G. W. COPELAND.

Leather Fastening Strip.

No. 218,665. Patented Aug. 19, 1879.

Fig. 1.

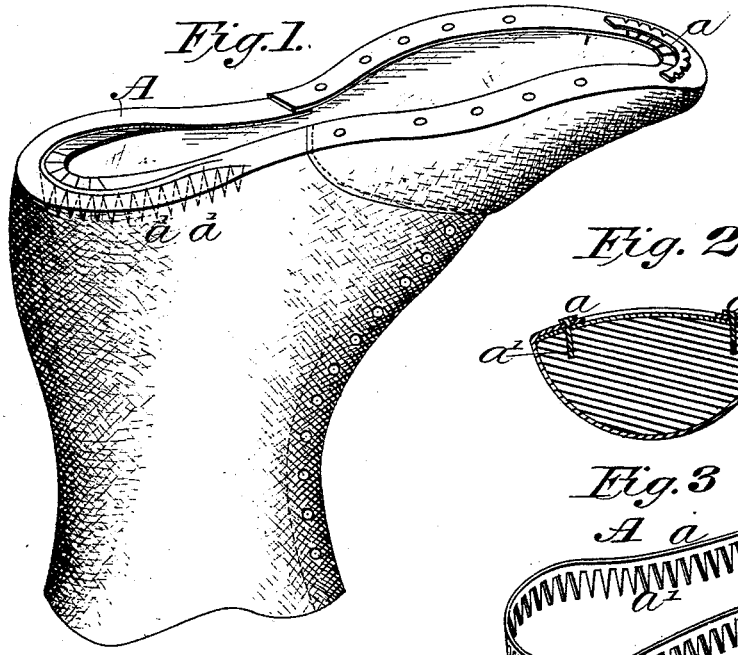


Fig. 2.

Fig. 3

Fig. 4.

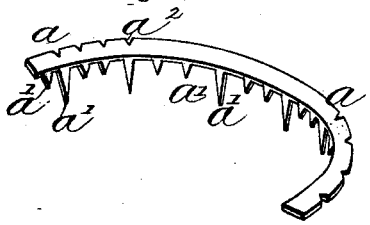
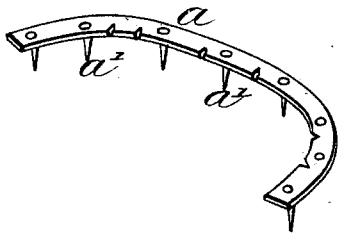


Fig. 5.



Witnesses:

Geo. F. Walker
M. F. Sawyer.

Inventor:

Leo W. Copeland
by his attys
Clarke & Raymond.

2 Sheets—Sheet 2.

G. W. COPELAND.

Leather Fastening Strip.

No. 218,665. Patented Aug. 19, 1879.

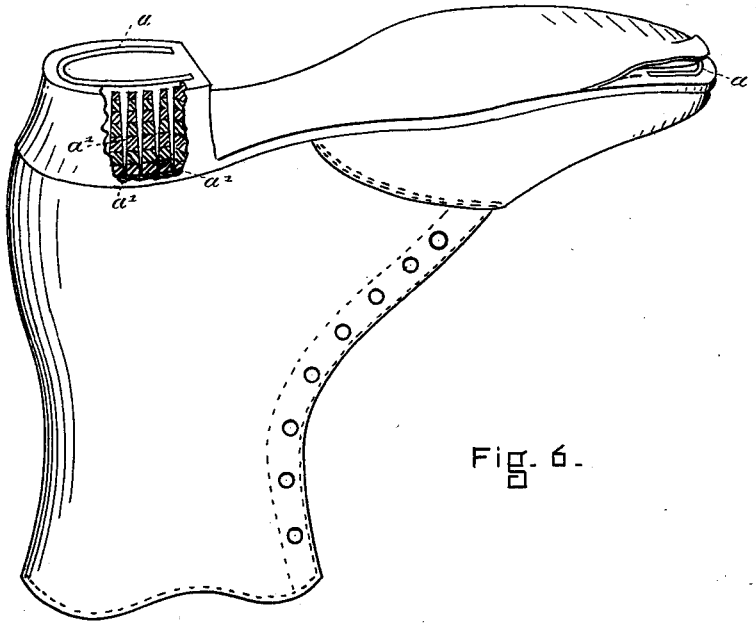


Fig. 6.

