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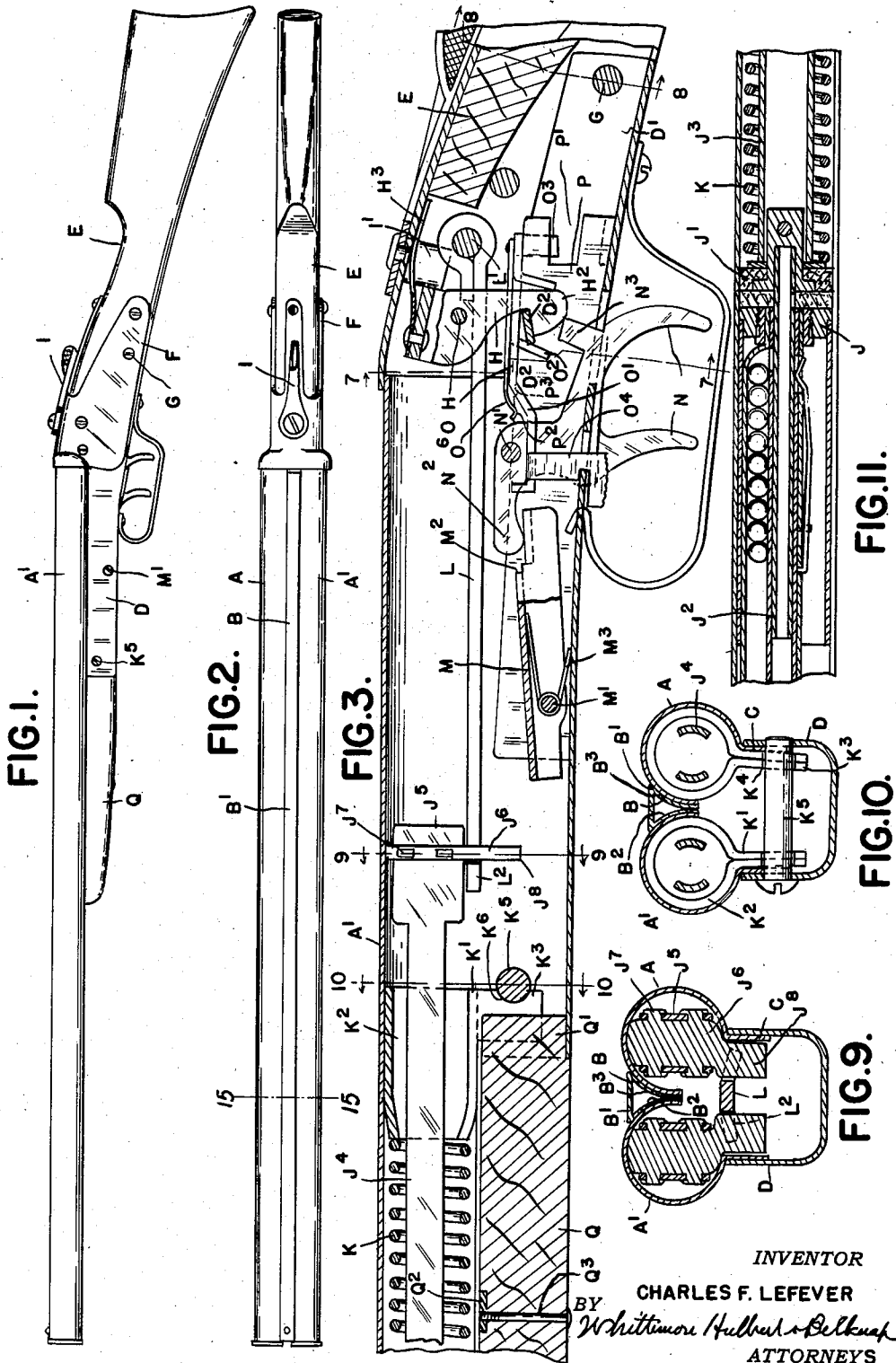
C. F. LEFEVER

2,196,732

DOUBLE BARREL SPRING AIR GUN

Filed March 14, 1938

3 Sheets-Sheet 1



April 9, 1940.

