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GUN HAND GUARD

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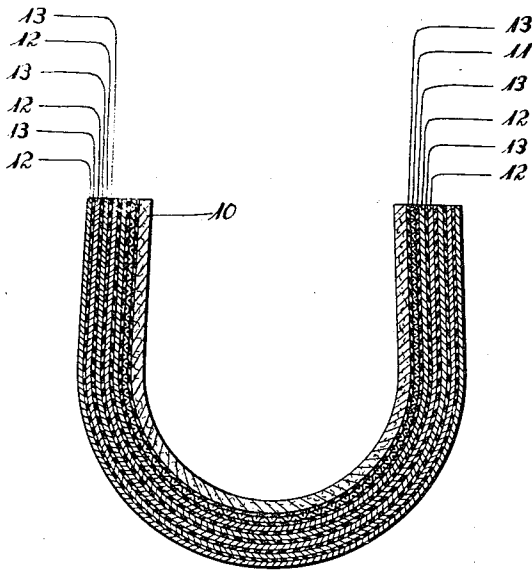
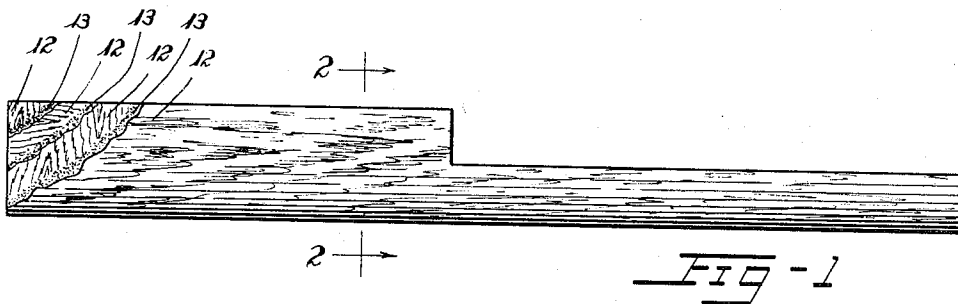


FIG - 2

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GUN HAND GUARD

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2 Claims. (Cl. 42—71)

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This invention relates to a gun hand guard or tip stock and pertains more specifically to a heat-resistant hand guard of laminated construction.

One object of this invention is to provide a gun hand guard which can be preformed to the shape desired to cradle a gun barrel without the necessity for the usual wood-working processes. Another object is to provide a hand guard which is resistant to heat and charring, and which has improved heat-dissipating characteristics. Another object is to provide a unitary hand guard which may be used in direct contact with the barrel of a gun without risk of damage from the heat developed during firing and which will provide adequate protection for the hand of the user. Additional objects will be apparent from the description which follows.

It has heretofore been customary to provide wooden hand guards for small arms to protect the hand of the user from the heat of the barrel and to provide a convenient means for gripping the barrel. However, with the development of rapid firing or semi-automatic guns, it has been found that the high temperatures developed in the gun barrel during use tend to cause charring and disintegration of the usual wooden hand guard.

I have now discovered that a highly heat-resistant hand guard which retains all of the desirable characteristics of wooden hand guards may be provided by the use of a laminated construction comprising an inner heat-insulating lining, a layer of heat-conductive metallic material, and an outer cover of wood.

Of the accompanying drawings,

Fig. 1 is a view in elevation of a completed hand guard constructed according to one embodiment of my invention, and

Fig. 2 is a view in section along line 2—2 of Fig. 1.

As shown in Fig. 2 of the drawings, the hand guard comprises an inner heat-insulating lining 10 of asbestos felt preferably impregnated with a substantially heat-insensitive synthetic resin binder. Adjacent to this lining is a heat-conductive layer 11 of metallic material preferably relatively fine mesh metal wire screening. Outside of the layer of heat-conductive material is a plurality of layers 12 of wood veneer. All of the layers 10, 11 and 12 are adhered together by means of intervening layers 13 of a substantially heat-insensitive synthetic resin.

