

(No Model.)

4 Sheets—Sheet 1.

F. TOGGENBURGER.
MULTICHARGE SPORTING RIFLE.

No. 350,328.

Patented Oct. 5, 1886.

Fig. 1.

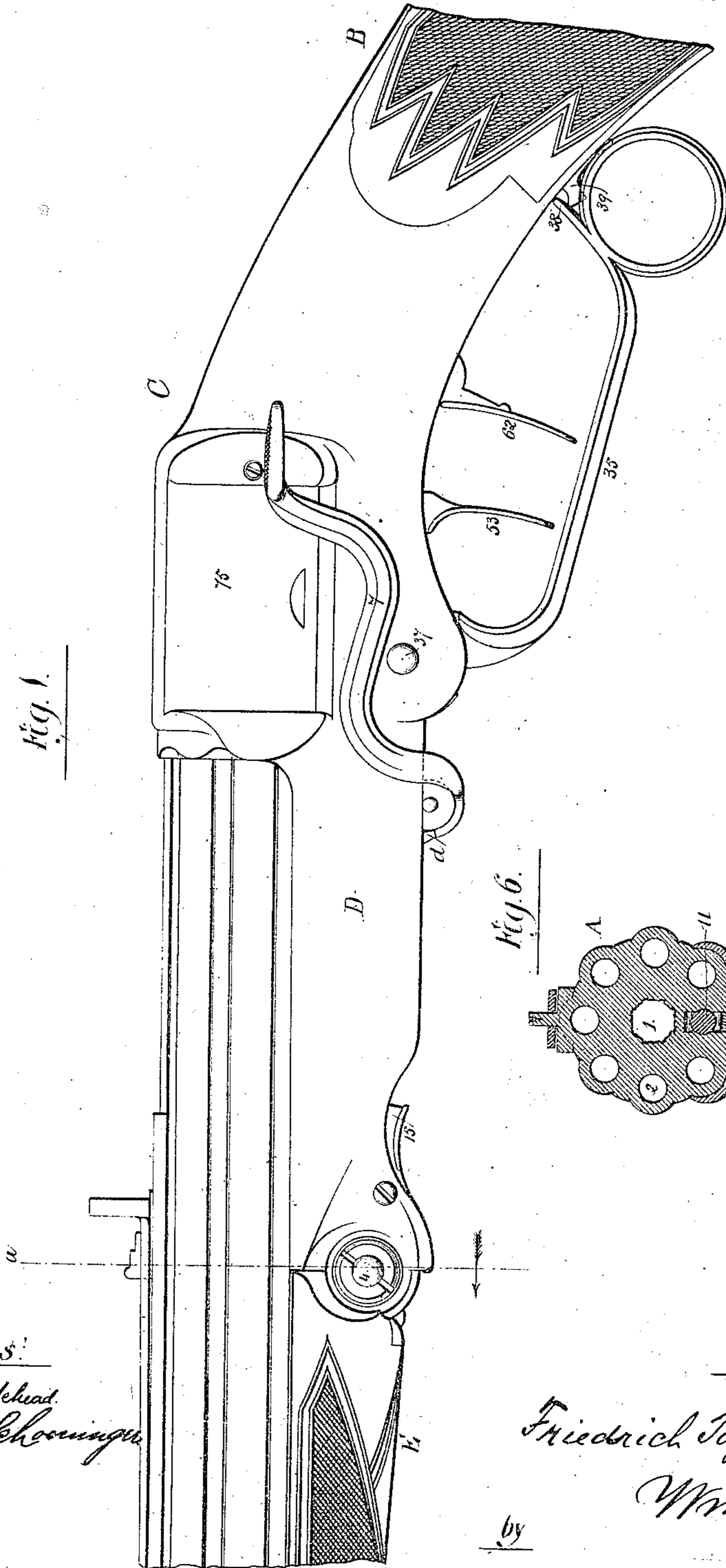
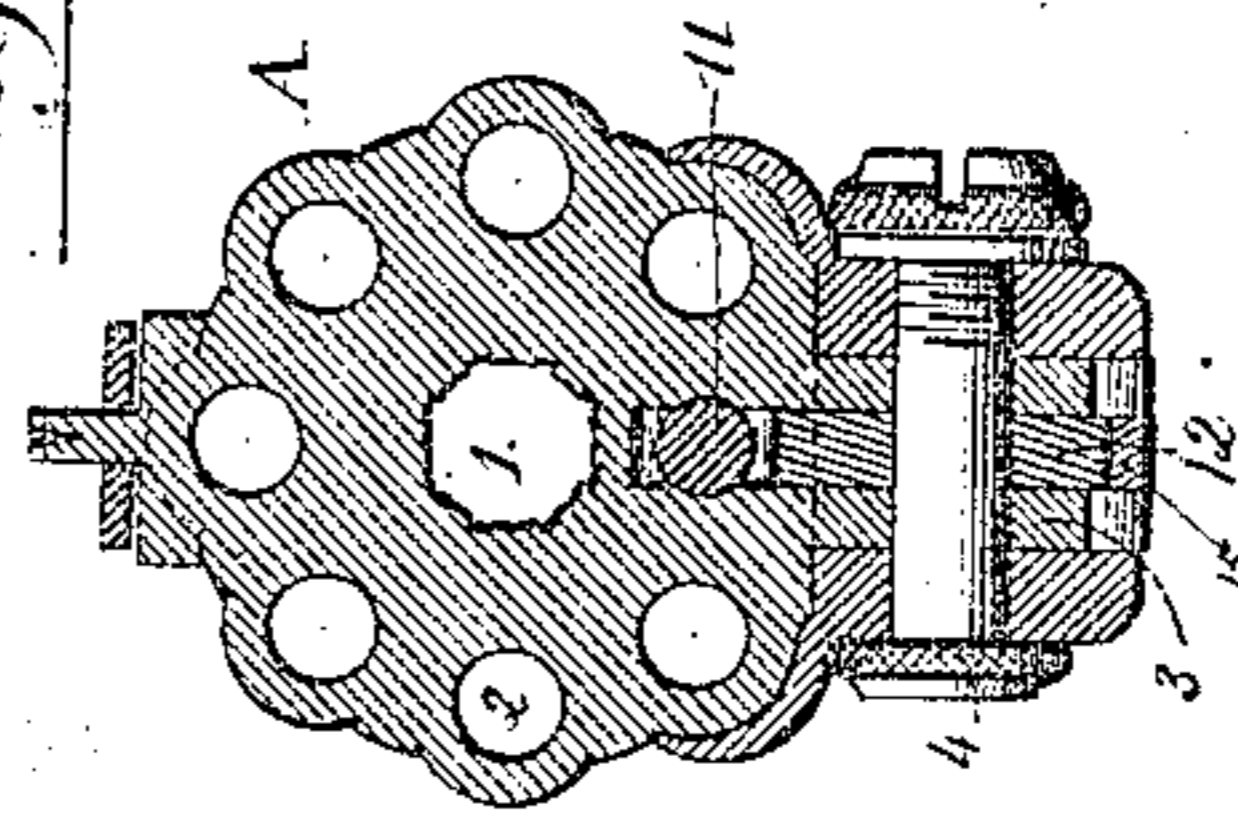