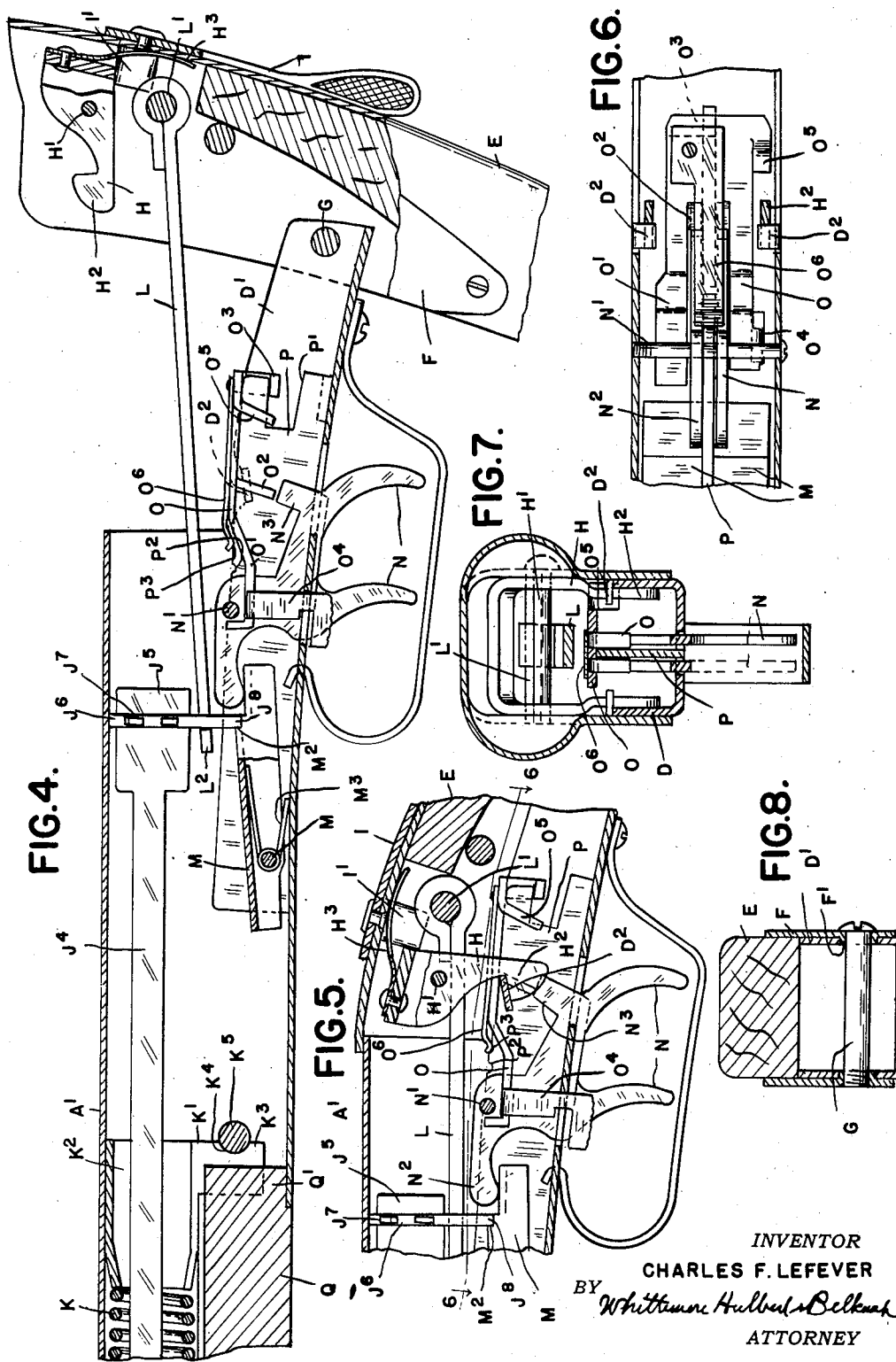
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DOUBLE BARREL SPRING AIR GUN

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3 Sheets-Sheet 2



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DOUBLE BARREL SPRING AIR GUN

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3 Sheets-Sheet 3

FIG.12.

