EUROPEAN PATENT SPECIFICATION

WEAPON SYSTEM COMPRISING A FIREARM AND A NON-LETHAL MEANS FOR SELECTIVELY EJECTING A STREAM OF FLUID

Proprietors:
- Moore, Michael Peter
  Lightwater, Surry GU18 5TD (GB)
- Bauer, Nicodemus Eran
  Norton Disney, Lincoln LN6 9JP (GB)
- Bauer, Gerard Miet
  Wellingore, Lincoln LN5 0JF (GB)

Inventors:
- Moore, Michael Peter
  Lightwater, Surry GU18 5TD (GB)

References cited:
- EP-A- 0 130 347
  GB-A- 940 209
  US-A- 1 347 509
- US-A- 2 629 516
  US-A- 3 415 420
- US-A- 3 730 390
  US-A- 4 058 921
- US-A- 4 153 927
  US-A- 4 316 338
  US-A- 5 671 559

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).
Description

Field of the Invention

[0001] This invention relates to a weapons according to the preamble of Claim 1.

Background to the Invention

[0002] As crime becomes increasingly violent, with more assailants carrying guns, knives and other potentially lethal weapons, there is a growing necessity for law enforcers to be armed with sufficient weaponry to be able to deal with violent incidents. In many countries police officers already carry guns as a matter of course. In this country some special units of the police force also carry guns.

[0003] Although an officer may carry a gun, he may only use reasonable force. Reasonable force does not always include shooting the assailant. Further more, in the case where an officer points a gun at an assailant, and threatens to shoot him only has three options, those being to shoot to kill, to shoot to injure or to retreat. If he cannot do any of these he is faced with the prospect of carrying a live weapon, securable only with a safety catch, which he cannot use. In such cases, an armed officer is disadvantaged because he cannot allow the assailant to take possession of the gun, but he cannot use it, so he is faced with the prospect of wrestling with the assailant whilst carrying a live weapon possession of which he must retain.

[0004] It therefore be desirable to provide a less than lethal option such as by incapacitating the assailant.

[0005] Situations arise in other areas of law enforcement, such as peace keeping, where it is necessary to personnel to carry weapons, but where it is not always desirable to shoot an assailant. In such situations it would often be desirable for the officer to have a less than lethal option such as incapacitating an assailant.

[0006] Incapacitants such as CS, CR, CN, OC gas, and other similar products are known, and are used for policing and military purposes in some countries. These products are often used in riot control, but are also used by individual officers to incapacitate individual assailants or small groups thereof. When incapacitants are used in this manner, they are contained in small aerosol canisters which can be attached to a belt or an item of clothing. When the officer needs to use the incapacitant, he simply takes hold of the aerosol and sprays the incapacitant in the direction of the assailant. This type of equipment works well for the unarmed officer. However, for the armed officer and in particular the armed officer who has already drawn his weapon, using such an aerosol presents problems.

[0007] In order to use the aerosol, the armed officer must make safe and put down his gun. Then he must take the aerosol from its holder. This procedure necessitates that the officer either retreat from the assailant to allow himself time to put down his weapon and take hold of the aerosol, or put down his weapon and take hold of the aerosol in close proximity to the assailant. Both of these options present problems. The first option provides the assailant with an opportunity to escape, whilst the second provides him with an opportunity to attack the officer.

[0008] US 1,347,509, which forms a basic for the preamable claim 1, describes a weapon consisting of a rifle having a supply of fluid mounted under the stock thereof with a pipe extending under the barrel. The rifle provides the weapon with a lethal capability, insofar as a bullet fired from the rifle may be lethal. The weapon also has a non-lethal capability, which is provided by the provision of a means to eject fluid stored in the stock of the weapon towards an assailant. However, this weapon suffers from the disadvantage of the triggers for both the rifle and the fluid ejection means being located in the same vicinity under the stock.

[0009] US 3,720,390 and US 5,397,029 both describe trigger actuated aerosol guns. These weapons are simply for discharging an aerosol fluid, and do not provide a means of discharging a projectile with lethal capability.

[0010] Another example of a weapon having both lethal and non-lethal capabilities is described in US 1,333,268. The weapon described consists of a rifle having a fluid reservoir and ejection means mounted beneath the barrel of the rifle. As with US 1,347,509, the trigger mechanisms for both the rifle and the fluid ejection means are located in the same vicinity.