Fig. 6.



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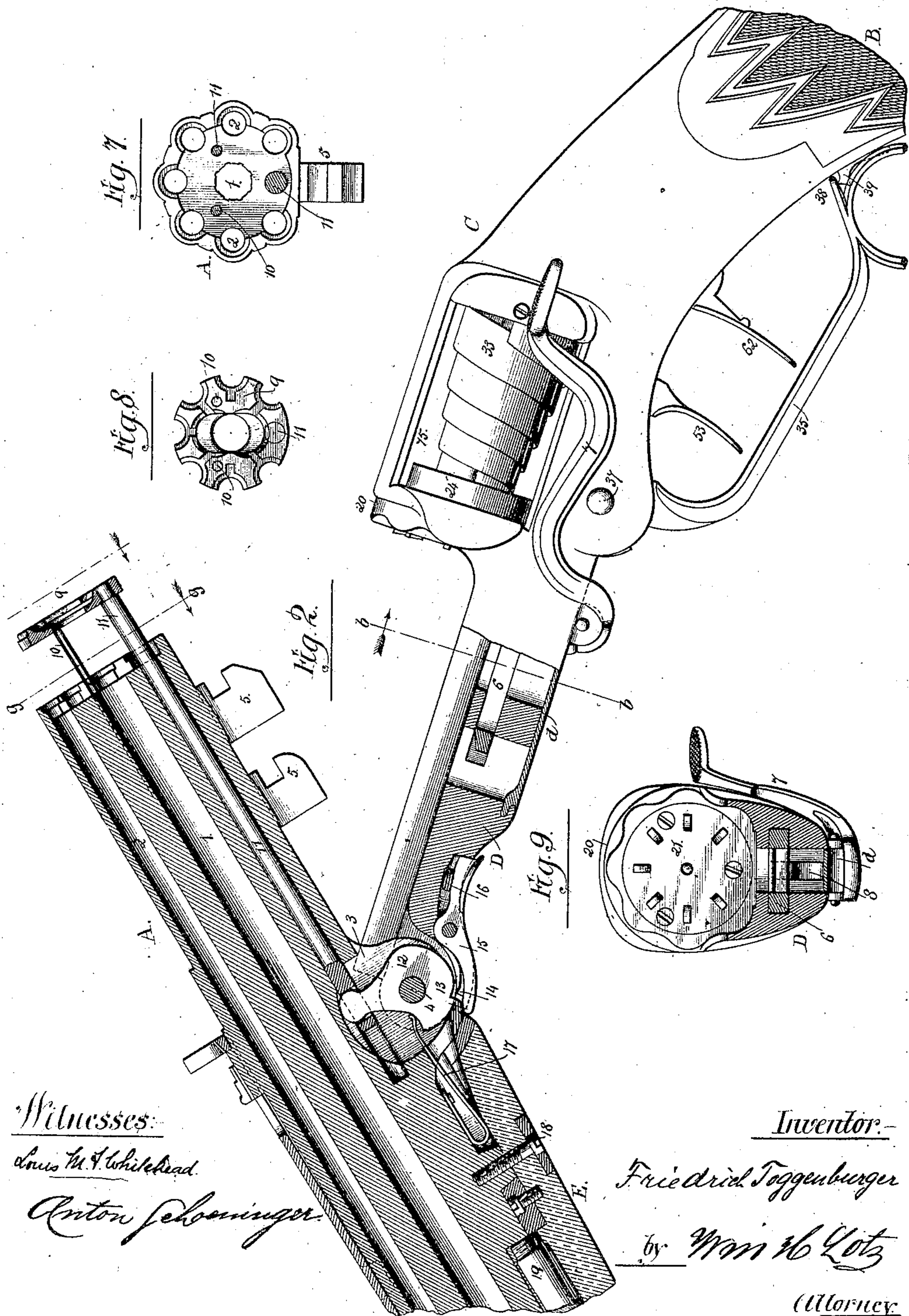
