May 27, 1969 J. J. BECHARD ET AL 3,445,951

BAYONET ADAPTER AND MAGAZINE EXTENSION TUBE

Filed July 27, 1967

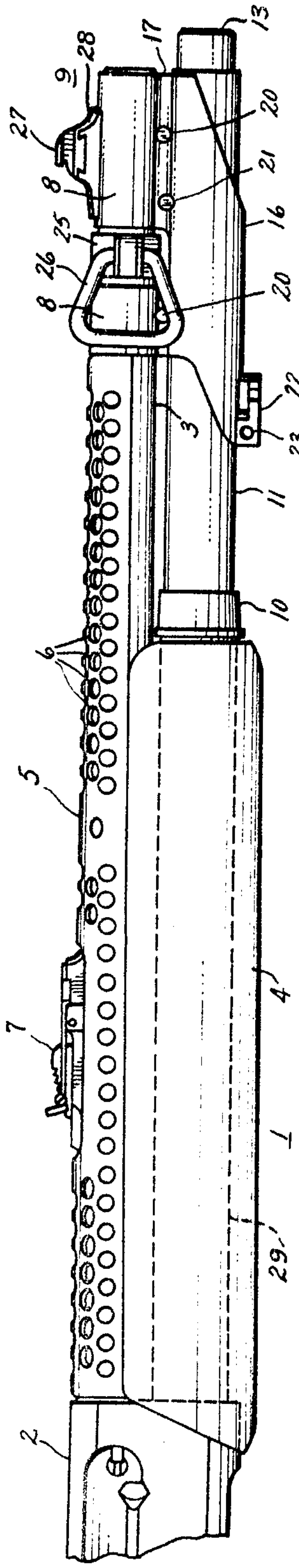

FIG. 1.

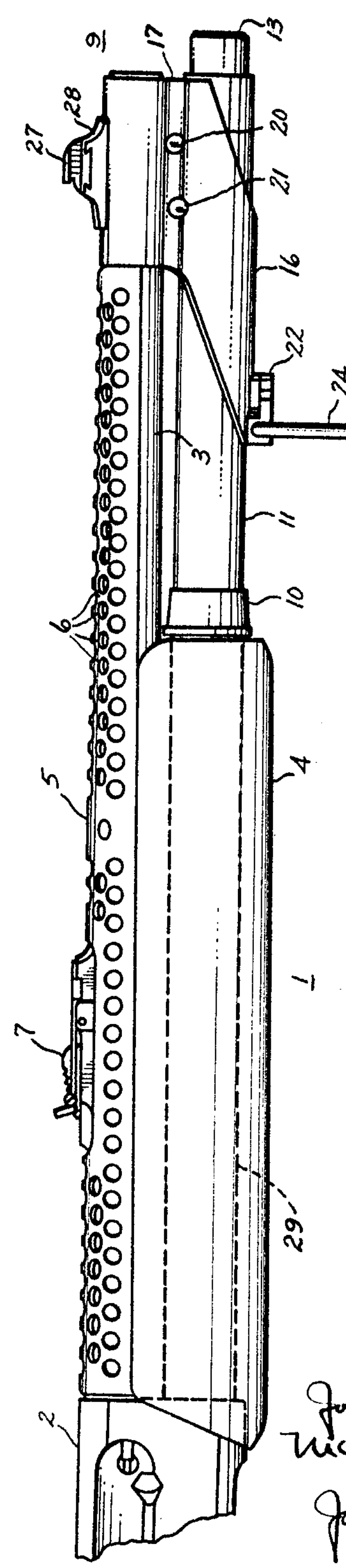

FIG. 2.

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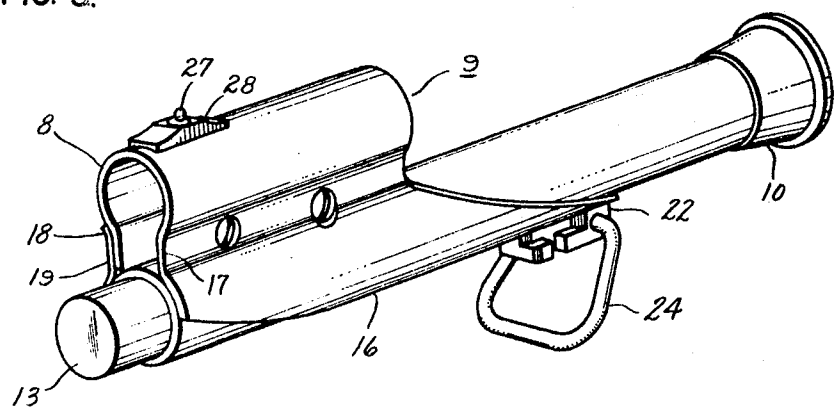
Filed July 27, 1967 Sheet 2 of 2

FIG. 3.



