

No. 701,717.

Patented June 3, 1902.

J. HAFFER JR.

SHEET METAL BUTTON AND BLANK THEREFOR.

(Application filed Aug. 23, 1901.)

(No Model.)

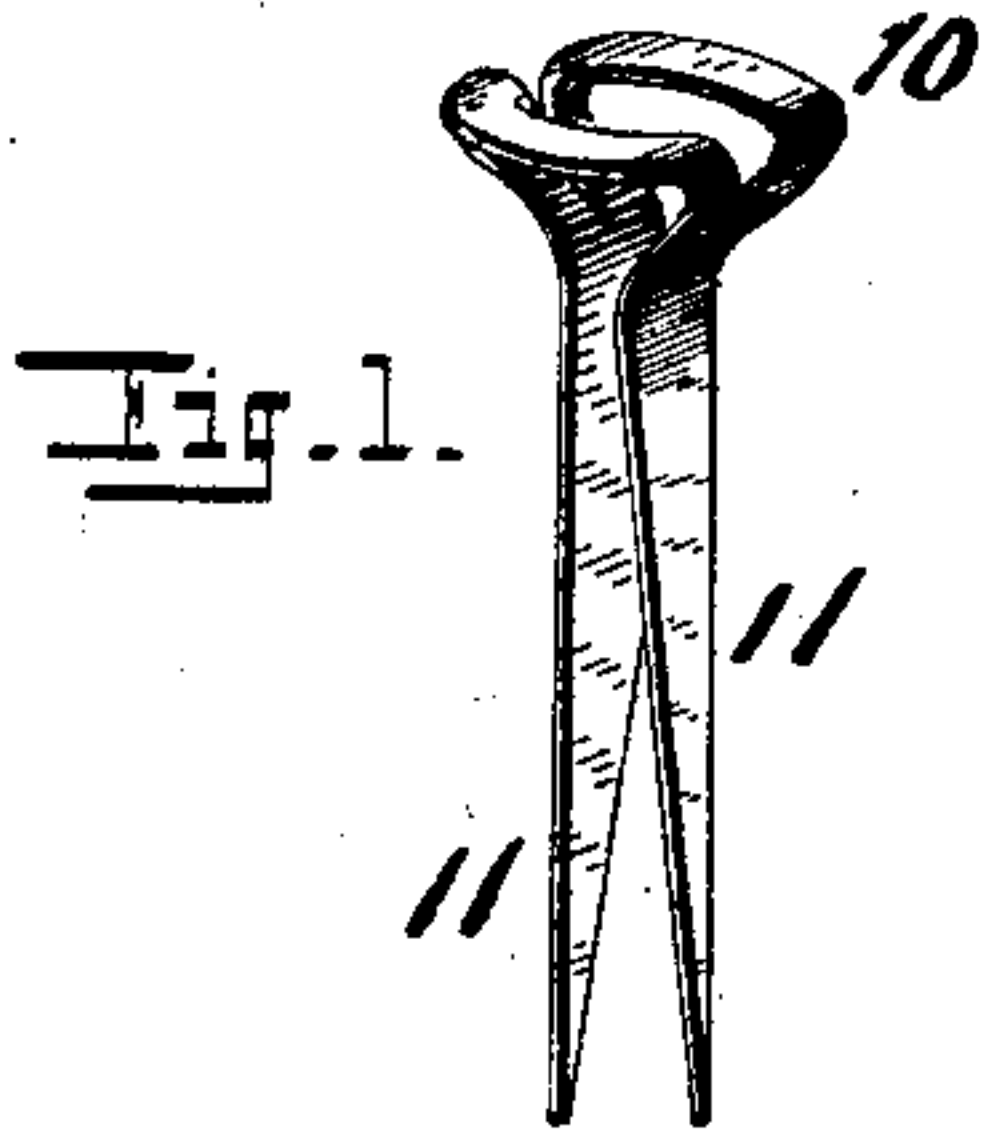


Fig. 2.