[0011] US 1,333,268 and US 1,347,509 both require the marksman to use the same hand to operate the trigger mechanisms for both the lethal and non-lethal options provided by the weapons.

[0012] It would therefore be desirable to provide the officer with a means of firing an incapacitant at an assailant without having to put down his weapon. Such a device is provided by the invention.

[0013] It would also be desirable to provide a device which can be used at night. One embodiment of the invention provides such a device.

[0014] It would be advantageous to provide a device adaptable to the conditions in which it is to be used. An embodiment of the invention provides such a device.

[0015] Incapacitants are commonly available in aerosol canisters, the dimensions of which vary. It would be desirable to be able to use canisters of different dimensions.

Summary of the Invention

[0016] The invention provides a less than lethal weapons system comprising a gun having a barrel through which a projectile may be propelled, and means for selectively ejecting a stream of fluid in a direction substantially parallel to the axis of the barrel.
[0017] The invention provides a means for selectively ejecting a stream of fluid which means is releasably attachable to a gun.

[0018] The means for selectively ejecting a stream of fluid may be formed as an integral part of the gun.

[0019] Preferably, the means for selectively ejecting fluid is aligned with the sights of the gun to which it is attached, so that fluid is ejected towards the point of aim of the gun.

[0020] Preferably, the means for selectively ejecting fluid and a fluid supply comprise a pressurized vessel and a valve, which may be in the form of a pressurized canister such as an aerosol canister. The aerosol canister may comprise a bag containing the fluid to be ejected, which bag is sealed around a valve and pickup tube, the bag being mounted within a canister and the remaining space in the canister being filled with a propellant which acts on the bag to eject fluid out of the tube.

[0021] Preferably, there is provided a nozzle through which fluid is ejected. The nozzle may be interchangeable or adjustable, and may be selected or adjusted to produce a spray pattern suitable for the circumstances in which the weapon is to be used. Preferably the weapon can produce a spray pattern having a diameter between 0.001 m to 5 m, and more preferably, the spray pattern is sufficiently large to cover the head and shoulders of the person targeted. The spray may range from a narrow jet of fluid to a mist of fluid. The nozzle may be adjusted or selected to eject the fluid within a range of 0 to 5 m from the nozzle. The nozzle suitably provides for the direction of fluid passing therethrough to be changed.

[0022] The means for selectively ejecting a stream of fluid may comprise a trigger mechanism, which is suitably provided with a safety catch.

[0023] The gun may be a pistol, a rifle, or a shotgun. The pistol, rifle or shotgun may be automatic or semi-automatic weapons.

[0024] The invention provides an attachment for a gun, comprising a housing in which a fluid containing pressurized canister is mounted, the outlet of the canister co-operating with a nozzle to release fluid from the said canister. A trigger mechanism is provided to control the release of fluid from the canister.

[0025] One embodiment of the invention provides a fluid ejection means for selectively ejecting a stream of fluid comprising a mounting means suitable for mounting a pressurized vessel, such as an aerosol canister to a gun.

[0026] Advantageously, the fluid ejection means is releasably attachable to the gun. The pressurized vessel may be mounted in or be an integral part of the fluid ejection means. Preferably, when the fluid ejection means is attached to the gun the longitudinal axis of the pressurized vessel is at an angle of between 0 and 90 degrees to the longitudinal axis of the barrel of the said gun. In one embodiment of the invention the longitudinal axis of the pressurized vessel is at an angle of 75 degrees to the longitudinal axis of the barrel of the said gun.

[0027] The pressurized vessel may be removably inserted into the mounting means. A nozzle may be provided to co-operate with the outlet of the pressurized vessel so that moving the nozzle towards the vessel depresses the outlet thereof causing release of the contents of the vessel.

[0028] Preferably, the outlet of the pressurized vessel has fluid releasing and retaining positions with means of biasing, e.g. a spring, the said outlet to the retaining position being provided.

[0029] The nozzle may be biased away from the outlet of the pressurized vessel, for example by means of a spring.

