Oct. 12, 1943. A. E. BUCHANAN, JR 2,331,372

FIREARM

Filed Jan. 3, 1941

Fig. 1

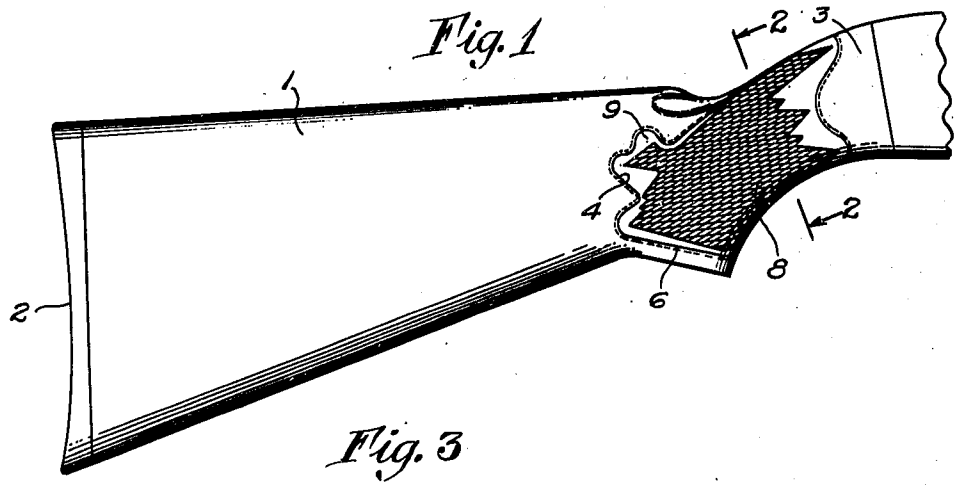


Fig. 3

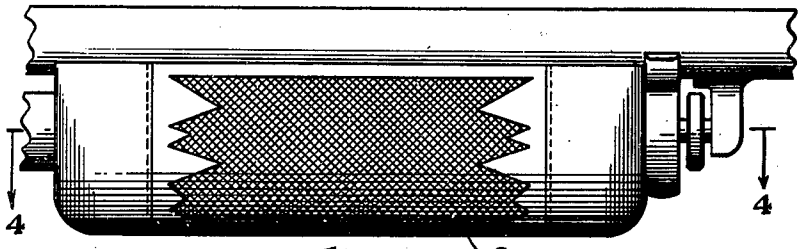


Fig. 4

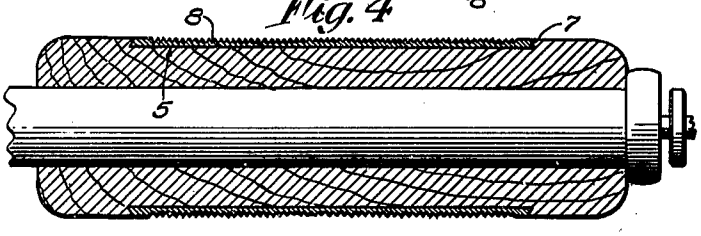


Fig. 2

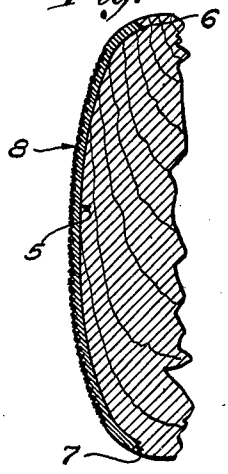
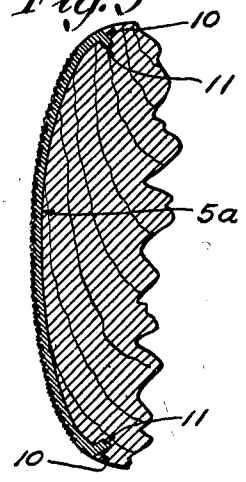


Fig. 5



INVENTOR
ANDREW E. BUCHANAN, JR.
BY
Harold L. Gammons
AGENT

Patented Oct. 12, 1943 2,331,372

UNITED STATES PATENT OFFICE

2,331,372

FIREARM

Andrew E. Buchanan, Jr., Fairfield, Conn., assignor to Remington Arms Company, Inc., a corporation of Delaware

Application January 3, 1941, Serial No. 372,974

4 Claims. (Cl. 42—71)

This invention relates to the stock and fore-end portions of a firearm, and more particularly to improved ornamentation or checkering on the hand-grip areas thereof.