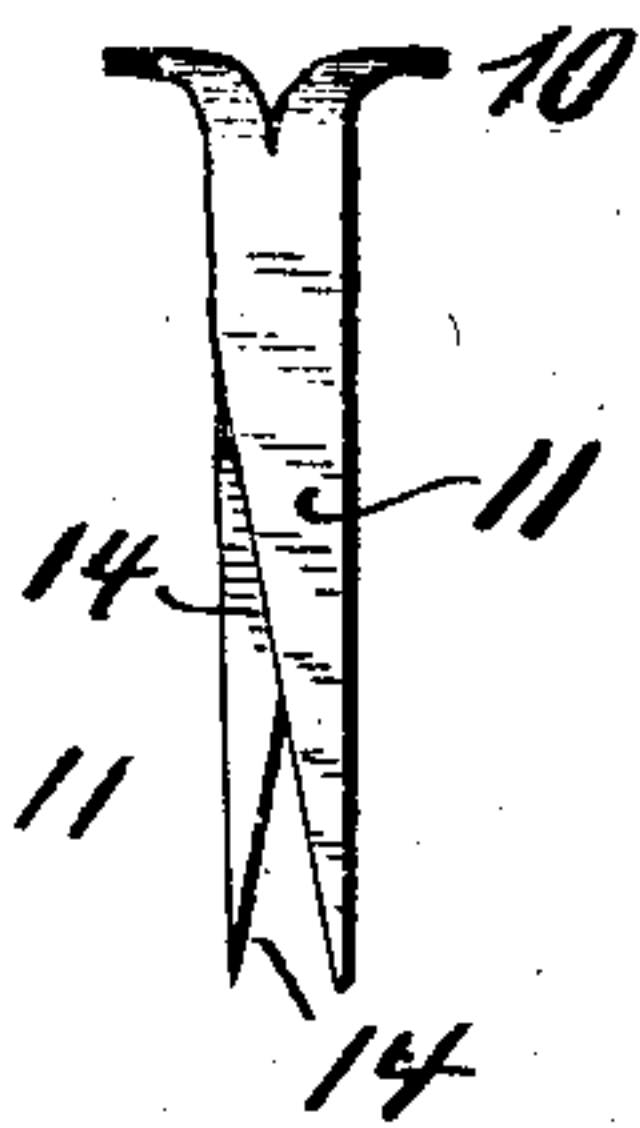


Fig. 3.

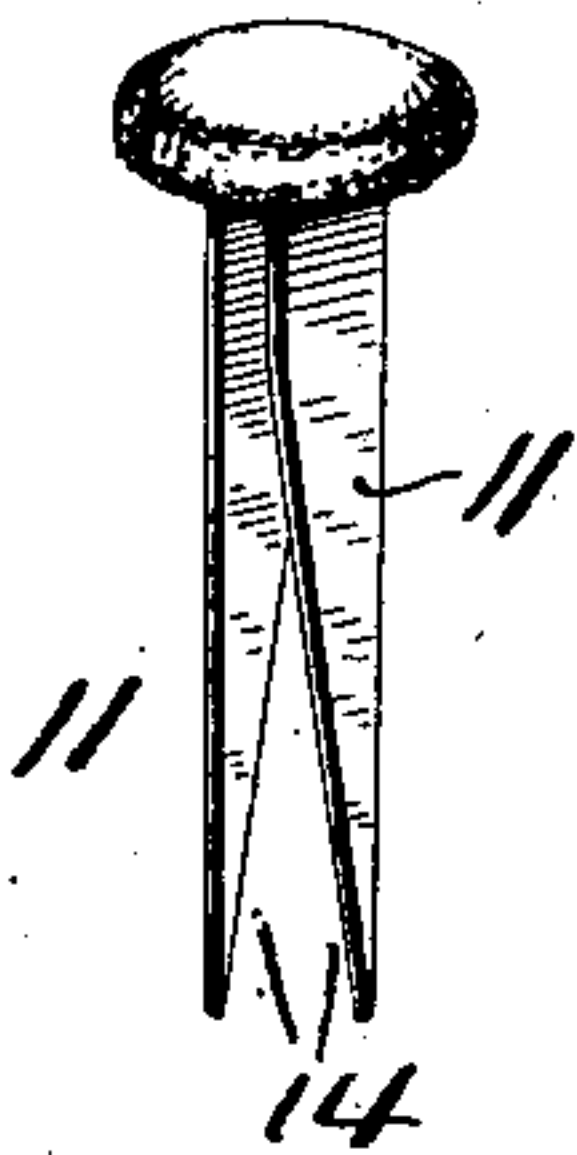


Fig. 4.

