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(54) **Quick point reversible sling swivel assembly for rifle, shotgun or the like.**

(57) This sling assembly (1) for a long firearm is formed by a butt portion (2) of the firearm which is provided with a hold located between its toe and heel, a rear swivel (6) with a tubular receptacle (13) and this rear swivel (6) which has a shaft portion (6a) is rotatably secured to the hole of the butt portion (2) through this tubular receptacle (13) allowing the rear(4) swivel to be disposed at either side of the butt portion (2). Forming parts also of the sling assembly (1) are the fore-end portion (5) of the firearm, a front swivel structure which consists of a front swivel (7) and fittings through which this front swivel (7) is rotatably attached to the either side of the fore-end portion (5), and connected to the rear swivel (6) and to the front swivel (7) are the two ends of a sling (8) which could be positioned either above or below the firearm when the same is in horizontal position, thus allowing the person holding the firearm to carry the same in ready-to-fire positions and in other manners convenient to him.

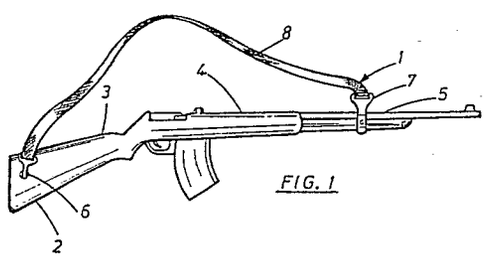

FIG. 1

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Description

QUICK POINT REVERSIBLE SLING SWIVEL ASSEMBLY FOR RIFLE, SHOTGUN OR THE LIKE

This invention relates to a firearm accessory and and more particularly to a quick point reversible sling swivel assembly for a rifle, shotgun or the like.

Conventional sling assemblies for rifles, shotguns and other similar firearms have their rear swivels attached to the toes of the firearm butts and the front swivels to the bottom sides of the fore-ends of their stocks. The main purpose of this kind of sling assemblies is to carry the firearms at the back of the persons during parade or long hike.

In target practice, when the shooter is in prone, sitting or kneeling position, the sling is used to brace the arm that supports the rifle under the barrel. However, in combat or in fast shooting, the same sling becomes superfluous or cumbersome. In case of emergency, a person whose rifle is at his back would take considerable time and deliberate movement to untangle the sling of his rifle from his shoulder and put the same at firing position. Obviously, this delay may cost his life.

Some European soldiers made some improvement by attaching the swivels at the side of the submachineguns, so that they could fire the same from the waist or hip level during emergencies with slings still attached at their shoulders. But firing the firearms from the hip or waist level requires a lot of practice and consumption of considerable quantity of ammu nitions. Some users of submachineguns have developed the tendency to "walk" the bullets towards the targets, in this way hitting the target beyond ten meters from the waist or hip level becomes a gueeswork.

The present quick point reversible sling swivel assembly or sling assembly for short, as emboided in this invention, allows a rifle, shotgun or a submachinegun to be carried in a ready and well balanced position at a waist or hip level with its barrell parallel to the ground, without tiring the arms of the person carrying the firearm. At this ready position, the firearm can be fired instantly from the waist or hip if necessary, and importantly mounted the firearm butt 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 which considerably increases the usefulness fo the fire arm to which this sling assembly is attached.

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 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 a ready-to-fire and well balanced position by securing its sling across the shoulder of the soldier or hunter with the firearm parallel to the ground at hip or waist lever either at his left or right side, allowing him to hold the firearm grip only by one hand, or with both hands free, or with the firearm vertical to the ground, while its weight is borne through his shoulder, thus preventing undue stress on his arm.

Still another object of this invention is to provide a sling assembly for a rifle, shotgun or similar firearm which allows said firearm to be fire instantly from the waist or hip level, if nece ssary, but more importantly moved instantly upward and mounted the rear end of its butt at the shoulder and fixed at eye level with considerable accuracy.

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

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

Still a further object of this invention is to provide a sling assembly for a rifle, shotgun, or similar firearm whose rear sling swivel includes a screw driver-like shaft which can be used for assembling or disassembling said firearm.

