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H. R. LINCOLN
COMPRESSED GAS PISTOL
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Fig. 1.

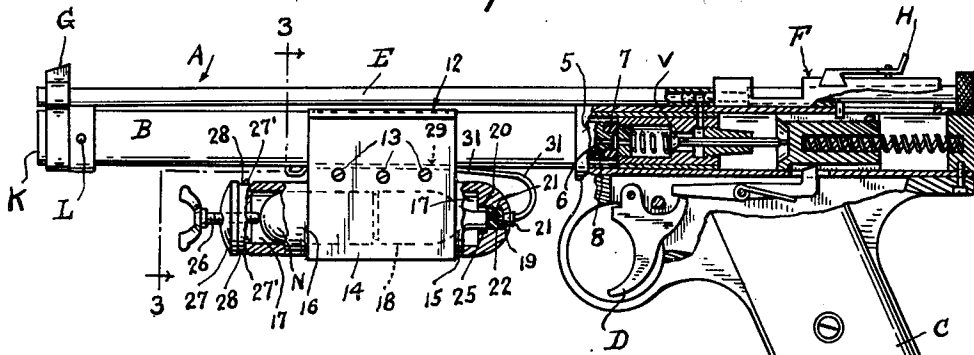


Fig. 7.

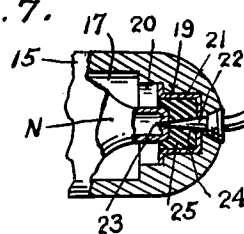


Fig. 2.

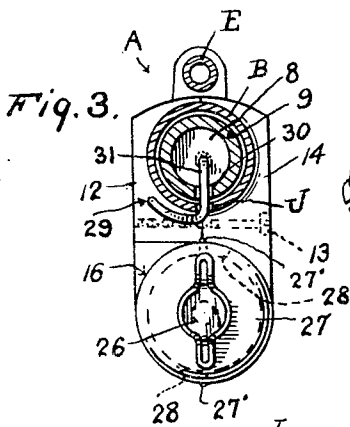
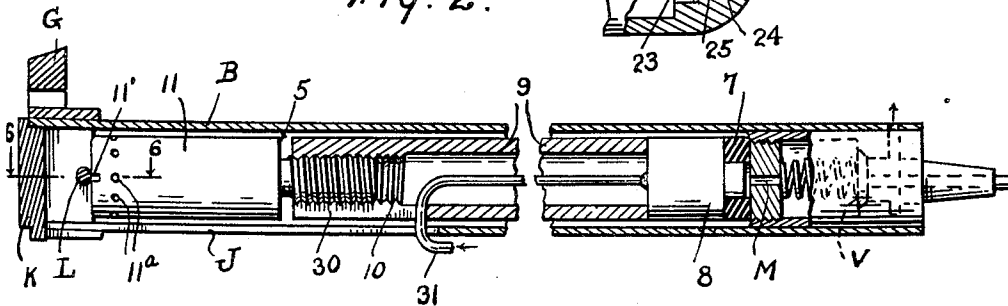


Fig. 4.

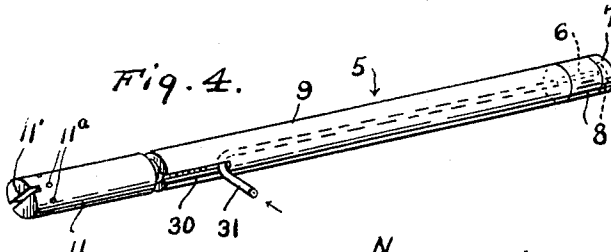


Fig. 5.

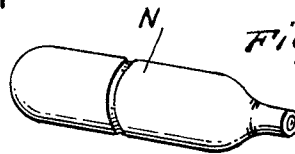
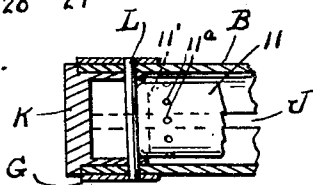


Fig. 6.



