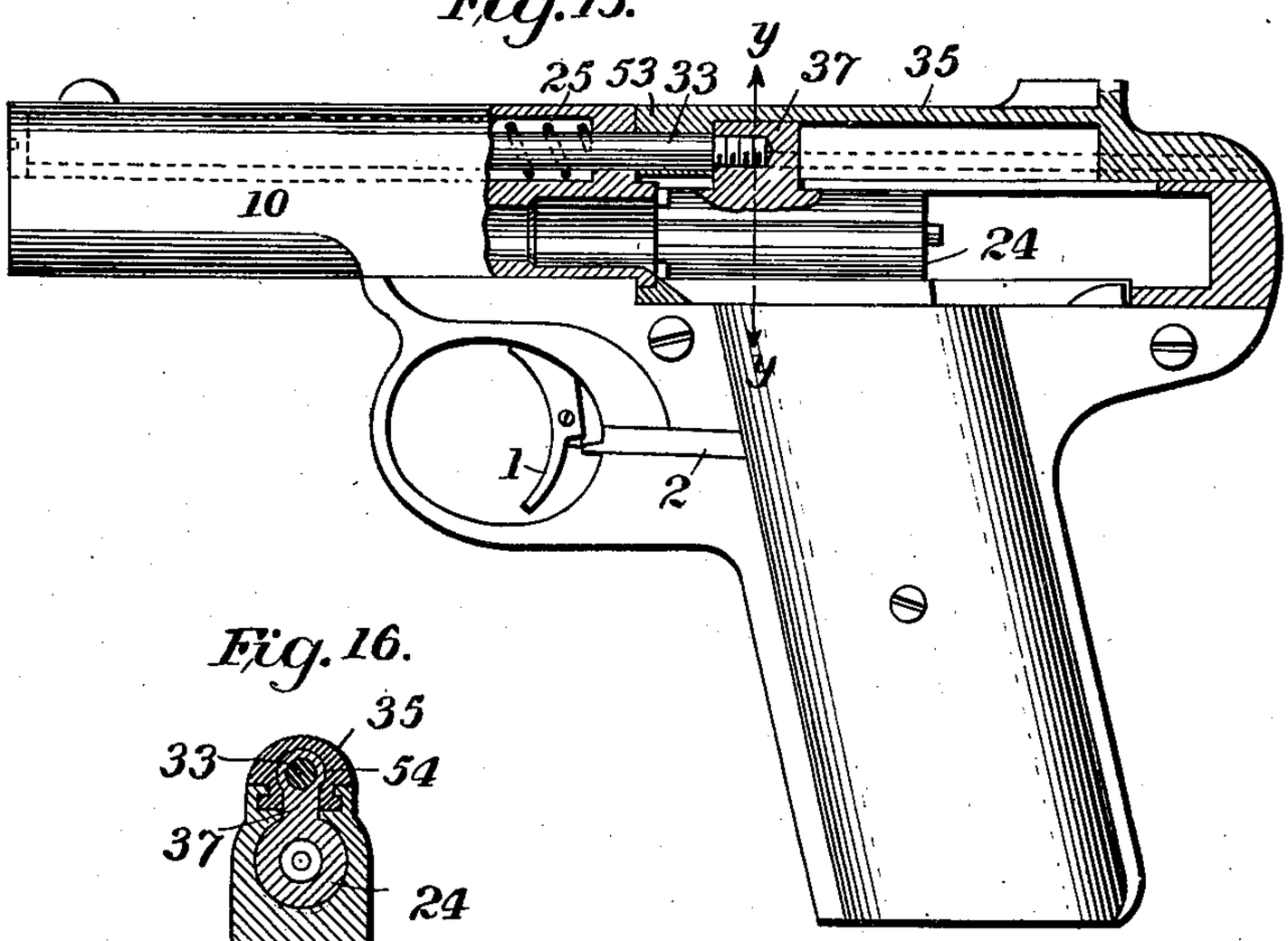

Fig. 16.

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UNITED STATES PATENT OFFICE.

JEAN WARNANT, OF LIEGE, BELGIUM.

PISTOL.

No. 889,279. Specification of Letters Patent. Patented June 2, 1908.

Application filed May 20, 1905. Serial No. 261,389.

To all whom it may concern:

Be it known that I, JEAN WARNANT, subject of the King of Belgium, residing at Liege, Belgium, have invented certain new and useful Improvements in Pistols; and I do hereby declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to pistols, and has for its object to improve and simplify the construction, and to these ends the invention consists in the various features of construction and arrangement of parts having the general mode of operation substantially as hereinafter more particularly set forth.

