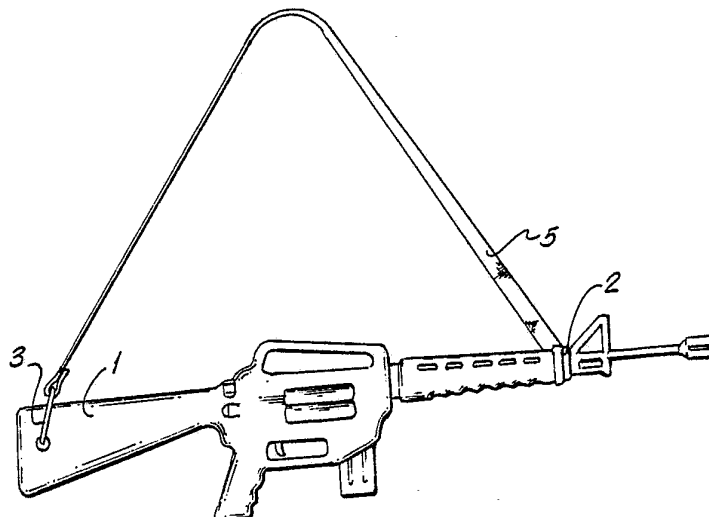




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: REVERSIBLE QUICK-POINT RIFLE AND SHOTGUN SLING SWIVEL**(57) Abstract**

The sling assembly for a rifle, shotgun or similar firearm consists of a butt portion (1) of the stock of a rifle, a rear or first multi-directional swivel (3) which is pivotally attached between the toe and the heel of the same butt portion of the stock of the firearm, a fore-end portion (2) of the stock of the same firearm, a front or second multi-directional swivel (4) which is pivotally attached to one of the two sides of said fore-end portion (2) of the same firearm stock, and connected to the rear of first multi-directional swivel (3) and the front or second multi-directional swivel (4) is a sling or strap (5) whose length is adjustable. A firearm equipped with this sling assembly can be carried conveniently in various ready-to-fire positions without tiring the arms of the person carrying the firearm and can be fired quickly with considerable accuracy since the first swivel (3) guides the butt (1) to the correct point of the shoulder. In target shooting the strap (5) is tightened so that the first swivel (3) braces the butt against the shoulder and the forearm portion is supported by the second swivel (4) from the back of the shooter-score goes up. By pushing the rifle towards the target, full automatic fire is controlled.

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REVERSIBLE QUICK-POINT RIFLE AND SHOTGUN SLING SWIVEL
SPECIFICATION

This invention relates to an accessory for a long firearm, and more particularly to a sling assembly for rifle, shotgun or similar firearms.

5 Conventional sling for rifles have their rear swivels attached to the toes of the rifle butts and their front swivels to the bottoms of the fore-ends of the rifle stocks. The main purpose of this kind of sling assembly is to carry the rifle at the back of a person during parade or long hike.

10 In target practice, when the shooter is in prone, sitting or kneeling position, the sling helps to make a rigid brace for the arm that supports the rifle under the barrel. However, in combat or in fast shooting, the same sling becomes superfluous and cumbersome. In case of emergency such as during ambush, it takes a long time and deliberate movement to untangle the sling from his shoulder and put the rifle at firing position. Precious seconds are lost and the delay may even cost his life.

20 Some European soldiers made some improvement by attaching the swivels at the sides of their sub-machineguns so that they can fire the same from waist or hip level during emergency with the slings still attached at their shoulders. But firing the firearms from the hips or waist requires a lot of practice and consumption of considerable quantity of ammunitions. Some users of submachineguns have developed the tendency to "walk" the bullets towards the targets, hitting a target beyond ten meters from the waist or hip level becomes a guesswork.