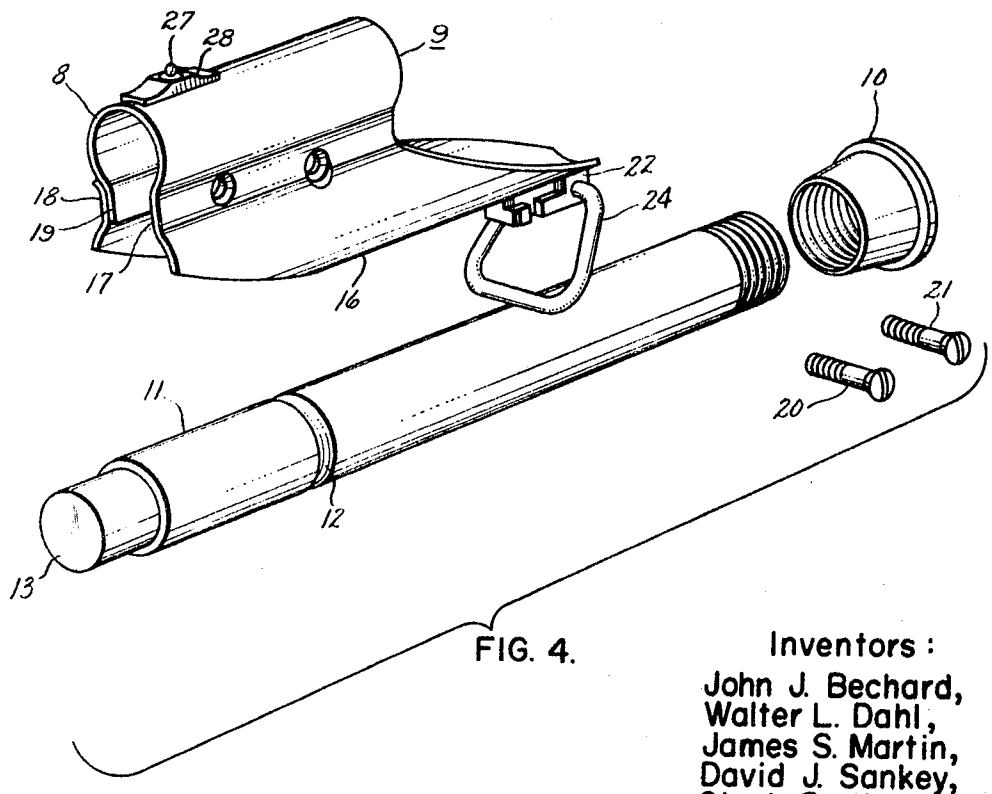


FIG. 4.

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BAYONET ADAPTER AND MAGAZINE EXTENSION TUBE

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U.S. Cl. 42—86

6 Claims

ABSTRACT OF THE DISCLOSURE

A bayonet adapter for tubular magazine autoloading firearms including a magazine extension tube which provides a tubular magazine as long as the barrel. The adapter is arranged to surround both the barrel of the firearm and the magazine extension tube. The magazine extension extends to the muzzle end of the barrel and the adapter can be arranged to accommodate any standard bayonet.

Background of the invention

This invention relates to a bayonet adapter and magazine tube extension for tubular magazine shotguns. In particular, the invention relates to a bayonet adapter that one of the current military bayonets and allows use of a magazine extension having maximum capacity within barrel length limitations.

Recent experiences have shown that there is need for weapons of the shotgun type for both military and police use. Shotguns are now considered potent combat weapons for jungle fighting and counter-insurgency operations in cities. Present use of shotguns in riots and prisoner control have shown that bayonets mounted on such guns have a great deterrent effect against disobedience.

Conventional tubular magazine shotguns have a capacity creates a dangerous condition when they are used in combat. Current bayonet adapters preclude increasing the length of tubular magazines.