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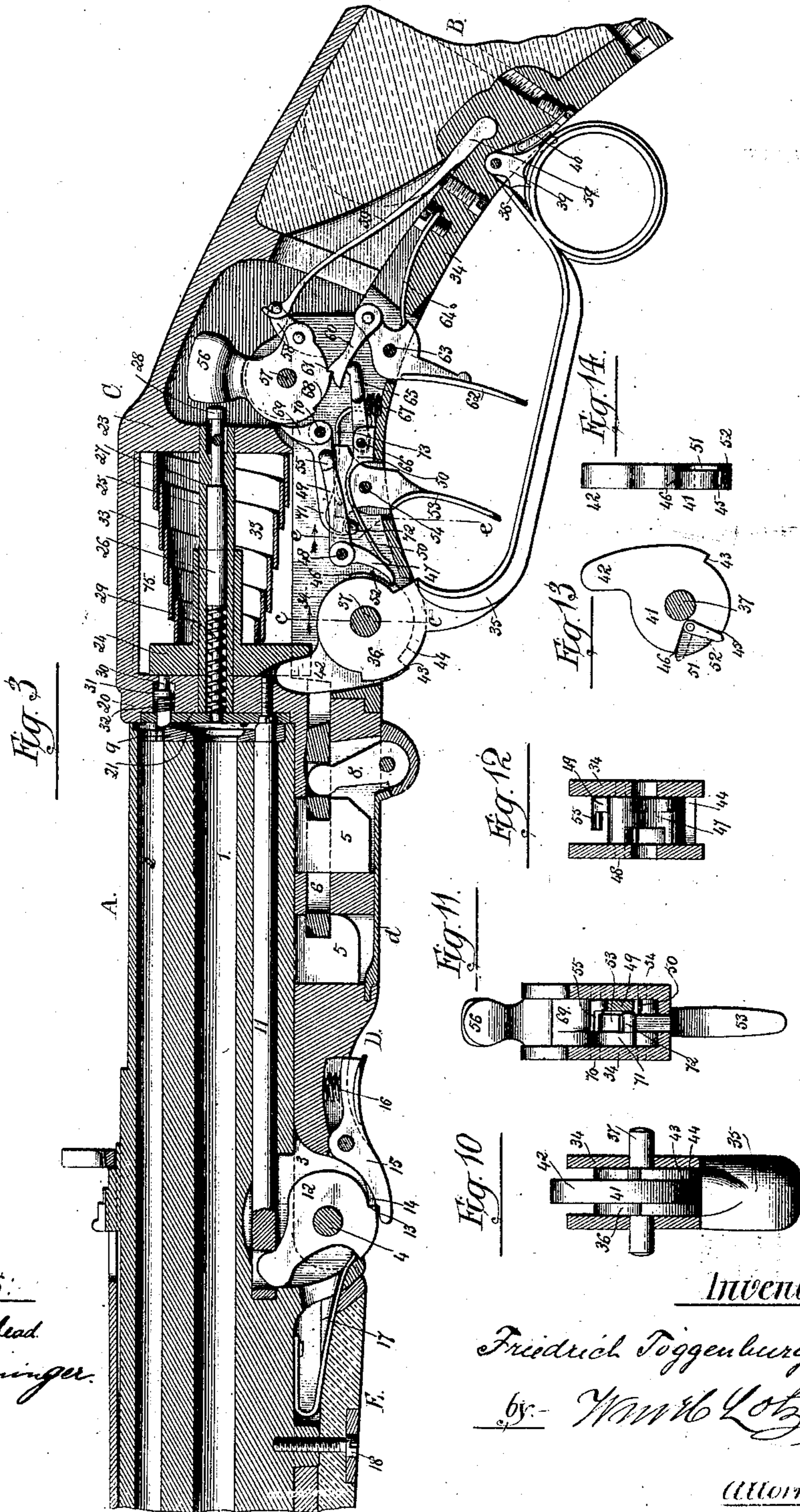
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