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E. L. MORROW

3,325,937

VENTILATED RIB SIGHT

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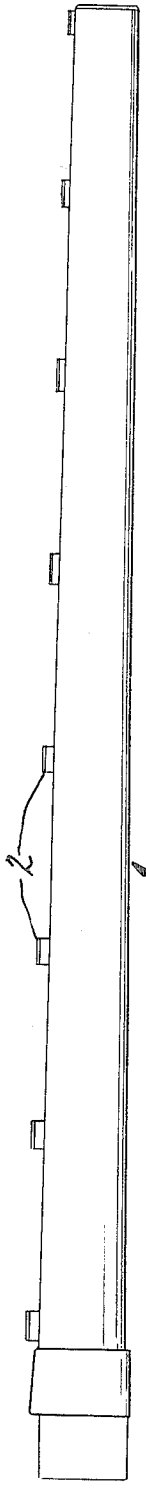


FIG - 1

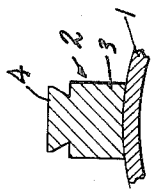


FIG - 3

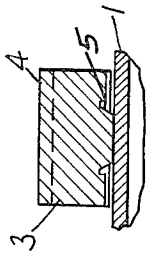


FIG - 2

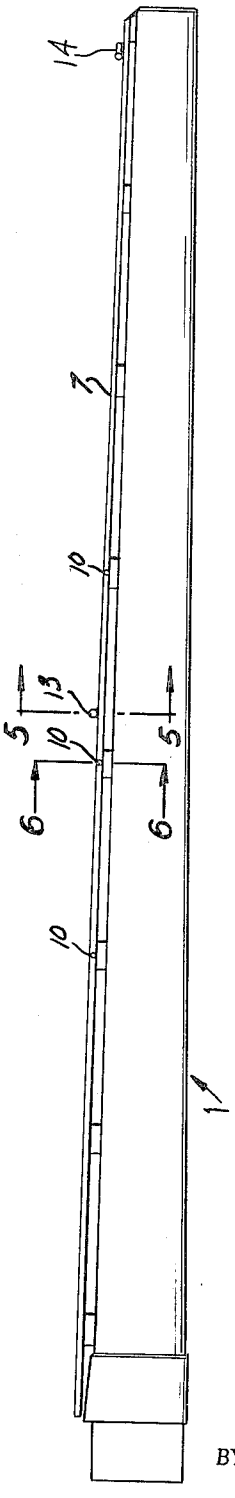


FIG - 4

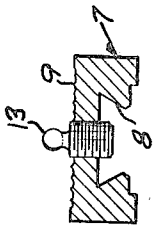


FIG - 5

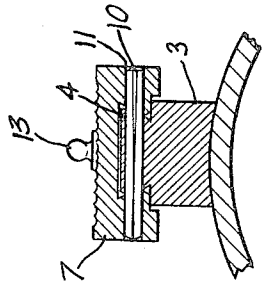


FIG - 6

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VENTILATED RIB SIGHT

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2 Claims. (Cl. 42—1)

This invention relates to a ventilated rib for shotguns and the like and to a method for mounting said rib on a barrel.

Ventilated ribs for shotguns and the like are well known in the art. The object of providing a ventilated sight rib is to overcome the detrimental effect on sighting a shotgun which is caused by heat waves rising from the barrel and interfering with the shooter's line of fire. A ventilated rib interrupts the heat waves from the barrel and is itself maintained relatively cool by air circulation around the rib.

While it has long been recognized as a desirable feature to add a ventilated rib to a shotgun barrel, it has been an expensive and time-consuming operation which put the cost of such an attachment out of the reach of many shooters and gun manufacturers. The attachment of a ventilated rib to a shotgun barrel prior to this invention has been something of a custom-fitted gunsmithing job, which was both expensive and time consuming.

One known and commonly employed method of mounting a ventilated rib on a shotgun barrel includes the steps of first silver-soldering a plurality of support posts on the barrel at longitudinally spaced intervals. The posts are provided with a tapered head portion adapted to receive a channel in a ventilated rib. In order to insure proper alignment, it is preferable to machine the tapered head portion on the posts after the posts have been soldered to the gun barrel. A rib is then slid onto the posts and is secured against longitudinal movement by pinning the rib to a post by means of a vertically positioned pin extending vertically downwardly through the rib and a post.

The method described above is unsatisfactory because the pin has a tendency to shear when the gun is fired and because the silver-soldering technique of securing the posts to the gun barrel is time consuming and expensive.

More satisfactory methods of securing the rib against longitudinal movement have been developed. One known method is to provide a downwardly projecting block on the rib which engages an upwardly projecting block mounted on the gun barrel as disclosed in U.S. Patent 2,693,659. A pin is then used to lock the rib to the block on the gun barrel. The forces exerted against the rib upon firing are absorbed by engagement of the block members. The need for special block members in this type of installation or special anchor posts as disclosed in U.S. Patent 3,171,226 add considerably to the cost of the installation and the expense of silver-soldering the posts to the barrel is still present.