Heretofore it has been the practice to checker the hand-grip portions of the fore-end and stock of a firearm either by the use of a few types of manual tools in the hands of skillful operators or by semi-automatic machinery. The hand-tooling method is obviously slow and laborious and ill-suited to present day production methods, while the use of semi-automatic machinery is, due to its high cost, impracticable and necessarily limited to certain standard patterns or designs.

It is therefore proposed to provide an improved method of checkering which is both economical and suited to quantity production methods. More specifically, it is an important object of this invention to pre-form checkering, prior to its attachment to the gun parts, of a material comprising a suitable thermo-plastic or thermo-setting plastic or resin, such as cellulose nitrate or phenol-formaldehyde respectively. A further object is to mold plastic checkering and to secure the pre-formed checkering to the hand-grip portions of a firearm.

The above features of the invention, together with other advantages not already mentioned, are more fully disclosed and described in the accompanying specification and drawing in which:

Fig. 1 is a plan view of a checkered-piece mounted on the stock of a firearm.

Fig. 2 is a cross section of the stock of Fig. 1 on the line 2—2.

Fig. 3 is a side elevation of a checkered-piece applied to the hand-grip area of a fore-end.

Fig. 4 is a cross section of the fore-end of Fig. 3 on the line 4—4.

Fig. 5 represents a cross section of a stock having a modified form of recess and retaining grooves.

Referring to Fig. 1, 1 represents one face or side of the wooden stock of a firearm having the usual butt-plate 2 at its rear end and the hand-grip portion 3, hereinafter referred to as the pistol-grip portion, at its other end. Numeral 4 designates the upper edge of a seat or recess 5, see Fig. 2, the recess being shallow, preferably, and suitably formed in the face of the pistol-grip portion 3. For the sake of clarity, the term "seat" as hereinafter used shall be understood to mean any recessed portion of the firearm. The dotted line 6 represents the lower edge of the recess which, as shown in Fig. 2, is under-cut so that the sides 7 of the recess slope inwardly and, as a result, have a keylike retaining effect on the checkering-piece which is slipped beneath the undercut edges as hereinafter described. It will be understood that a similar recess is provided on the opposite face of the butt.

The checkered-piece 8 is formed of a suitable plastic, preferably as a thin sheet, with the plurality or series of intersecting lines known in the art as "checkering" molded thereon. In the drawing the checkered-piece shown is provided with a plain marginal area 9, but it will be readily appreciated that the shape and design of the molded checkered-piece may be of any configuration and intricacy desired, as determined by a master mold, and that, having once acquired a set of master molds, the manufacture of such checkered-pieces may be carried on at production rates and at minimum expense. The plastics used may be any one of the well-known thermo-plastic or thermo-setting plastics or resins, such as cellulose nitrate, phenol-formaldehyde, urea-formaldehyde, cellulose acetate, vinyl acetate and vinyl chloride polymerized together, or methyl methacrylate. Suitable molds of the injection or die cast type may be used in an accepted and well-known manner to preform the checkered-pieces of any of the above mentioned plastics. It is to be distinctly understood that the above examples are merely illustrative and that other suitable plastics may be employed.

The molded checkered-piece, preferably in thin sheet form, is adapted to be applied to the hand-grip areas of the firearm, i. e. the stock "pistol-grip" portion 3, as shown in Fig. 1, and the fore-end, as shown in Fig. 3, by inserting the edges of the checkered-piece beneath the undercut edges 7 of the respective recesses provided therefor. Preferably a compatible adhesive, such as cellulose nitrate plus a solvent, is first applied beneath the under-cut edges of the recess, or to the surface thereof, in order to insure a permanent bond between it and the checkered-piece. The adhesive may have as its base the plastic used if a suitable solvent is available therefor, otherwise the adhesive must be so chosen as to properly hold and adhere to both the wood and the checkered portion used.