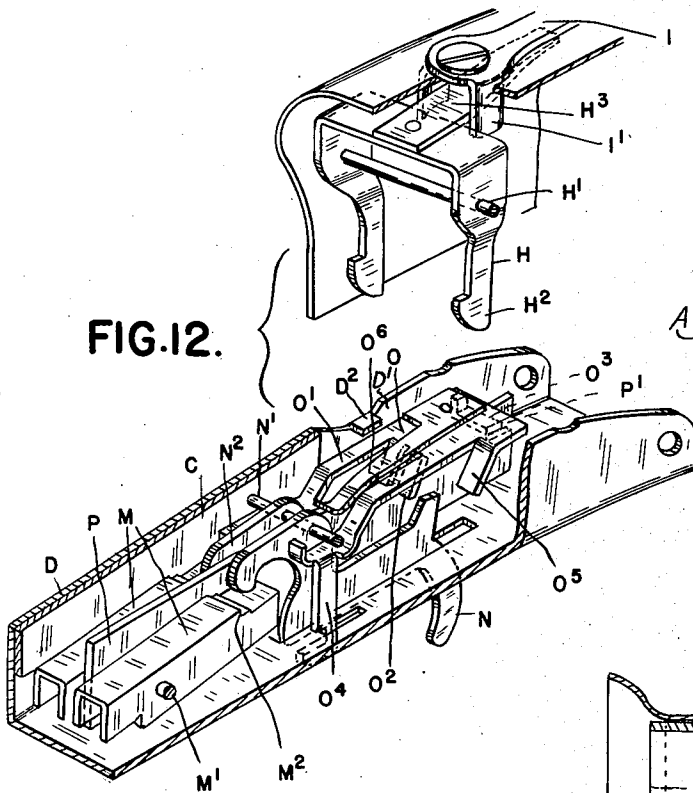


FIG.15.

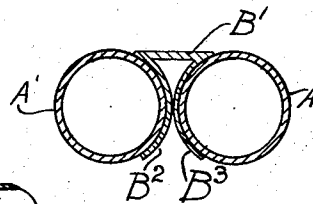


FIG.13.

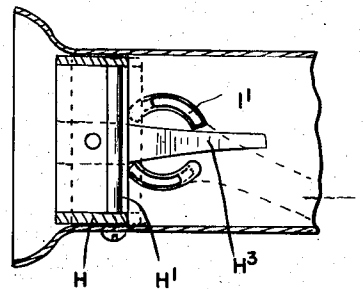
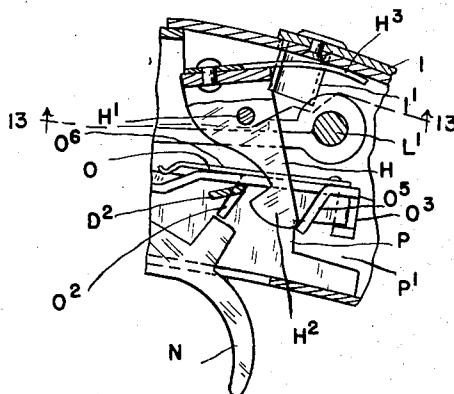


FIG.14.