Summary

The subject invention contemplates the provision of a bayonet adapter and magazine extension tube combination for a tubular magazine shotgun. The adapter is formed to surround both the muzzle end of the barrel and the extension so that the magazine extension can reach to the muzzle of the barrel. The adapter can have a sling swivel mounted on the adapter lug beneath the magazine tube extension or rotatably mounted on the barrel between two adapter sections surrounding the barrel.

Since World War I riot guns used for military guard duty have been equipped with bayonet adapters that are machined from a forging. These adapters are quite expensive and do not permit the use of any magazine extensions. Shotguns currently being procured for combat use do not include bayonet adapters while all other shoulder firearms are equipped with an adapter.

Shotguns with tubular magazines positioned beneath and parallel to the barrel are all normally provided with a screw threaded cap which serves as a closure for the front end of the magazine tube. Hence they are adaptable to being provided with a magazine extension tube having a screw threaded connector replacing the cap. With such an extension, the magazine capacity is limited only by the barrel length. For example, shotguns with a 20 inch barrel currently have a magazine capacity of 4 shotshells. With one shell in the chamber the overall capacity of the

shotgun is thus 5 shotshells. With an extension reaching to the muzzle, the capacity of the magazine is increased to 7 and the overall capacity increased to 8.

Any magazine extension must have some support or a stabilizing bracket near the muzzle of the barrel. Maximum advantage of such a system may be realized if the support bracket for the magazine extension tube comprises a bayonet adapter. The adapter also provides means to mount sling swivels in a variety of positions. The adapter can have a swivel mounted on the lug positioned at the rear of the adapter beneath the magazine extension or the section surrounding the barrel can be slotted to allow a rotatable swivel band to be mounted on the barrel and retained by the adapter.

In conjunction with the bayonet adapter, a perforated upper hand guard is needed to avoid burns from a hot barrel when the barrel is grasped for bayonet use or when shooting from the hip. A full length handguard is provided to extend from the receiver to the bayonet adapter. The guard is made of perforated steel and can be made to accommodate any rear sight that is desired.

It can, therefore, be seen that the primary object of this invention is to provide a combination bayonet adapter and magazine tube extension. An adapter that can be clamped to the barrel will provide means to clamp and support a magazine extension tube and the length of the extension will only be limited by barrel length. The extension also provides means to mount a bayonet boss at the muzzle end thereof.

Brief description of the drawings

FIGURE 1 is a partial side elevation of a firearm incorporating one version of the subject invention;

FIGURE 2 is a partial side elevation of a firearm incorporating another version of the subject invention;

FIGURE 3 is a perspective view of the bayonet adapter and magazine tube extension combination; and

FIGURE 4 is an exploded view of the bayonet adapter and magazine tube extension combination.

Description of the Preferred Embodiments

The drawings illustrate a firearm **1** which has a receiver **2**, barrel **3** and fore end **4**. A conventional tubular magazine **29** is secured to the receiver **2** in parallelism with the barrel **3**, being housed within the fore end **4** and having the usual threaded end extending forwardly beyond the fore end. The fire control and butt stock of firearm **1** form no part of the present invention and are not shown in the drawings. Firearm **1** is specifically designed for use as a police riot gun or a military combat weapon and is provided with a selective fire control for both semi-automatic and full automatic operation.

A gun such as shown is often fired from the hip with a hand on the barrel to prevent the muzzle from climbing. In order to protect the hand from heat generated during rapid fire, a hand guard is mounted on barrel **3**. Guard **5** is provided with a series of openings or perforations **6** to dissipate heat and can be made with an opening to accommodate an optional rear sight **7**. Guard **5** is locked in place by receiver **2** and the barrel encircling portion **8** of the bayonet adapter sleeve **9**.

Current shotguns with tubular magazines have a maximum capacity of 4 shotshells. Such a capacity is not sufficient for military purposes. In order to increase the capacity, the ordinary magazine end cap which screws onto the muzzle end of the magazine and retains the fore end in place, had to be changed to a coupling **10** which is a cylinder.

Coupling **10** is threaded so one end can be screwed on the end of a conventional magazine tube **29** and contains threads on the other end so that the magazine extension tube **11** can be screwed to it. The length of

agazine tube extension **11** is only limited by the length barrel **3**. A groove **12** is formed in tube **11** to serve a magazine follower stop and prevents the magazine ring from stacking up solid under recoil. The muzzle d of tube **11** is closed by a bayonet boss **13** which exds slightly forward of the muzzle of barrel **3** and is ranged to form a mount for a ring formed as part of a ndard bayonet hand guard.