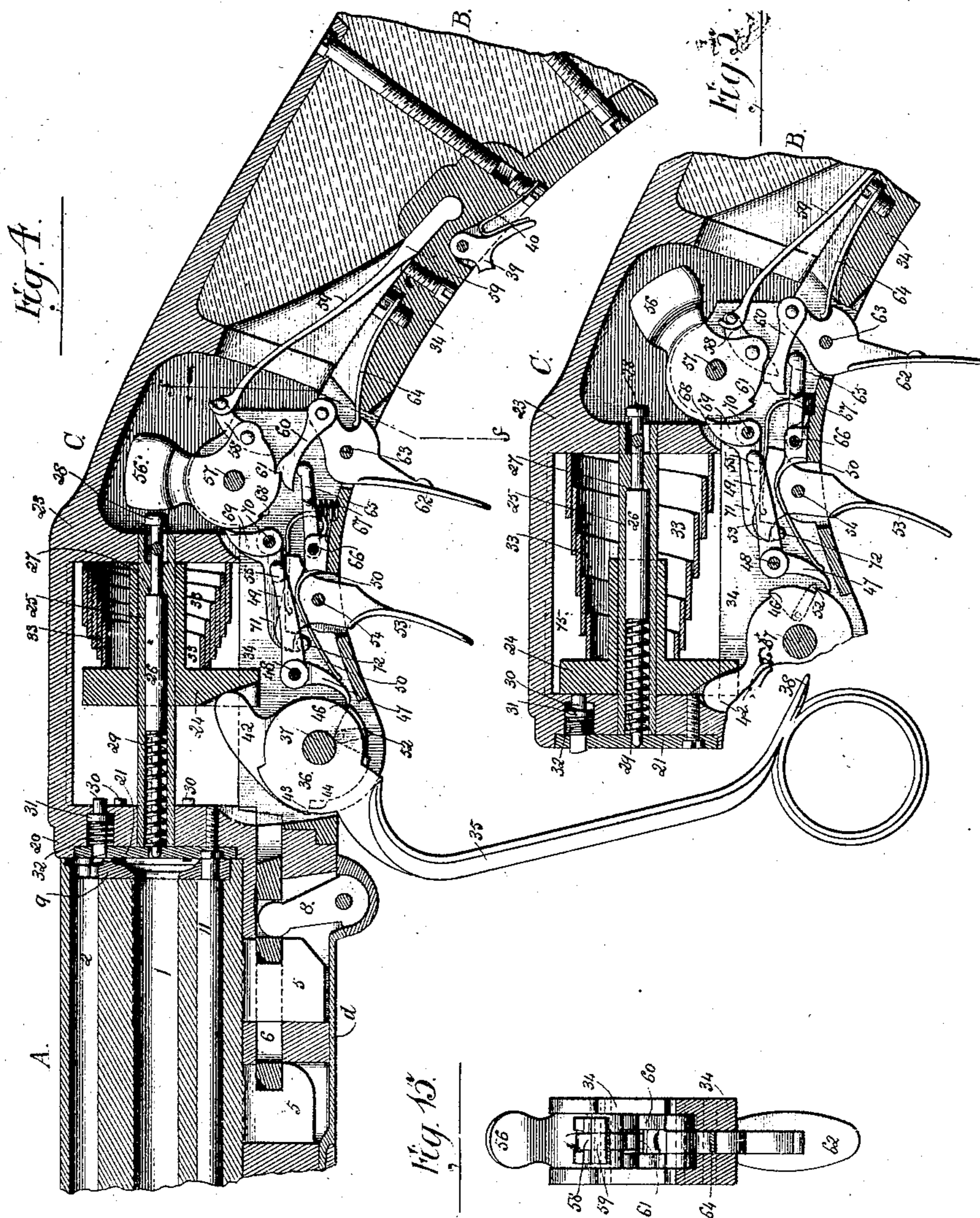
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UNITED STATES PATENT OFFICE.

