

March 27, 1962

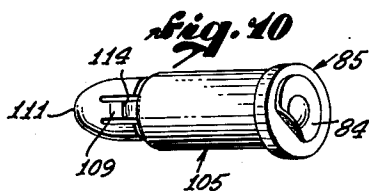
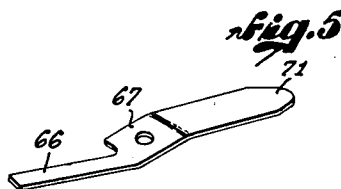
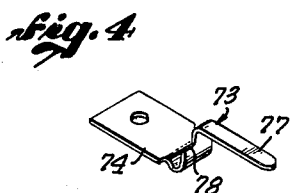
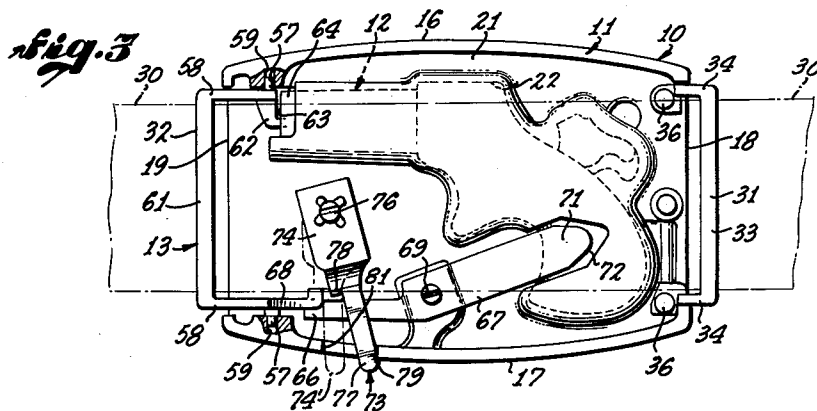
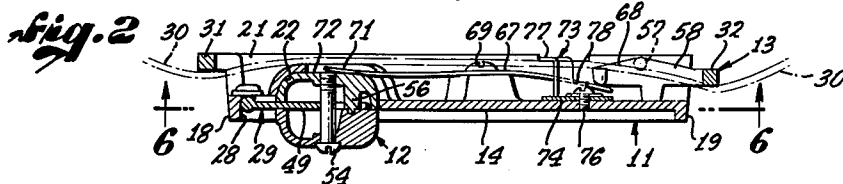
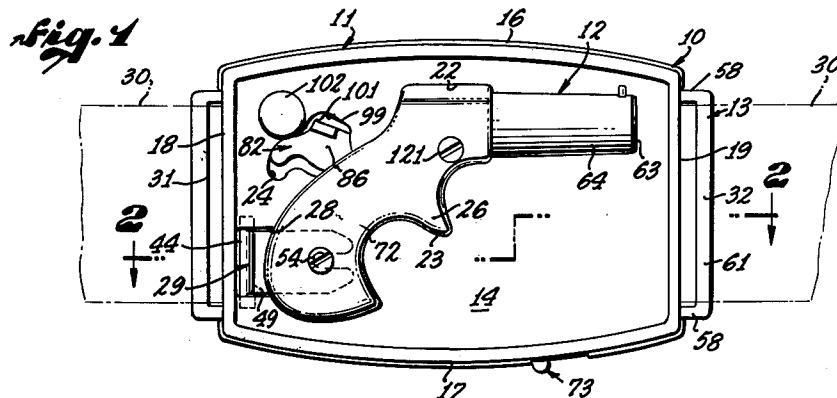
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3,026,642

