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CHOKE-COMPENSATOR ADAPTOR FOR  
METAL-PLASTIC FIREARM BARREL  
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2,932,915

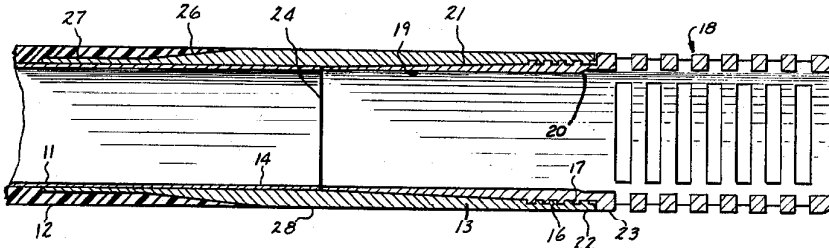


FIG - 2

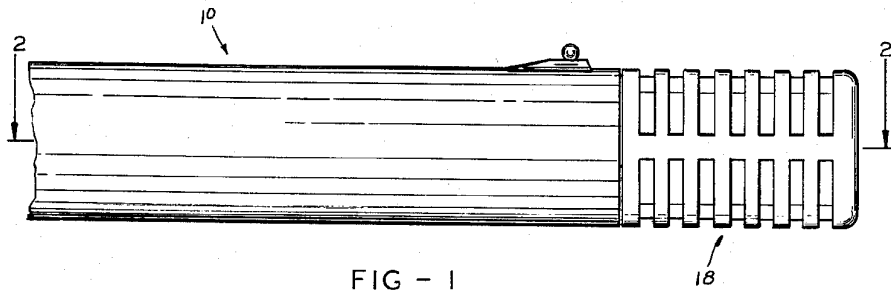


FIG - 1

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2,932,915

**CHOKE-COMPENSATOR ADAPTOR FOR METAL-PLASTIC FIREARM BARREL**

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3 Claims. (Cl. 42—79)

The present invention relates to firearms and in particular to firearms barrels of the type formed compositely of an inner metal liner or sleeve and an outer jacket of glass reinforced plastic. A firearms barrel having such composite structure is shown and disclosed in U.S. Patent S.N. 2,847,786, issued August 19, 1958, to J. C. Hartley et al.

More specifically, the invention relates to a means for adapting choke-compensator devices to firearms barrels of the above general construction.

A particular feature of the present invention is the provision of an adaptor mounted on the end of a composite barrel operative to receive a choke-compensator device of any desired structure where the overall arrangement blends pleasingly with the exterior surface of the gun barrel.

Another feature of the present invention is the provision of means for mounting such a device to a compositely formed gun barrel without increasing the overall diameter of the gun barrel including the attached device.

Another feature of the present invention is the provision of a composite metallic-plastic gun barrel including a compensator device which does not interfere with the shooters' line of sight.

Another feature of the present invention is the provision of an adaptor structure in a gun barrel of the above general description upon which one can mount a variety of choke-compensator devices interchangeably.

Another feature of the invention is the provision of a smooth transition from the internal surface of the composite barrel proper to the corresponding surface of the choke portion of the device whereby shot proceeding down the barrel do not encounter sharp edges or gaps in the area of the transition.

A firearm embracing certain features of the present invention may comprise a barrel member formed compositely of an inner, thin walled, metallic tube, a jacket of glass reinforced plastic surrounding the tube effective to provide a rupture proof composite wall structure and a sleeve member having internal threads at one end thereof sandwiched between the metallic tube and the jacket, the inner diameter of the sleeve being soldered to the exterior diameter of the tubing and said internal threads thereof being operative to receive interchangeably a barrel choke-compensator device.

The barrel, the sleeve and the choke-compensator device constitute an assembly and may be referred to hereinafter as a choke-compensator assembly.

Other features and advantages of the present invention will become more apparent from the succeeding specification when read in conjunction with the attached drawings in which:

Fig. 1 is a side view of a composite barrel in combination with a choke-compensator showing to advantage the smooth flowing exterior lines and uniform outer diameters of the barrel and the choke-compensator.

Fig. 2 is a sectional view of the structure shown in Fig. 1 as viewed in the plane of line 2—2.