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DOUBLE BARREL SPRING AIR GUN

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Application March 14, 1938, Serial No. 195,882

15 Claims. (Cl. 124—11)

The invention relates to spring air guns and more particularly to double barrel guns. The invention consists in various features of construction including:

First, the means for securing the two barrels to each other and forming the rib therebetween; Second, in the construction of the frame and means for securing the same to the barrels;

Third, in the locking means for the breaking down mechanism through which the spring is compressed;

Fourth, in the construction of a safety device;

Fifth, in other features as will be more fully hereinafter set forth.

In the drawings:

Figure 1 is a side elevation;

Figure 2 is a plan view;

Figure 3 is a longitudinal section through a portion of the barrel and the frame;

Figure 4 is a similar view showing the stock broken down and the springs under compression;

Figure 5 is a similar view with the stock returned and locked and the mechanism in safety;

Figure 6 is a horizontal section showing the safety device in plan view;

Figure 7 is a cross section on line 7—7 of Figure 3;

Figure 8 is a cross section on line 8—8 of Figure 3;

Figures 9 and 10 are cross sections on lines 9—9 and 10—10 of Figure 3;

Figure 11 is a longitudinal section through a portion of one of the barrels;

Figure 12 is a perspective view of a portion of the frame and stock detached, illustrating the locking and the safety mechanism;

Figure 13 is a horizontal section on line 13—13 of Figure 14 looking upward;

Figure 14 is a longitudinal section similar to Figure 3, showing the automatic setting of the safety mechanism.

Figure 15 is a cross section on line 15—15 of Figure 2.

My improved gun is of the type comprising an outer or false barrel within the forward portion of which are arranged the shooting barrel and shot magazine. These features are not, however, a part of the present invention and, therefore, will not be described in detail.

A and A' are the false barrels of the double barrel gun having arranged intermediate the same the rib B. The latter is preferably formed of a single blank having a flat top portion B' and oppositely turned segmental side portions

B², B³, which fit against the adjacent sides of the barrels. The barrels are attached thereto at various points, preferably by spot-welding and are thus held in proper relation to each other. At their rear ends the barrels A and A' are partly cut away on their adjacent sides and have a flange portion C bent downward for attachment to the frame D. The latter is a member of U-shaped cross section being secured to the flanges C by spot-welding at distributed points. It also has a portion D' extending rearward beyond the rear ends of the barrels for pivotal attachment to the stock. This stock is formed of the wood portion E and the metallic portion F secured thereto, this being a member of inverted U-section which embraces the portion D' of the frame and is also fashioned to close the rear end of both barrels. The pivotal connection between the stock and the member D' is preferably formed by aligned annular flanges F' projecting inward from the opposite sides of the member F and engaging corresponding apertures in the member D'. A clamping screw G extends through these flanges and across the members D' and F, serving to hold these parts together but the pivot bearing is formed on the flanges. The stock is normally locked in alignment with the barrels by a U-shaped member H rockable on a pivot pin H' extending across the member F, and having at its lower ends latch hooks H² for engaging intumed ears D² on the portion D'. A flat spring H³ attached to the member H and bearing against the top of the member F serves to yieldably press the latch hooks H² into engagement with the ears D², thereby effecting the locking. The releasing of the lock is accomplished by a lever I pivotally attached to the upper portion of the member F and having extending inside the latter the crank arms I' adjacent to the top portion of the member H which is above the pivot H'. Thus, when the lever I is moved from its central position to one side in either direction, the crank arms I' will rock the member H sufficiently against the tension of the spring H³ disengaging the latch hooks H² from the ears D².

