

Dec. 4, 1951

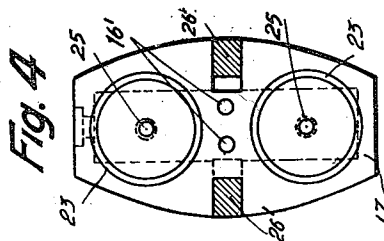
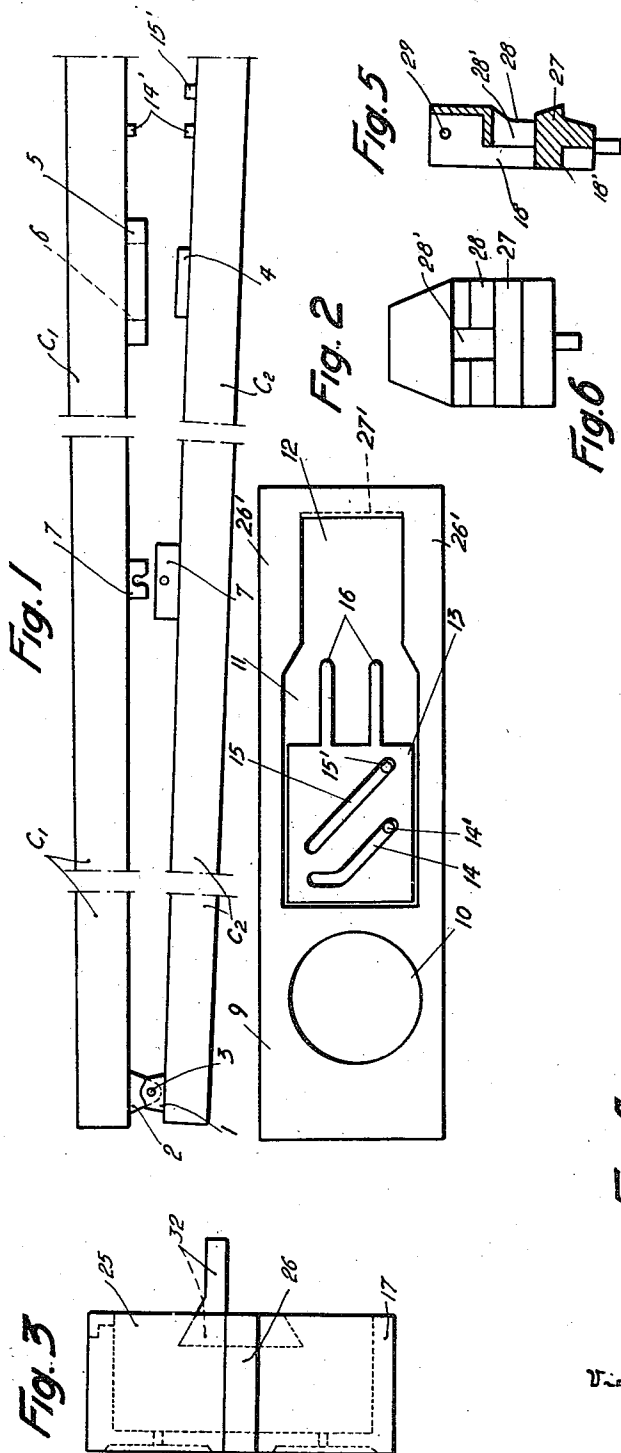
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2,577,335