FRIEDRICH TOGGENBURGER, OF CHICAGO, ILLINOIS.

MULTICHARGE SPORTING-RIFLE.

SPECIFICATION forming part of Letters Patent No. 350,328, dated October 5, 1886.

Application filed May 18, 1886. Serial No. 202,573. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH TOGGENBURGER, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sporting-Rifles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to breech-loading fowling-pieces for shooting simultaneously a number of small balls or shot that, with scattering to a certain extent, are more certain to hit the object aimed at. Heretofore such guns have only been reliable, however, on a short range proportional to a rifle-shot, and it has been my object to produce a shotgun that will enable one to hit the game at a farther range and with more force than has been accomplished heretofore.

For that purpose my invention principally consists of the combination of a series of gun-barrels into one, each bore to be charged with an independent cartridge, and all the cartridges to be fired off simultaneously; also, in combination, with a series of gun-shot barrels, of a central rifle-barrel having a separate hammer and lock, to be either discharged independently or simultaneously with the other bores, or the other bores to be discharged alone without the rifle-barrel, all as will be hereinafter fully described and specifically claimed.

In the accompanying drawings, Figure 1 represents an elevation of the breakdown portion of the fire-arm; Fig. 2, a sectional elevation of the same with the barrels opened; Fig. 3, a longitudinal section through the center of the same with the hammers at rest; Fig. 4, a similar section with the hammer for the circumferential barrels in the act of cocking and the hammer for the central barrel at rest, and Fig. 5 a similar section with the hammer for the circumferential barrels at rest and the hammer for the central barrel cocked. Fig. 6 is a transverse section on line *a a* in Fig. 1; Fig. 7, an end elevation of the breech of the barrel from line *g g* in Fig. 2; Fig. 8, an end elevation of the cartridge-extractor; Fig. 9, a section on line *b b* in Fig. 2, showing an elevation of the breech shoulder-plate of the stock. Fig. 10 is a sectional end view on line *c c* in

Fig. 3, showing an end elevation of the guard-lever for cocking the hammer for the circumferential barrels. Fig. 11 is a sectional end elevation on line *e e*, showing the trigger and the hammer for the central bore. Fig. 12 is a section of the frame on line *c c* in Fig. 3, the guard-lever and tumbler being removed. Figs. 13 and 14 are side and end elevations of the tumbler detached, and Fig. 15 is a section on line *f f* in Fig. 4.

Corresponding reference characters in the several figures of the drawings designate like parts.

The barrel A is composed of a series of tubes, one with the larger bore, 1, in the center, and seven (more or less) with smaller bores, 2, secured around the central barrel, by soldering or otherwise, so that all of them thus combined will form a single barrel. The bores of the several barrels are to be rifled.

The gun-stock is composed of the wooden butt-piece B, a portion of which only is shown in the drawings, of the metal casing C, having extension D, to which the barrel is coupled, and of a wooden liner, E, secured under the barrel and forming a continuation of extension D. At its bottom the barrel A has a lug, 3, forming the hinge-joint with the end of the stock-extension D, and being secured therewith by pivot-bolt 4, and at near its breech end the barrel has two grip-hooks, 5, secured to its bottom, which grip-hooks fit into sockets in the extension D, and are secured therein by a slotted bolt, 6, sliding in a longitudinal guideway within such extension D, and being arranged to be operated by a side lever, 7, pivoted to the bottom of the extension D, and having secured thereto a crank-arm, 8, that engages with a slot in bolt 6, in a manner such that by depressing such lever 7 the bolt will disengage the grip-hooks 5, when the breech of the barrel can be turned upward to be clear of the stock, as shown by Fig. 2. The leaf-spring *d* is coupled with the arm 8, for automatically engaging the bolt 6 with the grip-hook 5 when closing the barrel upon the stock.

The cartridge-extractor 9 is of a shape to engage the cartridges of all the bores of the barrel, and it has two small guide-pins, 10, entering guide-holes between the barrel-bores, and

a rod, 11, that is guided in a hole bored into the lower re-enforcement of the barrel parallel with the rifle-bores, and extends beyond the pivot-lug 3. This pivot-lug 3 is split longitudinally to provide a groove through its middle that communicates with the guide-hole of rod 11, and in this groove is pivoted upon bolt 4 a tumbler, 12, having a cam-arm that engages with the slotted end of the rod 11, and having a notch, 13, that engages with the shoulder 14 of a pawl, 15, pivotally secured in a groove in the under side of extension D, which pawl is pushed into engagement by a spring, 16, placed under the tail end of such pawl, such tail end being sufficiently exposed so that it can be depressed by the forefinger for disengaging the pawl from the notch, or for holding it out of engagement. With the opening of the barrel by turning its breech up, the pawl 15, by its engagement with notch 13 of tumbler 12, holds such tumbler to remain stationary with the gun-stock, whereby the cartridge-extractor is pushed rearward for ejecting the cartridge-shells, and then by depressing the tail end of pawl 15 its shoulder 14 will release the tumbler 12, which, by leaf-spring 17, will then be turned to pull the cartridge-extractor into contact with the barrel again. After new cartridges are inserted into the several bores the barrel is replaced and locked upon its stock, whereby the tumbler 12 will also be turned for its notch 13 to engage again the shoulder 14 of pawl 15, ready for the next reopening of the barrel automatically to eject the cartridge-shells. When the central cartridge has been fired alone, it will not be desirable for removing the shell to have the cartridge-extractor come into operation, because it would also eject the cartridges from the circumferential bores of the barrel, and in such cases in opening the gun the pawl 15 need only be depressed to keep its shoulder 14 out of engagement with notch 13 of the tumbler, when the extractor will not be moved, and the cartridge-shell can be drawn out alone without disturbing the other cartridges.

