No. 737,206. PATENTED AUG. 25, 1903.

G. J. CAPEWELL.

PROCESS OF FORMING TACKS.

APPLICATION FILED OCT. 1, 1901.

NO MODEL.

Fig. 1

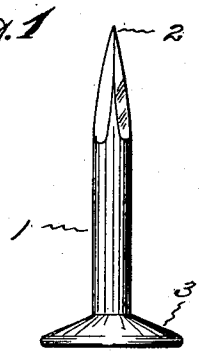



Fig. 2

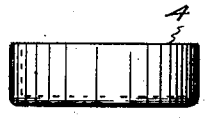



Fig. 3

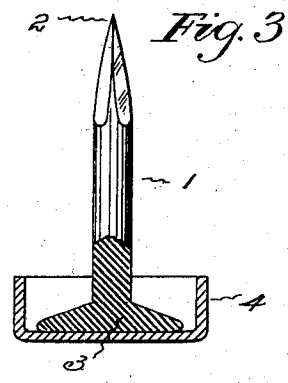



Fig. 4

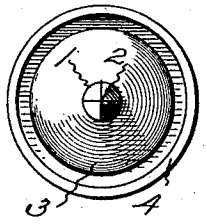



Fig. 5

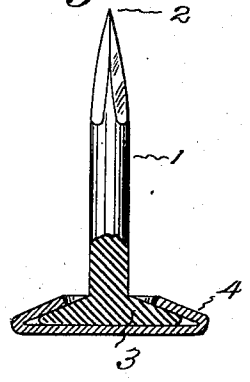



Fig. 6.

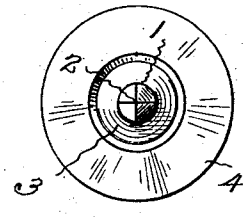



Fig. 7

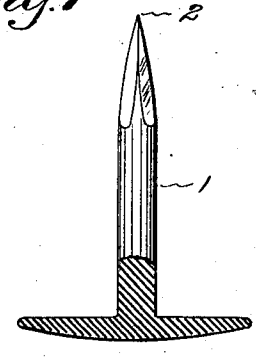



Fig. 8

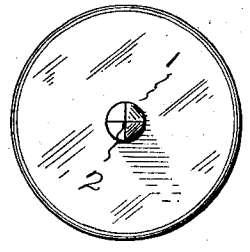
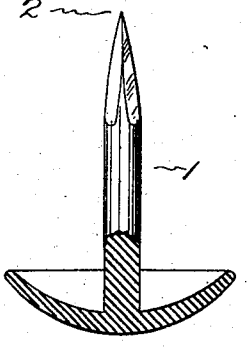



Fig. 9




Witnesses

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No. 737,206. Patented August 25, 1903.

# UNITED STATES PATENT OFFICE.

GEORGE J. CAPEWELL, OF HARTFORD, CONNECTICUT.

## PROCESS OF FORMING TACKS.

SPECIFICATION forming part of Letters Patent No. 737,206, dated August 25, 1903.

Application filed October 1, 1901. Serial No. 77,231. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE J. CAPEWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Processes for Forming Tacks, of which the following is a specification.

This invention relates to a process for forming a tack from two pieces of metal.

The object of the invention is to provide a simple process for making a strong tack with a large solid head out of a minimum amount of metal.

The process that is illustrated by the accompanying drawings produces a tack that has a solid head which is formed from two different pieces of metal that are pressed together with great force, so as to be practically homogeneous and integral with the pointed shank.

Figure 1 is a side view of the part that is used as the base of the improved tack. Fig. 2 is a side view of a cup that is used to form the exterior of the head of the finished tack. Fig. 3 is a section showing the base placed in the cup, the first step in the process of forming the improved tack. Fig. 4 is a plan of the parts shown in Fig. 3. Fig. 5 is a section showing the edge of the cup folded down upon the enlarged part of the base, the second step in the process of forming my tack. Fig. 6 is a plan of the parts shown in Fig. 5. Fig. 7 is a section of a finished button-fastener tack. Fig. 8 is a plan of the finished button-fastener tack, and Fig. 9 is a section of a finished upholsterer's tack that embodies the invention.

The shank 1, of any desired cross-section and length, may be cut from sheet metal or from wire in a common manner. One end of the shank is provided with a suitable point 2 and the other end is upset to form an enlargement 3 of substantially circular outline. The enlargement is set into a circular cup 4, and then these parts are subjected to the action of dies, which fold the wall of the cup inwardly and downwardly upon the bottom face of the enlargement. The cup is somewhat larger in diameter than the diameter of the enlarged end of the shank, and it is of such depth that when the wall is folded down it will lap upon the bottom face of the enlargement part way up to the shank. The parts are then subjected to the action of powerful dies, and the enlarged part of the shank and the inclosing cup are swaged until they are substantially homogeneous. There is such an amount of metal in the cup that when the parts are swaged together all openings and crevices are filled and the inner edge flows inwardly up to the shank while the outer edge spreads outwardly, so as to form an enlarged head. The finished head may be swaged to any desired shape, either flat, as shown in Fig. 7, or curved, as in Fig. 9, and may be of any diameter. A tack may be formed in this manner from a small amount of metal with a large head which is particularly solid, for it is practically homogeneous and integral with the shank, so that it may be subjected to the heavy blows of a hammer for driving it in place without being bent or becoming damaged. The exterior of the head of this tack that is thus made may be of a harder or otherwise superior metal to that used for the shank, which is desirable for many purposes.

This tack forms a particularly desirable button-fastener tack, although it is very serviceable in the shape of a trunk-tack, a leather-tack, or an upholsterer's tack, which tacks have large heads and are subjected to violent usage and which usually have heads of a metal superior to the metal of the shanks.

I claim as my invention—

The process of forming a large-headed tack which consists in placing an integral enlarged end of a pointed metallic shank into a metallic cup, folding the walls of the cup about the under side of the enlarged end of the shank and swaging the folded cup and the enlarged end of the shank and causing the metal of the shank end to flow outwardly from the shank and the metal of the cup to flow inwardly toward and outwardly from the shank until the metals become substantially homogeneous and form a large solid head that is practically integral with the shank, substantially as specified.

GEORGE J. CAPEWELL.

Witnesses:
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