[0030] Preferably a trigger mechanism comprising a lever is provided which when depressed pushes the nozzle against the outlet of the pressurized vessel to release the contents thereof. With the nozzle being biased away from the outlet of the pressurized vessel, either by the outlet or a separate biasing means, the lever is pushed to its rest position when the lever is released. Pressure on the lever may be exerted by a user’s thumb or one of his fingers.

[0031] Advantageously, the mounting means comprises a housing. The housing may replace, or be attachable to the fore-end of a gun. The housing is preferably releasably attachable to the gun. The housing may be provided with a connector adapted to slide into a rail provided on the fore-end of the gun for releasable attachment of the housing to the gun.

[0032] In one embodiment of the invention at least one pin may be used to hold the housing in place on the gun. One end of the housing may be adapted to slide into a part of the gun.

[0033] Preferably the housing comprises means to retain the ends of a pressurized canister, which means may constrain lateral and longitudinal movement of the canister. At least one of the means may be a slidably removable spacer, which is insertable between an end of the canister and a part of the housing, whereupon removal of the spacer the said canister is released to allow removal thereof and replacement with a fresh canister. Preferably, between the part of the housing with which the spacer co-operates and the spacer there is provided a spring. The spring biases the canister towards the means to retain the other end of the canister thereby preventing longitudinal movement of the canister within the housing. The spacer may be provided with a protrusion which co-operates with the side of the canister to prevent lateral movement thereof. Providing a selection of sizes of spacer enables canisters of different sizes to be used.

[0034] In one embodiment of the invention, one end of the housing is threaded and the canister is held in the housing by means of a screw cap. Preferably, when a canister is in the housing, turning the screw cap moves the canister either towards or away from the nozzle and...
trigger mechanism. Furthermore, the provision of a screw cap allows canisters of different dimensions to be held in the housing.

[0035] The screw cap may be provided with a convex surface. Most aerosol canisters have a concave base. In use, the convex surface co-operates with the concave base of the aerosol canister to ensure that the canister is held in the correct position in the housing.

[0036] A nozzle may be slidably mounted at the end of the housing closest to the breach, a part of the nozzle preferably passing through an aperture in the housing. The range of movement of the nozzle may be limited. Preferably, a part of the housing defines a cylinder, in which the nozzle moves. The nozzle may be provided with an enlarged portion the dimensions of which enable the enlarged portion of the nozzle to slide on the inner surfaces of the said cylinder.

[0037] The housing preferably comprises a trigger mechanism which may comprise a lever pivotally mounted on the housing. One end of the lever may be provided with a member which acts on the nozzle, so that when the other end of the lever is pushed or pulled, preferably pushed, the nozzle is forced towards the canister, depressing the outlet thereof releasing the fluid contained therein.

[0038] The lever of the trigger mechanism may be mounted on either or both sides of the housing. Alternatively, lever of the trigger mechanism may be mounted substantially towards the centre of the housing.

[0039] Preferably forward movement of the nozzle is limited by the trigger mechanism, and rearward movement of the nozzle is limited by a protrusion extending inwardly from the inner surface of the cylinder. The protrusion may be a clip located in a groove in the inner surface of the cylinder. A spring is preferably located between the nozzle and the said protrusion. The spring may be a coil spring.

[0040] It is preferable to provide a safety catch to prevent the trigger mechanism being operated. The safety catch may lock the lever of the trigger mechanism. Alternatively, the safety catch may lock the nozzle, preventing movement thereof when the lever is pressed. Means to move the safety catch between a safe position, where the release of the contents of the canister is prevented, and an unsafe position, where the release of the contents of the canister is permitted may be mounted on either or both sides of the housing.

[0041] A light unit may be provided and is preferably mounted on the housing.

[0042] Preferably the light unit is aligned with the sights of the gun.

[0043] The fluid may be an incapacitant such as incapacitants known in the art as CS, CN, CR or OC gas. The fluid may contain a marker, such as a dye. The fluid may be harmless, which is preferably used for the purposes of training users of guns equipped with a device according to the invention.