These and other objects and advantages of the present invention will appear hereinafter as this specification proceeds, reference being had to the accompanying drawings, in which:

Fig. 1 is a side view of a rifle with the sling assembly;

Fig. 2 is a perspective view of a front swivel structure;

Fig. 3 is a side view of the same front swivel structure:

Fig. 4 is a top view of the same front swivel structure;

Fig. 5 is an end view of the same front swivel structure:

Fig. 6 is an exploded view showing the pivoting portion of the front swivel and the sleeved retainer washer;

Fig. 7 is a perspective view of the rear swivel together with its tubular receptacle;

Fig. 8 is a side view of the same rear swivel and its tubular receptacle;

Fig. 9 is a side view of a shaft of the rear swivel showing its tapered end:

Fig. 10 is a cross-sectional view in enlarged size, taken accross line 10-10 of Fig. 8; and

Fig. 11 is a cross-sectional view taken across line 11-11 of Fig. 9.

Referring to the drawings, the sling assembly 1 includes a rear portion of the butt 2 of the stock 3 of the firearm, a fore-end 5 of the firearm 4, a rear swivel 6 pivotally attached between the toe and the heel of the butt 2, a front swivel structure formed by

a front swivel 7 and some fitting attached to the fore-end of the firearm 4, a strap or sling 8 of suitable length whose ends are connected to the rear swivel 6 and the front swivel 7 allowing this sling 8 to be positioned above or below said firearm 4 when it is in horizontal position.

The butt 2 is understood to be provided with a hole between its heel and toe.

The rear swivel 6, as illustrated in Figs. 7, 8 and 9, is formed by a shaft 6a bent at right angle at its middle portion and a T-shaped portion 6b at its end with elongated slot 9 along its central portion. The slot 9, although positioned at different level with respect to the axis of the main portion of the shaft 6a, has its center aligned with the axis of the bent portion of the shaft 6a and that the entire slot 9 is perpendicular with said axis. The shaft 6a has a tapered end 10 so that the rear swivel 6 can also be used as a screw driver for assembling and disasembling the firearm parts. The main shaft 6a of the rear swivel 6 has a C-shaped groove 11 leaving a tiny uncut portion of key 12, as shown in Fig. 11.

The rear swivel 6, through its main shaft 6a, is rotatably attached to the firearm 4 by means of a tubular receptacle 13 which in turn is embedded in the butt hole located between the toe and heel of the butt 2, as shown inFig. 1. This tubular receptacle 13 is provided with a ring groove 14 at its middle part. A small segment of this groove 14 has a deeper cut to provide a slot 14a. and secured to this groove 14 is a semi-circular retainer ring 15 whose straight portion fits in the slot 14a and protruding from the inner sidewall of the tubular receptacle 13, as illustrated in Fig. 10. Although, it is not shown in the drawings, the same tubular receptacle 13 may have outer threads at its two end portions and removably fitted to these two end portiions are the two corresponding retainer nuts 13a for securing tightly the tubular receptacle 13 to the butt 2. These retainer nuts 13a, as shown in Figs. 7 and 8, may have knurls on their lateral surfaces. However, this tubular receptacle 13 may not have outer threads at its two end portions if its outside or lateral surface is made rough and force fitted into the butt hole with suitable glue.

When the shaft 6a of the rear swivel 6 is inserted into the tubular receptacle 13, it pushes the straight portion of the retainer ring 15 outward until said portion becomes interlooked with the C-shaped groove 11 of the rear swivel 6. At such position, the rear swivel 6 can be rotated back and forth about the side of the butt 2 with ease. If the force used in rotating the swivel 6 is not so strong, a complete rotation or turn of 360 degrees cannot be made because of the presence of the of the straight portion of the retainer ring 15 in the slot 14a that obstructs the key 12 of the C- shaped groove 11 of the swivel 6. However, once a strong force is applied to rotate the swivel 6 a little further, the key 12 pushes the straight portion of the retainer ring 15 outward, and at such angular position of the key 12, the rear swivel 6, particularly its shaft 6a, can be easily pulled out from the tubular receptacle 13. It will be observed that the holes at both ends of the tubular receptacle 13 are identical in size and that its groove 14 is located at the middle part, as such, the swivel 6 can likewise be placed at the other side of the butt 2, a feature that would make this rear swivel 6 very useful to right-handed or left-handed person.