Some features of the invention are disclosed as applied to different forms of pistols, some of which are automatic and in some of which the barrel or the breech casing or both can be removed or broken down. The arrangement adopted is in addition, such that the different parts of the arm are easily accessible and can be readily taken to pieces.

The accompanying drawings represent, by way of example some various forms of a pistol of this type.

Figure 1 is a longitudinal section of a pistol closed, with a barrel which can be broken down about a horizontal axis placed underneath it, showing the trigger and firing mechanism. Fig. 2 is a view in plan. Fig. 3 shows the movable slide which works upon the top side of the breech end of the body. Fig. 4 is a section through *x*—*x* (Fig. 1). Fig. 5 shows the barrel-locking belt separately. Fig. 6 shows the same pistol open and with its magazine in position. Fig. 7 shows in plan, the sliding catch provided for un-locking the magazine. Fig. 8 is a part longitudinal section of a pistol similar to the one illustrated in the preceding figures, but arranged in such a way that the barrel and the breech can both be broken down, to admit of the parts being rapidly disassembled. Fig. 9 is a view in plan. Fig. 10 represents a pistol in which the barrel has an upward angular movement about a horizontal axis situated above it. Fig. 11 is a vertical section of the joint which connects the movable top-slide to a certain other part of the pistol. Fig. 12 is a view in plan of the front of the body, showing the trigger and the barrel-locking bolt. Fig. 13 shows a pistol in which the breech part has an upward lifting movement while the barrel is fixed. Fig. 14 represents, in part longitudinal section, the pistol of Figs. 1–7, but in which the joints have been replaced by ordinary pins, so as to adapt the pistol for use only as an automatic arm. Fig. 15 is a modification of the last mentioned arrangement. Fig. 16 shows a section through Y—Y (Fig. 15).

The trigger mechanism is the same in each of the pistols represented and consists of the trigger proper 1, the sear-actuating bar 2, the sear 14, the hammer 4, and the hammer-spring 5.

A tooth 6 provided with a small spring 7 and guided by the screw 8, is located in an opening made behind the trigger 1. When the trigger is pulled, this tooth 6 engages with the forward extremity of the bar 2, and forces same back and it afterwards permits the trigger 1 to return to its normal position under the influence of the trigger-spring 9, when the pressure of the shooter's finger upon the trigger is relieved. The trigger spring 9 preferably consists of a blade, one end of which presses on the trigger 1 while the other end is held at the front between two separable parts of the arm (barrel 10 and body 11). The bar 2 is located and guided in a lateral groove in the body, immediately under one of the covers or side plates of the grip which holds it in place, and it is constantly forced towards the front, against the trigger 1, by a spring 12 fixed at its middle 13 to the body 11. The upper end of this spring 12 bears against the sear 14, while its lower end presses on the catch 15 which fastens the magazine 16. The firing spring 5 is placed in a socket in the body 11 and it bears against the hammer 4 through the medium of the plunger head 19. The magazine 16 (Fig. 6) has at its lower end a stud 20 and a small catch or slide 21 of which the head 23 comes opposite the fixed stud 20 while the rearward end is curved upwardly at 22 for the purpose of engaging with the catch 15. By drawing the head 23 towards the stud 20 the slide is made to actuate the catch 15 and the magazine 16 is disengaged.

In the case of a pistol with breakdown barrel or breech for firing shot by shot, it is necessary to prevent the movable breech bolt 24 from forcing into the barrel 10 one of the cartridges contained in the magazine 16 during its forward or return movement under the influence of the spring 25, as will be described hereafter. Fig. 6 shows a simple

means of attaining this result. The magazine 16 has at the back two locking notches 26 and 27 in which the nose of the catch 15 engages. When the magazine is pushed as far as possible into the body the lower notch 26 is engaged by the catch 15 and the upper cartridge 28 will be at such a height in the body 11 that it will be moved along by the bolt 24 and the loading is then automatic. If however the magazine 16 is held by the first notch 27, the bolt 24 will be able to freely pass over the top cartridge 28 without forcing it out of the magazine. The barrel 10 will then remain empty and the arm can be used as a single loader by breaking down either the barrel or the breech part, as the case may be. By rendering the barrel chamber accessible in this manner the necessity of adapting to the arm a special safety device is obviated.

