(No Model.)

E. WOODWARD & G. W. COPELAND.

TACK STRIP.

No. 333,709. Patented Jan. 5, 1886.

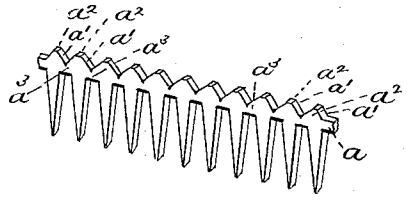


Fig. 1.

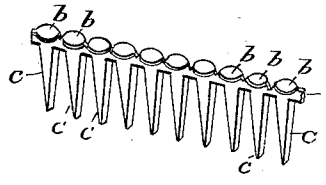


Fig. 2

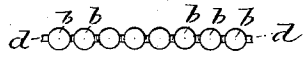


Fig. 3

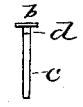


Fig. 4

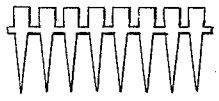


Fig. 5

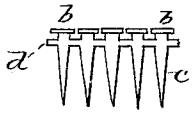


Fig. 7



Fig. 6.

WITNESSES

Geo. H. Graham

J. M. Dolan

INVENTORS

Eustis Woodward

Geo. W. Copeland

by their attys

Clarke & Raymond

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

ERASTUS WOODWARD, OF SOMERVILLE, AND GEORGE W. COPELAND, OF MALDEN, MASSACHUSETTS.

TACK-STRIP.

SPECIFICATION forming part of Letters Patent No. 333,709, dated January 5, 1886.

Application filed July 18, 1884. Serial No. 138,013. (No model.)

To all whom it may concern:

Be it known that we, ERASTUS WOODWARD, of Somerville, and GEORGE W. COPELAND, of Malden, both in the county of Middlesex and State of Massachusetts, citizens of the United States, have invented new and useful Improvements in Tack-Strips, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification in explaining its nature, in which—

Figure 1 shows in perspective a blank from which the tack-strip is formed. Fig. 2 represents the completed tack-strip. Fig. 3 is a plan view thereof. Fig. 4 is an end elevation of the strip. Figs. 5, 6, and 7 illustrate a modification, hereinafter referred to.

The invention is an improvement upon that described in our pending applications for Letters Patent of the United States, filed, respectively, December 31, 1883, Serial No. 116,158, and December 31, 1883, Serial No. 115,440. In said applications we have described two forms of tack-strips, each of which has a continuous head-forming portion, the head-forming portion of one being of substantially the same width throughout the length of the strip, and the head-forming portion of the other being enlarged or widened immediately over the separate shanks of the strip, the shanks, however, being connected by the narrow sections of the head-forming portion of the strip.

The present invention comprises a tack-strip the shanks of which are connected with each other, but only by a thin web or section of the plate from which the blank is punched or formed, and the heads of which are separated and perfectly formed. This tack-strip we prefer to form from a blank shaped as shown in Fig. 1. This blank is preferably formed from a flat metal plate by punching in the manner described in Patent No. 183,616, granted Erastus Woodward, dated October 24, 1876, and by forming the deep notches in the upper edge of the blank. These notches separate the upper edge of the blank into head-forming sections, and each of these head-forming sections is above the connecting portion of the blank, and which connects the shanks of the strip together. Each of these head-forming sections is also located at the end of a shank, so that each shank of the strip has a separate head-forming portion. The blank thus prepared is then submitted to suitable upsetting mechanism, which, by end pressure or blows upon the ends of the head-forming portions, upsets or displaces the metal of these sections from the shape represented in Fig. 1 to the shape of flat, well-formed heads, as represented in Fig. 2, and these heads are not directly connected with each other by any head-forming portion of the strip. This construction enables us to obtain a very perfectly-formed tack, and one that can be easily severed from the strip, as they are held together by a very thin and narrow uncut section of the strip from which the shanks are cut, but which does not form any portion of the head.

In the drawings, a represents the blank from which the tack-strip is formed; a^2, the head-forming portions separated by deep notches a'; a^3, the narrow connecting portion of the blank, which in Figs. 1 and 2 is represented as immediately below the head-forming portion, but which may be somewhat removed from the head-forming portion, if desired; and in Figs. 5, 6, and 7 we have shown such a modification. When, however, this form of connection is used, it is desirable in separating the tacks from the strip to punch out or otherwise remove the thin connecting-web between the shanks, so as to leave the shanks without protection.

In the completed tack-strip b represents the separate heads of each shank, and c the shanks, and d the connecting-web.

The shanks, it will be observed, have very well-defined and sharp points, but in this respect they do not differ from those described in our said application.

The separate tacks will each have shanks, two surfaces of which are parallel and two edges inclined, forming a flat sharp point and an upset head.

In our application filed December 31, 1883, Serial No. 116,158, we have described a tack-strip of which this is a modified form, and we

would be understood as not claiming herein anything which we have claimed in said application.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

A tack-strip comprising the web a^3, the shanks c, projecting therefrom, and the independent or separate heads b, formed in line with the shanks and upon or above the upper surface of the web, all substantially as and for the purposes described.

ERASTUS WOODWARD.
GEORGE W. COPELAND.

Witnesses:
F. F. RAYMOND, 2d,
J. M. DOLAN.