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Referring now in detail to the drawings, there is shown a composite barrel structure indicated generally by the reference numeral 10. In general, the barrel comprises an inner, thin walled metallic tube 11, the wall thickness being of the order of  $\frac{20}{1000}$  of an inch surrounded and reinforced by a jacket of Fiberglas reinforced plastic 12. The composite barrel structure is made in accordance with the process disclosed in said patent.

A sleeve or adaptor 13 receives the end 14 of the metal tube 11. The adaptor and the tube are fastened together by brazing or silver soldering the interior surface of the adaptor to the exterior surface of the tube. The forward end of the sleeve is formed with internal threads, as at 16, adapted to receive mating threads 17 formed on a choke-compensator 18. The member 18 is provided with an elongated neck portion 19 defining a choke formed with a taper mating with a corresponding taper formed on the inner diameter of the sleeve 13 as at 21. The right end of the member 18 defines a compensator.

Clearance is provided between the forward end 22 of the sleeve and the shoulder 23 of the compensator and the length of the neck 19 is dimensioned so that the device may be homed against the end of the metallic tube to make a substantially fluid tight seal at the junction 24 between the tube 11 and the sleeve 13.

Note that the sleeve is also provided with a taper 26 terminating in a uniform wall 27.

The sleeve 13 is soldered to the tubing 11 prior to the application of the glass reinforced plastic jacket 12. After the sleeve has been soldered in place, the tube 11 fitted with the sleeve 13 is served or wound with ends of Fiberglas suitably reinforced and impregnated with plastic bonding material in accordance with the disclosure of said copending application. The taper 26 is effective to permit the serving or roving of Fiberglas to "run out" gradually so that the glass reinforced plastic blends uniformly and imperceptibly with the exterior 28 of the sleeve.

Actually in the finished article the joint between the glass jacket 12 and the metal sleeve 13 is so well blended that the exterior junction thereof is not apparent.

Obviously, suitable gun blueing pigments aid in achieving a smooth transition from the jacket to the steel sleeve.

As stated previously, it is anticipated that the assembly of the present invention may include a variety of compensating or choke devices in threaded engagement with the sleeve 13 as the shooter may desire.

Attention is directed to the fact that the present invention provides a means for conveniently and effectively adapting a muzzle accessory to a firearm barrel where the barrel is formed compositely of an inner, thin walled metallic tube jacketed with a relatively thick wall of glass reinforced plastic. Inherently such a structure, while very effective in resisting bursting loads, does not lend itself readily to machining or threading thus making it extremely difficult to adapt metallic elements to such a barrel. The present invention overcomes this problem.

What is claimed is:

1. In a firearm barrel of the type formed compositely of thin walled metallic tubing strengthened with a jacket of glass reinforced plastic, an adaptor for connecting a threaded compensating device to said barrel comprising a sleeve having internal threads formed at one end thereof for threadedly engaging the compensating device, the opposite end of the sleeve snugly receiving said thin walled tubing, said jacket being spaced from that portion of the tubing which is received within the sleeve whereby said opposite end is sandwiched between the tubing and the jacket.

2. In a firearm barrel of the type formed compositely of thin walled metallic tubing strengthened with a jacket of glass reinforced plastic, an adaptor for connecting a

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threaded compensating device to said barrel comprising a sleeve having internal threads formed at one end thereof for threadedly engaging the compensating device, the opposite end of the sleeve snugly receiving said thin walled tubing, said jacket being spaced from that portion of the tubing which is received within the sleeve whereby said opposite end is sandwiched between the tubing and the jacket, said sleeve being formed with an external taper blending with said jacket.

3. In a firearm barrel of the type formed compositely of thin walled metallic tubing strengthened with a jacket of glass reinforced plastic, an adaptor for connecting a threaded compensating device to said barrel comprising a sleeve having internal threads formed at one end thereof for threadedly engaging the compensating device, the

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opposite end of the sleeve snugly receiving said thin walled tubing, said jacket being spaced from that portion of the tubing which is received within the sleeve whereby said opposite end is sandwiched between the tubing and the jacket, said compensating device and said adaptor being formed with mating tapers.

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