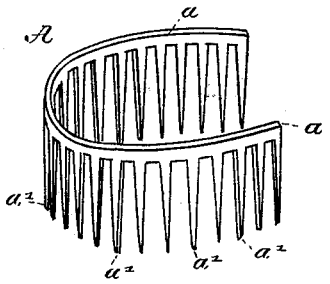


Fig. 7.

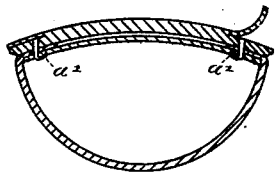


Fig. 8.

WITNESSES.

Geo. F. Walker
M. A. Sawyer.

INVENTOR.

Geo. W. Copeland.
by his attys
Clarke & Raymond.

UNITED STATES PATENT OFFICE.

GEORGE W. COPELAND, OF MALDEN, MASSACHUSETTS.

IMPROVEMENT IN LEATHER-FASTENING STRIPS.

Specification forming part of Letters Patent No. **218,665**, dated August 19, 1879; application filed May 17, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. COPELAND, of Malden, in the county of Middlesex and Commonwealth of Massachusetts, have invented an Improvement in Leather-Fastening Strips, of which the following is a specification.

This invention has for its object the within-described fastening-strip, which is particularly adaptable for use in the lasting process in securing the outsole to the insole, or as a heel-fastening.

Reference is had to the accompanying drawings in explaining the nature of my invention, in which—

Figure 1 represents its application for lasting purposes in a shoe in which the upper is secured to the insole at the toe and heel by the fastening-strip. Fig. 2 is a cross-section thereof at the toe. Figs. 3 and 4 are perspectives of the fastening-strip made from one piece of metal. Fig. 5 represents a construction in which the strip is formed by inserting tacks into an independent connecting-piece. Fig. 6 is a perspective of a complete shoe in which the heel is united to the insole by the fastening-strip hereinafter described, a portion of said heel being broken away to illustrate its construction and application. The toe portion of the outsole is also secured to the insole by a like fastening-strip. Fig. 7 is a perspective of a fastening-strip as formed and shaped for heel-fastening. Fig. 8 is a cross-section of the shoe at the toe.

Although the fastening-strip can be used for uniting the outsole to the insole, or in securing the heel, I prefer to describe it in connection with the lasting process, as all that it is necessary to say in relation to its use in the first-named applications is embraced in the description of its employment in the lasting process, and some of the benefits that occur from its use in said process might not be explained if the description were confined to its use in fastening the sole or heel.

It is desirable in the lasting process to unite the edge of the upper to the insole by gangs of tacks or pegs driven simultaneously or in rapid succession in sections as large as practicable, and these sections properly comprise the sides, the toe, and the heel; but, in addition to this method of fastening by sections, it is important that the portion of the upper's edge between the fastening tacks or pegs should be held down upon or clamped to the insole, as by so doing the strain upon the lasting tacks or pegs is partially relieved and distributed, and a less number are required for uniting the edge of the upper to the insole, and the edge of the upper at all points is pressed down upon the insole.

Such a method is especially applicable for use at the toe and heel in heavy work, wherein the edge of the upper is serrated to facilitate the folding thereof in the lasting process, as it obviates the necessity for securing each point in the section to the insole, and saves a large number of tacks and the time employed in driving them.

It is obvious from the above explanation that the object desired can best be obtained by the employment of a fastening-strip, A, which comprises the binding or connecting strip *a* and the starts or projections a^1, which may be formed in one piece with the binding or connecting strip *a*, or separately, and afterward inserted therein, as hereinafter described.

The fastening-strip may be provided with a narrow binding or connecting strip, as shown in Fig. 4, or with a wider one, as represented in Fig. 5, in which case it should be provided with the notches a^2 to facilitate the curving thereof to the desired form. It may have a less number of starts, and they may be of varying lengths, the longer of which are employed for fastening the edges of the upper and the binding-strip to the insole, and the shorter for holding the edges of the upper only.

I prefer to make the fastening-strips in one of these two ways, and to use in their manufacture the machine described in Patent No. 183,616, granted Erastus Woodward October 24, 1876.

It is not necessary, however, for the purpose of my invention that the fastening-strip should be formed as above described, as it can be constructed by employing an independent binding or connecting strip of metal or of any material suitable for the purpose, through which starts or tacks may be driven either before or during the lasting process, in which last-named case the binding or connecting strip would be in-

serted, either perforated or not, as necessary, under the tacking device, and the tacks or starts driven through the same, either simultaneously or in succession.