[0044] The invention provides a particularly advanta-
Figure 1 shows a semi-automatic rifle provided with a fluid ejection means according to the invention in use; Figure 2 shows a semi-automatic rifle provided with a fluid ejection means according to the invention; Figure 3 is a front view of a housing comprising a fluid ejection means according to the invention; Figure 4 is a sectional view along line A-A, of the device shown in Figure 3; Figure 5 is a side view of a housing comprising a fluid ejection means according to the invention; Figure 6 shows a hand gun provided with a fluid ejection means according to the invention in use; Figure 7 illustrates an aerosol canister for use with a fluid ejection means of the invention; Figure 8 is a cross-section of a fluid ejection means according to the invention; Figure 9 is an exploded view of the components of the fluid ejection means shown in Figure 8; and Figure 10 is a schematic representation of a rifle and the fluid ejection means shown in Figures 8 and 9.

Detailed Description of the Preferred Embodiments

[0048] Figures 1 and 2 illustrate a semi-automatic weapon 2, to which there is attached a housing 3 comprising a nozzle 4 through which a jet of fluid may be ejected, the ejection thereof being controllable by trigger 6. In Figure 1 the weapon 2 is held in a firing position by a marksman 1.

[0049] In the Figures 3 to 5 there is shown a housing generally indicated at 9. The housing 9 may be made from any suitable metal or plastics material, and is formed in a casting process.

[0050] Housing 9 is adapted to replace the fore-end of the gun to which it is to be attached. At the rearmost end of housing 9, the base portion 12 thereof is adapted to slidably engage a protruding part of the gun to which the housing is to be attached. Lip 11 is provided to limit vertical movement of the housing 9 when fitted to the gun. Housing 9 is locked in place by a pin which passes through aperture 10 and locates in a corresponding aperture in the gun to which the housing is attached. The upper part of the housing fits around the barrel of the gun.

[0051] Housing 9 is provided at its front end with cylinder 13, the rear corners 14 of which are chamfered. A groove is provided on the inner surface of cylinder 13. A circular spring clip is releasably retained in the said groove. The clip 15 together with the inner surface of cylinder 13 to the rear of clip 15 form a first means to retain aerosol canister 19. Aerosol canister 19 is a standard aerosol canister, which is well known in the art and is therefore not described in detail. Housing 9 can accommodate different sizes of canister.

[0052] Canister 19 is held in place by spacer 17, which is provided with a lip which co-operates with the side of canister 19 to prevent lateral movement thereof, and is biased towards the base of canister 19 by spring 18 which is mounted on and acts against wall 8 of housing 9. Alignment of canister 19 within housing 9 is assured by protrusion 16 upon which canister 19 rests. To accommodate different sizes of aerosol, a spacer 17 of a different size may be used.

[0053] The base of cylinder 13 is provided with an aperture 23, in which nozzle 24 is slidably mounted. An enlarged portion 25 of nozzle 24 slides within cylinder 13. Aperture 23 runs through nozzle 24. The diameter of aperture 23 varies along its length. The rearmost end of aperture 23 is adapted to receive outlet 21 of aerosol 19, chamfering enabling easy insertion of outlet 21 into aperture 23. A coil spring 22 is mounted between the front most surface of clip 15, and the rearmost surface of enlarged portion 25 of nozzle 24. The function of spring 22 is to bias nozzle 24 away from outlet 21.

[0054] The trigger mechanism comprises a pivot member 26 mounted forwardly of enlarged portion 25 of nozzle 24 on removable side plates 39. Firing pins 27 extend downwardly from pivot member 26 on either side of nozzle 24 and within cylinder 13. Trigger lever 28 is mounted on the righthand end of pivot member 26. As can be seen from Figure 5, the end of pivot member 26 is diamond shaped, so that movement of trigger lever 28 causes pivoting of pivot member 26 about its own axis. This in turn causes firing pins 27 to push against the forward surface of enlarged portion 25 of nozzle 25, thereby pushing nozzle 24 rearwardly. This in turn pushes outlet 21 into canister 19, which releases pressurized fluid therefrom. Screw 29 co-operates with an aperture in vertical member 32 which extends from pivot member 26. Trigger lever 28 is provided with an aperture adapted to receive vertical member 32. The left-hand end of pivot member 26 is provided with a head 30 and is held in place by a clip 31. The trigger mechanism can be adapted for left-handed use by removing screw 29. This allows trigger lever 28 to be slid off pivot member 26. After removal of the nozzle 24 pivot member 26 can be removed by removing side plates 39. These parts can then be reassembled with the trigger lever on the left-hand side of the housing 9.