The present sling assembly, as embodied in this invention, allows a rifle, shotgun, or even sub-machineguns, to be carried in a ready position at a waist or hip level parallel to the ground, without tiring the arms of the soldier. At this ready position, the firearm can be fired instantly from the waist, hip and more importantly mounted at the shoulder and fixed at eye level for accurate firing or shooting.

The object therefore of this invention is to provide a sling assembly for a rifle, shotgun or similar firearm that considerably increases the usefulness of the firearm.

Another object of this invention is to provide a sling assembly for a rifle, shotgun or similar firearm which allows said firearm when carried, while walking, sitting or in standing position, to have its sling secured across the shoulder of the soldier or hunter and to hold the grip comfortably by one hand.

Another object of this invention is to provide a sling assembly for a rifle, shotgun or similar firearm which allows said firearm, to be carried conveniently in ready-to-fire position by securing its sling across the shoulder of the soldier or hunter with the firearm parallel to the ground at hip or waist level at his left or right side and allowing him to hold the firearm grip with only one hand, while its weight is borne through the shoulder, thus preventing undue strain on his arms.

Still another object of this invention is to provide a sling assembly for a rifle, shotgun or

similar firearm which allow said firearm to be fired
instantly from the waist or hip level, if necessary, but
more importantly moved instantly upward from the waist
or hip level and mounted at the shoulder and fired at
5 eye level with considerable accuracy. The sling
assembly automatically guides the butt to the correct
point at the shoulder.

A further object of this invention is to provide
a sling assembly for a rifle, shotgun or similar firearm
10 which allows a soldier or hunter, while sitting down or
relaxing, to place his firearm at the back, but ensuring
that he can immediately put said firearm in ready-to-
fire position in case of emergency.

A further object of this invention is to provide a
15 sling assembly for a rifle, shotgun or similar firearm
whose sling portion does not only aid the shooter in
steadying his shots in conventional or target positions,
but also firing in full automatic in actual combat.

Other objects and advantages of this invention
20 will become clear and apparent as this specification
proceeds.

In the drawings:

Fig. 1 is a side elevational view of a military
rifle with a sling assembly and showing its sling
25 portion positioned above the rifle;

Fig 2 is a side elevational view of a military
rifle with a sling assembly and showing its sling
portion positioned beneath the rifle;

Fig. 3 is an end view of a rifle butt showing how
the rear swivel of the sling assembly is attached to the
butt;



Fig. 4 is a perspective and exploded view of the rear swivel of the sling assembly;

Fig. 5 is a partial and side elevational view of a military rifle showing how the front swivel of the sling assembly is attached to the fore-end of the rifle stock;

Fig. 6 is a perspective view of the front swivel, including its fittings, in exploded arrangement;

Fig. 7 is an edge view of the same swivel, including its fittings, in exploded arrangement;

Fig. 8 is a partial and side view of a rifle butt showing a modified form of a rear swivel of the sling assembly;

Fig. 9 is an end view of a butt showing the same rear swivel;

Fig. 10 is a partial and side elevational view of a butt with its portion removed to show how this rear swivel is secured to the butt and with its swivel pointed towards the heel of the butt;

Fig. 11 is a partial and side elevational view of a butt with its portion removed to show how this rear swivel is secured to the butt and with its swivel pointed towards the rear end of the toe of the butt;

Fig. 12 is a rear end view of this rear swivel detached from the butt;

Fig. 13 is a side elevational view of a military rifle with a sling assembly and showing its sling portion positioned above the rifle using another modified form of rear swivel;

5
Fig. 14 is a partial and side elevational view of a rifle butt showing this modified form of rear swivel of the sling assembly;

Fig. 15 is an end view of a rifle butt showing how this modified form of rear swivel is attached to the butt;

Fig. 16 is a perspective view of this modified form of rear swivel together with its fitting in exploded arrangement;

10 Fig. 17 is a partial and side elevational view of a rifle butt showing another modified form of rear swivel of the sling assembly;

Fig. 18 is an elevational view of the same rear swivel;

15 Fig. 19 is another elevational view of this rear swivel; and

Fig. 20 is a perspective and exploded view of this rear swivel.