FIREARM ACTUATING BUCKLE

Filed May 14, 1959

2 Sheets-Sheet 1



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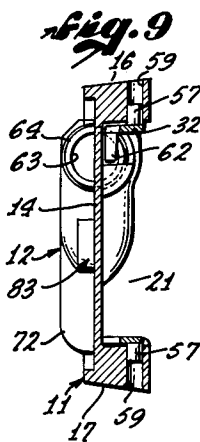
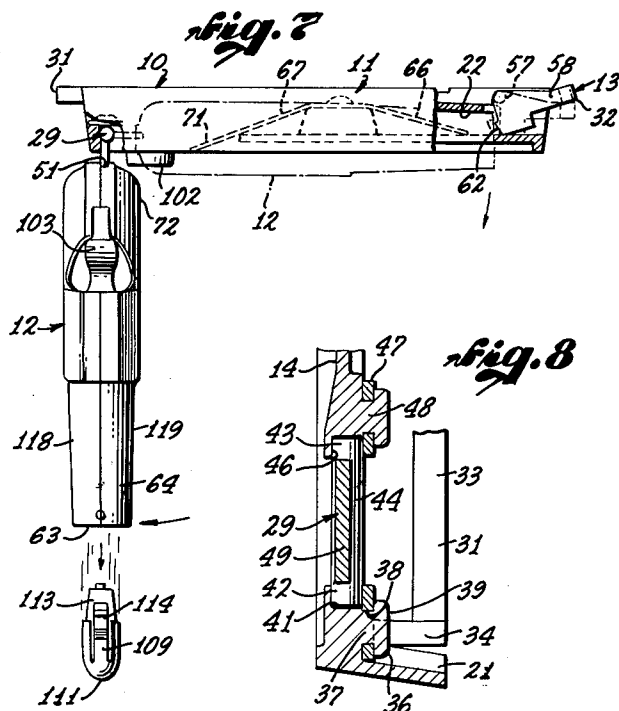
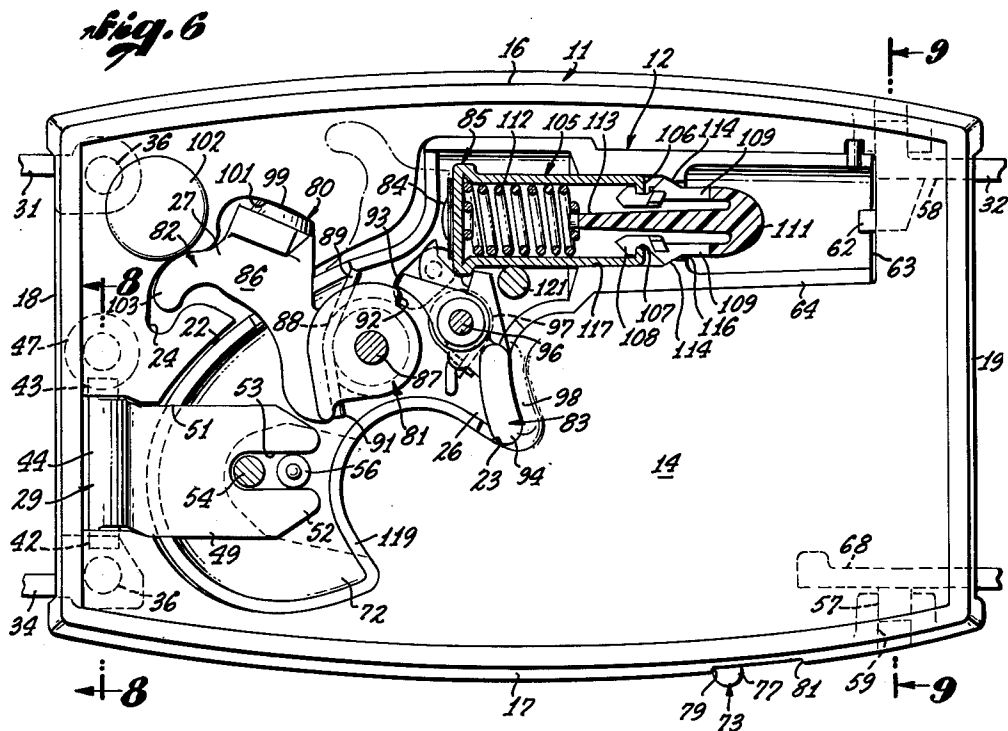
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FIREARM ACTUATING BUCKLE

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2 Sheets-Sheet 2



1

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FIREARM ACTUATING BUCKLE
John W. Ryan, 11027 Cashmere St., Bel-Air, Calif.
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10 Claims. (Cl. 42—1)

This invention relates to firearm actuating devices and more particularly to a buckle-simulating device which can be worn on a belt, strap, or the like and upon which an actual firearm or toy cap pistol may be pivotally supported for actuation by the device.