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UNITED STATES PATENT OFFICE

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COMPRESSED GAS PISTOL

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3 Claims. (Cl. 124—11)

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This invention relates to the official class of firearms and more particularly gas pistols.

The primary object of this invention resides in the provision of means whereby conventional hand air pump pistols, guns, rifles and the like can be easily converted to use compressed gas CO₂ (carbon dioxide) for projecting projectiles therefrom.

Another object of this invention resides in the provision of means whereby hand air pump pistols, guns, rifles and the like can be converted to use compressed gas by simply removing the air pump therefrom and attaching said means thereto.

A further object of this invention resides in the particular construction of the pump barrel insert.

A still further object of this invention resides in the particular construction of the adapter.

One of the salient features of this invention resides in the combination of the barrel insert, adapter and compressed gas cartridge.

With these and other objects in view, this invention resides in certain novel features of construction and arrangement of elements to be hereinafter more particularly set forth in the specification, illustrated in the accompanying drawings and pointed out in the appended claims and, although this disclosure depicts my present conception of the invention, the right is reserved to resort to such departures therefrom as come within the scope of the claims.

In the accompanying drawing forming a part of this application:

Fig. 1 is a side view partly in section of a conventional air pistol showing the elements of this invention attached thereto.

Fig. 2 is an enlarged longitudinal vertical sectional view taken through the pump barrel of the pistol and adapter.

Fig. 3 is a sectional view taken approximately on line 3—3 of Fig. 1.

Fig. 4 is a perspective view of the pump barrel insert.

Fig. 5 is a perspective view of the compressed gas cartridge.

Fig. 6 is a sectional view taken approximately on line 6—6 of Fig. 2.

Fig. 7 is an enlarged sectional view through the inner boss.

In the present illustration of this invention the letter A designates a conventional air pistol having its hand air pump removed and among other well known elements thereof, consists of a pump barrel B, secured to a hand grip C which

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includes a trigger D operating an air inlet valve V and supporting a projectile directing barrel E, breech block F, and front and rear sights G and H disposed in usual relation to one another.

The aforesaid pump barrel B has an elongated slot J in its lower side and is closed at its outer end by a plug K retained therein by a pin L. Said plug and pin are removable to permit a hollow pump barrel insert 5 to be disposed in the pump barrel with an air outlet port 6 therein registered with the usual gas inlet port M of the trigger operated valve V and sealed against leakage therebetween by a rubber gasket 7 disposed on an inner head 8 which is screwed or otherwise secured to the body 9 of the insert.

The body of the insert is provided with internal threads 10 at its outer end for threaded engagement with an adjustable outer head 11 to permit the insert to be tightly disposed between said pin L and the base of the pump barrel in leak proof relation therewith. Said outer head 11 is provided with a kerf 11' for reception of a screw driver and also recesses 11^a for reception of a pin to rotate it while disposed in the pump barrel and thereby tighten the gasket 7 against the valve V.

Secured to the pump barrel and suspended therebeneath as by a locking clamp 12 secured thereto by screws 13 is a substantially rectangular adapter 14 having cylindrical bosses 15 and 16 on its inner and outer ends whose bores 17 align with a bore 18 in the adapter and form a smooth and continuous compartment for reception of a compressed gas cartridge N. The inner end of said boss 15 is closed and is provided with a small bore 19 registering with a larger bore 20 which in turn register with the bore 17 in said boss.

Disposed in the bores 19 and 20 of the boss 15 is an air tight sleeve 21 having a hollow needle 22 centrally disposed therein with its point 23 disposed in a bore 24 formed in a rubber gasket 25 retained in said sleeve and having its inner end exposed in the bore 17 of the boss 15 for engagement by the inner end of the compressed gas cartridge when pressed thereagainst by a thumb screw 26 threadedly extending through a cap 27 removably secured to the open end of the boss 16 by pins 27' on the cap engaging bayonet slots 28 in the boss 16.