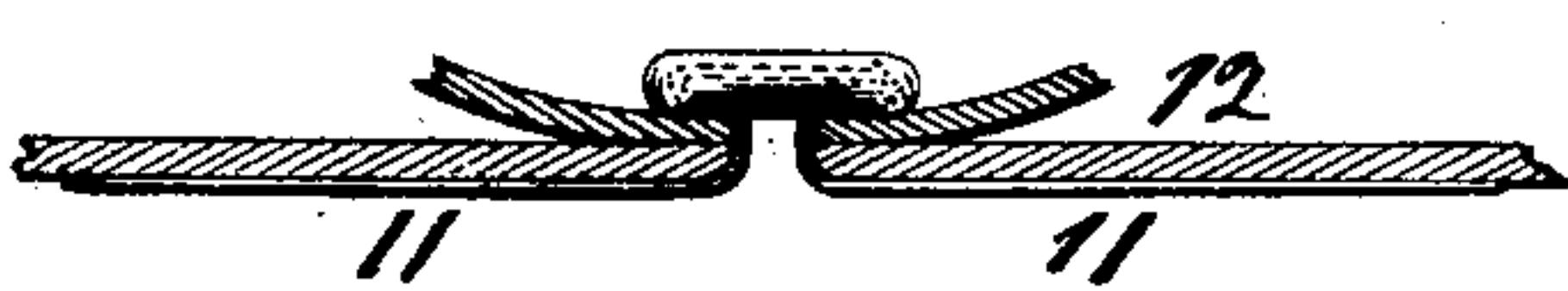


Fig. 5.

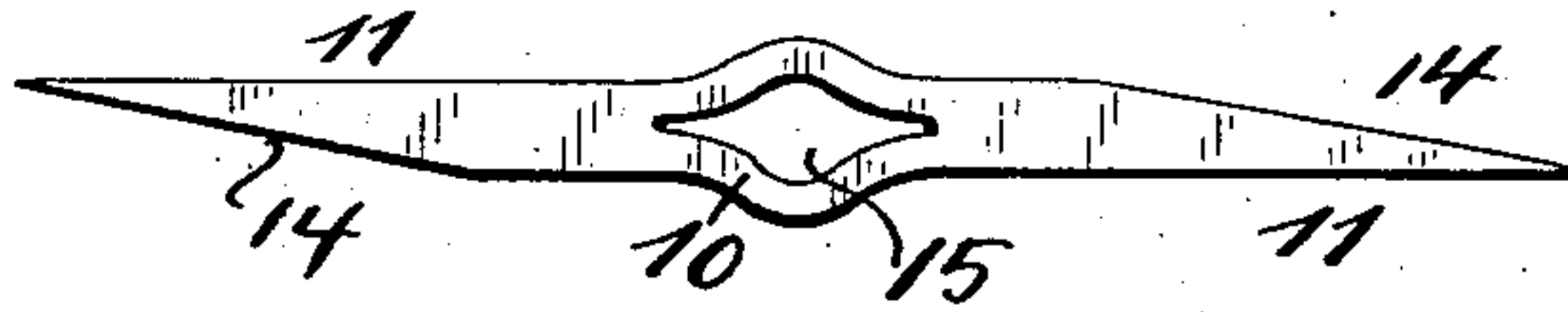
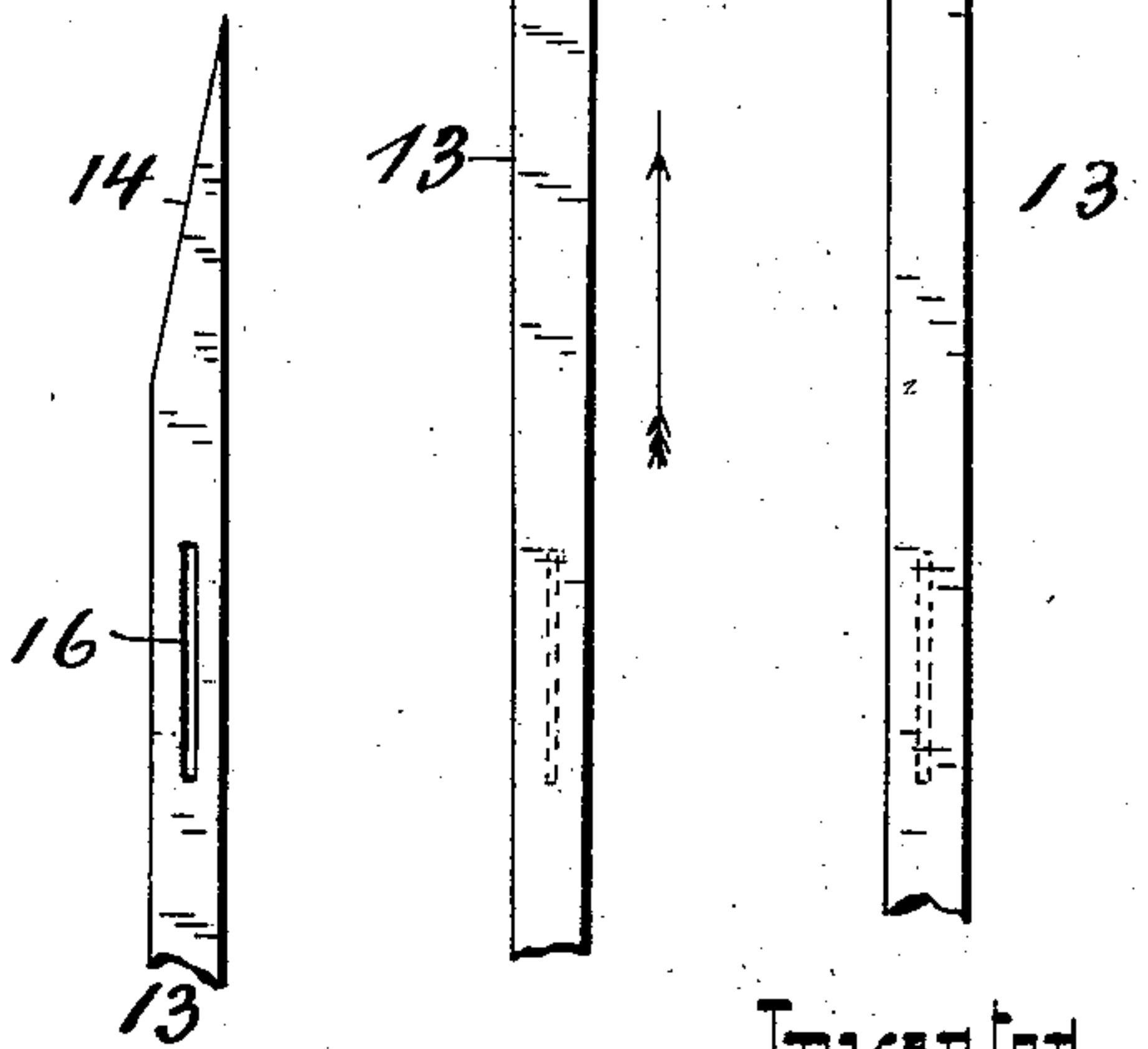