The extension E of the stock is secured to the barrel by a screw, 18, so as to be rigid therewith, and it covers the spring 17, and provides the socket for the end of the cleaning-rod 19. When, after loading, the barrel is closed, its breech is brought against the shoulder 20, forming part of casing C, and recessed for a steel disk, 21, inserted therein and secured by countersunk screws.

The chamber in the casing C, between the breech shoulder-plate 20 and partition 23, is occupied by a disk-shaped hammer, 24, having a tubular hub at its rear face, and being sleeved upon a guide-tube, 25, that extends from the breech-plate 20 to the partition 23, and is secured in holes of same to be rigid therewith. This tube 25 is bored for the percussion-rod 26 to be guided therein. The rod 26 is turned smaller at both ends to provide shoulders. The rear shoulder butts against a shoulder, 27, formed in the tube 25, for limiting the move-

ment of the rod in that direction, with a head, 28, at the end of rod 26, projecting beyond such tube for the hammer to strike against. The point of the rod 26 projects into a hole in the disk 21, and between this disk 21 and its forward shoulder the percussion-rod is surrounded by a spiral spring, 29, which, after each hammer-stroke, will recoil and carry such rod to its former position. This percussion-rod 26 is for exploding the cartridge inserted into the central bore of the barrel.

The breech shoulder-plate 20 is perforated with a series of holes—one for each circumferential bore of the barrel—and these holes are counterbored from the front end and are covered by disk 21, that again has smaller holes in line with these counterbored holes, and in each such perforation is placed a pin, 30, having a collar, 31, that shoulders with the rear offset of the counterbore, and between such collar 31 and disk-plate 21 a spiral spring, 32, surrounds such pin, for the purpose that by striking the rearward projecting end of each pin its forward end will strike the cartridge to explode it, and that on releasing such pin its spring 32 will push the pin rearward to its former position again. The hammer 24 is of a diameter such that it will strike all the pins 30 simultaneously, such hammer being forced forward by a volute spring, 33, located behind the hammer and bearing against partition 23.

The parts for cocking the hammer 24, and the trigger for releasing it, as well as the hammer and lock parts for the central barrel-bore, are all secured in an independent frame, 34, that is fitted into and is removably secured by screws to the bottom of the casing C of the stock, to form a close joint therewith. This frame 34 consists of a curved bottom plate having at its front portion vertical side flanges, between which the several parts are pivoted.

The guard 35 forms the lever for cocking the hammer 24, and for that purpose it has at its front end a split or bifurcated hub, 36, pivoted upon a pin, 37, while its rear end has a ring-shaped handle and a tongue, 38, engaging with a catch, 39, pivotally secured in a cavity of the plate 34, and pushed by a leaf-spring, 40, to afford only a frictional hold of the guard.

Between the two hub-plates 36 of the lever or guard 35 is pivoted, upon a pin, 37, the tumbler 41, having an upwardly-projecting cam-arm, 42, that engages with the front face of a downwardly-extending lug of hammer 24. This tumbler 41 also has a radial shoulder, 43, engaging with a corresponding shoulder, 44, of the guard-lever 35, that, when such guard-lever is swung forward, will move the tumbler with it, and thereby by pushing the hammer 24 backward will depress spring 33. This tumbler 41 also has a half-cock notch, 45, and a full-cock notch, 46, for engaging the sear 47, that is pivoted on a pin, 48, and has an arm, 49, so as to be bell-crank-shaped, and this sear is pushed into contact with the tumbler 41 by a leaf-spring, 50.

Between the two notches 45 and 46 the tum-

bler 41 has a triangular recess, 51, in one side, and in this recess is pivotally secured an arm, 52, the end of which projects sufficiently beyond the circumferential face of the cam so that in releasing the tumbler 41 by pulling the trigger after the hammer has been full-cocked the sear cannot catch in the half-cock notch, but is carried over such notch by the point of arm 52. The trigger 53, pivoted on pin 54, has a straight upper edge about rectangular with the handle portion thereof, over the rear end of which edge a sideward-projecting lug, 55, of the sear-arm 49 extends in a manner such that by pulling such trigger the arm 49 will be turned upward, whereby the sear 47 is moved out of contact with the tumbler-notch 41.