Within each of the barrels A and A' is secured an abutment J for limiting the forward movement of the piston J' which compresses the air for firing the projectile. This piston together with its tubular forward extension J² passing through the abutment J and entering the firing barrel, is similar to constructions heretofore used and need not be further described. In rear of the piston is a tubular shank J³ having a bi-

furcated portion J⁴ terminating in enlarged ends J⁵. Between these end portions are members J⁶ which are secured thereto by outwardly projecting lugs J⁷ passing through apertures in the portions J⁵ and riveted at their outer ends. The members J⁶ have downward extensions J⁸ which form the hooks for engagement with the sear as hereinafter described. A spring K surrounds the shank J³, its forward end abutting against the piston J' and its rear end against a stop or abutment K'. The latter is formed with a tubular portion K² which fits within the barrel and downwardly extending ears K³ notched at K⁴ to engage a cross pin K⁵ secured in the forward end portion of the frame D. Thus the thrust of the spring will be taken by the tubular portion K² and transmitted through the ears K³ to the pin K⁵ and finally to the frame.

The springs for the plungers in both barrels are simultaneously compressed by the breaking down of the gun through the following mechanism. L is a link pivotally attached at its rear end to a cross pin L' in the member F and having at its forward end a T-shaped head L², which simultaneously engages the depending members J⁸ of the plungers for both barrels. Thus, whenever the gun is broken down, this link will draw the plungers rearward to compress the springs K. Beneath the link L there are arranged in the frame D adjacent to each other a pair of sear members M, each of which is of an inverted U cross section and which pivotally engages a cross pin M'. The rear ends of these sear members are notched to form the locking shoulders M² for engaging with the depending portions J⁸ of the corresponding plungers. A torsion spring M³ mounted upon the pivot pin M' serves to yieldably move the members M upward so as to force the same into locking engagement with the members J⁸, as soon as the latter have passed the shoulder M². Each sear is released by a trigger N, both triggers being pivoted upon a cross pin N' and having forwardly extending bell crank arms N² for engaging the sears M to depress the same. Accidental operation of the triggers is prevented by a safety member O which is slidably mounted on a guide member P. This member P forms a partition extending longitudinally and centrally of the frame D between the sear members M and triggers N, being welded or otherwise attached to the bottom of the frame. The member O has a rear portion slidable on the top of the member P and a bifurcated forward extension, the furcations O' of which are on opposite sides of the member P and the triggers N adjacent thereto. Between the furcations O' is a downturned portion O² slotted to embrace the guide P. There is also a transversely arranged return-bent portion O³ which engages a slot P' in the member P and holds the member O against upward movement. A downwardly extending portion O⁴ on one of the furcations O' passes through a slot in the bottom of the frame and forms an operating member. There is also a downturned portion O⁵ which is adjacent to the rear edge of the member H. The construction is such that when the member O is in its rear position the portions O² on the opposite sides of the member P will extend into the path of a rearwardly and upwardly extending portion N³ of each trigger, so as to form a stop for preventing trigger movement. On the other hand, when the member O is moved forward by means of the operating member O⁴, the portions O² will be out of registration with the portions N³ permitting free actuation of the trig-

ger. A latch spring O⁶ secured to the member O and engageable with notches P² and P³ in the upper edge of the member P serve to yieldably hold the member O in each position of adjustment. It is, however, desirable to automatically control this safety device so that whenever the lever I is operated to release the lock of the breakdown mechanism, this will adjust the member O into safety position. Such operation is accomplished by the rocking of the member H against the portion O⁵ whenever the lever I is operated to disengage the hook H² from the ear D². Such rocking will move the member O rearward into safety position where it will be retained by the latch spring O⁶ until manually released by movement of the operating member O⁴.

It is usual to provide guns with a hand hold upon the barrel which I have formed of a wooden member Q fitting beneath the barrels A and A' in advance of the frame D. The rear end of this member has a tongue portion Q' which is inserted within the forward end of the frame D, and the forward end portion is fashioned to fit around between the barrels. For securing it in position a bridge strip Q² is welded or otherwise secured to the two barrels and has a threaded aperture therein for engaging a screw Q³ passing through the member Q. Thus, when the screw is fastened the handle will be rigidly held in position.

A gun constructed as above described, can be manufactured at low cost; is easily operated, and is automatically placed in safety when in loaded position.