Fig. 6.



Witnesses:

J. N. Brown  
Arthur Kline

Inventor

James Hafer jr  
by C. Spengel atty.

# UNITED STATES PATENT OFFICE.

JAMES HAFFER, JR., OF AUGUSTA, KENTUCKY.

## SHEET-METAL BUTTON AND BLANK THEREFOR.

SPECIFICATION forming part of Letters Patent No. 701,717, dated June 3, 1902.

Application filed August 23, 1901. Serial No. 73,020. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES HAFFER, Jr., a citizen of the United States, and a resident of Augusta, Bracken county, State of Kentucky, have invented certain new and useful Improvements in Sheet-Metal Buttons and Blanks Therefor; and I do declare the following to be a clear, full, and exact description of the invention, reference being also had to the accompanying drawings, with the reference-numerals marked thereon, which form a part of this specification.

This invention relates to the construction of buttons of the kind which have prongs projecting from the under side of a head which in width exceeds the width of the prongs and which buttons are held in place by the clenching of said prongs against the under side of their broader heads with the fabric between the two. They are used for various purposes, one of which is as a tufting-button in connection with upholstery, manufacture of cushions, carriage-seats, &c. They are generally manufactured of blanks formed to shape and which blanks are punched out of sheet metal. The objection to this mode of manufacture is the excessive waste of material due to the requirement of additional width of the blank in the center, the loss being in some cases almost equal to the metal actually used to form a button and is rarely less than half such quantity. This loss of material increases the manufacturing cost of these buttons unnecessarily, and the object of my invention is to avoid this loss altogether, thereby reducing the manufacturing cost to a corresponding degree. This object is attained by using a blank which is so shaped as to permit its punching without any waste whatsoever, its shape at the same time being such as to permit therefrom the formation of the particular-shaped button here in view under use of automatic machinery.

In the following specification, and particularly pointed out in the claims following, is found a full description of the invention, together with its method of manufacture, parts, and construction, the whole being also illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective view a button manufactured as contemplated by my in-

vention. Fig. 2 is a side view thereof. Fig. 3 in a view similar to Fig. 1 shows a button provided and finished with an added head, such as is necessary when used for a tufting-button. Fig. 4 shows it so used—that is, as a tufting-button. Fig. 5 shows a plan view of the blank out of which this button is formed. Fig. 6 illustrates the various steps for producing this blank.

