H. HASTINGS.

METHOD OF FORMING BUTTONS.

APPLICATION FILED APR. 8, 1912. RENEWED FEB. 20, 1917.

1,241,467. Patented Sept. 25, 1917.

Fig. 1

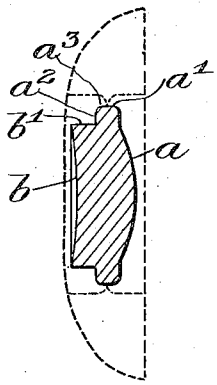


Fig. 2

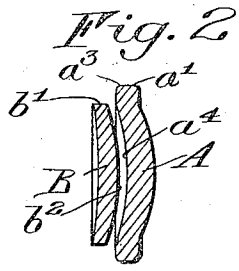
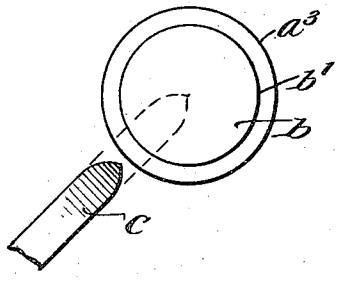


Fig. 3.



Inventor
Herbert Hastings

Witnesses
Walter B. Payne
Nelson H. Copp

By Church & Church
his Attorneys

UNITED STATES PATENT OFFICE.

HERBERT HASTINGS, OF ROCHESTER, NEW YORK, ASSIGNOR TO ART IN BUTTONS, INCORPORATED, A CORPORATION OF NEW YORK.

METHOD OF FORMING BUTTONS.

1,241,467. Specification of Letters Patent. Patented Sept. 25, 1917.

Application filed April 8, 1912, Serial No. 689,258. Renewed February 20, 1917. Serial No. 149,936.

To all whom it may concern:

Be it known that I, HERBERT HASTINGS, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Methods of Forming Buttons; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to the method of forming buttons, and while it is applicable to the manufacture of these articles from different kinds of materials, it is particularly adapted to be used in the construction or the turning, as it is called, of the buttons from the blanks or slabs of the vegetable ivory nuts. To these and other ends the invention consists in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is an illustration showing a double or compound blank embodying my invention in the first stage of manufacture, and

Fig. 2 is a view illustrating the second step, or manner of sawing said blank into its component elements and Fig. 3 is a face view of the buttons indicated in Fig. 2 showing the tool by which the severing is accomplished.

Similar reference numerals throughout the several figures indicate similar parts.

In the manufacture of buttons of vegetable ivory the blanks are cut from slabs obtained by sawing them from the sides and ends of the vegetable ivory nuts (*Phytelephas macrocarpa*). These nuts are in the first place carefully assorted as to size, and experienced workmen saw off the slabs in such a manner that the largest available superficial portions of each nut is obtained, having due regard both for thickness and available area.

My invention has for its object to provide a method for severing buttons from the above described slabs, or other work-pieces of similar nature, whereby the largest available portion of the material may be utilized with the minimum amount of labor and with the least possible waste due to the cutting action of the tools; which will permit compound button blanks to be parted and two buttons finish turned in one operation, by enabling the front face of one button and the rear side of another to be cut simultaneously, in which operation the complementary rear and front faces of two buttons may be formed; and to provide for the simultaneous manufacture either of buttons of the same size and contour from the one blank, or of buttons of different size and outline.

In illustrating my present invention I have shown in side elevation, by the dotted lines in Fig. 1, the outline or general shape of an ivory nut slab, and in this figure I have illustrated a compound button blank in approximately the position it would occupy in the process of manufacture. The compound blank, in Fig. 1, is cut by two opposing rotary tools arranged in axial alinement, one forming the rear face a and a portion of the rim, and the other cutting the forward concave face b. This blank also illustrates the idea of producing from the slab two buttons of different sizes. In this case the outer button being the smaller is, on account of its reduced diameter, preferably made the outer one of the two buttons, as it can better be accommodated beneath the curved, or dome shape, outer wall of the slab. The tool which forms the face b will also preferably have its cutting edge so shaped as to form the annular wall b' of the smaller button, a portion of the face of the larger button, as indicated by a^2, and so much of the rim a^3 of said button as may be desired to unite with a portion of the blank a' severed by the other cutting tool. The compound blank thus formed will be subsequently severed to form the larger blank A and the smaller blank B, shown in Fig. 2, the separating of the blank into its component elements being accomplished by any suitable tool such as that indicated at c, which is so shaped and operated as to form a spherical line of severance, as illustrated, so as to provide the larger button A with the concave front face a^4 and the smaller blank B with the convex rear surface b^2. The dotted lines in Fig. 3 indicate the extent of movement of the tool with respect to the blank, which is preferably rotated while said tool is being moved transversely thereof. The tool is provided