More specifically, this invention provides a body having generally an appearance of a buckle supportable on a belt, strap, or the like, and having a firearm pivotally supported thereon for pivotal movement from an inactive position adjoining the body, appearing as an ornamentation of the body, to an active position substantially normal to the body. The invention includes releasable holding means on the body, engageable with a portion of the firearm, for releasably holding the firearm in the adjoining position thereof, and spring means on the body, bearing against a portion of the firearm, for biasing the firearm into the position away from the body, when the releasable holding means is actuated as by the body movement of the wearer of the buckle to bias the firearm into the position away from the buckle, after which the firearm may be automatically or manually fired.

In use as a toy, this invention includes sound-producing means in the form of a cap-firing means in the firearm capable of detonating a cap charge located within the firearm, when the firearm is positioned away from the buckle, and/or pellet-ejecting means responsive to the actuation of a hammer of the firearm to eject a pellet from the firearm, such ejection being simultaneous with the actuation of the sound-producing means.

The invention particularly anticipates use of a cap pistol as the firearm, for more realistic use by children in play, wherein the user may actuate the firearm to produce an explosive sound and eject a pellet resembling an actual bullet, by appropriate movement of the user's body. The body movement may be accomplished by merely extending stomach muscles to operate the releasable holding means to release the firearm from a latched relationship to the buckle-simulating body, thereby permitting actuation of the firearm without the necessity of use of hands. In this manner, the user may, when surprised by an adversary, overcome him by feigning surrender and actuating the firearm with the body movement while elevating his arms in a surrendering gesture.

This invention is not to be restricted to use as a toy, but is adaptable for actual police work, whereby an actual firearm may be supported in the device and discharged in the same manner as described above to overcome an adversary, in the event that the officer is overcome and disarmed, wherein the firearm has a deceptive appearance of ornamentation on the simulated buckle, but is actuated by an almost imperceptible movement of the body.

It is therefore an object of this invention to provide a new and improved device which is wearable on a belt, strap or the like to effect a deceptive appearance of an ornamental buckle, while having an actual or toy firearm supported thereon and actuatable by an almost imperceptible movement of the wearer's body to position the firearm into a firing position, wherein the firearm is directed towards an adversary facing the wearer of the device.

It is within the objects of this invention to provide an actuating device for an actual firearm for use in police work or the like, as an auxiliary weapon which has the appearance of an ornamentation on a buckle, yet which can be actuated by movement of the body of the wearer in the event of an emergency, as being and disarmed by an

2

adversary, such actuation being capable of being performed without the use of the hands of the wearer.

More specifically, an object of this invention is to provide a buckle, wearable as on a belt or the like, incorporating a firearm which is automatically positionable into a firing position upon actuation by the wearer thereof.

A further object of this invention is to provide a new and improved firearm actuating device in which the firing of the firearm is automatically actuated when the firearm is in the firing position.

Yet another object of this invention is to provide a new and improved device of the character described which incorporates sound-producing means actuatable when the firearm is in a firing position to produce a sound simulating firing.

Yet another object of this invention is to provide a new and improved firearm actuating device which provides pellet-ejecting means, actuatable upon positioning of the firearm in the firing position, whereby the pellet is ejected from the firearm in a realistic manner.

A still further object of this invention is to provide a latch means within the device to prevent inadvertent or accidental actuation of the device.

A further object of this invention is to provide a new and improved firearm actuating device which is economical to manufacture and capable of mass production and interchangeability of parts thereof.

A general object of this invention is to provide a new and improved firearm actuating device which overcomes disadvantages of prior means and methods heretofore intended to produce generally the same results.

These and other objects of this invention will be more apparent from the following drawings, detailed description and appended claims.

In the drawings:

FIGURE 1 is a front-face view, in elevation, of a firearm actuating device designed and constructed in accordance with this invention.