20 Referring to Figs. 1, 2, 3, 4, 5, 6, and 7, the sling assembly, which is the basic form of the invention, includes a rear portion of the butt 1 of a firearm stock, a fore-end 2 of the same stock, a rear swivel 3 pivotally attached between the toe and the heel of the butt 1, a front swivel 4 pivotally attached to the fore-end 2 of the firearm stock and a sling 5
25 of considerable length whose ends are connected to the rear and front swivels 3 and 4.

Specifically, the rear swivel 3 has a U shape and provided with an elongated opening or slot 3a at its outer and portion through which the sling or strap



5 is inserted to prevent it from slipping sidewise. The two ends portions of the rear swivel 3 are turned inwardly forming short shafts 3b. Forming parts of the rear swivel are two washers 3c with small screw holes. The swivel 3 is pivotally attached to the butt 1 of the firearms stock, between its heel and toe, by securing its short shafts 3b through the center holes of the washers 3c which are in turn fastened to the sides of the butt 1 by suitable wood screws and allowing the swivel 3 to pivot or swing at about 180 degrees from the toe to the heel and vice versa.

The front swivel 4 has a T shape with elongated opening or slot 4a at its enlarged outer or end portion through which the sling or strap 5 is inserted. The front swivel 4 has also at its pivot end a hole 4b for rotatably securing the front swivel 4 to the side of the fore-end 2 of the rifle stock by means of a screw or bolt 4c and a pair of washers 4d. If the fore-end 2 of the rifle stock is made of wood, a wooden screw 4c may be used. However, if the fore-end 2 is made of plastic or nylon material, a bolt 4c, together with metal strap 4e and nut 4f may also be used, as illustrated in Figs. 5 and 7.

Inasmuch as the rear swivel 3 is pivotally connected to the butt 1 between its toe and heel, and the front swivel 4 is rotatably attached to one side of the fore-end 2 of the firearm stock it becomes obvious that the sling 5 can easily be placed to the barrel side or to the stock side of the firearm, as illustrated in Figs. 1 and 2.



The second embodiment of this invention is basically similar to the first embodiment, except that this sling assembly, as shown in Figs. 8, 9, 10, 11 and 12 has a modified butt 6 and a modified rear swivel 7.

The butt 6 has a cut or slot 6a along the elongated cross section of its end portion defining a narrow back wall 6b that extends from the tow to the heel of the same butt 6.

The swivel 7 is in the form of a pivoting rod having an enlarged outer end provided with an elongated opening 7a through which the sling 5 is secured and provided at its inner or pivot end with pin hole. Forming part of the swivel 7 is its holding member 8 which is formed by two parallel rectangular side plates 8a having a common back plate 8b and a bottom plate 8c. The plates 8a are both provided with aligned pin holes; while the back and bottom plate 8b and 8c are, respectively, have two holes and two threaded holes.

The swivel 7, through its inner or pivot end, is pivotally secured to the holding member 8, through its side plates 8a, by means of a pin 9. The holding member 8 is secured inside the slot 6a of the butt 6, near its toe, by fastening the same by means of screws 10, through its back plate 8b, to the back wall 6b of the slot 6a. Fitted to the threaded hole of the bottom plate 8c, adjacent to the back plate 8b, is a fixing screw 11, and fitted to the other threaded hole of the same bottom plate 8c is an adjustment screw 12. It will be observed from Figs. 10 & 11 that the swivel

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rod has a short extended portion beyond its pin hole, so that if the tip of the fixing screw 11 is not pressing against this extended portion of the swivel rod, the swivel 7 is free to move about its pivot, allowing the same to swing at about 90 degrees. The adjustment screw 12 is used for predetermining the degrees of swing of the swivel 7; while the fixing screw 11 is designed for fixing the swivel 7 at the end of the swing.