[0055] Safety catch 34 is arranged to lock the nozzle in place. Safety catch 34 comprises a slidable shaft 35, each end of which is releasably attachable to a plate 34 provided with extension 33, and slidable within chambers 40. In the safe position shaft 35 co-operates with an indent in nozzle 24, thereby preventing movement thereof. As is illustrated in Figure 3, slidable shaft 35 has a portion 36 of reduced thickness. Pressing on extension 33 moves shaft 35 side ways, moving portion 36 of shaft 35 to a position beneath nozzle 24, and essentially centred on the centre line of nozzle 24. This permits nozzle 24 to move when actuated by the trigger mechanism. A spring means may be provided in chamber 40 to bias plate 34 outwardly, and hence shaft 35 into a position where it co-operates with the indent in...
nozzle 24 to prevent movement thereof. The provision of plates 34 at both ends of shaft 35 enables the safety catch to be operated by right or left-handed users.

[0056] Figure 5 shows housing 9 equipped with a tactical light unit 38, which may be aligned with the sights of the gun to which housing 9 is to be mounted.

[0057] To replace an aerosol canister 19, the pin must be removed from aperture 10, thereby allowing housing 9 to be pulled away from the rest of the gun. Spacer 17 is then removed which allows canister 19 to be moved rearwardly and removed from housing 9. A fresh canister 19 is then installed, first moving the outlet end thereof into co-operation with the inner surfaces of cylinder 13, and rear surface of clip 15. Spacer 17 is then inserted between spring 18 and the base of canister 19. Housing 9 is then re-attached to the gun by means of lip 11, end portion 12 and the pin which co-operates with aperture 10 in housing 9 and the gun.

[0058] To remove nozzle 24, canister 19, clip 15 and spring 22 must be removed, and the safety catch must be moved into its unsafe position.

[0059] Referring now to Figure 7, there is shown a canister 41 comprising a can 42 having a collar 48, a base 49, and a bag 43 having a tube 45 therein, one end of the tube being connected to a valve assembly 44 to which is connected an outlet 47. Around valve assembly 44 there is fitted a cap 46. Bag 43 contains a fluid 50 to be ejected through outlet 47. The bag 43 is inserted into can 42. A propellant fills the space between the bag 43 and the can 42. Cap 46 fits into the collar 48 of the can 42 to provide a sealed aerosol canister. This type of aerosol canister is available from IDC Systems AG of Switzerland.

[0060] The aerosol canister shown in Figure 7 is particularly useful because the canister need not be held upright to ensure ejection of the fluid 50. This is because the propellant squeezes the bag 43 thereby pressurizing its contents forcing them up the tube 45 and out of outlet 47 when the outlet 47 is depressed. Hence, if an assailant is above or below the officer he can still fire the weapon thereby causing fluid to be ejected against the assailant. Aerosols which do not contain the fluid in a bag may fail of course lead to a fatality.

[0061] Figures 8 to 10 show a fluid ejection means 60 comprising a mounting means in the form of a housing 61 to mount a pressurized canister 74 to a rifle 83. The housing 61 mounts a trigger 64 which is pivotally attached to the housing by means of a pin 63 which passes through holes 76 and 80 in the trigger and housing respectively. Trigger 64 has a portion 65 which is shaped to accommodate a finger. The longitudinal axis of the canister 74, i.e. the axis extending from the nozzle to the base of the canister, is at an angle of approximately 15 degrees to the vertical. Such an angle is sufficiently close to the vertical to permit the contents of most aerosol canisters to be ejected properly.

[0062] Housing 61 also comprises a trigger guard 66 and an elongate connector 62 which is so shaped and dimension as to fit into or on to a rail forming part of the fore-end of a gun.

[0063] As is best shown in Figure 8, a canister 74 fits into the body of housing 61 and is held in position by threaded cap 69, the said threads engaging with threads 68 of housing 61. By twisting cap 69, the canister can be raised or lowered, and furthermore, different sizes of canister can be used.

[0064] Nozzle 71 passes through a space, which may be an aperture, in trigger 64. A lip 77 around the base of nozzle 71 prevents the nozzle from being pushed through the said space. Nozzle 71 may be secured in the trigger 64, and may be releasably secured therein.