What I claim as my invention is:

1. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of said barrels to align the same, and an integral flat top connecting portion forming the rib extending the length of the barrels.

2. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about the adjacent sides of said barrels to align the same, and an integral flat top connecting portion forming the rib, extending the length of the barrels, said segmental portions extending below the axial plane of the barrel and being spot-welded to the underside of the barrels.

3. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of barrels to align the same and an integral flat top connecting portion forming the rib extending the length of the barrels, the rear end portions of said barrels having the lower quadrants of adjacent sides thereof cut away and portions of the metal turned down to form flanges, and a U-shaped frame member embracing and secured to said flanges and together therewith forming a common chamber in open communication with both barrels.

4. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of said barrels to align the same and an integral flat top connecting portion forming the rib extending the length of the barrels, the rear end portions of said barrels having the lower quadrants of adjacent sides thereof cut away and portions of the metal turned down to form flanges, a U-shaped frame member embracing and secured to said flanges and together therewith forming a common chamber in open communication with both barrels, spring abutments having tubular portions fitting into the rear ends

of the complete circular portions of said barrels and also having downwardly extending lugs passing through the cut away portions thereof into said common chamber and notched on their rear sides, and a pin extending across through the frame engaging said notched portions and forming the anchorage for said spring abutments.

5. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of said barrels to align the same and an integral flat top connecting portion forming the rib extending the length of the barrels, the rear end portions of said barrels having the lower quadrants of adjacent sides thereof cut away and portions of the metal turned down to form flanges, a U-shaped frame member embracing and secured to said flanges, and a solid wooden hand hold extending forward from said frame member having a tongue portion at its rear end inserted therein and its forward end being fashioned to fit around beneath and between said barrels.

6. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of said barrels to align the same and an integral flat top connecting portion forming the rib extending the length of the barrels, the rear end portions of said barrels having the lower quadrants of adjacent sides thereof cut away and portions of the metal turned down to form flanges, a U-shaped frame member embracing and secured to said flanges, a solid wooden hand hold extending forward from said frame member having a tongue portion at its rear end inserted therein and its forward end being fashioned to fit around beneath and between said barrels, a bridge member extending between and welded to the underside of said barrels centrally of said hand hold, and a screw for securing said hand hold to said bridge member.

7. In a gun, a pair of barrels, a sheet metal member intermediate the same having segmental portions fitting about and secured to the adjacent sides of said barrels to align the same and an integral flat top connecting portion forming the rib extending the length of the barrels, the rear end portions of said barrels having the lower quadrants of adjacent sides thereof cut away and portions of the metal turned down to form flanges, a U-shaped frame member embracing and secured to said flanges, said frame member having a portion extending rearward beyond the ends of said barrels, a stock member and an inverted U-shaped metallic member secured to said stock member for embracing the rearwardly extending portion of said frame member and fashioned at its forward end to fit about said barrels, a pivotal connection between the rear end of said frame member and said inverted U-shaped member, and locking means for securing said members in alignment.

8. In a gun, a pair of adjacent barrels secured to each other and having adjacent lower quadrants of their rear portions cut away with portions of the metal bent down to form flanges, a U-shaped frame member embracing and spot-welded to said flanges and together therewith forming a common chamber communicating with both barrels, spring pressed plungers in said barrels, anchors for the springs secured in said frame member, plunger shanks having rear end portions extending downwardly into said frame, a stock pivotally connected to said frame, a link member

pivotally connected to said stock and at its forward end having a hooked engagement with the downwardly extending portions of both of said plunger shanks, whereby the breaking down of the gun will retract said plunger shanks and compress the springs, and independently trigger controlled sears in said frame for engaging said downwardly extending portions to hold the springs compressed.

