I. DE FRANCISCI.

METHOD OF MAKING BUTTONS.

APPLICATION FILED DEC. 30, 1911.

1,118,110.

Patented Nov. 24, 1914.

Fig. 1.

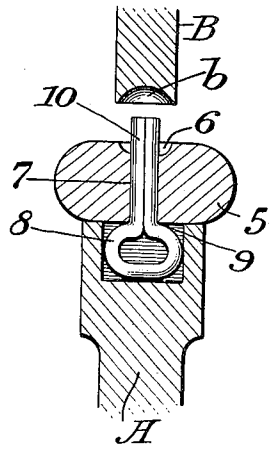


Fig. 2.

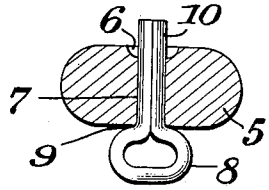
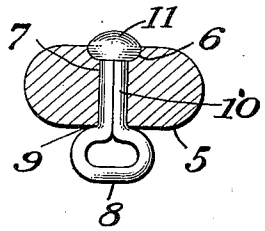


Fig. 3.



WITNESSES

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METHOD OF MAKING BUTTONS.

1,118,110. Specification of Letters Patent. Patented Nov. 24, 1914.

Original application filed September 30, 1911, Serial No. 652,080. Divided and this application filed December 30, 1911. Serial No. 668,601.

To all whom it may concern:

Be it known that I, IGNAZIO DE FRANCISCI, a subject of the King of Italy, residing in the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a certain new and useful Method of Making Buttons, of which the following is a specification.

This invention is a method of making buttons, more particularly metal shank buttons, and the object is to substantially increase the strength of the metal eye or shank forming a part of the button, and at the same time to secure a finished or ornamental appearance on the exposed face of the button.

The present application is a division of a prior application filed by me on September 30th, 1911, Serial Number 652,080.

The invention consists in upsetting or spinning the end portions of the two members composing the shank of a button in such manner that said ends are united by a head integral with the shank, which head is so finished that the line of division or demarcation between the two members of the shank is not visible to the eye.

In a preferred way of practising the invention, it consists in the following steps, inserting a double metal shank through the button from the rear to the front thereof, and spinning or upsetting the end portions of the double shank on the front or exposed face of the button, thereby producing a button the shank of which possesses increased strength as compared with prior buttons and the face of which button presents an ornamented finish or appearance.

The accompanying drawing illustrates diagrammatically a method of carrying out the invention, wherein:—

Figure 1 is a diagrammatic view showing the button held by a suitable holder or chuck and a forming tool for producing a head integral with one end portion of the shank. Fig. 2 is a section through a button with the ends of the shank protruding beyond the front of the button ready to be placed in the machine for forming the head upon the end of the metal shank. Fig. 3 is a section through a button after the head has been produced by the forming tool.

In carrying out my invention, a button blank 5 is employed, said blank being of any preferred form and composed of any suitable material. As shown, the button blank is provided with a counter sink 6 in the exposed face thereof, and with a transverse aperture 7. A piece of suitable material, such as brass or aluminum wire, is cut to the proper length, and thereafter bent to produce a loop or eye 8 about centrally of the wire. The ends of the wire are brought together and subjected to pressure of a suitable tool, thereby producing a shoulder 9, the ends of the wire being brought into parallel relation to each other and producing a shank 10. The shank 10 having been produced as described, I now proceed to insert it into the aperture 7 of the button blank until the ends of the shank protrude beyond the face of said button blank, the shoulder 9 engaging with the rear of the button blank, as shown in Fig. 2. The button blank with the inserted shank, the end of which protrudes beyond the front thereof, is secured within a suitable holder or chuck A, so that the parts are held in a stationary position close to a forming tool B. Said forming tool is provided with a concave or cup shaped end face, *b*, said tool being revolved at high speed as, *e. g.*, from 1400 to 2000 revolutions per minute. If desired, the holder or chuck A may be revolved and forming tool B may be stationary; or, it may be found preferable to revolve both the tool and the chuck in opposite directions to each other.

Assuming that the chuck A is stationary, and tool B is revolving, tool B is moved toward the chuck so that the concave end face of the tool is brought into engagement with the protruding ends of shank 10, the tool B exerting pressure upon the ends of the shank and owing to its high speed rotary motion serving to upset or spin the metal into the countersink 6 of the button blank. Tool B is advanced and rotated while in engagement with the ends of the shank 10 for a short period of time, and during this action of the devices, the concave end *b* of tool B is operating upon the ends of the shank so as to spin or produce a head 11. This head 11 is integral with the shank, and the operation of the tool so distributes and forms the metal as to leave no line of division perceptible to the eye. This method produces a button having its shank permanently united thereto, and produces a button having an ornamental finish

on the exposed face and the shank of which possesses great strength.

Having thus fully described the invention, what I claim as new, and desire to secure by Letters Patent is:—

1. The method herein described of producing metal-shank buttons, which consists in passing the disconnected end portions of a metal shank through a button blank, and subsequently thereto subjecting said end portions to the action of a rotary forming tool which displaces and blends the metal of the said disconnected ends so as to produce an enlarged finished solid head free from the original visible line of demarcation which characterized the separated end portions of the shank.

2. The method herein described of producing metal-shank buttons, which consists in feeding a metal shank through a button-blank for the disconnected end portions of said metal shank to protrude for a predetermined distance beyond a face of said button-blank, and subsequently subjecting said protruding end portions of said shank to the action of a forming tool limited to rotative movement and operating to displace and to blend the metal so as to result in the formation of a finished solid head integral with the shank and free from the visible line of demarcation which originally denoted the line of separation between the disconnected end portions of said metal shank.

3. The method of producing metal-shank buttons which consists in passing through a button-blank and from the rear thereof the disconnected end portions of a metal shank so that said end portions extend for a predetermined distance beyond the front of said blank, and subsequently subjecting the extended end portions of said shank to the action of a forming tool limited to rotative movement while in contact with said metal shank for displacing and blending the metal to produce an enlarged finished head free from a visible line of demarcation which originally denoted the line of separation between said end portions of the metal shank.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IGNAZIO DE FRANCISCI.

Witnesses:
H. I. BERNHARD,
J. F. MOTHERSHEAD.