In detail, the front swivel 7 is made of metal sheet with uniform thickness. Basically, it has a T-shape with elongated slot 16 at its enlarged head and a tongue 17 which protrudes from its outer end and a hole 18 at its pivotal end. If will also be notices that this slot 16 and the tongue 17 are formed by the cut along the outer end portion and the 90 degree bent of this portion. Through the slot 16, the sling 8 is secured or attached to the front swivel 7, however, the portion of the sling 8 hold by the swivel part is shielded by the tongue 17 to prevent this sling portion from scratching on the surface of the fore-end of the firearm 4.

This front swivel 7 is attached to the fore-end 5 which consists of the barrel and the gas tube of the firearm 4 by means of the required fittings. And these fittings, as illustrated in Figs. 2, 3, 4, 5 and 6, consist of a retainer washer 19, a sleeved retainer washer 20, a bolt 21 and a lock nut 22 with bended tail 22a. The washers 19 and 20 are both rectangular in shape and of the same size, and each having curved end portions. The lock nut 22 may also be rectangular in shape but shorter than the washers 19 and 20 and its tail 22a protrudes outward from the center of one of its long sides and then bent at right angle. The retainer wahser 19 and the sleeved retainer washer 20, with their curved end portions facing correspondingly each other are placed at both sides of the barrell and gas tube of the fore-end 5 and held together by the bolt 21 which passes, through the space between the barrel and the gas tube. And then the front swivel 7 is disposed adjacent the sleeved retainer washer 20 securing the hole 18 of the former to the sleeve 20a of the latter, and the same swivel 7 is held at its place by the lock nut 22. Tightening of this lock nut 22 upon clockwise rotation of the bolt 21 pushes the washers 19 and 20, like a pair of clamps, towards the barrel and gas tube until the entire front swivel structure is rigidly secured to the fore-end 5 of the firearm 4.

The presence of the curved and portions on the washers 19 and 20 and that of the tail 22a on the lock nut 22, apparently, would not allow these washers and this lock nut to rotate together with the bolt 21 when tightening or loosening the same. In addition, the tail 22a of the lock nut 22 restricts or limits the rotational movement of the front swivel 7. Although the front swivel structure is tightly fitted to the fore-end 5 of the firearm 4, the sleeve 20a of the retainer washer 20 being thicker than the thickness of the swivel 7, prevents the lock nut 22 from pressing or tightening on the pivotal end of the swivel 7, thus it is free to rotate back and forth at less than 360 degrees.

It will, of course, be understood that the present sling assembly is presented by way of example and that in the practice of the invention, numerous changes and modifications and the full use of equivalent parts may be resorted to without departing from the spirit or scope of the invention as outlined in the appended claims.

Claims

1. A sling assembly for a firearm comprising a butt portion of the stock of said firearm having a hole across thereof between its heel and toe;
a rear swivel with a tubular receptacle attached to said butt through said hole, and said rear swivel having a shaft rota tably secured by a locking means to said tubular receptacle;
a fore-end portion of said firearm;
a front swivel structure attached to said fore-end portion of said firearm and said front swivel having a T-shaped with an elongated slot at the enlarged head thereof and a hole at its pivotal end, a retainer washer, a sleeved retainer washer, lock nut and a bolt, said retainer washer being secured to said fore-end portion of said firearm, said front swivel being rotatatably secured on said sleeved retainer washer by said lock nut which is fitted at the end portion of said bolt and disposing said front swivel at the side of said fore-end of said firearm; and
a sling, one end of which being attached to said rear swivel and the other end of which being attached to said front swivel of said front swivel structure, said sling being adapted to be positioned above or below said firearm when in horizontal position.