The barrel 10 (Figs. 1–7) which is made in one piece with the superimposed chamber 29 containing the breech-bolt return spring 25, carries at practically the middle of its underside, a lump 30 through the medium of which it is jointed to the body 11. It has at the back a second lump 31 which fits into a corresponding recess in the body 11 and is formed with a semi-cylindrical groove adapted to be engaged by the semi-circular middle part of the spindle of the barrel-locking bolt 32 which is mounted in the said body. The breech-bolt spring 25 bears at the front against the head of a rod 33 directed through it, and at the back against the end wall of the chamber 29. The said rod 33 passes through this wall and terminates at the rearward end in a T or I shaped piece 34. This piece 34 is adapted to engage, when the arm is closed (Figs. 1 and 2) between two laterally-separated blocks 38 carried at the forward end of a top slide 35, which is guided in longitudinal grooves 36 formed along the upper sides of that part of the body which constitutes a breech and is capable of a rectilinear movement to-and-fro therein. The breech bolt 24 has a tongue 37 which engages in a corresponding slot in the top-slide 35, so that the bolt 24 when it is forced back carries the said slide 35 with it, and also the rod 33 which compresses the spring 25, which subsequently reacts and restores the breech bolt to its normal or closed position after the pistol has been automatically reloaded by the said bolt during its forward movement. In order to break down the barrel 10 it is only necessary to turn the key 32 into the position indicated in Fig. 6. The locking piece 34 terminating the rod 33 running through the chamber 29, is then free to disengage the blocks 38 of the top slide 35.

In the arrangement represented in Figs. 8 and 9 the breech-casing 39 is made so that it can be taken to pieces. With this object, the breech casing has at the back a lump 40 provided with a semi-cylindrical groove fitting on a pin 41, partly let into the body 11, while its front carries a second lump 42 which fits into the body and is opposed to the lump 31 on the barrel. Like this latter, the lump 42 has a semi-cylindrical groove, through which passes the semi-circular part of the barrel bolt 32. The position I (which corresponds to the position in which the bolt spindle is represented in Fig. 8) of bolt lever insures the fastening of the barrel and of the breech-case, and when the said lever is placed in the position II it allows the barrel to be broken down while the case remains stationary, whereas when the said lever is placed in position III it admits of the removal of the breech case without the aid of another tool. The barrel 10 is provided laterally with two ears 43 which inclose the side walls of the case 39 when the arm is closed and which prevent deformation or bursting away of these walls.

Figs. 10, 11 and 12 show a pistol constructed according to the same principle as those previously described but in which the barrel is capable of an upward angular movement when disconnected from the body of the pistol. In this case the rod 33 of the spring 25 is directly jointed at 44 to the top slide 35 and it is around this joint 44 that the barrel 10 pivots. The said barrel has on its underside a lump or hook 45 of which the rearward beveled part 46 fits into a corresponding mortise in the body 11 while the front part has a notch 47 in which the nose of a pivoted catch lever 48 arranged in front of the trigger guard engages. This lever 48 performs the same duty as the bolt 32 described in the preceding arrangements.

The pistol represented by Fig. 13 is similar to that shown in Figs. 8 and 9 with the exception that the breech case 39 is capable of an upward angular movement, the barrel 10 being a fixture to the body. The breech case 39 is jointed at the back at 49, to the body 11, and it has at the front a lump 42 with semi-cylindrical recess in which the flattened or semi-circular part of the spindle of the bolt 32 engages. The top-slide 35 which works upon the breech case, has at the front a nose 50 which, when the arm is closed, engages with a heel 51 of the rod 33 of the breech-bolt return spring 25.

Fig. 14 shows a piston, similar in its substance, to those represented by Figs. 1–7, but intended solely for automatic firing. The barrel bolt 32 is replaced by a fixed pin 52, and the joint is then removed to the front of the body 11 and the rod 33 of the breech bolt spring 25 is connected directly, by screwing or otherwise, to the top slide 35, which is connected to the breech bolt 24 by means of the rib or tongue 37 so that the top slide and breech bolt are constrained to reciprocate

collectively in a rearward direction under the influence of a recoil and in a forward direction by the reaction of the spring. This tongue 37 travels in a groove made in the upper face of the breech casing which is fixedly connected to the body 11. The top slide 35 is, as in the preceding arrangements described, guided in two grooves made laterally at the upper part of this breech casing.