DOUBLE-BARREL GUN OF THE SWINGING BARREL TYPE

Filed June 11, 1947

4 Sheets-Sheet 1



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2,577,335

DOUBLE-BARREL GUN OF THE SWINGING BARREL TYPE

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4 Sheets-Sheet 2

Fig. 7

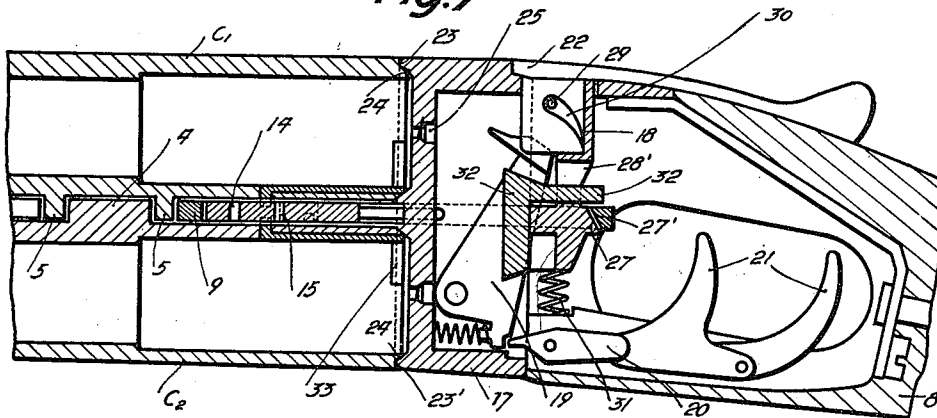


Fig. 13

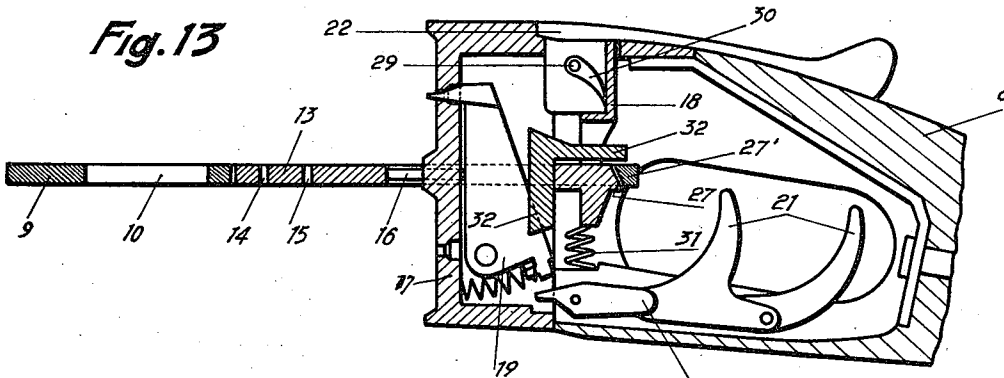
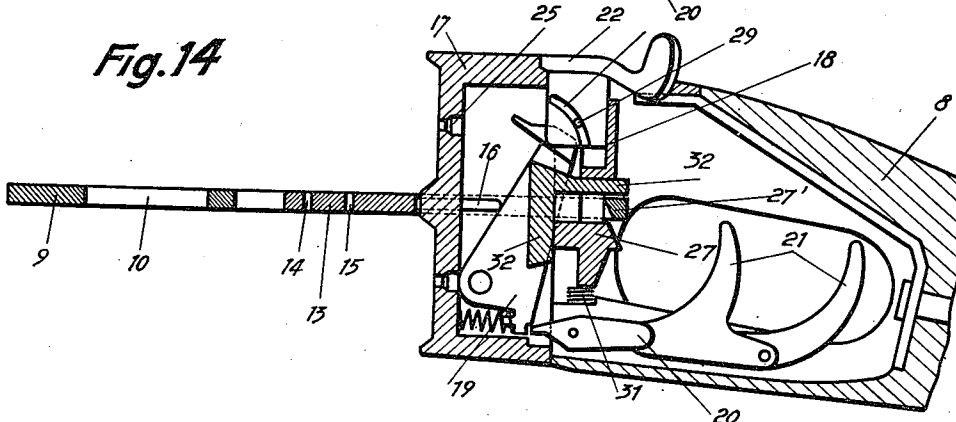