One of the more difficult and time-consuming operations involved in silver-soldering support posts to a gun barrel, in accordance with the presently employed methods of mounting a ventilated rib, is the cleaning step required. There is always a certain amount of solder which flows around the posts and this must be cleaned off in order to provide a workmanlike job.

The method of mounting a rib on a barrel disclosed herein eliminates the expensive and time-consuming silver-soldering step and provides an effective and economical method of securing the rib against longitudinal movement.

In accordance with this invention, a plurality of support posts are attached to a gun barrel by projection welding. The posts are provided with a projection on the bottom

which provides the material for projection welding the support posts to the barrel. The posts are preferably formed from powder metal which quite readily lends itself to the projection welding technique. After welding the posts to the barrel, a dovetail projection is machined on the top thereof to receive a rib. The dovetail projection may be formed directly on the post provided care is taken to align the posts on the barrel before welding.

A rib having a dovetail slot in the bottom thereof is slid onto the posts and then pinned in place by a plurality of transverse pins which extend through the rib and through the dovetail projections on adjacent posts. No special locking posts or locking blocks are required. By pinning the rib to the posts in this manner, the forces of recoil are transmitted to a plurality of posts and the over-all force exerted on any given post is less than that required to break the weld or to shear the transverse pin securing the rib to the post.

This invention will now be described in detail with reference to the accompanying drawings in which:

FIGURE 1 is a side view showing a gun barrel with a plurality of posts affixed to the barrel by projection welding.

FIGURE 2 is an enlarged sectional side view of one of the posts prior to projection welding the post to the barrel.

FIGURE 3 is an enlarged sectional end view of a post after it has been attached to the gun barrel by projection welding.

FIGURE 4 is a side view similar to FIGURE 1 showing a rib mounted on the post and pinned in position.

FIGURE 5 is an enlarged sectional view of the rib taken along the line 5—5 of FIGURE 4.

FIGURE 6 is an enlarged sectional view taken along the line 6—6 of FIGURE 4.

Referring now to the drawings, and particularly to FIGURES 1–3, I show a gun barrel 1 which has mounted thereon a plurality of posts 2. The posts, as seen in FIGURE 3, include a body portion 3 and a dovetail projection 4 which is preferably formed on the upper surface thereof after the posts have been welded to the barrel. The posts 2 are formed from powder metal and are initially provided with a projection or dimple 5 on the lower surface thereof, as seen in FIGURE 2, to provide material for projection welding the posts to the gun barrel. In assembling the posts and the barrel, the barrel is clamped in a fixture and the posts are positioned on the barrel and subjected to heat and pressure in accordance with known projection welding technology to secure the posts to the gun barrel. A rib 7 is then slid onto the posts into the position shown in FIGURE 4. The rib 7, as seen in FIGURES 5 and 6, has a dovetail slot 8 formed in the bottom surface thereof to accommodate the projections 4 of the posts 2. The upper surface 9 of the rib is generally planar but may be serrated, as seen in FIGURES 5 and 6, to cut down on reflections which would be transmitted from the rib to a shooter's eye. Once the rib 7 is in position, as shown in FIGURE 4, a plurality of pins 10 are passed through openings 11, each of which extends through the rib and a dovetail projection on a post, as clearly seen in FIGURE 6. The openings 11 are formed after the rib has been positioned on the post and extend transversely through the rib and through the dovetail projection of the post. This method of fastening the rib against longitudinal movement allows each pin 10 to present a maximum shear area to the forces which are transmitted to the rib upon firing the gun. By providing pins through a plurality of posts which are closely adjacent each other, the forces acting on the rib after the gun is fired will be spread to a plurality of posts. The forces are thereby dispersed so that the force applied to any given post is not of sufficient magnitude

to tear the post loose from the gun barrel or to shear the pin. Since the rib is pinned to several closely adjacent posts, the rib is free to expand without undue distortion throughout a major portion of its length.

As seen in FIGURES 4 and 5, a middle sight **13** is mounted on the rib **7** along with an end sight **14**, as seen in FIGURE 4. Sights **13** and **14** further facilitate sighting the firearm at a target.

While this invention has been described in detail with reference to a preferred embodiment illustrated in the drawings, all variations in design and structural detail are contemplated which are within the spirit and scope of the appended claims.

I claim:

1. A method of mounting a ventilated rib on a firearm barrel, said method comprising the steps of projection welding to a gun barrel a plurality of longitudinally spaced posts each having a dovetail projection formed on an upper surface thereon, sliding a rib having a dovetail channel formed in the bottom thereof onto said posts and into position, forming a plurality of transverse openings each of which extends through the rib and a post and inserting a pin through each of said openings to securely lock said rib against longitudinal movement relative to said posts.

2. A barrel rib assembly comprising in combination, a gun barrel, a plurality of metallic posts projection welded to said barrel at longitudinally spaced intervals, said posts having a base and a dovetail shaped projection extending upwardly therefrom, a rib mounted on said posts, said rib having a generally planar upper surface and a groove of dovetail shape extending longitudinally thereof engaging said dovetail posts, a plurality of locking pins, each of said pins being mounted in an opening extending transversely through said rib and a dovetail projection on a post.

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