2. A sling assembly according to claim 1 wherein the shaft of said rear swivel is removably secured to said tubular receptacle, through either side, a means to limit the rotation of the swivel.

3. A sling assembly according to claim 1 wherein said tubular receptacle being provided at the end portions thereof with outer threads and adapted to be fitted thereto are ring nuts for securing said tubular receptable into said hole of said butt portion of said firearm.

4. A sling assembly according to claim 2 wherein the shaft of said rear swivel being provided with tapered end to serve as a screw driver for assembling and disassembling said firearm.

5. A sling assembly according to claim 1 wherein said lock nut of said front swivel structure being provided with a tail protruding outward from the side thereof and then bent at right angle for restricting the rotational movement of said frontal swivel.

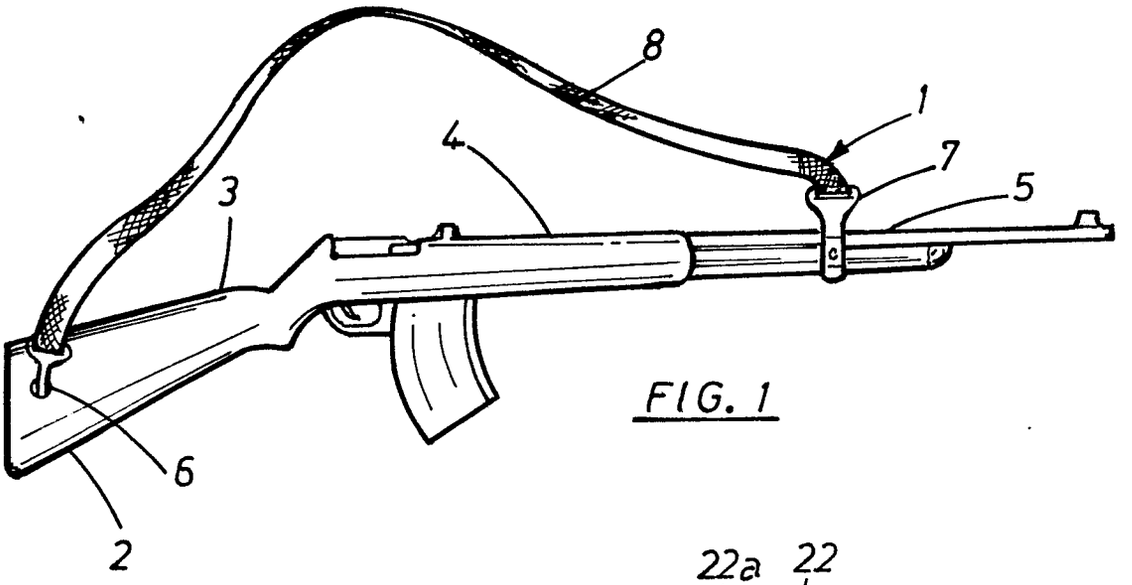


FIG. 1

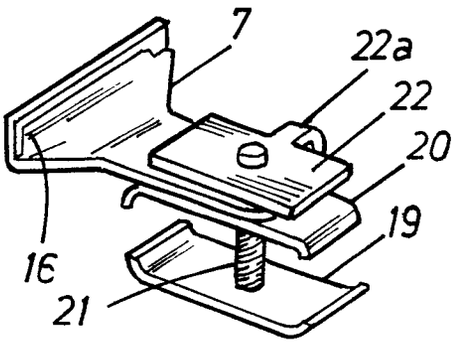


FIG. 2

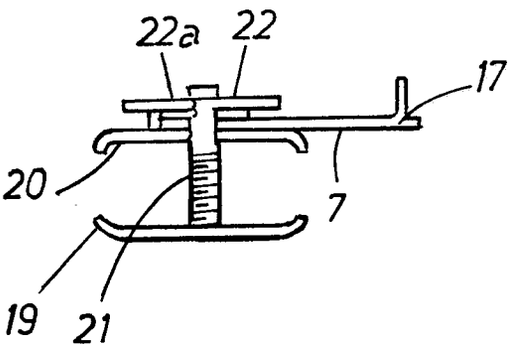


FIG. 3

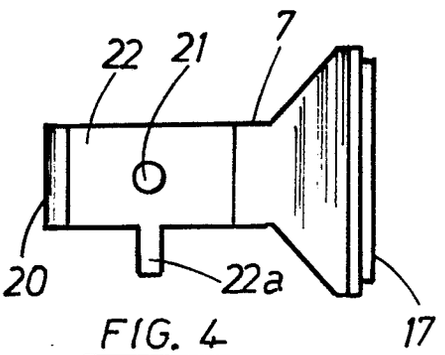


FIG. 4

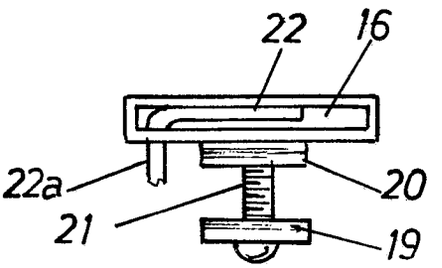


FIG.5

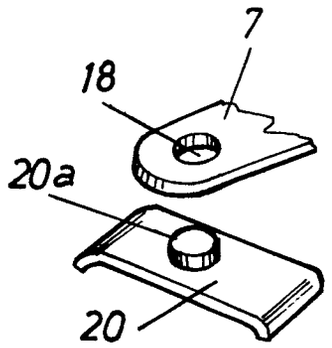


FIG. 6

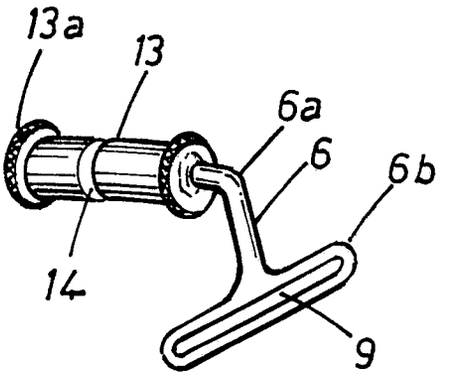


FIG. 7

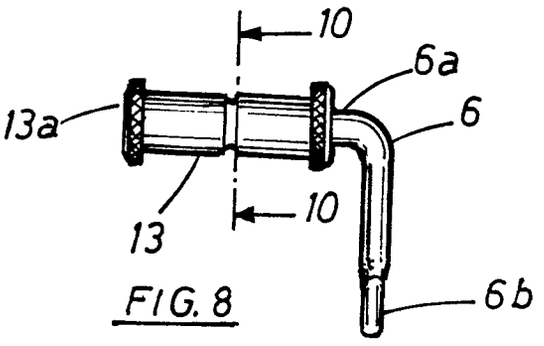
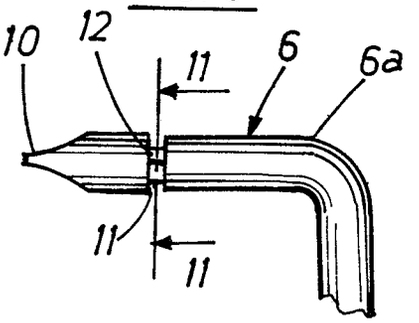


FIG. 8

FIG. 9



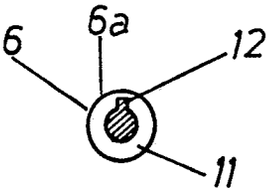


FIG. 11

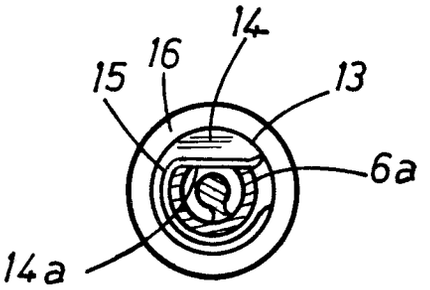


FIG 10