Fig. 14



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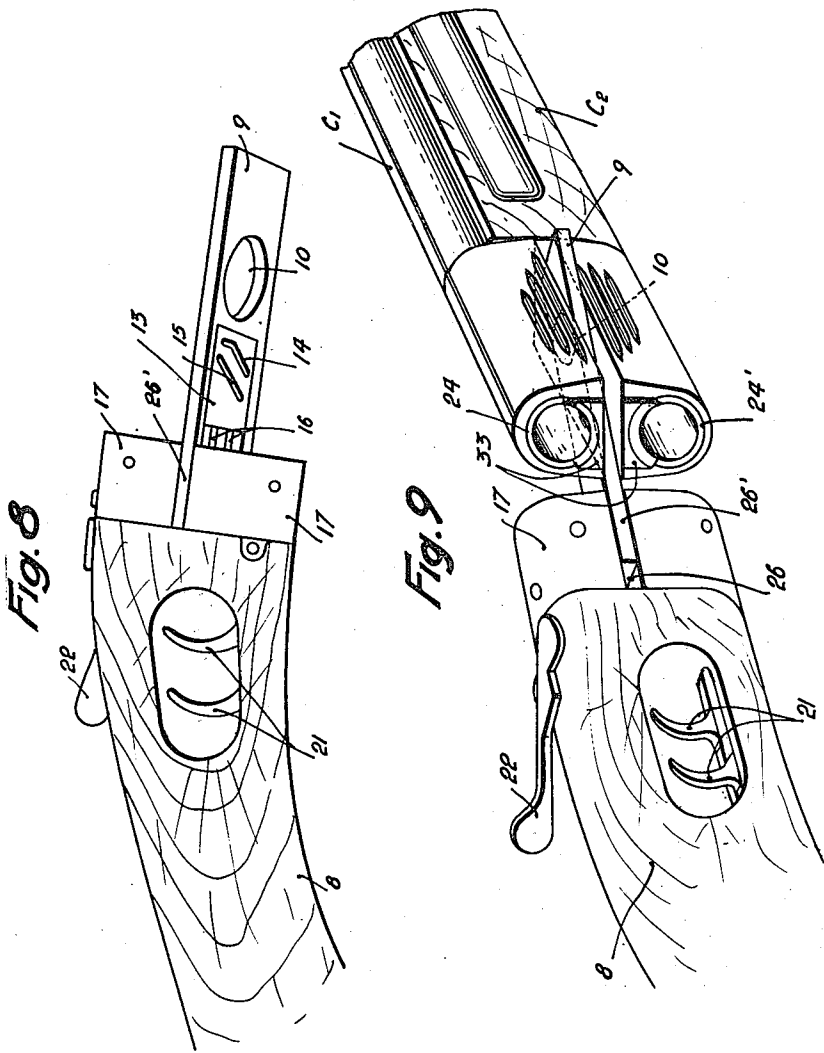
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DOUBLE-BARREL GUN OF THE SWINGING BARREL TYPE

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4 Sheets-Sheet 3



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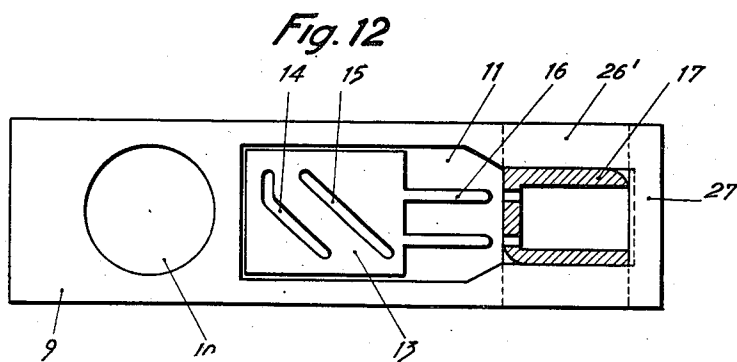
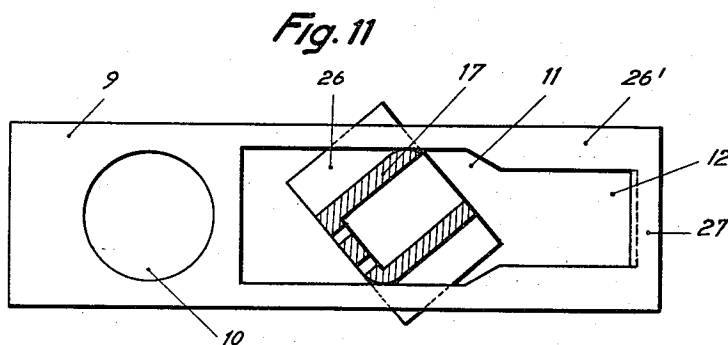
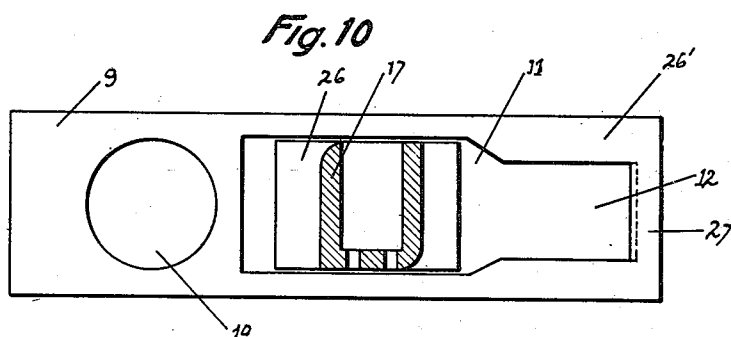
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2,577,335

