Nov. 3, 1964 A. R. STEWART 3,154,874

GUN LOCK

Filed March 26, 1963 3 Sheets-Sheet 1

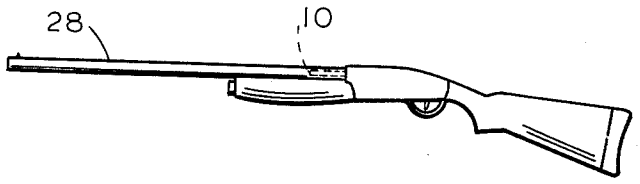


FIG. 1

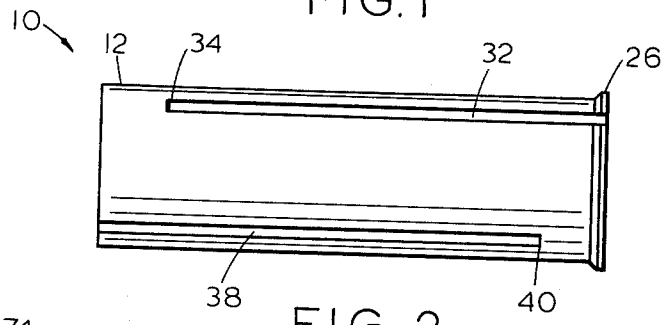


FIG. 2

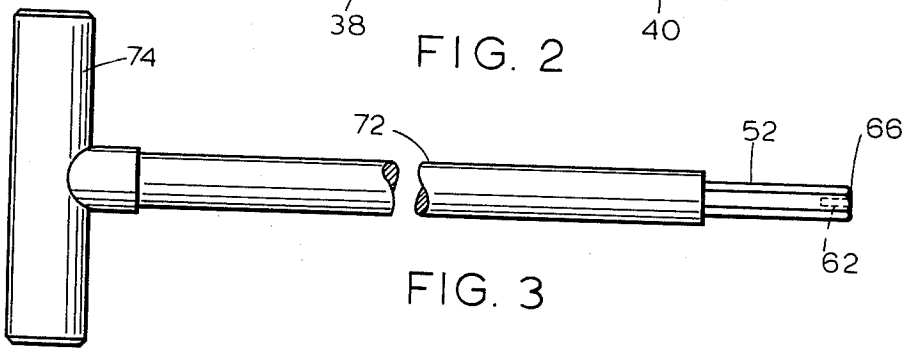


FIG. 3

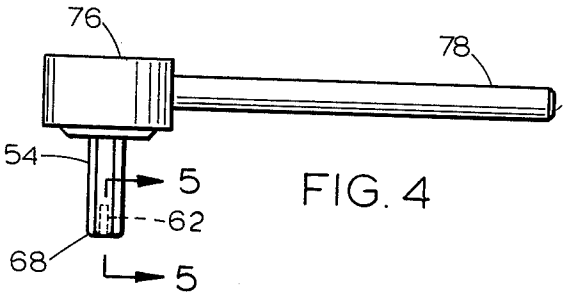


FIG. 4

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GUN LOCK