The bayonet adapter sleeve **9** can take the form shown either FIGURE 1 or FIGURE 2. Sleeve **9** is preferably ade from relatively heavy gauge sheet metal and as eviously stated is formed with a first substantially lindrical section **8** designed to encircle and clamp ound the muzzle of barrel **3** and a second substantially lindrical section **16** designed to encircle and clamp ound tube **11**. Sections **8** and **16** are joined together at e side by a web **17** and at the other side the ends **18** d **19** overlap to form a one-piece member. Sleeve **9** is rmed so that section **16** is disposed rearwardly from ction **8**.

Sleeve **9** is clamped about barrel **3** and tube **11** by eans of two screws **20** and **21** which pass through holes web **17** and screw into threaded holes in ends **18** and . The rearmost screw **21** is positioned so as to engage oove **12** in tube **11**. Positioning of screw **21** in this anner locks sleeve **9** in place and section **16** provides muzzle end support for sleeve **9**.

A bayonet lug **22** is secured to the rear end of section so as to be positioned beneath tube **11**. Lug **22** is rmed to receive the grip of a bayonet and combined th boss **13** provides the complete support for a bayonet. g **22** is formed with an opening **23** which will receive sling swivel **24** if a sling is desired to be used.

A variation of adapter sleeve **9** is shown in FIGURE which allows the mounting of a sling swivel either ove or below the barrel of the firearm. In this version rrel encircling section **8** of bayonet adapter sleeve **9** split into two longitudinally separated portions to alw mounting of a sling swivel assembly **25** on barrel **3** the open section between the portions of section **8**. ssembly **25** is rotatably mounted on barrel **3** and inudes a swivel **26** to secure a sling thereto. This version s two clamping screws **20** in addition to screw **21** which gages groove **12**.

The adapter sleeve shown in FIGURE 1 also has a ayonet lug **22** secured to the rear of section **16**. Lug **2** has opening **23** formed therein to receive a swivel **24**. can thus be seen that the adapter of FIGURE 1 alws the shooter to conventionally mount a sling beneath e firearm or mount one end on top of the barrel to ovide shoulder support for automatic firing. Either ersion of the adapter sleeve is conveniently provided

with a front sight **27** mounted in a suitable base **8** secured thereto.

The combination set forth above provides means to increase the magazine capacity of a tubular magazine shotgun or rifle while at the same time provides means to mount a conventional bayonet on the shotgun or rifle.

We claim:

1. An attachment for use with a firearm having a barrel, a receiver to which said barrel is secured, a tubular magazine mounted in said receiver beneath and in parallelism with said barrel, said attachment comprising a combined bayonet adapter and tubular magazine extension, said extension being a tube releasably coupled to said tubular magazine and having its forward end extending to a position adjacent the muzzle end of the barrel and closed by a bayonet boss, said adapter having a first section and a second section and arranged to have said first section encircling and releasably clamped to the muzzle end of said barrel and to have said second section encircling and releasably clamped to said tube which passes completely through said adapter, thereby supporting the free end of said tube, and a bayonet lug secured to said second section beneath said tube, whereby said lug and said boss provide mounting means for a bayonet.

2. The invention set forth in claim **1**, wherein said bayonet lug is formed to receive a sling swivel.

3. The invention set forth in claim **1**, wherein said bayonet adapter has a sight attached thereto above said barrel.

4. The invention set forth in claim **1**, wherein said bayonet adapter is formed of sheet metal with the free ends overlapping.

5. The invention set forth in claim **1**, wherein said bayonet adapter has a substantially figure eight cross section.

6. The invention set forth in claim **1**, wherein said first section of said bayonet adapter is formed with forward portion and a rear portion with an opening therebetween and a rotatable sling swivel mounted on said barrel between said portions.

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BENJAMIN A. BORCHELT, *Primary Examiner.*

U.S. Cl. X.R.

42—49

PO-1050
(5/69)

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,445,951 Dated May 27, 1969

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It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 28, after "that" insert -- can accommodate any --; Column 1, line 40, after "pacity" insert -- of only 3 to 5 rounds. Such limited capacity --.

One of the inventor's name has an incorrect middle initial "Clark S. Workman" should be -- Clark B. Workman --.

SIGNED AND
SEALED
APR 28 1970

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents