J. ZULEG.

PROCESS OF MAKING BUTTONS FROM IVORY NUTS AND THE LIKE.

APPLICATION FILED NOV. 21, 1914.

1,166,733. Patented Jan. 4, 1916.

Fig. 1.

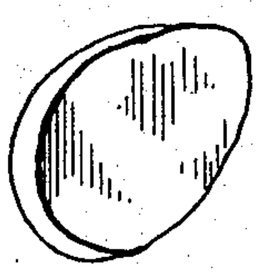


Fig. 2.

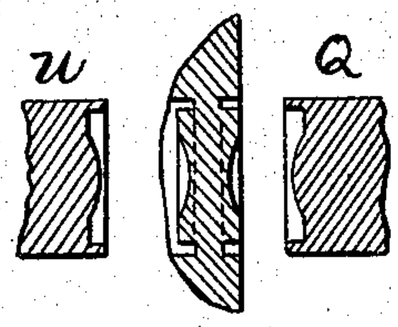


Fig. 3.

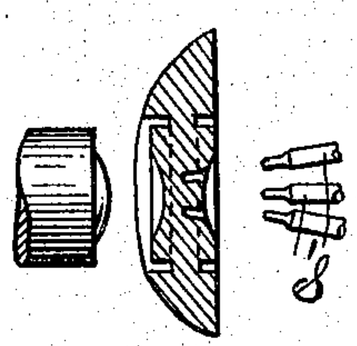


Fig. 4.

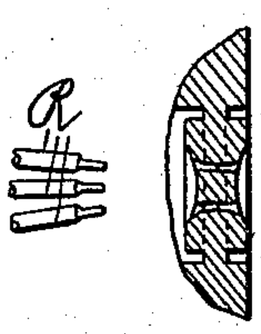


Fig. 5.

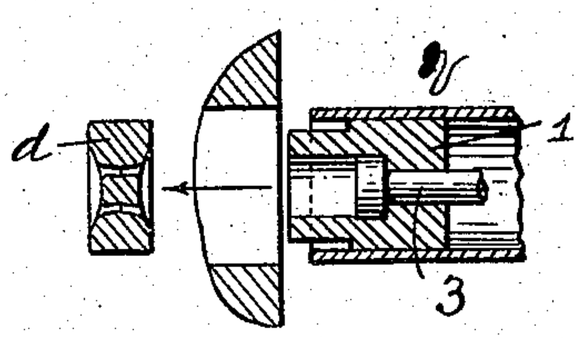


Fig. 6.

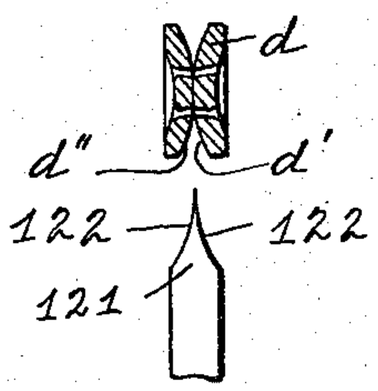


Fig. 7.

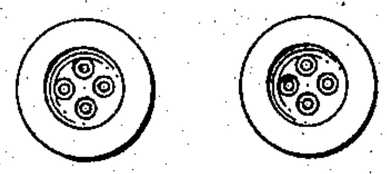


Fig. 8.

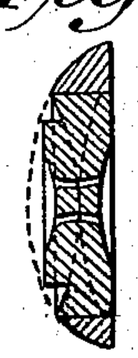
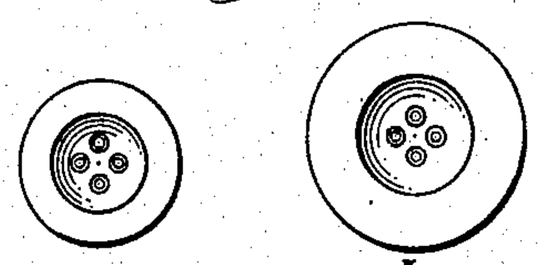


Fig. 9.



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UNITED STATES PATENT OFFICE.

JOSEPH ZULEG, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO BUTTON MACHINERY COMPANY, OF NEW YORK, N. Y., A CORPORATION.

PROCESS OF MAKING BUTTONS FROM IVORY-NUTS AND THE LIKE.

1,166,733. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed November 21, 1914. Serial No. 873,290.

To all whom it may concern:

Be it known that I, JOSEPH ZULEG, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in the Process of Making Buttons from Ivory-Nuts and the like, of which the following is a specification.

This invention relates to a process of forming buttons from slabs of ivory nuts or similar material.

In the drawings there is shown a series of views illustrating the successive steps of the novel process referred to.

In the drawings, Figure 1 represents a slab or section of an ivory nut or similar piece of material from which the new duplex blank is to be cut; Fig. 2 is a section through the same, showing the condition which exists after the cutting facing tools have operated upon the slab on both sides, the operative ends of such tools being shown in section on each side of the slab; Fig. 3 is a similar view showing the right half of the duplex blank with the appropriate holes or recesses drilled therein, the ends of the drills being shown in elevation; Fig. 4 is a similar view showing the left side of the duplex blank with the holes or recesses drilled therein, the drills being shown in elevation; Fig. 5 is a sectional view of the slab illustrating the manner in which the duplex blank (also shown in section) is ejected from the slab after it has been cut therefrom; Fig. 6 is a section showing the duplex blank severed to form two buttons, the operative end of the severing tool being shown in elevation; Fig. 7 is a front elevation of the faces of the two buttons cut from the blank shown in Figs. 2, 3, 4, 5 and 6; Fig. 8 is a section showing a duplex blank in which the right and left hand halves are to be formed of different diameters; and Fig. 9 is a front elevation of the faces of two buttons cut from such a duplex blank as is shown in Fig. 8.

Broadly speaking, the process consists of forming simultaneously on both sides of each ivory slab the contour of a button face and then drilling and countersinking the proper holes therein so as to form out of the slab a duplex button blank consisting practically of two buttons arranged back-to-back but united by a common strip of intermediate material which is subsequently to be removed; then cutting out such duplex blank from the slab and finally severing the blank into two complete buttons.

More specifically described, in carrying out the preferred process, the blank is produced by first simultaneously partially cutting away the edge of the buttons from opposite surfaces of the same slab, then subjecting the portions within the blank to the action of face forming tools, after which holes are drilled, first from one side, and then from the other. The complete cutting of the edges from the material slab is then made so that the blank is severed from the slab and finally an inwardly tapering cut is made, beginning at the center of the periphery of the severed blank, thereby cutting said blank into two buttons.

It is also important that the operation of forming the backs of the two buttons and severing the same should be conducted very soon after the blanks have been formed. The ivory nuts are steamed, that is, subjected to the action of heat and moisture before the slabs are passed through the process. This is to moisten and soften them. As the material is of uneven density if it is allowed to become dry and cool, it will not always assume the same shape or occupy the same volume if again heated and moistened, and therefore it is desirable to carry out the process while their temperature (induced by the steaming process and the heating action of the tools), is substantially unchanged. In the preferred form of apparatus for carrying it out which I am using, only twelve seconds elapses from the time the blank is made until it is finally severed and the finished buttons completed.

I claim:

1. As an article of manufacture, a duplex button blank comprising a piece of suitable material of the thickness of two buttons and having its opposite faces fashioned into the form of two button faces, the rear sides of the individual blanks being integrally joined, and openings extending into the duplex blank from its opposite faces, said openings being disposed in angular relation.

2. As an article of manufacture, a duplex button blank comprising a piece of suitable material of the thickness of two buttons to be made therefrom and having their opposite faces fashioned into the form of two

button faces, back to back, the outside periphery of each face being of a different radius.

3. As an article of manufacture, a duplex button blank comprising a piece of suitable material having a cylindrical edge, concave on each face and provided with transverse holes.