An alternative method of applying the checkered-piece to the firearm is illustrated in Fig. 5, in which the sides 10 of the recess slope outwardly and a narrow groove 11 is cut around the lower edge of the recess to a depth slightly below the plane of its surface 5a. In applying the

checkered-pieces to recesses of this construction the edges of the checkered-pieces are first molded or bent so as to toe-under, as shown in the drawing, whereupon the edges may then be readily snapped into the grooves 11 of the recess. This construction has the advantage that even though the wood of the stock or the fore-end does expand due to atmospheric changes, nevertheless the checkered-piece will be held tightly in the recess despite this expansion. As in the former case a compatible adhesive may be and is preferably used to effect a permanent bond between the surfaces in contact.

Fig. 3 illustrates a molded checkered-piece 8 applied to the fore-end of a firearm, said fore-end having a recess 5 formed therein provided with under-cut edges 7, see Fig. 4. A compatible adhesive is first introduced beneath the undercut edges 7 or on the surface of the recess and thereafter the molded checkered sheet 8 is applied as heretofore described.

While it has been stated that the checkered-piece is formed preferably in a thin sheet, it is within the scope of this invention to pre-form or mold the checkered-pieces in conformity with the surface contours of the hand-grip areas of the firearm. To this end suitable molds, such as injection molds, having the checkered area etched therein, may be used, the finished, molded, checkered-piece being subsequently fitted on the firearm at the proper hand-grip portion thereof.

The molded plastic checkering described above is considered to be a new and valuable contribution to the firearm art. In accordance with this invention, pre-formed plastic checkering can be applied to firearms more cheaply and more quickly than by any known methods. Moreover molded plastic checkering is readily adapted to a wide variety of designs and colors and is therefore superior to all previous methods for gun ornamentation. Finally a pre-formed molded checkered pistol-grip not only makes possible the turning of a more simplified gun-stock, with a resulting economy of manufacture, but also affords a novel method of supplying pistol-grips for firearms of contours, colors and patterns to suit the fancy of the sportsman.

What is claimed is:

1. A firearm having a wood stock, a shallow recess in said wood stock at a hand grip portion thereof, said recess having undercut margins, and a thin sheet of molded material having a checkered exterior surface held in said recess with the marginal portions thereof interengaged with the undercut margins of said recess and the exterior surfaces substantially flush with the contiguous surface of said stock.

2. A firearm having a wood stock, a shallow recess in said wood stock at a hand grip portion thereof, a counter recess adjacent the margin of said shallow recess, and a thin sheet of molded material having a checkered exterior surface held in said recess with the marginal portions thereof interengaged with said counter recess and the exterior surfaces substantially flush with the contiguous surface of said stock.

3. A firearm having a wood stock, a shallow recess in said wood stock at a hand grip portion thereof, said recess having undercut margins, and a thin sheet of molded material of substantially uniform thickness having a checkered exterior surface and marginal portions, said thin sheet being held in said recess by interengagement of said marginal portions with the undercut margins of said recess with the exterior surface of the sheet substantially flush with the contiguous surface of the stock.

4. A firearm having a wood stock, shallow recesses in opposite sides of said wood stock at the pistol grip portions thereof, said recesses having undercut margins; a thin sheet of molded material of substantially uniform thickness constructed and arranged to be secured in each recess, each thin molded sheet having a checkered exterior surface, an interior surface for contact with the surface of its respective recess and marginal portions for interengagement with the undercut margins thereof; and an adhesive between the contacting surfaces of each sheet and its respective recess forming a bond therebetween whereby the pistol grip portion of the stock is reinforced.

ANDREW E. BUCHANAN, JR.