9. In a gun, the combination with a pair of barrels secured to each other, a frame secured to the rear portions of said barrels and together therewith forming a common chamber communicating with both barrels, and a stock pivotally attached to said frame, a spring pressed plunger in each of said barrels and provided with a rearwardly extending shank, and a single link pivotally connected to said stock and engaging both of said plunger shanks whereby the breaking down of the gun will simultaneously retract both plungers and compress their springs, sears for engaging said plunger shanks in retracted position, and independently operable triggers for releasing said sears.

10. In a gun, the combination with a barrel, a U-shaped frame member secured thereto and projecting rearward therefrom, a stock member, an inverted U-shaped member secured to said stock member and embracing said frame member, annular pivot flanges struck out from one of said members to engage corresponding apertures in the other member, and a clamping screw extending across said members through one of said annular flanges and having a threaded engagement with the other flange thereby holding said members together.

11. In a gun, a barrel member, a U-shaped frame member secured thereto and projecting rearward therefrom a stock member, an inverted U-shaped member attached to said stock member and embracing said frame member and fitting about said barrel, a pivotal connection between said inverted U-shaped member and the rear end of said frame member, a spring pressed locking lever pivotally attached to the forward portion of said inverted U-shaped member and having a hooked lower end for engaging an inbent ear on said frame member, and a lever outside said inverted U-shaped member connected to a crank inside said member and adapted to rock said locking lever to release the hook from said ear.

12. In a gun, the combination with a pair of barrels, a frame, a stock pivotally attached to said frame, a spring pressed plunger in each of said barrels and provided with a rearwardly extending shank, a single link pivotally connected to said stock and engaging both of said plunger shanks whereby the breaking down of the gun will simultaneously retract both plungers and compress their springs, sears for engaging said plunger shanks in retracted position, independently operable triggers for releasing said sears, a safety device adjustable to a position for holding both of said triggers against operation, means for locking said stock to said frame, a lever for releasing said locking means, and means automatically actuated by the operation of said releasing means for moving said safety device into safety position.

13. In a gun, the combination of a pair of barrels, a frame secured to the rear portions of said barrels, a stock pivotally attached to said frame, a spring pressed plunger in each of said barrels and provided with a rearwardly extending shank, a single link pivotally connected to said

stock and engaging both of said plunger shanks, whereby the breaking down of the gun will simultaneously retract both plungers and compress their springs, a partition in said frame extending longitudinally and centrally thereof, sears for engaging said plunger shanks in retracted position located on opposite sides of said partition, independently operable triggers for releasing said sears also upon opposite sides of said partition a safety device slidable on said partition and adjustable into a position for holding said triggers against operation, means for locking said stock to said frame, releasing means for said locking means, and means automatically actuated by said releasing means for adjusting said safety device into safety position.

14. In a gun, the combination of a pair of barrels, a frame, a stock pivotally attached to said frame, a spring pressed plunger in each of said barrels provided with a rearwardly extending shank, a single link pivotally connected to said stock and engaging both of said plunger shanks, whereby the breaking down of the gun will simultaneously retract both plungers and compress their springs, a partition in said frame extending longitudinally and centrally thereof, sears pivotally attached to said frame on opposite sides of

said partition for engaging said plunger shanks in retracted position, independently operable triggers for releasing said sears also upon opposite sides of said partition, a safety device slidable upon said partition and adapted in one position to hold said triggers against operation, a bifurcated lever pivotally attached to said stock and having hooked ends for engaging ears on said frame to lock said stock a lever on said stock for rocking said bifurcated lever to release said hooks from said ears, and a portion of said safety device extending into the path of said bifurcated lever whereby upon the rocking of said lever to release the lock said safety device is adjusted to safety position.

15. In a gun, a barrel having its rear end portion cut away on the underside, a hollow frame member connected to said barrel and extending beneath said cut away portion, a spring abutment having a tubular portion fitting into the complete circular portion of said barrel, and a lug extending downwardly into said hollow frame and notched on its rear side and a pin extending through said hollow frame engaging said notch and forming an anchorage for said spring abutment.

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