FIGURE 2 is a horizontal cross-sectional view as taken substantially along a line 2—2 of FIGURE 1.

FIGURE 3 is a rear-face view, in elevation, thereof, with parts broken away for greater clarity.

FIGURE 4 is a perspective view, in elevation, of a stop or latch means forming a part thereof.

FIGURE 5 is a perspective view, in elevation, of a spring means forming a part of the invention.

FIGURE 6 is a vertical cross-sectional view taken substantially along a line 6—6 of FIGURE 2.

FIGURE 7 is a top view, in elevation, illustrating the position of the firearm of the device, relative to the buckle thereof in an active position.

FIGURE 8 is a vertical cross-sectional view as taken substantially along a line 8—8 of FIGURE 6.

FIGURE 9 is a vertical cross-sectional view taken substantially along a line 9—9 of FIGURE 6.

FIGURE 10 is a perspective view in elevation, of a pellet-ejecting means forming a part of the firearm.

Referring more particularly to the drawings, there is shown by way of illustration, but not of limitation, a firearm-actuating device designed and constructed in accordance with this invention and generally simulating the appearance of a buckle, a firearm 12, supported on the body 11 and a manually operable, releasable holding means 13 for holding the firearm in a position adjoining the body 11, wherein the firearm has a deceiving appearance of being merely an ornamentation on the front face 14 of the body 11.

The body 11 may be formed of any suitable material, such as plastics, metal or the like, by the less expensive methods of fabrication, such as molding, die-casting, or the like, having any suitable outer configuration that is pleasing to the eye and generally resembling a buckle,

3

including the front face 14, upper and lower curved edges 16 and 17, opposing ends 18 and 19 and an open rear face 21. As best seen in FIGURES 1, 2, 6, 7 and 9, the front face 14 is provided with a recess 22 having a general outline complementary to the outer configuration of the firearm 12 and, as best seen in FIGURES 2, 7 and 9, having a depth corresponding to substantially half the thickness of the firearm 12, whereby the outer half of the firearm projects outwardly of the front face 14 and gives the general appearance of a firearm being embossed on the surface 14. The recess 22 includes extensions 23 and 24 to accommodate a trigger guard portion 26 and a hammer portion 27, respectively, of the firearm 12 and an opening 28 extending through the body 11 and co-extensive with the recess 22 for accommodating a hinge 29 pivotally securing the firearm 12 to the body 11, as will be hereinafter described.

The body 11 is adapted to be supported on a belt, strap, or the like, 30, indicated in FIGURES 1 and 2 by broken lines, by means of loop members 31 and 32 secured on the body adjacent the ends 18 and 19 respectively thereof.

If preferred, the loop member 31 may be formed integrally with the body 11, or, as illustrated, may be U-shaped in configuration and having its bight portion 33 spaced from the body 11 and its legs 34 secured to the body at its ends by means of fastening means 36. The fastening means 36, is preferably provided in the form of projections 37 formed integrally with the body 11 and extending rearwardly therefrom through apertures 38 of the legs 34, the outer ends of which are peened as at 39 to form enlarged heads and retain the members 31 on the body 11. At least one end, 34 as at the lower end overlies a groove 41 formed in the rear face of the body 11, in which an end 42 of a pin 44 of the hinge member 29 resides, the groove 41 serving as a bearing for the end 42. An opposite end 43, of the pin 44 formed on the hinge 29, is retained in a groove 46 of the body 11 as by a washer 47 overlying the groove 46, the washer being held in place as by an integral projection 48 extending through the washer 47 and being peened similarly to the projections 37, leaving the pin 44 freely rotatable in the bearings formed by the grooves 41 and 46. The hinge 29 includes a tongue 49 removably extending through a slot 51 formed in the firearm 12, the tongue 49 preferably being bifurcated at its end 52 to form a slot 53 engageable with a fastener 54 and a stud 56 incorporated within the firearm housing. The fastener 54 and stud 56 are spaced within the slot 53 to prevent rotation of the firearm 12 on the tongue 49. The tongue 49 preferably detachably and removably fits the slot 51 whereby the firearm 12 may be removed if desired for use separately from the body 11, in a normal manner.