10 Although this modified swivel 7 has also the same basic features as that of the swivel 3, it has, however, one good advantage particularly if applied or used on a shotgun or target rifle. If this swivel 7 is fixed in the horizontal position as a rear extension of the butt 6, the swivel 7 fits the shooter's armpit and at the same time brings the barrel of the firearm to eye-level to facilitate 15 sightings.

 The third embodiment of the same invention is similar to the foregoing embodiment, except that this sling assembly, as shown in Figs. 13, 14, 15, and 16, 20 has a modified rear swivel 13.

 This rear swivel 13 has a T shape with elongated or slot 13a at its enlarged outer or end portion through which the sling or strap 5 is inserted. The rear swivel 25 13 has also at its pivot end a hole 13b and forming part of this rear swivel 13 are the required fittings consisting of a bolt or screw 14, a sleeve 15 and may also include a washer 16 and a nut 17.

 If the butt 6 is made of plastic or nylon all the above-mentioned fittings will be included. However,

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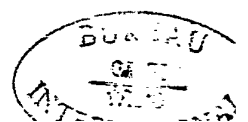


certain distance from each other. Forming parts of the rear swivel 18 are link holder 19, a screw 20 and a washer 21. The link holder 19 is in the form of a small
5 piece of metal block with a short cylindrical base and having two opposite shoulders, each of which is defined or formed by horizontal surface 19a and vertical surface 19b. The link holder 19 has an axial hole 19c which extends from its top through the center of its base and
10 a hole 19d passing transversely across its middle portion and crossing the axial hole 19c to position each end of the hole 19d just above the horizontal surface 19a of its base.

The rear swivel 18 is adapted to be pivotally
15 attached to the link holder 19 by a securing its two ends through the hole 19d. Rotatably secured to the screw is the link holder 19, through its axial hole 19c. It will be observed that the link 18 which can be rotated, together with the link holder 19, at 360 degrees with
20 respect to the screw 4 will not anyway scratch the rifle butt. It is understood that a bolt together with a nut may also be used instead of a screw, particularly if the butt 6 is made of plastic or nylon.

Although it is not clearly shown in the drawings,
25 it is also understood that the length of the strap or sling 5 is adjustable to fit the size of the soldier or shooter:

While but four preferred embodiments of the invention with various modifications have been shown and described, it is apparent that some more modifications and changes may be made therein within spirit and scope of the invention:



- 11 -

I claim:

1. A sling assembly for a long firearm
comprising

5 a butt portion of the stock of said firearm;
a first multi-directional swivel pivotally attached
between the toe and the heel of said butt portion;
a fore-end portion of the stock of said firearm;
a second multi-directional swivel pivotally
10 attached to one of the two sides of said fore-end
portion of said stock; and

a strap, one end of which being attached to the
first multi-directional swivel and the other end of which
being attached to the second multi-directional swivel
15 and said strap being adapted to be easily positioned
above or below said firearm when the latter is in
horizontal firing position and allowing said firearm to
be carried conveniently in various positions that can be
instantly put into firing position.

20 2. A sling assembly according to claim 1,
wherein said first multi-directional swivel having a
U-shape whose two ends are provided with short shafts
which are correspondingly and pivotally secured to the
two sides of the butt portion of said stock allowing said
25 swivel to swing at about 180 degrees from the top to the
heel of said butt and vice-versa.

3. A sling assembly according to claim 2, wherein
said first multi-directional has an elongated slot at its
outer end through which said sling is secured.



4. A sling assembly according to claim 1, wherein
said butt portion has a slot along its elongated cross
section and that said first multi-directional swivel
has a rod portion and pivotally secured in said slot
5 allowing said swivel to swing from the heel at about
90 degrees towards the toe and vice-versa and allowing
said swivel to serve as an extension of said butt
portion to fit a shooter's armpit when the barrel of said
firearm is placed at eye-level.