Connected to the outer end of the hollow needle with a certain portion thereof extending through an elongated bore 29 formed in the aforesaid clamp and its opposite end extending through a slot 30 in the outer end of the body

portion of the pump barrel insert is a small tube 31 adapted to conduct gas from the cartridge to the gas inlet port of the trigger operated valve of the pistol when the cartridge is punctured by forcing it against the hollow needle by said thumb screw.

Through the instrumentality of the elements comprising this invention, it is simply necessary to remove the hand air pump from conventional air pistols, guns, rifles and the like and thereafter assemble said elements of this invention in proper relation to the barrels and trigger operated valves of said fire arms and although the elements set forth are herein constructed to replace the hand air pump of a certain design pistol, it is within the purview of this invention to so modify the construction of the elements of this invention for adaptation on other types of air operated firearms.

With this invention fully set forth, it is manifest that means are provided whereby conventional hand air pump pistols and the like can be readily converted to compressed gas operated pistols without altering the major assemblage of elements thereof.

Having thus described my invention, what I claim and desire to protect by Letters Patent is:

1. The combination with an air operated pistol including a pump barrel communicating with the inlet port of the trigger operated valve thereof, a hollow pump barrel insert having a gas outlet port in its inner end registered with the gas inlet port of the trigger operated valve, a gasket sealing the inner end of the insert against the inner end of the pump barrel, a plug removably disposed in the outer end of the pump barrel, a pin securing the plug to the pump barrel and extending across the bore therein, an outer head adjustably secured to the outer end of the pump barrel insert and tightly securing it between said pin and the inner end of the pump barrel, an adapter engaging the pump barrel and suspended beneath the same, a clamp engaging the adapter and pump barrel, screws securing the clamp and adapter to the pump barrel, inner and outer bosses formed on opposite ends of the adapter and having aligned bores communicating with a similar sized bore in the adapter said inner boss having its inner end closed and provided with reduced bores of different diameters while the outer boss has its outer end open, a gas tight sleeve disposed in the larger reduced bore in the closed end of the inner boss and having a reduced outer end extending through smaller bore in the closed end of said inner boss, a hollow needle centrally disposed in said gas tight sleeve and said sleeve surrounding the point of the hollow needle and the inner end of the hollow needle contacting the inner end of a compressed gas cartridge, a re-

movable cap secured to the outer open end of the outer boss, a thumb screw threadedly extending through the cap and forcing the compressed gas cartridge on the hollow needle to puncture the cartridge, and a small tube connected at one end to the hollow needle with its medial portion extending through a bore in the clamp and its opposite end extending through a slot in the body portion of the pump barrel insert and communicating with the outlet port.

2. The combination with a gas pistol including a pump barrel communicating with the inlet port of the trigger operated valve thereof, an adjustable pump barrel insert having a gas outlet port disposed in the pump barrel of the pistol with the gas outlet port registering with the aforesaid inlet port, an adapter having its inner end closed and its outer end open and provided with a longitudinally extending bore in its lower portion, means securing the adapter to the pump barrel of the pistol, a hollow needle secured in the closed end of the aforesaid bore, a small tube connecting the hollow needle to the port in the pump barrel insert, a cap on the open end of the bore in the adapter, and a thumb screw threaded through the cap for forcing a compressed gas cartridge in the bore of the adapter on the needle and puncturing it.

3. The combination with a gas pistol having its hand air pump removed therefrom, an adjustable pump barrel insert having a gas outlet port removably disposed in the pump barrel of the pistol with its gas outlet port sealed in registration with the gas inlet port of the trigger operated valve of the pistol, an adapter having a compressed gas cartridge receiving compartment provided with an open and closed end secured to the pump barrel of the pistol, cartridge puncturing means in one end of said compartment, a tube connecting the punctured end of a compressed gas cartridge in said compartment with the outlet port of the pump barrel insert, and means removably disposed on the open end of said cartridge compartment for forcing the cartridge therein against its puncturing means.

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