In the drawings, Figs. 1 and 2 show the shape of the button clearly, 10 being the broader and enlarged head thereof, and 11 the prongs projecting from the under side of the same, the whole being formed integrally in one piece, the blank for it being stamped out of sheet metal. When used as a tufting-button, the metal head may be covered with fabric or other added material, as shown in Fig. 3.

Fig. 4 shows the button in place with the prongs clenched against the under side of the broader head and the fabric 12 clamped between the two.

The principal object of this invention, which is cheapness of manufacture, is attained by producing the button, and particularly its head, in such a manner that it may be formed out of a blank which may be stamped out of the material without any waste whatsoever. Fig. 5 shows this blank after it is finished and ready to be formed into the button, the portions thereof intended for head and prongs being indicated by the same numerals which indicate these parts in the button. The manner in which this blank is cut and prepared is illustrated in Fig. 6, the material being in form of strips 13, of a width limited to the width of the prongs and which are fed into a suitable machine, the blanks being successively cut off on a line inclined to the edges of the blanks and as shown at 14, so that each cut forms at once the points of two prongs and also one of the sides of each of said two prongs, so that between this line of separation no waste whatsoever results, since the parts on each side of such line form parts of the button. These lines of separation are all parallel to each other and at an acute angle to the parallel edges of the strips from which the blanks are cut, the resulting shape being that of a flat elongated rhomb. They also form one of the sides of the prongs as



stated, the other side being formed by the straight edge of the blank strip. The points of the prongs are on alternate sides of the blank strip, which, however, is rather an advantage, since when the button is complete the said prongs enter the fabric at points separated from each other, and the resulting opening in the fabric is not so large and a better hold is obtained.

To obtain the head 10, which is broader than the prongs, the metal is spread between these latter, as shown at 15, it having been cut or split first, as shown at 16. It is preferable to make this cut 16 and subsequent spreading of the metal to form the broader head before the blank is entirely separated from the blank strip, since as long as still so connected it may be better held and manipulated. The procedure would then be, first providing the cut or slip 16, next spreading the same, as shown at 15, and finally cutting off the blank. The operation may be a continuous one—that is to say, while one is spread another one may be made at the same time in the same strip, which is simply advanced every time a length equal to a blank, and while a blank is cut a head is spread and a cut for another one is made, the same strip having been advanced again another length. The completion of the button is now readily understood, and consists of simply bending the portions intended for the prongs at an angle to the central portion of the blank forming the head. It will be further understood that this saving in metal and avoidance of waste are due to the fact that the head although broader than the prongs does not require any additional width of the blank at that particular point and permits the use of narrow metal strips which need not be any wider than the prongs. This is because the additional width for the head is obtained by splitting and spreading the metal at this particular point of the blank. It is obvious that in buttons with a broader head which is not so obtained the blank must provide for this additional width, which although being needed at the center portion of its length only requires nevertheless a strip of metal of a width at least as wide as the blank at this its widest

part. Since this largest width is, however, actually needed only for a small portion of the length of the blank midway its ends where the head is located, it follows that those parts of the blank to either side of the prongs and between their ends and the head in the middle are largely and in most cases entirely wasted. It is clear that in order to avoid this particular waste it is not absolutely necessary that the blanks be cut from strips equal in width only to the width of the prongs, although this is the most convenient size, and they may also be cut with equal advantage from pieces of larger width and size; but in no case does the blank require a width exceeding the width of the prongs, notwithstanding the larger width which the blanks would require where the part for the head is located in it. This is because such larger width is obtained in the manner described and not by the use of additional metal.

Having described my invention, I claim as new—

1. A sheet-metal button having pointed attaching-prongs, a head from the under side of which they project, such head being broader than the width of the prongs, which additional width is obtained by splitting, separating and spreading the split metal thereat.

2. A button made from a blank of sheet metal in the shape of an elongated rhomb, the points of which form attaching-prongs, being bent substantially at right angles to the central portion of the blank which is split and laterally spread to form the head.

3. A blank for a sheet-metal button, being in the shape of an elongated rhomb, the center portion of which is split and then laterally enlarged to form the head and the pointed end portions of which are adapted to form attaching-prongs after being bent substantially at right angles to the center portion which forms the head.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

JAMES HAFER, JR.

Witnesses:

FRANK CLENNY,  
JAMES HAFER, Sr.