with the same curvature that it is desired to give to the faces of the buttons at the point where the blank is severed.

By this method of manufacture, the buttons are formed by only three tool operations, namely, face cutting, back cutting and transverse severing. The last operation being a sweeping or spherical surface cut simultaneously finishes the rear face of the front button and the forward face of the rear button in substantial parallelism to the faces first cut on the blank, thus obviating any further cutting to complete the two buttons. The advantage obtained by severing the compound blanks by a transverse spherical cut is apparent when compared with a blank severed or cut so that the two opposing faces thus formed are plane surfaces. To give the front faces of such buttons the customary dish shape, they must be subjected to still another cutting operation and this, it will be understood, necessitates providing the compound blanks with the necessary stock for this operation in the first instance.

The button blank slabs, cut from the vegetable ivory nut, do not vary greatly in thickness, and this is true irrespective of the size of the nuts from which the slabs are sawn.

It is essential in the manufacture of all buttons that they be cut from the hard close texture of the nut substance which lies near its outer surface, and on account of the pithy or hollow contour of the nuts, and the cracks and fissures leading outwardly therefrom, the thickness of the slabs is fixed within very narrow limits. Hence, fractional variations as small as one fortieth (1/40) of an inch, in the measurement of the thickness of stock required for a given button blank, or doublet blank, is very important. With these considerations in mind, it will be seen that by adopting a doublet blank, such as illustrated, which is severed into its component elements by a tool manipulated to form spherical surfaces, the two buttons thus formed are virtually nested and they can be cut from a slab the thickness of which is no greater, and in some instances may actually be less, than the combined thickness of the finished buttons when these are placed face to face or back to back.

Another advantage is found in that both of the buttons formed from a blank made in accordance with my invention may be cut with their faces turned outward in the slab and lying as close as possible to the outer wall of the slab. This insures the best quality of the nut substance to appear in the faces of the buttons.

Further by forming the smaller button on the outer or convex side of the blank a thinner blank may be used than if the button of larger diameter were formed upon said convex side.

I claim as my invention.

1. The method of forming buttons consisting in severing a doublet button blank into two separate buttons by a transverse cut forming concentric spherical surfaces, intermediate the front and rear faces of the doublet.

2. The method of forming buttons from a doublet blank consisting in severing it so as to form a convex surface on one button and a concave surface on the other.

3. The method of forming buttons consisting in first forming a multiple blank each of the two sides of which shall be a finished side of one of the buttons formed therefrom and secondly severing said blank transversely so as to form a concave side on one of said buttons and a convex side on the other.

4. The method of forming buttons consisting in first forming a doublet blank with substantially concentric curved front and rear faces and secondly severing it to form curved surfaces substantially concentric with the first mentioned surfaces.

5. The method of forming buttons consisting in first forming a doublet blank with one side of two buttons thereon and secondly severing said blank so that the second side of one of said buttons is formed with a concave surface and the second side of the other button is formed within said concavity.

6. The method of forming vegetable ivory buttons consisting in cutting from a nut slab of given thickness a doublet blank and subsequently cutting it transversely to form two buttons, said cut being so made as to produce opposing surfaces other than plane surfaces, the greatest combined thickness of the two buttons so formed being not less than the thickness of the blank from which the doublet was cut.

HERBERT HASTINGS.

Witnesses:
G. WILLARD RICH,
HENRY W. HALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."