The loop member 32 forms a part of the releasable holding means 13 and is generally similar to the member 31 with the exception that the member 32 is pivotally mounted on the body 11, as by outwardly extending pins 57, secured to or formed integrally with legs 58 of the U-shaped loop member 32, the pins 57 residing within aligned apertures 59 of the body 11. A bight portion 61 of the member 32 is spaced from the body 11 to form the loop through which the belt 30 may be extended to support the buckle 11.

The member 32 further includes a hook means 62 (see FIGURES 3, 6, 7, and 9) which is integral therein or secured thereto and biased to engage an open end 63, of a barrel portion 64 of the firearm 12 by an end 66 of a spring member 67 secured to the rear face of the body 11 as by a fastener 69. The end 66 bears against an extension 68 of the lower leg 58 of the U-shaped member 32 to bias the extension 68 outwardly of the body 11 and the bight portion 62 in a direction towards the body, thereby urging the hook 62 into engagement with the open end 63 of the barrel 64.

An oppositely extending end 71 of the spring 67 bears

4

against the butt portion 72 of the firearm 12 to bias the firearm 12 into a pivotal movement away from the body 11 when the releasable holding means is released and into a position indicated in FIGURE 7 whereby the barrel portion 64 of the firearm 12 is pointed away from the body 11 in a direction substantially normal to the front face 14 thereof.

It will now be more clearly seen, from the foregoing description, that the firearm 12, being pivotally supported on the body 11 by the hinge means 29, is biased outwardly from the body by the spring 67 from the position shown in FIGURES 1-3, 6 and 9 to the position shown in FIGURE 7. The firearm 12 is releasably held in a position adjoining the body, within the recess 22 of the body, as by the hook means 62 of the releasable holding means 13 extending into the open end 63 of the firearm barrel 64 to prevent pivotal movement of the firearm 12 until the hook means 62 is withdrawn from the end 63.

To release the firearm and permit the spring end 71 to bias the firearm away from the body 11, the bight portion 61 of the member 62 is pivoted rearwardly around the pivot pins 57 to disengage the hook 62 from the end 63. This is accomplished when the body 11 is supported on the belt 30 by a simple and almost imperceptible body movement of the wearer wherein the wearer extends his midriff to bear on the central portion of the body 11 and thereby causes the belt 30 to pull rearwardly on the bight portions 61 and 33 to pivot the member 32 and withdraw the hook 62 from the open end 63, whereupon the firearm is released for pivotal movement away from the body 11, by the spring 67.

To avoid accidental actuation of the releasable holding means 13, a latch or lock means 73 is provided on the body 11 and includes a stop member 74 pivotally secured to the rear face 21 of the body 11, as by a screw, bolt, rivet or the like, 76. The member 74 includes a finger piece 77 extending outwardly of the body 17 for manual engagement to position the lock means either in the unlocked position shown in solid lines of FIGURE 3 or in the locked position shown in dotted lines 74', whereby a shoulder 78 of the member 74 is positioned beneath the extension 68 to abut an inner face of the extension and prevent pivotal movement of the member 32 and thereby prevent removal of the hook member 62 from the barrel open end of 63. Limiting shoulders 79 and 81 are preferably provided on the body to facilitate positioning of the member 74 in the locked and unlocked positions, the shoulders 79 and 81 acting as stops for the finger-piece 77.

This invention provides, in addition to automatically positioning the firearm 12 in a position to fire the firearm in response to body movements of the wearer, a sound-producing means, generally designated by the numeral 80, in the firearm to achieve a more realistic effect. The sound-producing means 80 includes a cap-firing means 81 comprising a spring-biased hammer means 82 actuatable by a trigger means 83 to detonate a cap charge 84 removably or otherwise supported on an anvil 85 within the hollow barrel 64 of firearm 12.