10 5. A sling assembly according to claim 1, wherein
said first multi-directional swivel is attached to one
side of said butt portion allowing the same to rotate
at 360 degrees about its connecting means.

15 6. A sling assembly according to claim 5,
wherein said first multi-directional swivel has a T
shape formed from a flat sheet having an elongated
opening at its outer and enlarged portion through which
said sling is secured.

20 7. A sling assembly according to claim 5,
wherein said first multi-directional swivel has a
T shape made from a steel wire and having an adapting
means through which said swivel is pivotally and having
a connecting means through which said adapting means
is rotatably secured.

FIG. 1.

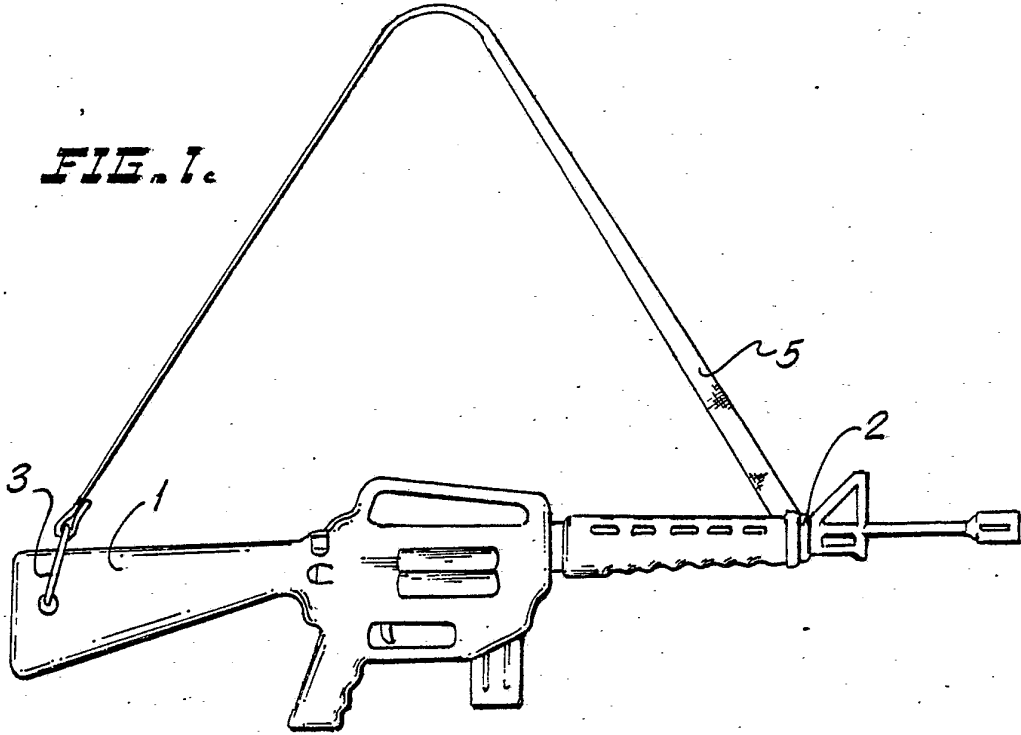


FIG. 2.