DOUBLE-BARREL GUN OF THE SWINGING BARREL TYPE

Filed June 11, 1947

4 Sheets-Sheet 4



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DOUBLE-BARREL GUN OF THE SWINGING
BARREL TYPEVictorine Marie Marguerite Lambert, Tangier,
French Morocco, AfricaApplication June 11, 1947, Serial No. 753,876
In Belgium June 21, 1946

7 Claims. (Cl. 42-12)

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The present invention relates to double-barrelled sporting-guns.

The invention is more particularly directed to facilitating the manufacture of double barreled sporting-guns provided either with superposed or with juxtaposed barrels in a manner which will be described hereinafter and which eliminates the hitherto employed false-breech and makes it possible to simplify the gun mechanism while giving the weapon an increased strength.

To this end, the invention comprises two superposed or juxtaposed gun barrels which are hinged interconnected near their muzzle ends, the rear ends of the barrels being swingably mounted on the forward end of a slide plate which is movably engaged with the breech-block and buttstock. Within this plate is slidably mounted a second plate carrying a pair of projecting pins extending through the breech to engage and cock the hammers. This plate is operated by pins on the barrels engaging cam slots in the plate, one pair of these pins operating ejectors in the cartridge ends of the gun barrels.

To provide the swinging mounting of the gun barrels on the slide plate, one barrel is formed with an annular trunnion engageable in a circular opening in the slide plate, and the other barrel carries a circular trunnion engageable in the annular trunnion when the barrels are swung toward each other about their hinge connection, a spring latch being provided to hold the barrels in this mutually parallel or "firing" position. The slide plate embraces the breech-block, and its rear end is cooperable with a locking bolt in the buttstock to lock the barrels to the breech-block, or to release the barrels for swinging on the slide plate to eject discharged shells and to cock the hammers.

With the foregoing in mind, it is among the objects of this invention to provide an improved double-barrelled gun which is simple and inexpensive to manufacture and assemble and is reliable in operation.

Another object is to provide such a gun comprising relatively few component parts forming a simplified operating mechanism.

These and other objects, advantages and novel features of the invention will be apparent from the following description and the accompanying drawings.

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In the drawings:

Fig. 1 is a plan view of the two gun barrels as hinged interconnected before assembly into the gun.

Fig. 2 is a plan view of the barrel supporting slide plate and the plate mounted therein for cocking the hammers and ejecting discharged shells.

Fig. 3 is a side elevation view of the breech-block.

Fig. 4 is a front elevation view thereof.

Fig. 5 is a vertical, medial sectional view through the bolt.

Fig. 6 is a rear elevation view of the bolt.

Fig. 7 is a longitudinal sectional view of the rear portion of the gun, showing the interrelation of the elements illustrated in Figs. 1 through 6.

Fig. 8 is a perspective view of the buttstock and barrel slide plate, as disassembled from the barrels.

Fig. 9 is a perspective view showing the barrels "broken" from the breechblock and buttstock.

Figs. 10, 11 and 12 are plan views, partially in section, illustrating the assembling of the slide plate, the breech-block, and the hammer cocking and shell ejecting plate.

Fig. 13 is a partial longitudinal sectional view of the gun, with the barrels removed therefrom, showing the elements in the gun cocking position.

Fig. 14 is a similar view, showing the elements in a position releasing the slide plate and with the hammer cocking plate moved to its hammer engaging position.

Referring to Fig. 1 of the drawings, the gun includes two barrels C_1 and C_2 having locks 1 and 2 at their muzzle ends interconnected by a pin 3 to form a hinge interconnection for the gun barrels. Near its other end, barrel C_2 has a flattened portion formed with a circular or cylindrical trunnion 4 arranged to engage within the bore 6 of an angular trunnion 5 formed on a flattened portion of the gun barrel C_1 . Intermediate their ends, the two barrels are provided with releasable spring latch elements 7, 7, arranged to resiliently interengage to hold the barrels in substantially parallel relation with the trunnions interengaged. For a purpose to be described hereinafter, the cartridge chamber ends

of both barrels are formed with projecting pins 14' and barrel C₂ is formed with a second pin 15'.