The hammer means 82 comprises a hammer 86 pivotally mounted in the firearm 12 as for rotation around a transverse pin 87 of the firearm, and includes a torque spring 88 having one end 89 bearing against an inner surface of the firearm 12 and another end 91 bearing against a portion of the hammer 86 to bias the hammer 86 towards the anvil 85 into a position indicated in broken lines 82 in FIGURE 6 to detonate the cap charge 84. The hammer 86 further includes a shoulder 92 which is engageable with a shoulder 93 of the trigger means 83 to hold the hammer 86 in a spring-loaded, cocked position. Rotation of the trigger means 83, as by an inward pressure directed against a finger piece 94 of the trigger means to rotate the trigger means around a shaft 96 of the firearm 12, as will be hereinafter de-

5

scribed, removes the shoulder 93 from engagement with the shoulder 92 to permit the spring 88 to bias the hammer 86 against the anvil 85. The trigger means 83 is biased into a position to engage the shoulders 92 and 93, as by a torque spring 97.

A very realistic and startling effect is achieved by automatic firing of the firearm, that is, the actuation of the cap-firing means 81, when the firearm 12 is biased into its firing position illustrated in FIGURE 7. For this purpose a cam surface 98 is provided along one edge of the recess extension 23 in the body 11 whereby as the firearm 12 is positioned into the position adjoining the body 11, the fingerpiece 94, as it enters the recess 23, is directed inwardly by the cam surface 98 to remove the shoulder 93 from the shoulder 92 by releasing the hammer from the cocked position thereof. Directly subsequent to the release of the hammer means, a striking face 99 of the hammer 86 is arrested by a shoulder 101 of the recess extension 24, whereby the firearm is held within the recess 22 in the adjoining position, in a potentially fireable condition. As the firearm 12 is swung outward by the spring bias of the spring 67, subsequent to the removal of the hook 62, the face 99 of the hammer 86 is removed from abutment with the surface 101 to free the hammer 86 for detonation of the cap 84. However, it is preferable to provide means for delaying such firing until the firearm is in its extreme position (FIG. 7) in order that the firearm is pointed at the adversary facing the wearer of the device. For this purpose, a projection 102 is provided on the outer face 14 of the body 11, engageable with a thumb portion 103 of the hammer 86, whereby the hammer 86 is retained in the potential firing position until immediately before arriving at the position shown in FIGURE 7, whereupon the thumb portion 103 escapes the engagement with the projection 102 to permit the spring 88 to bias the hammer into the position indicated at 86 and thereby strike the cap 84 on the anvil 85 to detonate the cap. The cap 84 is preferably removably secured on the anvil 85 as by a pressure-sensitive adhesive provided on a face of the cap as described in my copending application entitled Percussive Cap Structure filed February 9, 1959, Serial No. 791,983.

To add further realism in the use of the instant invention, a pellet-ejecting means is provided within the barrel 64 of the firearm 12 and forming a part of the anvil 85. The pellet-ejecting means, herein illustrated, is claimed and more fully described in my copending application entitled "Pellet Cartridge," Serial No. 798,290, filed March 5, 1959. The anvil 85, herein illustrated as a portion of the pellet-ejecting means, comprises a hollow shell 105, having an in-turned flange 106 adjacent to an open end 107 thereof for engagement with hooks 108 of latch elements 109 secured to or integral with a pellet 111 to releasably secure the pellet 111 to the shell 105. A propelling means in the form of a spring 112 is housed within the shell 105 to provide an outwardly ejecting force against a trailing end 113 of the pellet 111. As described in the above-referred-to application, the latched elements 109 are resilient and are outwardly biased to retain the hooks 108 in engagement with the flange 106 until an inwardly directed force is applied to outer cam surfaces 114 of each latch element 109, such force being applied by a reduced bore 116 of the firearm barrel 64 acting upon the cam surfaces 114 when the hammer 82 strikes the shell 112 to squeeze the latch members 109 inwardly and thereby disengage the hooks 108 from the flange 106 to permit the spring 112 to eject the pellet 111. The pellet 111 is ejected through the hollow barrel portion 64 and outwardly through its open end 63 when the firearm 12 is positioned as indicated in FIGURE 7, at which time the hammer 86 strikes the anvil 85. The reduced bore 116 is an extension of the chamber 117 provided in the barrel 64 which has a sliding fit with the outer surface of the shell 105,

6

the shell 105 being slidably disposed within the chamber 117 when struck by the hammer to extend the shell 105 further in through the chamber 117 and force the cam surfaces 114 against the restricted bore 116, to squeeze the latch elements and release the pellet. It will be understood, however, that a stationary anvil 85 may be used whereby only a sound is produced by the firing of the cap when the hammer 86 is actuated.