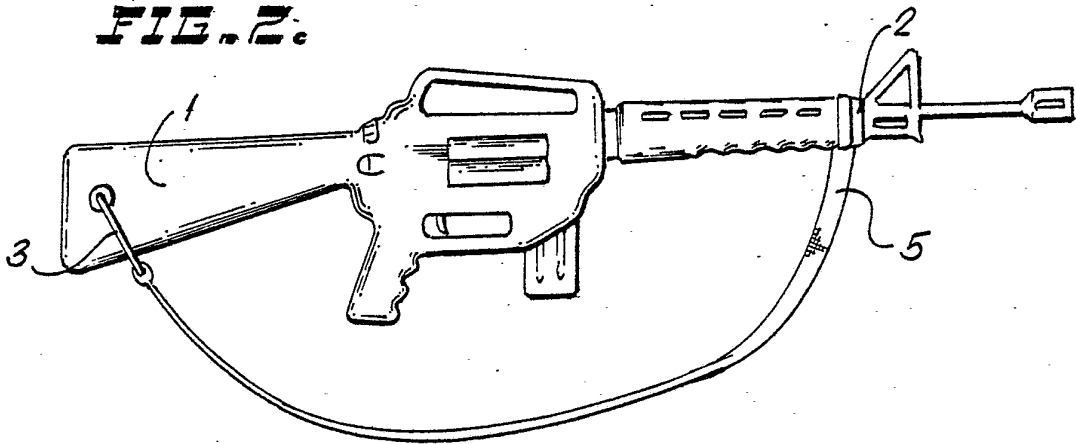


FIG. 3.

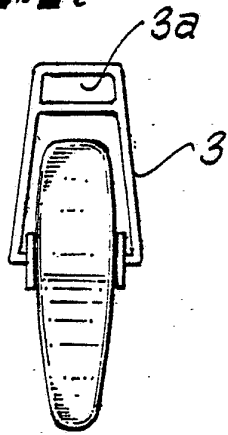


FIG. 4.

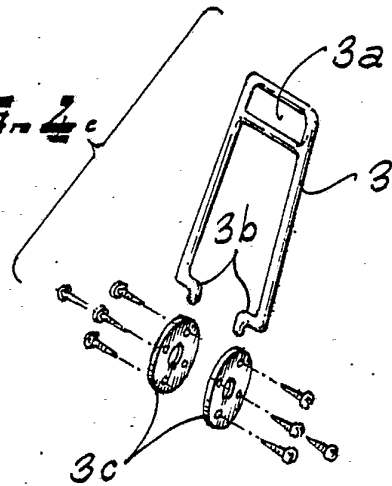


FIG. 5.

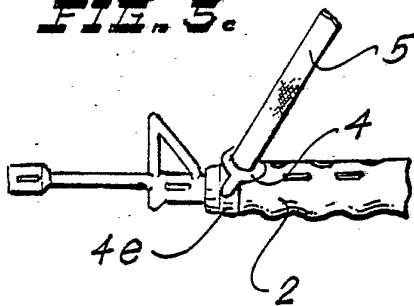


FIG. 6.

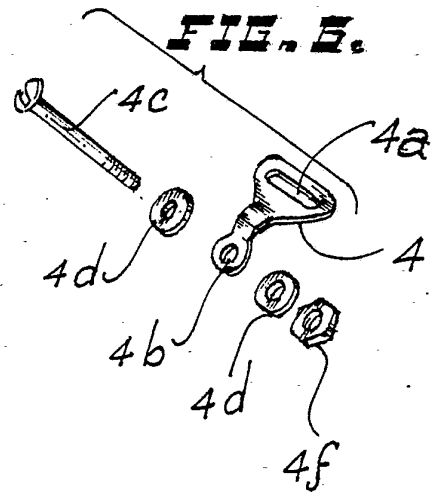


FIG. 7.

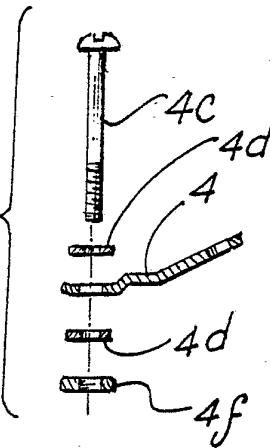


FIG. 8c.

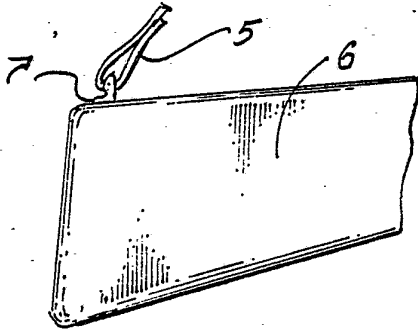


FIG. 9c.