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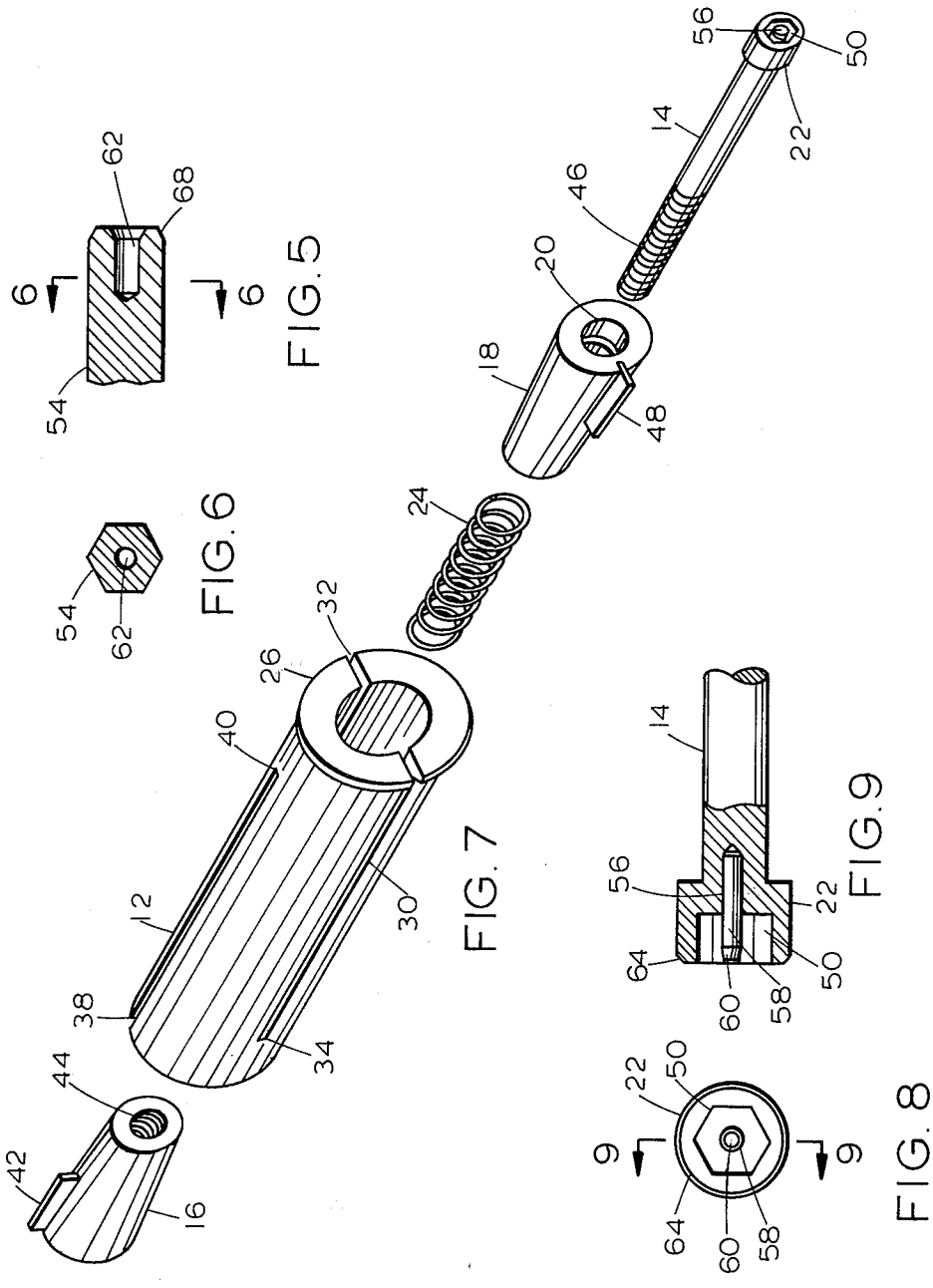


FIG. 5

FIG. 6

FIG. 7

FIG. 9

FIG. 8

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GUN LOCK

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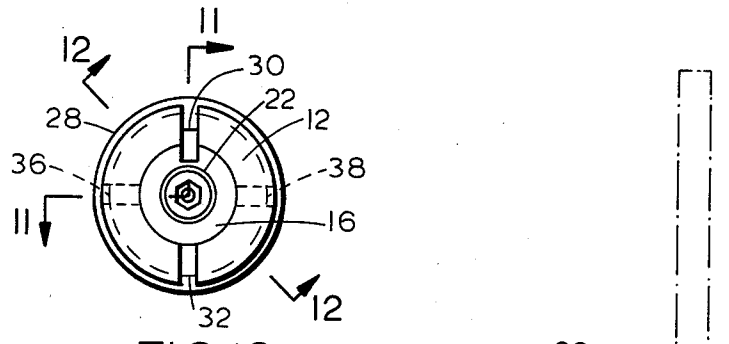