[0065] As can be seen from Figure 9, nozzle 71 comprises an outlet aperture the diameter of which increases to form a cavity 78 having faces 81 and 82. When the fluid ejection means 60 is assembled as shown in Figure 8, the domed end 70 of cap 69 pushes the canister 74 upwards such that the upper rim of outlet 75 engages with the faces 81 and 82 of cavity 78. When shaped portion 65 is depressed, the trigger 64 pivots about pin 63 moving the nozzle towards the canister 74 which causes the faces 81 and 82 to push the outlet 75 into the canister 74 thereby releasing fluid through cavity 78 and aperture 73. Outlet 75 is biased to a fluid retaining position. When pressure on the shaped portion 65 is released, the outlet 75 moves upwards pushing the trigger upwards and preventing the flow of fluid out of the canister 74 and hence nozzle 71.

[0066] The canisters of most commonly available aerosol incapacitants have concave bases. The domed end 70 of cap 69 also co-operates with the concave base of the canister held in housing 61 to ensure that the canister is held substantially centrally therein. The domed shape of cap 69 and the provision of threads 68 enables different shapes of canister to be used in the same fluid ejection means 60.

[0067] A safety catch 67 passes through an aperture 79 in the housing 61. The safety catch 67 may have a cut away portion and may be rotatable, so that when rotated to a firing position the trigger 64 can move into the space provided by the cut-away portion, but when in a safe position the surface of the safety catch prevents movement of the trigger 64.

[0068] Figure 10 shows a rifle 83 having a fore-grip 85 with a rail 85. Fluid ejection means 60 slides onto rail 85 of the fore-grip 85 of the rifle 83.

[0069] Placing the trigger at the fore-end of the gun makes its use simpler, and its mis-use less likely. If the trigger controlling the release of fluid is close to the bullet/shot firing trigger, and the two triggers are designed to be operated by the same hand, there is greater chance of the person firing the weapon to select the wrong trigger. The result of selecting the wrong trigger could of course lead to a fatality.

[0070] The fluid ejection means 60 shown in Figures
8 to 10 can be sold separately from the rifle 83, thereby allowing the weapon to be updated rather than replaced. The fluid ejection means 60 may also be attached to a pistol.

**Claims**

1. A weapon (2) comprising a firearm having a barrel through which a projectile may be propelled and a means for selectively ejecting a stream of fluid in a direction substantially parallel to the axis of the barrel, wherein the said means for selectively ejecting a stream of fluid comprises a housing (9, 61) mounted on the fore-end of the firearm, a fluid containing pressurised canister (19, 41, 74) having an outlet (21), the said pressurised canister (19, 41, 74) being removably mounted within the housing (9, 61), a nozzle member (24, 71) through which the said stream of fluid may pass, and a trigger mechanism, said mechanism including a trigger (28, 64) to selectively permit ejection of fluid from the pressurised canister (19, 41, 74), wherein the housing (9, 61) comprises an outlet through which a part of the nozzle member (24, 71) may pass and wherein the housing mounts the trigger mechanism, characterised in that the trigger (28, 64) is located towards the muzzle end of the said barrel, whereby in use said trigger (28, 64) is operated by a finger of the operator's hand supporting the fore-end of said weapon.

2. A weapon according to Claim 1, wherein the housing (9, 61) is releasably attachable to the fore-end of the firearm.

3. A weapon according to Claim 1 or 2, wherein the said means for selectively ejecting a stream of fluid is adapted to ensure that upon activation of the trigger mechanism fluid is ejected from the pressurised canister (19, 41, 74).

4. A weapon according to Claim 3, wherein the axis extending from the outlet (75) to the base of the pressurised canister (74) is at an angle of substantially 75 degrees to the longitudinal axis of the barrel of the firearm.

5. A weapon according to any preceding claim, wherein the pressurised canister (41) comprises a bag (43) containing fluid to be ejected, which bag is sealed around a valve (44) and pickup tube (45), the bag being mounted within a canister (41) and the remaining space in the canister being filled with a propellant which acts on the bag to eject fluid out of the tube.

6. A weapon according to any preceding claim, wherein the said means for selectively ejecting a stream of fluid is so aligned with the sights of the firearm to which it is attached that fluid is ejected substantially towards the point of aim of the firearm.