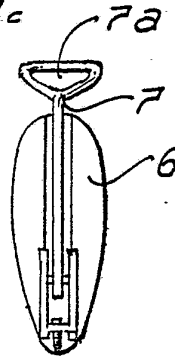


FIG. 10c.

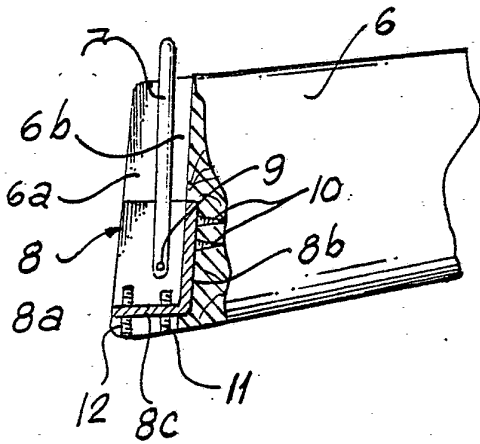


FIG. 11c.

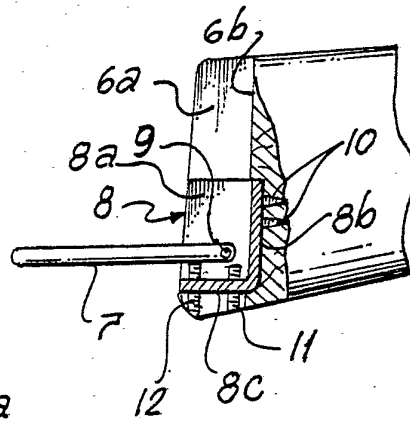


FIG. 12c.