The gun barrels are arranged to be swingably supported on a slide plate 9 illustrated more particularly in Figs. 2, 7, 8 and 10 through 14. For this purpose, plate 9 is formed adjacent its forward end, with a circular aperture 10 arranged to fit over the trunnion 5. Rearwardly of this aperture, plate 9 is formed with an elongated rectangular aperture 11 which connects with a narrower rectangular aperture 12 at the rear end of slide plate 9. The cross bar thus formed at the rear end of plate 9 and interconnecting the side bars 26', 26', has a downwardly and rearwardly beveled inner edge 27' for a purpose to be described.

Slidably mounted for longitudinal movement in rectangular aperture 11, is a second plate 13 which is formed with a slot 14 arranged to receive the gun barrel pin 14' when the latter are assembled with plate 9, and a slot 15 arranged to receive the pin 15'. Projecting from the rear end of plate 13 are a pair of spaced pins 16, 16 which extend through the breech-block to cock the hammers of the gun.

The breech-block is shown more particularly in Figs. 3, 4, 7 and 10 through 14. As illustrated, breech-block 17 is generally elliptical in end elevation, with flattened narrow ends, and has a pair of holes 16' which are arranged to slidably receive the pins 16 of plate 13. The forward face of the breech-block is formed with a pair of bevelled or chamfered recesses 23' arranged to fittingly interengage the correspondingly bevelled or chamfered ends 24 and 24', respectively, of the two gun barrels. Centrally, of the two recesses, are a pair of apertures 25, 25' through which the hammers 19 of the gun may act to strike cartridges loaded in the cartridge chambers of the two gun barrels. Intermediate its upper and lower ends, breech-lock 17 is formed with a pair of rectangular slots 26, 26 arranged to slidably engage bars 26', 26', of slide plate 9.

The gun bolt is shown best in Figs. 5 through 7, 13 and 14. As shown, locking bolt 18 is generally rectangular and has an upper semi-cylindrical recess with an inwardly projecting pin 29 arranged to engage a helical groove 30 in a key 22. Intermediate its ends, said locking bolt 18 is formed with a recess 28' arranged to slidably receive a compensator 32 formed on breech-block 17 and extending rearwardly from the latter. The rear wall of the locking bolt 18 is recessed inwardly, as at 28, adjacent aperture 28'. Beneath aperture 28, the rear surface of said bolt 18 is bevelled, as at 27, for cooperation with cross bar 27 of slide plate 9. The pin projects downwardly from the bottom surface of bolt 18 to act as a seat for a coil spring 31.

The gun is assembled in the following manner. Referring to Figs. 10 through 12, breech-block 17 is inserted through rectangular aperture 11 of plate 9 as shown in Fig. 10 and is then rotated as shown in Fig. 11, diagonally opposite ends of slots 26 being rounded off to permit such rotation. The block is then slid into the smaller rectangular recess 12, as shown in Fig. 12, after which plate 13 is mounted in aperture 11. With plate 13 forwardly in aperture 11, and breech-block 17 moved forwardly so that pin 16 projects through hole 16', the locking bolt 18 is inserted through the rear portion of aperture 12, and engaged with key 22 and spring 31. This relation is shown essentially in Figs. 13 and 14. The gun barrel C₁ is then so arranged that trunnion 5 is disposed

in hole 10 of block 9, and gun barrel C₂ is then swung toward gun barrel C₁ to engage trunnion 4 within bore 6 of trunnion 5. During such movement, care must be taken that pins 14' engage in slot 14 and pin 15' engages in slot 15. The snap locking action of members 7, 7 holds the gun barrels in assembled relation with slide plate 10. The assembly of the gun is completed by securing breech-block 17 to buttstock 8 in any suitable manner. The buttstock is provided with a lateral recess for allowing access to triggers 21, 21, while protecting the latter from accidental manipulation.

