Multiple rail adapter system which enables the M-16 and AR-15 family of rifles or carbines fitted with “Picatinny” mounting rail, commonly referred to as a “Flat Top” receiver, to support multiple sighting accessory devices such as optical sights, fixed sights, flash lights and laser sights effectively without any changes or modifications to the weapon.
MULTIPLE RAIL ADAPTER

REFERENCES CITED [REFERENCE BY]

U.S. Pat. Documents

4707772 November 1987 Jimenez 362/110
5134798 August 1992 Lee 42/100
5590484 January 1997 Mooney 42/111
5826363 October 1998 Olson 42/75.01
5941489 August 1999 Fanelli 248/298.1
6295754 October 2001 Otteman 42/124

BACKGROUND OF THE INVENTION

1. Field of Invention

The present invention relates to mounting adapters for rifles. More specifically, the present invention relates to an adapter mount for supporting multiple sighting devices simultaneously on the “Flat Top” versions of the M-16 and AR-15 family of rifles and carbines.

2. Discussion of Background

The increasing need for sophisticated and multifunctional firearms, in particular the M-16 and AR-15 family of firearms, has created a requirement that the firearms be able to accommodate various sighting accessories such as infrared and night vision scopes, laser spotter, and similar devices. In the past, the Art has developed systems that required changes and modification to the firearms upon which they are to be installed. The following summarizes the state of the current art.

U.S. Pat. No. 5,590,484 requires the removal of the original handguards, barrel nut, gas block, and the carrying handle is machined off to provide mounting of a multiple rail adapter.

U.S. Pat. No. 5,826,363 requires the removal of the original handguards to provide mounting of a rail adapter system.

U.S. Pat. No. 6,295,754 relates to a telescopic sight with a single integral mounting feature to mount auxiliary equipment on the telescopic sight.

U.S. Pat. No. 5,941,489 is a T-Rail that can be mounted to a standard mounting rail on a weapon. The T-Rail has a single upper Picatinny rail that extends along the top of the T-Rail and an extension that extends perpendicularly therefrom.

SUMMARY OF THE INVENTION

The present invention is a multiple rail adapter utilizing the “Picatinny” rail system for attaching to the M16 and AR15 type rifle or carbine receiver. The multiple rail adapter provides two “Picatinny” type mounting rails for support of accessory devices that enhance the operational capabilities of the weapon. The multiple rail adapter consists of a primary accessory rail and a secondary accessory rail.

The primary accessory rail is located above the rifle or carbine receiver rail and has a centerline plane that runs parallel with a longitudinal plane of the rifle or carbine that said adapter would be installed upon.

A secondary accessory rail with a centerline plane pivoted in a 45-degree counterclockwise direction when viewing the weapon with the muzzle pointing away from the weapon holder and with same said centerline plane running longitudinally along centerline plane of rifle or carbine.

Installation of the multiple rail adapter is accomplished by aligning the positioning groove of the multiple rail adapter with the right side protrusion of the “Picatinny” rail of the weapon. The multiple rail adapter is then pivoted in the direction of the weapon receiver until the bottom of the multiple rail adapter contacts the top of the “Picatinny” rail of the weapon.

The mounting rail adapter is positioned fore or aft to a point that best suits the accessory sighting device and weapon holder and the clamping bolts are positioned directly above the recoil grooves on the weapon provided by the “Picatinny rail”.

The multiple rail adapter is accomplished by rotating the clamping nuts clockwise, when viewed from right side, forcing the clamping bar inward until the surfaces on the clamping bar contact the surface on the “Picatinny” rail of the weapon and contact surface of the adapter. This creates a clamping action thus providing a stable and solid assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

In the following drawings,

FIG. 1 is a left side perspective view of the multiple rail adapter mounted on a M16 or AR15 carbine.

FIG. 2 is a right side perspective view of the multiple rail adapter mounted on a M16 or AR15 carbine.

FIG. 3 is a top view of the multiple rail adapter system.

FIG. 4 is a left side view of the multiple rail adapter system.

FIG. 5 is a sectional view taken on the line 5-5 of FIG. 4.

FIG. 6 is a front view of the multiple rail adapter.

FIG. 7 is a right side view of the multiple rail adapter.

FIG. 8 is a left side perspective of the multiple rail adapter unmounted.

FIG. 9 is a right side perspective of the multiple rail adapter mounted from which the enlarged view shown in FIG. 10 is taken.

FIG. 10 is a right side enlarged view showing the multiple rail adapter mounted to weapon.

FIG. 11 is a left side perspective of the multiple rail adapter mounted from which the enlarged view shown in FIG. 12 is taken.

FIG. 12 is a left side enlarged view showing the multiple rail adapter mounted to weapon.
DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0029] With reference to FIG. 1 of the drawings, the present invention illustrates a multiple rail adapter 1 mounted to a "flat top" carbine 6 of the M16 & AR-15 family of weapons utilizing the “Picatinny” rail system.

[0030] As shown in FIG. 12, the multiple rail adapter 1 provides a positioning groove 7 and a clamping groove 8 shown in FIG. 10.

[0031] As shown in FIGS. 8, 10 & 12, the two “Picatinny” type mounting rails 13 & 14 support accessory devices that enhance the operational capabilities of the weapon. The mounting rail 13 is the primary accessory rail and the mounting rail 14 is the secondary accessory rail.

[0032] With particular reference to FIG. 12, installation of the multiple rail adapter 1 is accomplished by aligning the positioning groove 7 with the left side protrusion of the “Picatinny” rail 9 of the weapon 6.

[0033] The mounting rail adapter 1 is positioned fore or aft to a point that best suits the accessory sighting device and weapon holder and the locking bolts 5 are positioned directly above the recoil grooves 11 on the weapon 6 provided by the “Picatinny” rail 9.

[0034] Per FIG. 10, locking the multiple rail adapter 1 to the weapon 6 is accomplished by rotating the locking nuts 4 clockwise, when viewed from right side, causing the clamping bar 3 to travel inward creating a interference fit with the “Picatinny” rail 9 of the weapon. This interference fit provides a stable and solid assembly.

[0035] It will be apparent to those skilled in the art that changes and modifications can be made to the preferred embodiment herein described without departing from the spirit and scope of the present invention as defined by the appended claims.

I claim:
1. The multiple rail adapter as recited in claim 1, requires no modification to rifle or carbine upon which it will be installed.
2. The multiple rail adapter as recited in claim 1, comprises a body and clamping bar made of lightweight aluminum alloy extrusion, clamping bolts and clamping nuts made of steel.
3. The mounting rail adapter provides two “Picatinny” type mounting rails for the installation of multiple sighting devices. The primary accessory rail is located above the rifle or carbine receiver rail and has a centerline plane that runs parallel with a longitudinal plane of the rifle or carbine that said adapter would be installed upon.

A secondary accessory rail is positioned with a centerline plane pivoted in a 45-degree counterclockwise direction when viewing the weapon with the muzzle pointing away from the weapon holder and with same said centerline plane running longitudinally with centerline plane of rifle or carbine.

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