(No Model.)

# J. MATHISON.

## BUTTON.

No. 457,970. Patented Aug. 18, 1891.

FIG. 1.

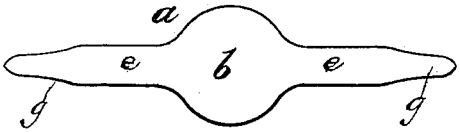



FIG. 4.

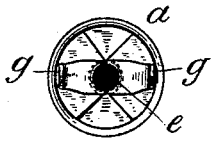



FIG. 2.

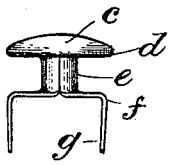



FIG. 5.

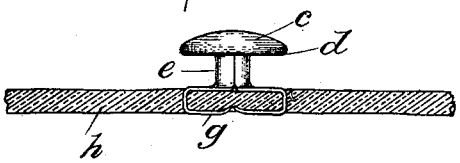
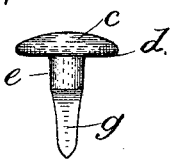



FIG. 3.




WITNESSES:
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INVENTOR:
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by Wright, Brown & Crossley
his attys.

# UNITED STATES PATENT OFFICE.

JOSEPH MATHISON, OF SOMERVILLE, MASSACHUSETTS.

## BUTTON.

SPECIFICATION forming part of Letters Patent No. 457,970, dated August 18, 1891.

Application filed January 22, 1891. Serial No. 378,666. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH MATHISON, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Boot or Shoe Buttons, of which the following is a specification.

My invention has relation to metallic buttons generally, and particularly to buttons adapted for application to the flies of boots or shoes; and it has for its object the provision of such improvements as will render the button durable, efficient for service, and cheap of construction.

The invention consists in a metallic button composed of a single piece of sheet metal comprising the enlarged central portion *b*, constituting the head of the button, the shank sides or extensions *e e*, formed on opposite edges of said head, but narrower than the latter and having a concavo-convex form in cross-section, said shank sides being bent inwardly from the margin of the head under the latter, with their convex sides outward to form a rounded two-part shank, and bent outwardly at their outer or lower portions to form feet to rest on the material and give the shank an elongated bearing thereon, and the prongs *g g*, formed on the outwardly-bent ends of the shank sides and adapted to pass through the material, the concavo-convex form of the shank sides giving them smooth bearing-surfaces devoid of cutting or wearing angles and strengthening the shank made of said sides by giving the same a substantially tubular form in cross-section.

The invention will first be described in connection with the drawings hereto annexed and forming a part of this specification, and then be pointed out in the claim.

In the said drawings, Figure 1 is a plan view of the blank from which my improved metallic button may be formed. Fig. 2 is a side view of my improved button formed from the blank shown in Fig. 1. Fig. 3 is a view taken at right angles to the view shown in Fig. 2. Fig. 4 is a bottom plan view of the button shown in Figs. 2 and 3. Fig. 5 is a view showing the improved button attached to a piece of material, the latter being represented in section.

Similar letters of reference designate similar parts or features, as the case may be, wherever they occur.

In carrying out my invention I may take a blank *a*, of sheet metal, of the form shown in Fig. 1 and composed of the circular central part *b*, the extensions or shank sides *e e* extending in opposite directions from said central part, and the prongs *g g* extending from the shank sides and made narrower than the latter. In making a button from said blank I strike or stamp up the central part *b* into a head *c*, which is preferably dome-shaped or of concavo-convex form, as shown, the outer or convex surface constituting the exposed side of the button-head. In stamping up the head *c*, or subsequent thereto, I form a rounded shank *e* from the material extending beyond the head, and by the term "rounded shank" I desire to be understood as explaining a part or feature which shall be devoid of angles or corners, so that the shank in coming into contact with the edges of a button-hole may not unduly abrade or wear the same. To this end I give a concavo-convex form in cross-section to the shank sides *e e* and subsequently bend said sides toward each other from the margin of the head and under the latter, so as to cause them to collectively form a shank which is circular or approximately circular in cross-section, the convex surfaces of said sides constituting the exterior of the shank, which is prevented by its circular form in cross-section from wearing or injuring the edges of the button-hole with which the button may be engaged. The outer portions of the shank sides are bent outwardly in opposite directions and constitute feet, as it were, to bear on the outer surface of the article or piece to which the button is attached and give the shank an elongated bearing on said article, so that the button is firmly supported and prevented from tipping loosely. The prongs *g g*, which, as already stated, are extensions of the shank sides *e e*, are bent substantially at right angles with the outwardly-bent ends of the shank sides, are adapted to pass through the piece to which the button is to be applied and to be clinched upon the inner side of said piece, as shown in Fig. 5, the ends of said prongs being preferably pointed, so that they may penetrate the said piece. I prefer in forming the

head *c* to turn inwardly those portions of the margin of the head that come between the shank sides *e e*, thus forming, in connection with the said shank sides, a continuous inwardly-projecting flange *d*, which, by reason of its rounded form in cross-section, prevents the margin of the head from cutting or defacing the outer surface of the button-hole piece on which it bears when in use.

I am aware that a button or fastening device has been made from a single piece of sheet metal by striking up a cup-shaped projection from the central portion of said piece and forming said projection by successive operations into a flanged head, the body of the piece surrounding said projection being bent to form prongs adapted to pass through the piece to which the fastening device is applied.

The chief advantages attending my improved construction are as follows: First, the enlarged central portion can be formed at one blow or operation into a dome-shaped or concavo-convex head of substantial size without decreasing its thickness and at much less expense than would be involved in converting a cup-shaped projection into a flanged head; secondly, the extensions or shank sides being narrower than the head-piece can be converted into a shank by the simple operation of bending said extensions under the head-piece, the shank thus formed being narrower than the head and in a great measure concealed thereby and made at much less expense and with less labor than would be involved in converting a portion of the cup-shaped projection above referred to into a tubular shank; thirdly, the concavo-convex form of the shank sides not only gives the shank a smooth exterior devoid of wearing angles, but also strengthens and stiffens the shank, so that it will not be liable to bend or cripple and permit the button-head to topple over; fourthly, the prongs being narrower than the extensions or shank sides can be readily inserted in the button-piece without the necessity of forming slits or holes of any considerable size therein, the said prongs being adapted by their narrowness and by their pointed ends to penetrate the piece, if desired, without the necessity of previously forming holes therein; lastly, the general form of the blank, the same being widest at the center and reduced by successive steps to the ends, enables a sheet of metal to be cut up into blanks without waste, the edges of each blank conforming to the edges of other blanks.

I claim—

A metallic button composed of a single piece of sheet metal comprising the enlarged central portion *b*, constituting the head of the button, the shank sides or extensions *e e*, formed on opposite edges of said head, but narrower than the latter and having a concavo-convex form in cross-section, said shank sides being bent inwardly from the margin of the head under the latter with their convex sides outward to form a rounded two-part shank and bent outwardly at their outer or lower portions to form feet to rest on the material and give the shank an elongated bearing thereon, and the prongs *g g*, formed on the outwardly-bent ends of the shank sides and adapted to pass through the material, the concavo-convex form of the shank sides giving them smooth bearing-surfaces devoid of cutting or wearing angles and strengthening the shank made of said sides by giving the same a substantially tubular form in cross-section, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 9th day of January, A. D. 1891.

JOSEPH MATHISON.

Witnesses:

ARTHUR W. CROSSLEY,

T. R. SHEPPARD.