FIG. 10

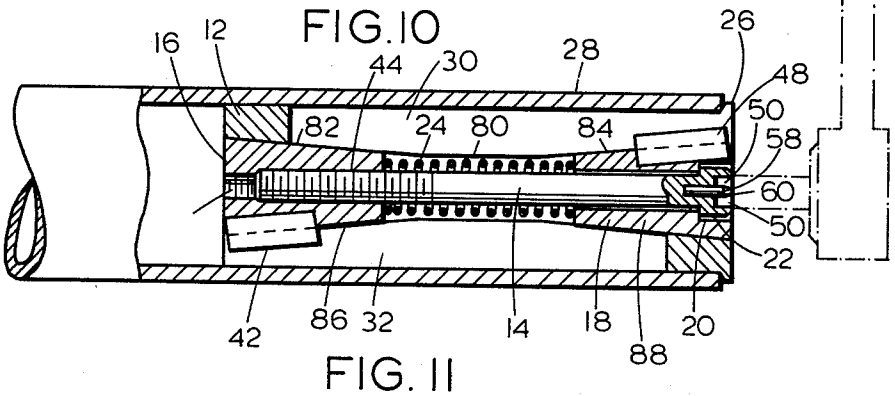


FIG. 11

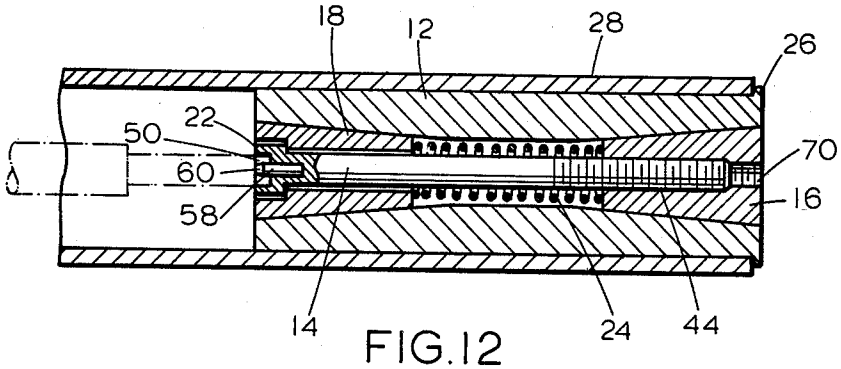


FIG. 12

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3,154,874

GUN LOCK

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1 Claim. (Cl. 42—1)

The present invention relates to safety devices for firearms, and in particular an extensible sleeve freely inserted in a gun barrel and designed to be expanded by a key for clamping the parts in the gun barrel.

The purpose of this invention is to make it substantially impossible for a firearm to be accidentally fired.

Various types of locks have been incorporated in firearms. However, substantially anyone familiar with firearms knows where to look for a button or lever that instantly actuates the lock of a firearm to release the trigger or hammer. Such locks only prevent a gun being accidentally fired by mechanical means, and do not prevent the gun being fired by a child or other unauthorized person.

The object of this invention is, therefore, to provide a lock for a gun which prevents a shell or cartridge being placed in the gun barrel.

Another object of the invention is to provide a gun lock which is not attached to the gun or parts thereof.

Another important object of the invention is to provide a lock for a gun, in which the lock may be installed by the average layman.

It is yet another object of the invention to provide a gun lock that is substantially impossible to remove without a key.

A further object of the invention is to provide a lock for a gun in which the lock does not mar or otherwise damage the gun.

A still further object is to provide a gun lock which is of a simple and economical construction.

Other and further objects and advantages of the present invention will be apparent from the following detailed description, drawings and claim, the scope of the invention not being limited to the drawings themselves as the drawings are only for the purpose of illustrating a method by which the principles of this invention can be applied.

Other embodiments of the invention utilizing the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claim.

In the drawings:

FIGURE 1 is a side elevational view of a gun with the lock of this invention shown in dotted lines in the inner end of the barrel.

FIGURE 2 is an elevational view showing the extensible sleeve of the gun lock with the parts shown on an enlarged scale.

FIGURE 3 is a view showing a tool for actuating the lock from the muzzle of a gun barrel, part of the stem of the tool being broken away.

FIGURE 4 is a view showing a tool for actuating the gun lock from the chamber or breech of a firearm.

FIGURE 5 is a longitudinal section through the tip of a hexagonal lock actuating key taken on line 5—5 of FIGURE 4.

FIGURE 6 is a cross section through the key shown in FIGURE 5, being taken on line 6—6 thereof.

FIGURE 7 is an exploded perspective view illustrating the relative positions of the part of the lock.

FIGURE 8 is an end elevational view showing the head of the lock bolt.

FIGURE 9 is a longitudinal section through the head of the lock bolt, taken on line 9—9 of FIGURE 8.

FIGURE 10 is an end elevational view of the gun lock assembly showing the lock in a gun barrel.

FIGURE 11 is a longitudinal section through the lock assembly taken on line 11—11 of FIGURE 10 showing the lock positioned to be actuated by an angle tool from the chamber or breach of a gun.

FIGURE 12 is a longitudinal section, similar to that shown in FIGURE 11, taken on line 12—12 of FIGURE 10, and showing the lock assembly positioned to be actuated from the muzzle of a gun.

While one embodiment of the invention is illustrated in the above-referred-to drawings, it is to be understood that they are merely for the purpose of illustration and that various changes in construction may be resorted to in the course of manufacture in order that the invention may be utilized to the best advantage according to circumstances which may arise, without in any manner departing from the spirit and intention of the device, which is to be limited only in accordance with the appended claims. And while there is stated the primary field of utility of the invention it remains obvious that it may be employed in any other capacity wherein it may be found applicable.

In the accompanying drawings, and in the following specification, the same reference characters are used to designate the same parts and elements throughout, and in which the numeral 10 refers to the invention in its entirety, numeral 12 indicating the lock sleeve or housing, numeral 14 indicating the lock bolt, numeral 16 indicating an inner cone in which the lock bolt is threaded, numeral 18 indicating an outer cone which is provided with a counterbore 20 in which the lock bolt head 22 is positioned, and numeral 24 indicating a spring for urging the cones outwardly.