The hammer 56 is pivoted between the side flanges of frame 34, upon a pin or screw, 57, and its hub is tumbler-shaped, with a split crank projection that has pivotally secured thereto the swivel 58, forming the coupling-link with one end of the main leaf-spring 59, the opposite or rear end of which is secured in a slotted protuberance of the frame 34. This hammer 56 is in proper position for exerting its force upon the head 28 of the percussion-rod 26, and it is cocked by a pawl, 60, engaging with a notch, 61, of the hub of the trigger, which pawl is pivoted to the upwardly-extending arm of a trigger-shaped lever, 62, pivoted in a slotted opening of the frame 34 upon a pin, 63. The hub of this lever 62 has a rearward shoulder for the end of a leaf-spring, 64, to bear upon and to return the lever to its original position after each operation of cocking the hammer. The pawl 60 is yieldingly supported on the end of an arm, 65, pivoted on a pin, 66, and pushed upward by a spiral spring, 67. A second notch, 68, of the hub of the hammer 56 engages the sear 69, pivoted upon a pin, 70, and having a forwardly-projecting arm, 71, with a side lug, 72, at its end, which extends under the forward projection of the trigger 53 in a manner that with pulling such trigger the sear 69 is moved away from the notch 68 to release the hammer 56. This sear 69 is pushed into contact with the hub of the hammer 56 by a spring, 73, pressing against the under side of arm 71.

The chamber occupied by the hammer 24 and spring 33 has openings from both sides closed by slides 75, that are fitted into dovetailed guideways. By the arrangement shown and described it will be readily seen that either hammer 24 or 56 may be cocked to be fired off by the same trigger, 53, or that both hammers 24 or 56 may be cocked to be released simultaneously for firing off all the cartridges at the same time; and it will also be noticed that

a gun thus constructed is compact and complete in its arrangement of parts, and is easily managed.

What I claim is—

1. A breech-loading fire-arm having a central bore and a series of circumferential bores arranged around the central bore, in combination with a firing-rod and hammer for discharging the central bore alone, a series of firing-pins for the circumferential bores, and a hammer common to all of said pins, substantially as set forth.

2. In a breech-loading fire-arm, the barrel having a central bore, a firing-rod therefor, and a hammer for operating said rod, a series of circumferential bores, firing-pins therefor, a hammer common to all of said firing-pins, and means, substantially as described, for operating the two hammers together or separately, as desired.

3. In a breech-loading fire-arm, the combination, with a barrel, A, having a series of circumferential bores, 2, and firing-pins therefor, of a hammer, 24, common to all of said pins, a spring, 33, for throwing said hammer against said pins, and devices, substantially as described, for cocking and releasing said hammer, as set forth.

4. In a breech-loading fire-arm, the combination, with the barrel A, having a central bore, 1, and a firing-rod, 26, therefor, independent hammer 56, for firing said rod, and a cocking-trigger, 62, therefor, of a series of circumferential bores, 2, having firing-pins, a hammer, 24, common to all of said pins, a spring, 33, for throwing said hammer against the pins, a cocking-lever, 35, and trigger 53, and connections, substantially as described, for operating said hammers, as set forth.

5. The combination, with the circumferential bores 2 in the barrel A, of the recoil firing-pins 30, a hammer, 24, common to all of said pins, a volute spring, 33, for throwing the hammer against the pins, and means, substantially as described, for cocking and releasing said hammer, as and for the purpose set forth.

6. The combination, with the barrel A, having bores 1 and 2, firing-rod 26 for bore 1, tube 25, in which said rod works, and hammer 56, for firing said rod, of firing-pins 30 for bores 2, hammer 24, common to all of said pins, and volute spring 33, for throwing the said hammer against the pins, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRIEDRICH TOGGENBURGER.

Witnesses:

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