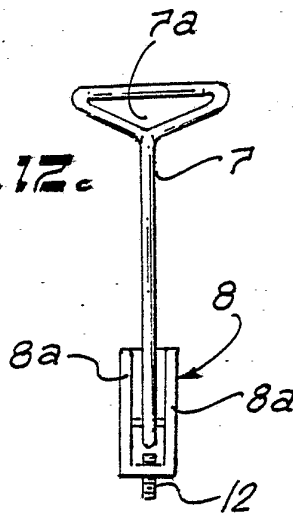


FIG. 13c

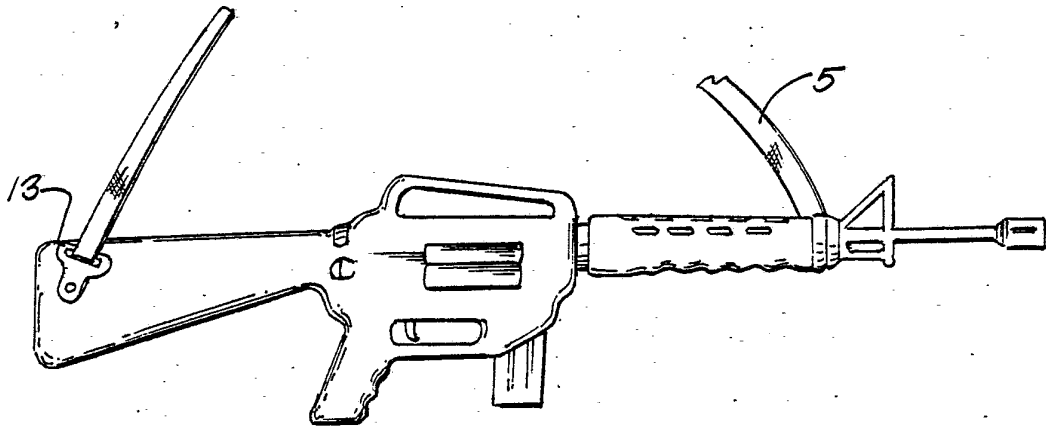


FIG. 14c

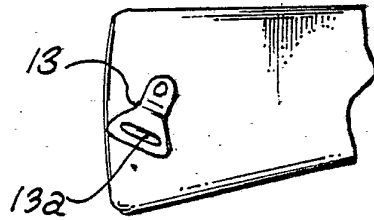


FIG. 15c

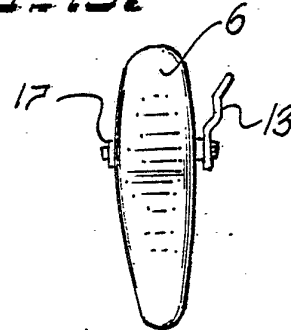


FIG. 16c

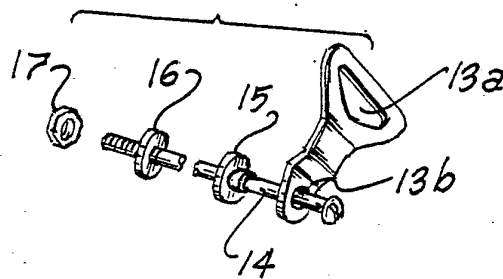


FIG. 17.

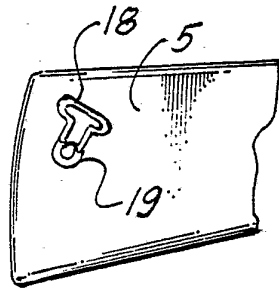


FIG. 18.

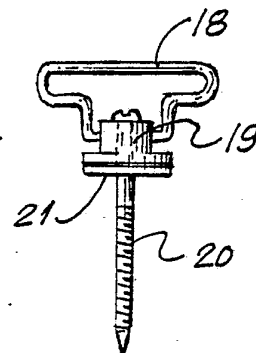


FIG. 19.

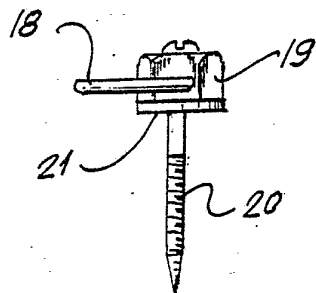
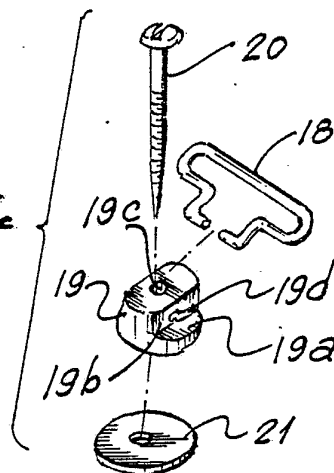


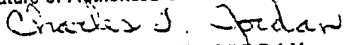
FIG. 20.



INTERNATIONAL SEARCH REPORT

PCT/US84/01094

International Application No

| | | |
|--|--|-------------------------------------|
| I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³ | | |
| According to International Patent Classification (IPC) or to both National Classification and IPC | | |
| INT CL3 F41C 23/02 US CL 42/85 | | |
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| US | 42/71R, 85. 224/150 | |
| Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵ | | |
| III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴ | | |
| Category * | Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷ | Relevant to Claim No. ¹⁸ |
| X | US, A, 2,335,357 (Pugsley et al) 30 Nov. 1943 | 1 |
| X | US, A, 2,350,484 (Williams) 6 June 1944 | 1 |
| X | US, A, 2,885,812 (Arpin) 12 May 1959 | 1,5,6,7 |
| X,Y | US, A, 3,441,185 (Moomaw) 29 April 1969 | 1,5,6,7 |
| A | US, A, 3,665,632 (Ford) 30 May 1972 | |
| <p>* Special categories of cited documents: ¹⁵</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> | | |
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| International Searching Authority ¹ | Signature of Authorized Officer ²⁰ | |
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