7. A weapon according to any preceding claim, wherein the pressurised canister is an aerosol canister.

8. A weapon according to any preceding claim, wherein the nozzle (24, 71) is interchangeable and/or adjustable.

9. A weapon according to any preceding claim, wherein the nozzle (24, 71) is engagable with the outlet (21, 47, 75) of the pressurised canister (19, 41, 74) and upon activation of the trigger mechanism the nozzle (24, 71) is moved towards the canister (19, 41, 74) to depress the outlet thereof causing ejection of the contents of the canister.

10. A weapon according to Claim 9, wherein the nozzle (24) is biased away from the outlet of the canister.

11. A weapon according to any preceding claim, wherein the fluid to be ejected is an incapacitant.

---

**Patentansprüche**

1. Waffe (2), welche eine Feuerwaffe mit einem Lauf, durch den ein Geschoss angetrieben werden kann, aufweist und ein Mittel zum wahlweisen Ausstoßen eines Flüssigkeitsstrahls in eine im wesentlichen zur Achse des Laufs parallelen Richtung, wobei das Mittel zum wahlweisen Ausstoßen eines Flüssigkeitsstrahls ein auf dem Vorderschaft der Feuerwaffe angebrachtes Gehäuse (9, 61), einen Flüssigkeit enthaltenden, unter Druck stehenden Behälter (19, 41, 74), der einen Auslaß (21) besitzt und abnehmbar innerhalb des Gehäuses (9, 61) angebracht ist, ein Düsenteil (24, 71), durch das der Flüssigkeitsstrom hindurchtreten kann, und einen Abzugsmechanismus aufweist, der einen Abzug (28, 64) zum wahlweisen Gestatten eines Flüssigkeitsausstoßes aus dem unter Druck stehenden Behälter (19, 41, 74) enthält, wobei das Gehäuse (9, 61) einen Auslaß aufweist, durch den ein Teil des Düsenteils (24, 71) hindurchtreten kann, und wobei das Gehäuse den Abzugsmechanismus haltet, dadurch gekennzeichnet, daß der Abzug (28, 64) in Richtung der Mündung des Laufs angeordnet ist, wodurch der Abzug (28, 64) bei Benutzung durch einen Finger der Hand des Schützen betätigt wird, die den Vorderschaft der Waffe unterstützt.
2. Waffe nach Anspruch 1, wobei das Gehäuse (9, 61) lösbar an den Vorderschaft der Feuerwaffe anbringbar ist.

3. Waffe nach Anspruch 1 oder 2, wobei das Mittel zum wahlweisen Ausstoßen eines Flüssigkeitsstrahls daran angepaßt ist sicherzustellen, daß auf Aktivierung des Abzugsmechanismus hin Flüssigkeit aus dem unter Druck stehenden Behälter (74) ausgestoßen wird.

4. Waffe nach Anspruch 3, wobei die Achse, die sich vom Auslaß (75) zur Basis des unter Druck stehenden Behälters (74) erstreckt, mit der Längsachse des Laufs der Feuerwaffe einen Winkel von im wesentlichen 75 Grad einschließt.

5. Waffe nach einem der vorangehenden Ansprüche, wobei der unter Druck stehende Behälter (41) einen auszustoßende Flüssigkeit enthaltenden Beutel (43) aufweist, der um ein Ventil (44) und ein Aufnahmehüft herum abgedichtet ist und innerhalb des Kanisters angebracht ist, und wobei der verbleibende Raum in dem Behälter mit einem Treibmittel gefüllt ist, das auf den Beutel einwirkt, um die Flüssigkeit aus dem Rohr auszustoßen.

6. Waffe nach einem der vorangehenden Ansprüche, wobei das Mittel zum wahlweisen Ausstoßen eines Flüssigkeitsstrahls so ausgerichtet ist im Verhältnis zum Visier der Feuerwaffe, an welcher es angebracht ist, daß die Flüssigkeit im wesentlichen in Richtung des Zielpunkts der Feuerwaffe ausgestoßen wird.

7. Waffe nach einem der vorangehenden Ansprüche, wobei der unter Druck stehende Behälter ein Aerosolbehälter ist.

8. Waffe nach einem der vorangehenden Ansprüche, wobei die Düse (24, 71) austauschbar und/oder einstellbar ist.

9. Waffe nach einem der vorangehenden Ansprüche, wobei die Düse (24, 71) mit dem Auslaß (21, 47, 75) des unter Druck stehenden Behälters (19, 41, 74) verbindbar ist, und die Düse (24, 71) auf Aktivierung des Abzugsmechanismus hin in Richtung des Behälters (19, 41, 74) bewegt wird, um dessen Auslaß zu drücken, wodurch ein Ausstoß des Inhalts des Behälters verursacht wird.