The heat-insensitive synthetic resin used to impregnate inner lining 10 may be any of a wide variety of such resins which are presently available such as phenol-aldehyde resins, urea-formaldehyde resins, melamine-formaldehyde resins,

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or other similar non-charring non-thermoplastic synthetic resinous materials. The same resin or a similar one may be employed to adhere together the several layers of wood, metallic material, and asbestos.

Although asbestos felt is preferred for the lining, other forms of asbestos such as woven asbestos fabric may be employed, if desired. Similarly, heat conductive layer 11 may comprise a continuous sheet of metal foil or the like although metal wire screening of relatively fine mesh, from about 20 to 100 mesh, is preferred.

Although a wide variety of metals or alloys may be employed, such as iron, steel, copper, aluminum, etc., best results have been obtained using bronze in the form of wire screening.

Any suitable wood may be employed for the cover of the hand guard although hard wood is preferred. When more than a single layer of wood is employed, it is preferred that the grain of adjacent layers be crossed to provide additional strength and freedom from splitting. The number of layers of wood which may be employed will depend, of course, upon the thickness and weight of the hand guard desired.

In constructing the hand guard of this invention, the various layers are cut to shape and assembled with the synthetic resin adhesive. At this point, of course, the synthetic resin should not be in the completely infusible state but should be capable of setting when heated and may contain any of the usual catalysts, activators, fillers, etc. commonly used with synthetic resins.

The laminated blank so constructed is then heated under pressure on a suitable mandrel or form until the synthetic resin has been completely set up or cured to the heat-insensitive state.

By this process, all of the layers of the laminated article are securely bonded together to form a unitary product of the desired shape. In addition to bonding together the layers of wood in the cover, the synthetic resin may also serve to impregnate the wood to a certain extent depending upon the type and condition of the wood employed. When wire screening is employed as the heat-conductive layer, penetration of the synthetic resin between the interstices of the screening occurs to provide a mechanical interlocking in addition to the direct adhesion of the resin to the metal surface.

It has been found that this combination of an inner lining of heat-insulating material, a layer of heat-conductive metallic material, and an outer heat-insulating covering provides a hand guard which gives adequate protection to the

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hand and at the same time is itself sufficiently resistant to the heat developed in the barrel of the gun to have an extremely long life.

Although specific embodiments of my invention have been described herein, I do not intend to limit myself solely thereto, but to include all of the obvious variations and modifications falling within the spirit and scope of the appended claims.

I claim:

1. A gun hand guard adapted to cradle a gun barrel consisting of a generally channel-shaped shock-resistant outer heat-insulating and supporting member comprising a plurality of layers of hard wood adhered together with a substantially heat-insensitive synthetic resin, a heat-conductive layer comprising a layer of highly flexible fine mesh metallic wire screening nesting within said supporting member coextensive in area with the inner surface thereof, and an inner heat-insulating lining comprising asbestos impregnated with a substantially heat-insensitive synthetic resin binder, said lining extending over the inner surface of said heat-conductive layer and adapted to contact said gun barrel, said supporting member, heat-conductive layer, and lining being all adhered together with layers of a substantially heat-insensitive synthetic resin.

2. A gun hand guard adapted to cradle a gun barrel consisting of a generally channel-shaped shock-resistant outer heat-insulating and supporting member consisting of a plurality of layers of hard wood bonded together with a substan-

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tially heat-insensitive synthetic resin binder, a heat-conductive layer consisting of a layer of highly flexible fine mesh metallic wire screening nesting within said supporting member coextensive in area with the inner surface thereof, and an inner heat-insulating lining consisting of asbestos felt impregnated with a substantially heat-insensitive synthetic resin binder, said lining extending over the inner surface of said heat-conductive layer and adapted to contact said gun barrel, said supporting member, heat-conductive layer, and lining being all adhered together with a substantially heat-insensitive synthetic resin.

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