The fastening-strip before driving must be bent or curved to correspond to the general outline of the edge of the part to be united to the insole. For instance, the strip used for uniting the edge of the upper to the insole at the toe in the lasting process would be curved, substantially as shown in the drawings. That used in uniting the heel portion of the upper to the insole in the lasting process, or in securing a heel to the insole, would be curved, as shown in the drawings. Likewise the strip used for fastening the edge of the upper along the sides to the insole should be shaped to conform to the general outline of the edge of the insole upon those portions.

The advantages of this invention for lasting purposes are too obvious to need further comment. Its use as a sole-fastening has been sufficiently described. I wish to state, however, that for this purpose one of the strips shown in Figs. 4 and 5 is the most desirable. Of course, if the strip is to be used for a heel-fastening, the starts or projections should be somewhat longer and stronger than one used for lasting purposes.

The advantages of its employment for sole and heel fastening consists in the readiness and facility with which a large number of tacks or starts may be simultaneously placed and driven.

I am aware that the said Woodward patent shows and describes a tack-strip consisting of pointed shanks separated from each other by an interposed head-forming uncut margin; and I do not claim the same, as the object of the construction therein shown and described is to provide a tack-strip which can be fed without difficulty in a tacking-machine for severing and driving single tacks, while the nature of this invention is a method of simultaneously driving a number of starts or pegs, which are united by a connecting-strip not severed in the driving, but fastened thereby to the insole, the said connecting-strip being the medium whereby a number of tacks or starts are supported, for the purpose of being simultaneously driven and after the driving serving as a binding-piece in clamping the portion of the upper's edge, sole, or heel inclosed between the starts or tacks upon the insole.

I am aware that the patent to Blake, granted on the 3d day of September, 1872, and the patent to Fischer, granted on the 1st day of January, 1869, show and describe a nail-blank in which the shanks are united at their heads by a portion of the strip from which they are formed, and that the same serves the purpose of providing an easy method of feeding nails in the lasting process to mechanism which severs before the driving and drives them singly; and the same does not constitute the spirit of my invention, which relates to a fastening-strip when used solely for the purpose of furnishing means whereby a number of fastening-projections or nails united or connected at their heads may be simultaneously driven, and be connected with each other after the driving.

I am aware that Patent No. 185,816, granted L. R. Blake, January 2, 1877, shows and describes a boot or shoe having its outer sole, inner sole, and upper united by an intermediate welt secured to the outer sole, the welt being set or studded with tacks or metallic fastenings, the outer ends or heads of which, when driven, are concealed between the outer and inner sole; but the same is not the object of my invention, and I therefore disclaim any and all portions of the invention disclosed in either of the Blake patents above named, or in the Fischer or the Woodward.

It will be observed that there are several peculiarities in this strip which distinguish it from all others. It must necessarily have interposed between the spurs or starts which are designed to penetrate the leather considerable intervals of holding-surface, for if the starts approach each other closely, as in the Blake-McKay tack-strip, a very efficient cutting-blade would be made, such as was used in the early paper-bag machines of Rice. Again, for cheapness, the devices must be in the form of a strip adapted to be bent laterally, and so if it is made with a flange, so as to have a larger and better holding-surface, the edge of the flange should be notched. Again, while it is desirable to have the head firmly fixed from displacement, it is not necessary that all the starts should go clear through the sole and so stiffen too much the shoe, and thus I sometimes make the strip with some long and some short starts.

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

1. The comb-fastening strip provided with starts of unequal length, $a\,a^3$, substantially as and for the purpose described.

2. The method of uniting the edge of an upper in the lasting process, or a sole or heel to the insole, by a strip of metallic fastenings connected at their head and curved to correspond to the general outline of the edge of the part to be united to the insole before driving, whereby the portion of the strip that connects the edge serves to bind the part of the upper, sole, or heel between the fastening to the insole, and the fastenings are simultaneously driven, all substantially as described, and for the purposes set forth.

3. The comb-fastening strip having a flanged head adapted to be bent to shape laterally by notches or cuts in the flange, substantially as described.

GEO. W. COPELAND.

Witnesses:
F. F. RAYMOND, 2d,
GEO. F. WALKER.