The gun operates in the following manner. Assuming that the shells in both barrels have been discharged, handle 22 is operated to turn the bolt, causing pin 29 to ride downwardly along groove 30 moving bolt 18 downwardly. This causes surfaces 27 to move downwardly relative to surface 27' of the cross bar of the slide plate 9, so that the latter becomes aligned with the recess 28 in the rear surface of the locking bolt 18. The slide plate 9, and its hingedly attached barrels C₁ and C₂, may now be moved forwardly as shown more particularly in Figs. 9 and 14. When the barrels are swung to the position of Fig. 9, the movement of pins 14' and 15' along slots 14 and 15 moves plate 13 rearwardly relative to breech-block 17. This causes pins 16 to move rearwardly through aperture 16' (Fig. 4) to strike hammers 19 and swing the same clockwise so that they are cocked by the sear 20 interconnected to triggers 21. This action occurs during movement of pins 14' along the diagonal portion of slot 14. As the gun barrels continue to swing, pin 15' interacting with slot 15 continues rearward movement of plate 13. As pins 14' enter the transverse portion of groove 14, they move rearwardly their attached ejectors 33 to eject the discharged shells from the rear ends of the barrels. New shells are then inserted in the cartridge chambers and the barrels are swung back toward the "firing" position, this swinging action moving plate 13 forwardly. When the barrels have returned to the "firing" position, the lock 22 is rotated whereupon spring 31 causes bolt 18 to rise during movement of pin 29 along groove 30, and surface 27 engages surface 27' to firmly pull slide plate 9 and the attached barrels into the operative position. The gun is now ready to be fired again. While the invention has been described as applied to superposed barrels C₁ and C₂, it will be clear that a substantially identical arrangement can be used for juxtaposed barrels, with a slight change in buttstock 8.

The gun is fired in the following manner. When the forward trigger 21 is pulled, member 20 is rocked counterclockwise so that its lower end releases the lower end of hammer 19. The associated spring then biases the hammer to project its firing pin through aperture 25 to strike a cartridge in barrel C₁. The other barrel is fired by a similar mechanism, not shown, operated by the rear trigger 21 to release an identical hammer 19 associated with barrel C₂.

While a specific embodiment of the invention has been shown and described in detail to illustrate the application of the invention principles, it should be understood that the invention may be otherwise embodied without departing from such principles.

What I claim is:

1. In a double barrel gun of the swinging barrel type a pair of barrels hingedly interconnected adjacent their forward ends, one of said

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barrels having, near its rear end, an annular trunnion projecting toward the other barrel and the latter having, near its rear end, a cylindrical trunnion engageable within said annular trunnion when said barrels are swung into parallel relation; releasable interengageable locking means on said barrels effective to maintain the same in such parallel relation; a barrel supporting slide plate fitting between the parallel related barrels and having a circular aperture in its forward portion receiving said annular trunnion to form a swinging mount for said barrels; a buttstock; a breech-block secured to said buttstock; said slide plate having a rectangular aperture in its rear portion closely embracing said breech-block and providing for interlocked, longitudinal sliding movement of said slide plate relative to said breech-block; and locking means mounted in said buttstock and extending through such rectangular aperture beyond said breech-block, and movable transversely of such rectangular aperture in engagement with the rear side thereof to draw said slide plate rearwardly to lock the rear ends of said barrels against said breech-block; said last-named means being reversely movable to release said slide plate for forward movement to provide for swinging of said barrels relative to said slide plate.

2. In a double barrel gun of the swinging barrel type a pair of barrels hingedly interconnected adjacent their forward ends, one of said barrels having, near its rear end, an annular trunnion projecting toward the other barrel and the latter having, near its rear end, a cylindrical trunnion engageable within said annular trunnion when said barrels are swung into parallel relation; releasable interchangeable locking means on said barrels effective to maintain the same in such parallel relation; a barrel supporting side plate fitting between the parallel related barrels and having a circular aperture in its forward portion receiving said annular trunnion to form a swinging mount for said barrels; a buttstock; a breech-block secured to said buttstock and having a pair of circular recesses forming seats for the rear ends of said barrels; a pair of hammers mounted in said breech-block, each swingable in a diametric plane of a different recess and formed with firing pins projectable through axial apertures in said recesses; said slide plate having a rectangular aperture in its rear portion closely embracing said breech-block and providing for interlocked, longitudinal sliding movement of said slide plate relative to said breech-block; and locking means mounted in said buttstock and extending through such rectangular aperture beyond said breech-block, and movable transversely of such rectangular aperture in engagement with the rear side thereof to draw said slide plate rearwardly to lock the rear ends of said barrels against said breech-block; said last-named means being reversely movable to release said slide plate for forward movement to provide for swinging of said barrels relative to said slide plate.