One end of the lock sleeve 12 is provided with a rim 26 that limits inward movement of the sleeve into a gun barrel 28, and the body of the sleeve is provided with elongated slots 30 and 32 that extend inwardly from the rim, to points 34, and slots 36 and 38 that extend inwardly from the opposite end to points 40. The inner cone 16 is provided with a follower 42 to prevent rotation thereof, and the follower extends into one of the slots 36 or 38. The inner or small end of the cone 16 is provided with a threaded bore 44 which receives the threaded end 46 of the lock bolt 14.

The cone 18 is provided with a follower 48 and the follower 48 extends into one of the slots 30 or 32. The counterbore 20 in the end of the cone 18 is positioned to receive the head of the lock bolt, and the head of the lock bolt is provided with a recess 50 that is provided with flat sides, and the recess is formed to receive a straight key 52, shown in FIGURE 3, or an angle key 54, shown in FIGURE 4.

An opening 56 is provided in the center of the recess 50 and a centering pin 58 with a beveled outer end 60 is mounted in the opening. The keys 52 and 54 are provided with center receiving sockets 62 and as keys are applied to the lock the centering pin guides the key so that the flat sides of the key mesh with the flat sides of the socket. The end surface of the lock bolt head 22 is provided with a beveled edge 64, and similar beveled edges 66 and 68 are provided on the ends of the keys 52 and 54, respectively.

The inner, or large end of the cone or plug 16 is provided with a threaded bore, of a smaller diameter than the bore 44, as indicated by the numeral 70, and the bore 70 is positioned to receive a threaded stud on the end of a cleaning rod, so that the lock may be actuated by a cleaning rod if desired.

As illustrated in FIGURE 3, the key 52 may be secured to the end of a cleaning rod 72, and the cleaning rod may be provided with a handle 74. The key 54 may

also be secured in an angle head **76**, and the head **76** may be provided with a handle **78**, as shown in FIGURE 4.

The inner surface of the sleeve **12** is provided with a bore **80** and tapering end sections **82** and **84** which coact with outer surfaces **86** and **88** of the cones **16** and **18**, respectively.

The tapering sleeve inner surface end sections **82** and **84** have oppositely tapering inner surfaces and are arranged in two longitudinally spaced areas of the inner side of the sleeve and the head **22** of the lock bolt can be regarded as a means engageable with the other cone **18** from the cone **16** in which the bolt is threadedly engaged in a manner for moving the cones to expand the sleeve in a gun barrel.

As best seen in FIGURE 11, it will be seen that the slots are arranged in two groups, a first group **30** and a second group **32**, the slots of the group **30** open at a first end of the sleeve (the right end as shown in FIGURE 11), but terminate before reaching the opposite end of the sleeve.

Slots of the second group **32** open at the opposite end of the sleeve from the slots of the first group **30** and terminate before reaching the opposite end of the sleeve from that end at which they open. The slots of both groups **30** and **32** extend inwardly from the ends of the sleeve beyond the cone adjacent their open ends respectively.

Operation

The gun lock may be made to be used in a gun of any size, such as a 22 gage rifle or piston to a 16 inch cannon, and may be operated from either the chamber or muzzle of the barrel.

The lock assembly is inserted in the chamber end of the gun barrel, either as shown in FIGURE 11, or as shown in FIGURE 12, and as the lock bolt is actuated by the angle key **54**, shown in broken lines in FIGURE 11, or by a straight key **52**, as shown in FIGURE 12, the cones or plugs **16** and **18** are drawn together expanding the lock sleeve **12**, and positively locking the assembly in the gun barrel.

It will be appreciated that it would be substantially impossible to remove the lock from a gun barrel without a key of the proper size, and with the lock in position it would be impossible to insert a cartridge in the firearm.

It will be seen that the spring **24** is adapted to urge the cones **16** and **18** outwardly into positions for allowing the sleeve to contract whenever the cones are no longer drawn together by the bolt **14**.

From the foregoing description it is thought to be obvious that a gun lock constructed in accordance with my invention is particularly well adapted for use, by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof, and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice, except as claimed.

What is claimed is:

In a gun lock, the combination which comprises a sleeve having longitudinally positioned slots extending transversely therethrough, said sleeve having oppositely tapering inner surfaces in two longitudinally spaced areas thereof, two opposed cones with tapering outer surfaces positioned in said sleeve to coact with the respective tapering inner surfaces thereof, a lock bolt threaded in one of the cones and having means engageable with the other cone in a manner for moving the cones to expand the sleeve in a gun barrel, and resilient means for actuating the cones to positions for allowing the sleeve to contract, and means for actuating the lock bolt.

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