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MOUNTING OF GUN BARREL IN ITS STOCK

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5 Claims. (Cl. 42-75)

The present invention relates to rifles and aims to provide certain improvements therein. More particularly it relates to an improved manner of mounting the barrel of a rifle onto its stock.

In the conventional army rifle, e.g., the Springfield or Mauser models, the rifle barrel is locked onto the forearm of the stock by clamping rings or equivalent means, an arrangement which localizes the recoil forces upon firing but does not steady the whip of the barrel or suppress vibrations thereof relative to the stock and thus impairs true bullet flight.

Among the objects of the present invention are to provide a rifle with which true bullet flight will be attainable by (1) spreading the recoil forces upon firing between the barrel and the stock over a far greater area than has been done heretofore; (2) by cushioning the impact of such forces without stress and (3) by damping the vibrations set up upon said recoil and steadying the barrel from "jump."

The foregoing and other objects of the invention, not specifically enumerated, are accomplished by bonding adhesively the barrel to the stock preferably through a resilient bedding material between the barrel and the stock, behind and forward of the receiver recoil lug, the bedding material being bonded adhesively to both the barrel and the stock throughout their areas of engagement. The invention will be better understood from the detailed description which follows when considered in connection with the accompanying drawing showing a preferred embodiment and wherein:

Fig. 1 is a partial side elevation of a rifle with parts broken away to illustrate the present invention.

Fig. 2 is a transverse section taken along the plane of line 2-2 of Fig. 1.

Fig. 3 is a section taken along the plane at line 3-3 of Fig. 2.

Fig. 4 is a transverse section taken along the plane of line 4-4 of Fig. 1.

Referring to the drawing the invention is shown as applied to a Mauser rifle, from which the telescopic gun sight and other parts not pertinent to the invention have been omitted and consists essentially of a gun stock 10 supporting a barrel 11 with its receiver 12 and action 13 which is controlled by a trigger 14, guided in a trigger guide 15. The receiver 12 is formed with a conventional recoil lug 16 formed with an internally screw threaded stud 17. The foregoing parts are conventional and per se form no part of the invention.

According to the present invention the stock 10 rearwardly of the recoil lug is carefully inletted as shown at 18 to receive the action intimately. Forwardly of the recoil lug 16 the forearm 10a of the stock is inletted as shown at 19 to provide real clearance between said forearm and the barrel 11. The flat surface provided by the inletting 18 between points *a* and *b* is for accommodating the sliding movement of the action while the clearance provided between points *b* and *c* is for accommodating a bedding material 20. Clearance space is also provided around the recoil lug 16 and its stud 17 within which space the bedding material is also disposed.

As bedding material there may be used a suitable rubber compound such as butyl rubber to which an activating agent has been added or other resilient compounds such as epoxy resins and fibre glass. Preferably, butyl rubber compound is employed as the bedding material and

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the barrel may be bonded thereto by any of the well known rubber adhesives.

After providing the inletting 19 forwardly of the recoil lug and around said lug, said space is filled with a viscous bedding compound to which an actuator has been added, the trigger guide 15 is then secured in place and the barrel is bedded in the compound and serves with the inletted stock as the mold for the bedding material. After the bedding material has set or hardened, the barrel and assembly are removed from the stock leaving the bedding material in place. This is then carefully examined, cleaned, and accepted or repaired if bubbles are present. The barrel is likewise cleaned. The barrel is then bonded with rubber adhesive 21 to the bedding material to firmly secure the barrel and stock together.

By bonding the barrel to the stock, the action is left essentially free to move backward in a straight line on recoil and preferably the retaining bolts 22 and 23 for securing the trigger guard are only tightened enough to hold it and magazine assembly in place. In this connection it will be noted that clearances 24 and 25 are provided between the trigger guard and the stock and that the bolt 23 passes upwardly through a headed bushing 26 and engages the screw threaded stud 17.

From the foregoing detailed description it will be appreciated that the barrel is directly and intimately secured to the opposed contiguous areas of the stock and both rearwardly and forwardly of the recoil lug and around the stud 17. The bedding material thus absorbs the recoil in shear and tension over the length of the barrel, deadens the vibrations and whip of the barrel, steadies the barrel from "jump" and thereby insures true bullet flight. Such motion as occurs during firing is imparted to the action which can move backward in a straight line and return without major resistance.

Although I have shown and described a preferred embodiment of the invention, it is to be understood that changes in details of construction and character and disposition of the bedding material may be varied within the range of mechanical and engineering skill without departing from the invention as hereinafter claimed.

What I claim is:

1. A rifle comprising a barrel, a receiver having a recoil lug, a stock supporting the receiver and the barrel at least in part, and a mass of resilient bedding material between, conforming to and bonded adhesively throughout the length of the contiguous opposed portions of the barrel and the stock to said respective parts, and to the contiguous opposed portions of the receiver and its recoil lug and the stock.

2. A rifle according to claim 1 wherein the bedding material is a rubber-like compound.

3. A rifle according to claim 1 wherein the bedding material is an epoxy resin.

4. A rifle according to claim 1 wherein the bedding material is moulded fibre glass.

5. The method of mounting a barrel on its stock comprising inletting the forearm of the stock, moulding a viscous bedding material in the inletted portion using the barrel as a part of the mould and after setting of the bedding material, bonding adhesively together the complementary portions of the bedding material, the barrel and the stock.

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