In the arrangement represented in Figs. 15 and 16 the rod 33 of spring 25 is arranged to work freely through the front wall 53 of the top slide 35 and it is directly attached to the tongue or top rib 37 of the breech bolt 24. This tongue has in this case a rounded head 54 (Fig. 16) adapted to slide in an extended groove made in the underside of the top slide 35. When using the arm, this top piece 35 remains stationary and it serves solely as a means of forcing the bolt 24 towards the back, when, for the firing of the first charge, the piston has to be loaded by hand.

In the different types of pistols described above, the bolt is introduced into the breech casing from the front so that the said case always remains solid at the back.

Comparing the different embodiments of the invention that have been referred to herein with the various forms of automatic or repeating pistols heretofore proposed, it will be found that each of the forms herein disclosed presents a common characteristic difference. Each of the different types described comprises three essential members, (1st) the frame or body containing the magazine, the trigger, hammer, etc.; (2nd) the barrel and the casing containing the return spring; and (3rd) the breech casing containing the breech bolt. The barrel and breech casing are not only formed separately but their adjacent ends are of such shape that they abut squarely when in firing position, the only connection between said parts (except the connection afforded by the frame) being that provided by the engagement of the breech bolt rod with the slide on the breech casing. There are no projections from either the barrel section or breech casing encircling the other, or so connecting said parts that they cannot be separated by merely disengaging the connection provided by the breech bolt rod. Or in other words, the barrel and breech casing are independently formed and the only connecting part crossing the line formed by the meeting ends thereof is the spring impelled breech bolt rod. The rear end of the barrel section is closed solely by the forward end of the breech casing.

In the forms of repeating pistols heretofore proposed, the barrel and breech sections have been so intimately connected together and to the frame or body of the weapon that it was difficult to separate them. By making each of said parts independent of the other and assembling them in such manner that the only connection between the barrel and breech casing is the breech bolt rod, it will be seen that said parts, when disengaged from the frame or body, are easily separated or adjusted to expose completely the barrel and chamber of the breech casing. It will also be noticed that when the parts are in firing position, the barrel and breech sections are held rigidly on the frame and neither is reciprocated by the recoil.

A further advantage of this construction is that it permits of making the rear end of the breech casing solid and integral with the other walls of that casing.

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

1. In an automatic pistol, the combination with one portion comprising a breech casing, breech bolt, and slide therefor, of another portion comprising a barrel and a breech bolt rod mounted thereon and connected to the slide, one of said portions being mounted to break relative to the other.

2. In an automatic pistol, the combination with one portion comprising a breech casing, breech bolt and slide therefor, movable longitudinally in the casing, of another portion comprising a barrel and a breech bolt rod mounted thereon and connected to the slide, one of said portions being mounted to break relative to the other, the separation between the casing and barrel being in a transverse plane.

3. In an automatic break-down pistol, the combination with a breech casing, breech bolt, and slide therefor, of a break-down barrel, a breech bolt rod mounted on the barrel, and detachable connections between the rod and slide.

4. In an automatic break-down pistol, the combination with a breech casing, breech bolt, and slide connected to the breech bolt, of a break-down barrel, a breech bolt rod mounted on the barrel and detachably connected to the slide, and a return spring for said rod and slide.

5. In an automatic break-down pistol, the combination with a breech casing, a breech bolt, and slide mounted on the casing and connected to the bolt, of a break-down barrel having a chamber, a breech bolt rod detachably connected to the slide and extending in said chamber, and a return spring in said chamber for the rod.

6. In an automatic break-down pistol, the combination with a breech casing, breech bolt therein having a tongue, and a slide mounted on the casing and provided with a slot fitting said tongue, of a break-down barrel, and a breech bolt rod mounted on the barrel and detachably connected with the slide.

7. In an automatic break-down pistol, the

combination with a breech casing, breech bolt, and slide mounted on the casing and connected to the bolt, of a break-down barrel having a chamber, a breech bolt rod mounted in the chamber, and a spring surrounding the rod.

8. In a pistol, the combination with the body, of a separately formed and removable breech case having a lump on its forward end, a break-down barrel having a lump on its rear end, and a barrel bolt having a flattened spindle and adapted to engage the lumps on the breech case and barrel.

9. In a pistol the combination of a break-down barrel, a removable breech case, lumps connected to the breech case and barrel, and a bolt having a flattened spindle capable of engaging either one or both of said lumps.