The firearm 12, as herein illustrated is formed of a pair of halves 118 and 119 secured together as by the bolt 54 and a bolt 121. It is to be understood that the firearm may be made in other ways as by discrete handle and barrel portions, if desired.

While I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiments, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein, but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and methods.

What I claim as new and desire to secure by Letters Patent is:

1. A firearm actuating device comprising: a body; a firearm pivotally supported on said body; releasable holding means on said body for releasably holding said firearm in a first position lying against said body; and spring means on said body for biasing said firearm into a position pointing away from said body upon release of said holding means, said releasable holding means including hook means pivotally mounted on said body and said firearm including a barrel portion having an open end, said hook means being engageable with said barrel portion adjacent said open end for retaining said firearm in said first position.

2. A device as defined in claim 1, wherein said firearm includes a hammer means rotatably supported for pivotal movement therein and a trigger means rotatably mounted adjacent said hammer means; and said body includes means for actuating said trigger means and means for arresting movement of said hammer means when said firearm is in said first position.

3. A device as defined in claim 1, wherein said firearm includes: spring-biased hammer means pivotally supported in said firearm; trigger means rotatably mounted adjacent said hammer means; a first shoulder on said hammer means; and a second shoulder on said trigger means, engageable with said first shoulder for holding said hammer means in a cocked position; and said body includes: a cam surface thereon engageable with said trigger means in said first position of said firearm for actuating said trigger means so as to disengage said first and second shoulders; and a stop shoulder on said body, said stop shoulder being positioned so that said hammer means abuts said stop shoulder in said first position of said firearm for arresting movement of said hammer means subsequent to said disengagement of said first and second shoulders.

4. A device defined in claim 3, including retaining means on said body for retaining said hammer means in said arrested position until said firearm is pivoted into said position pointing away from said body.

5. A firearm actuating device comprising a body having a recess in a face thereof and in the shape of a firearm; a firearm shaped complementary to said recess and pivotally supported on said body for pivotal movement from a first position lying in said recess of said body to another position substantially normal to said body; releasable holding means on said body for releasably holding said firearm in said first position; spring means on said body for biasing said firearm into said other position; and releasable latch means for holding said firearm in said recess against the action of said spring means.

6. A device as defined in claim 5, wherein said releasable latch means includes a member pivotally secured

7

on said body, hook means on said member engageable with said firearm when said firearm is in said first position, said spring means having an end bearing against said member for biasing said hook means into engagement with said firearm.

7. A device as defined in claim 6, wherein said body includes ends and a belt-receiving loop adjacent one end thereof and said member is adjacent to the other end of said body and includes a central portion and a pair of ends, said member ends being pivotally mounted in said body and said central portion being spaced from said body to define a second belt-receiving loop spaced from said first loop.

8. A device as defined in claim 7, including stop means moveably mounted on said body and selectively positionable adjacent said member so as to prevent pivotal movement thereof and thereby prevent disengagement of said hook means from said firearm.

9. A firearm actuating device comprising a base member; a firearm pivotally supported on said base member for pivotal movement from a first position lying generally parallel to and against one face of said base member to a second position pointing away from said base member; spring means biasing said firearm toward said

8

second position; latch means on said base member, engageable with said firearm, for holding said firearm in said first position; means on said base member engageable with a belt for holding said base member against a portion of the body of a user; and means responsive to muscular distention of said body portion for releasing said latch means.

10. A device as defined in claim 9 wherein said last-named means comprises a portion of said means engageable with a belt whereby said muscular distention applies tension to said belt to release said latch means.

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