4. As an article of manufacture, a duplex button blank comprising a piece of suitable material having a cylindrical edge, concave on each face and provided with transverse holes, the edge being stepped down on one side to a smaller diameter than the body of the blank.

5. The process of simultaneously forming a duplex button blank out of which to cut two buttons out of ivory nut or other suitable material, which consists in subjecting a suitable slab to the action of suitable facing tools, and thereby producing opposite faces, to the action of suitable drilling tools to form openings therein, and cutting away the edges around the faces from the slab to sever the duplicate blank from said slab.

6. The process of simultaneously forming a duplex button blank out of which to cut two buttons out of ivory nut or other suitable material, which consists in simultaneously partially cutting away the edge of the buttons from opposite surfaces of the same slab, subjecting the same to the action of face forming and drilling tools in convenient succession, and completing the cutting of the edges from the material slab.

7. The process of simultaneously forming a duplex button blank out of which to cut two buttons out of ivory nut or other suitable material, which consists in subjecting the same to the action of edging tools on both sides of the slab, subjecting the same to the action of facing tools on both sides of the slab, and severing the same from the slab by the action of an edging tool.

8. The process of simultaneously forming a duplex button blank out of which to cut two buttons out of ivory nut or other suitable material, which consists in simultaneously partially cutting the edges of the blanks from both sides of the slab and concaving the opposite faces of the material, drilling holes first from one side and then from the other, and completing the edge cutting to sever the blank from the slab.

9. The method of manufacturing buttons, which consists in forming a duplex blank of the thickness of two buttons, forming concave button faces in the opposite faces of said blank and separating into individual in the duplex blank to simultaneously produce substantially convex backs to the individual blanks.

10. The process of forming two buttons simultaneously from the same piece of material, which consists in subjecting a suitable slab to the action of suitable facing tools, to the action of suitable drilling tools, and cutting away the edges from the slab, and then severing the blank so formed at the middle of the cylindrical body to form the two buttons.

11. The process of forming two buttons simultaneously from the same piece of material, which consists in subjecting a suitable slab to the action of suitable facing tools, to the action of suitable drilling tools, and cutting away the edges from the slab, and then severing the blank so formed at the middle of the cylindrical body to form the two buttons and simultaneously cutting away a greater amount of material at the periphery than at the center.

12. The process of forming two buttons simultaneously from the same piece of material, which consists in simultaneously partially cutting away the edge of the buttons from opposite surfaces of the same slab, subjecting the same to the action of face forming and drilling tools in convenient succession, and completing the cutting of the edges from the material slab, and simultaneously cutting away a greater amount of material at the periphery than at the center to form the two buttons.

13. The process of forming two buttons simultaneously from the same piece of material, which consists in subjecting the same to the action of edging tools on both sides of the slab, subjecting the same to the action of facing tools on both sides of the slab, and severing the same from the slab by the action of an edging tool and simultaneously cutting away a greater amount of material at the periphery than at the center to form the two buttons.

14. The process of forming two buttons simultaneously from the same piece of material, which consists in simultaneously partially cutting the edges from both sides of the slab and concaving the material, drilling holes first from one side and then from the other, and completing the edge cutting to sever the blank from the slab and simultaneously cutting away a greater amount of material at the periphery than at the center to form the two buttons.

15. The process of forming two buttons simultaneously from the same piece of material, which consists in subjecting a suitable slab to the action of suitable facing tools, to the action of suitable drilling tools, and cutting away the edges from the slab, and then, without allowing the blank to cool or dry, severing the blank so formed at the middle of the cylindrical body and simultaneously cutting away a greater amount of material at the periphery than at the center to form the two buttons.

16. The process of forming two buttons

simultaneously from the same piece of material, which consists in subjecting a suitable slab to the action of suitable facing tools, to the action of suitable drilling tools, and cutting away the edges from the slab, and then, while maintaining the blank at substantially the same temperature, severing it at the middle of the cylindrical body and simultaneously cutting away a greater amount of material at the periphery than at the center to form the two buttons.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH ZULEG.

Witnesses:
HELEN V. FITZPATRICK,
MARY H. LEWIS.