10. In a pistol, the combination with the body, of a magazine provided with a stud fixed on its bottom, a slide mounted on its bottom having a head opposite said stud and having a bent up portion, and a catch mounted on the body adapted to engage the magazine, and engaged by said bent up portion of the slide.

11. In an automatic break-down pistol, the combination with the breech casing, breech bolt, and slide mounted on the casing and connected to the bolt, and blocks on said slide, of a break-down barrel, and a breech bolt rod mounted on the barrel, and provided with a T-shaped end piece for detachably engaging the blocks.

12. In an automatic or repeating pistol, the combination of a body adapted to support a magazine, a barrel, a breech casing, said barrel and breech casing being formed independently of each other and of the body abutting at their meeting ends and one of said parts being pivotally mounted on the body and adapted to be turned about its pivot independently of the other, and means for holding said movable part rigid with the body when the barrel and chamber of the breech casing are in alinement.

13. In an automatic or repeating pistol, the combination of a body, a barrel mounted on the body, a breech casing mounted on the body independently of the barrel, one of said parts being pivotally connected with the body, a breech bolt-rod carried by the barrel, a slide mounted in the breech casing, connections between said rod and slide permitting the pivotally mounted part to turn independently of the other, and means for holding said movable part rigid on the body when the barrel and chamber of the breech casing are in alinement.

14. In an automatic or repeating pistol, the combination of a body, a barrel mounted on the body, a breech casing mounted on the body, independently of the barrel, one of said parts being pivotally connected with the body, a breech bolt-rod carried by the barrel, a slide mounted in the breech casing, means connecting said rod and slide and causing them to move together when the barrel is in alinement with the chamber in the breech casing, and adapted to be disengaged to permit the pivotally mounted part to be turned independently of the other, and means for holding said pivotally mounted part rigid on the body when the barrel is in alinement with the chamber in the breech casing.

15. In an automatic or repeating pistol, the combination of a body, a barrel mounted on the body, a breech casing mounted on the body independently of the barrel, one of said parts being pivotally connected with the body, a spring controlled breech bolt-rod carried by the barrel and projecting rearwardly therefrom, a slide mounted in the breech casing and having means for engaging the rear end of the breech bolt-rod and adapted to be automatically disengaged when said pivotally mounted part is turned about its pivot, and means for holding said movable part rigid on the body when the barrel is in alinement with the chamber in the breech casing.

16. The herein described automatic or repeating pistol comprising a body or frame section supporting a magazine, a trigger and a hammer, a breech casing detachably connected with the frame, a breech bolt and firing pin within said casing, a barrel section independently secured to the frame, and a rod engaging at its forward end a spring mounted on the barrel and having its rear end connected with the breech bolt, said rod affording the only connection between the barrel and breech sections when said sections are detached from the frame.

17. The herein described automatic or repeating pistol comprising a body or frame section supporting the magazine, trigger and hammer, an independent breech casing secured on the body, a barrel section mounted on the body and having its rear end bearing squarely against the forward end of the breech casing, a breech bolt within the breech casing, a slide mounted in guides on said casing and connected with the breech bolt, and a rod having one end connected with the slide on the breech casing and its other end engaged by a spring carried by the barrel section, whereby it detachably connects the barrel and breech casing sections.

18. In an automatic or repeating pistol, the combination with a frame or body section supporting a magazine, trigger and hammer, of two independently formed sections adapted to be rigidly secured to the frame section, one of said sections having therein the barrel and a superposed chamber, and the other section constituting a breech casing, the inner ends of said sections abutting, a breech bolt carrying a firing pin arranged within the

breech casing, a slide mounted in guides on the breech casing section and connected with the breech bolt, a coiled spring within the chamber above the barrel, and a rod extending through said chamber and having at its forward end a head engaging said spring and having its rear end connected with the slide on the breech casing.

19. In an automatic or repeating pistol, the combination with a frame or body section supporting a magazine, trigger and hammer, of two independently formed sections adapted to be rigidly secured to the frame section, one of said sections having therein the barrel and a superposed chamber, and the other section constituting a breech casing, the inner ends of said sections abutting, a breech bolt carrying a firing pin arranged within the breech casing, and having an upwardly extending projection adapted to reciprocate in guides on the breech casing, a coiled spring within the chamber above the barrel, and a rod extending through said chamber and having at its forward end a detachable head engaging said spring and having its rear end connected with the breech bolt.

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

JEAN WARNANT.

Witnesses:
GASTON RUCKARD,
VICTOR HAMAL.