10. Waffe nach Anspruch 9, wobei die Düse (24) weg von dem Auslaß des Behälters vorgespansnt ist.

11. Waffe nach einem der vorangehenden Ansprüche, wobei die auszustoßende Flüssigkeit ein Außergefechtsetzungsmittel ist.

Revendications

1. Arme (2) comprenant une arme à feu ayant un canon à travers lequel un projectile peut être propulsé et un moyen pour éjecter de façon sélective un courant de fluide dans une direction sensiblement parallèle à l'axe du canon, ledit moyen pour éjecter de façon sélective un courant de fluide comprenant un carter (9, 61) monté sur l'extrémité avant de l'arme à feu, un récipient sous pression (19, 41, 74) contenant le fluide et ayant une sortie (21), ledit récipient sous pression (19, 41, 74) étant monté de façon amovible à l'intérieur du carter (9, 61), un élément de buse (24, 71) à travers lequel ledit courant de fluide peut passer, et un mécanisme de déclenchement, ledit mécanisme comprenant un déclencheur (28, 64) pour permettre de façon sélective l'éjection de fluide à partir du récipient sous pression (19, 41, 74), le carter (9, 61) comprenant une sortie à travers laquelle une partie de l'élément de buse (24, 71) peut passer, et le carter supportant le mécanisme de déclenchement, caractérisé par le fait que le déclencheur (28, 64) est situé vers l'extrémité de bouche dudit canon, ce par quoi, lors de l'utilisation, ledit déclencheur (28, 64) est actionné par un doigt de la main de l'opérateur supportant l'extrémité avant de ladite arme.

2. Arme selon la revendication 1, dans laquelle le carter (9, 61) est apte à être attaché de façon libérable à l'extrémité avant de l'arme à feu.

3. Arme selon l'une des revendications 1 et 2, dans laquelle ledit moyen pour éjecter de façon sélective un courant de fluide est adapté pour assurer que, lors de l'activation du mécanisme de déclenchement, du fluide est éjecté du récipient sous pression (74).

4. Arme selon la revendication 3, dans laquelle l'axe s'étendant de la sortie (75) à la base du récipient sous pression (74) est à un angle de sensiblement 75 degrés par rapport à l'axe longitudinal du canon de l'arme à feu.

5. Arme selon l'une quelconque des revendications précédentes, dans laquelle le récipient sous pression (41) comprend un sac (43) contenant le fluide devant être éjecté, lequel sac est scellé autour d'une valve (44) et d'un tube plongeur (45), le sac étant monté à l'intérieur du récipient (41) et l'espace restant dans le récipient étant rempli d'un propulseur qui agit sur le sac pour éjecter le fluide hors du tube.

6. Arme selon l'une quelconque des revendications précédentes, dans laquelle ledit moyen pour éjecter de façon sélective un courant de fluide est aligné
avec la hausse de l'arme à feu à laquelle il est attache de telle sorte que le fluide soit ejecte sensiblement vers le point de mire de l'arme à feu.

7. Arme selon l'une quelconque des revendications precedentes, dans laquelle le recipient sous pression est un recipient aerosol.

8. Arme selon l'une quelconque des revendications precedentes, dans laquelle la buse (24, 71) est interchangeable et/ou ajustable.

9. Arme selon l'une quelconque des revendications precedentes, dans laquelle la buse (24, 71) est apte à être engagée avec la sortie (21, 47, 75) du recipient sous pression (19, 41, 74) et, lors de l'activation du mécanisme de déclenchement, la buse (24, 71) est déplacée vers le recipient (19, 41, 74) pour enfoncer la sortie de celui-ci provoquant l'éjection du contenu du recipient.

10. Arme selon la revendication 9, dans laquelle la buse (24) est sollicitée à l'opposé de la sortie du recipient.

11. Arme selon l'une quelconque des revendications precedentes, dans laquelle le fluide devant être ejecté est un incapacitant.