3. In a double barrel gun of the swinging barrel type a pair of barrels hingedly interconnected adjacent their forward ends, one of said barrels having, near its rear end, an annular trunnion projecting toward the other barrel and the latter having, near its rear end, a cylindrical trunnion engageable within said annular trunnion when said barrels are swung into par-

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allel relation; releasable interengageable locking means on said barrels effective to maintain the same in such parallel relation; a barrel supporting slide plate fitting between the parallel related barrels and having a circular aperture in its forward portion receiving said annular trunnion to form a swinging mount for said barrels; a buttstock; a breech-block secured to said buttstock and having a pair of circular recesses forming seats for the rear ends of said barrels; a pair of hammers mounted in said breech-block, each swingable in a diametric plane of a different recess and formed with firing pins projectable through axial apertures in said recesses; said slide plate having a rectangular aperture in its rear portion closely embracing said breech-block and providing for interlocked, longitudinal sliding movement of said slide plate relative to said breech-block. the side legs of the rectangular aperture sliding in grooves in said breech-block and the inner surface of the rear ledge thereof sloping downwardly and rearwardly; a lock bolt extending through the rectangular aperture rearwardly of the breech-block and shiftable parallel thereto, said bolt having a sloping surface cooperable with that of said rear ledge to wedge said slide plate rearwardly to firmly engage the gun barrels in such recesses; and means for so shifting said bolt in reverse directions to lock and to release said slide plate, respectively.

4. A double barrel gun as claimed in claim 3 in which the rectangular aperture comprises a relatively narrow rear portion embracing said breech-block and a relatively wider forward portion, the width of the forward portion being sufficient to provide for insertion of the breech-block therethrough when rotated 90° from its ultimate position, and rotation of said breech-block to its normal position for linear movement into the rear portion of such rectangular aperture and diagonally opposite ends of the breech-block grooves being rounded off to facilitate such rotation of the breech-block in said forward portion.

5. A double barrel gun as claimed in claim 3 in which the rectangular aperture comprises a relatively narrow rear portion embracing said breech-block and a relatively wider forward portion, said breechblock being formed with a pair of longitudinal holes each aligned with a hammer; a slide member mounted in the forward portion of said rectangular recess for longitudinal movement relative to said breech-block and having a pair of projecting pins each slidable through one of such breech-block holes; and means on one of said barrels engaged with said slide member and operable, during swinging movement of the barrels out of engagement with said breech-block, to move said slide member rearwardly to cause said pins to engage and cock said hammers.

6. In a double barrel gun of the swinging barrel type a pair of interconnected barrels; an annular trunnion near the rear end of said barrels projecting between them in a direction perpendicular to the axis of said barrels; a buttstock; a breech-block secured to said buttstock; a barrel supporting slide plate fitting between the parallel related barrels; a circular aperture in the forward portion of said slide plate to receive said annular trunnion forming a swinging mount for said barrels; said slide plate being longitudinally movable relative to said breech block and locking means mounted in said butt-

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stock to draw and lock the slide plate in its rear position in which the rear ends of said barrels are applied against said breech block.

7. In a double barrel gun of the swinging barrel type a pair of barrels hingedly interconnected adjacent their forward ends; each of said barrels having, near its rear end, a component portion of a trunnion projecting toward each other, said component portions engaging each other to form a cylindrical trunnion when said barrels are swung into parallel relation; releasable interengageable locking means on said barrels effective to maintain the same in such parallel relation; a barrel supporting slide plate fitting between the parallel related barrels; a circular

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aperture in the forward portion of said slide plate to receive said cylindrical trunnion forming a swinging mount for said barrels; a buttstock; a breech-block secured to said buttstock; said slide plate being longitudinally movable relative to said breech block; and locking means mounted in said buttstock to draw and lock the slide plate in its rear position in which the rear ends of said barrels are applied against said breech block.

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No references cited.