(No Model.)

A. L. F. MITCHELL & J. P. REYNOLDS, Jr.

MANUFACTURE OF HEELS FOR BOOTS OR SHOES.

No. 383,139. Patented May 22, 1888.

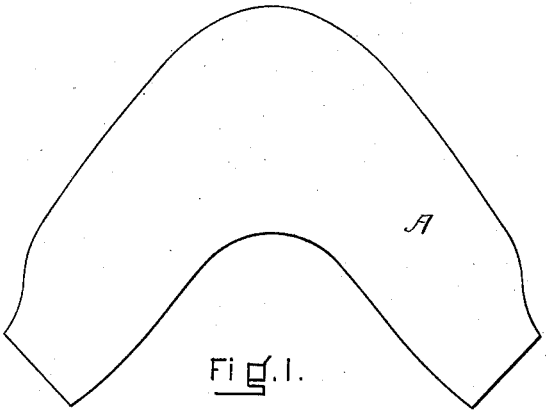

Fig. 1.

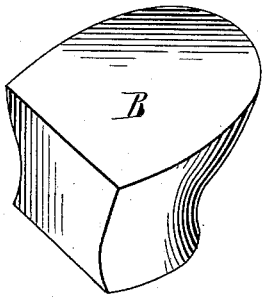

Fig. 2.

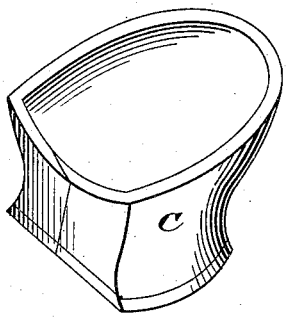

Fig. 4.

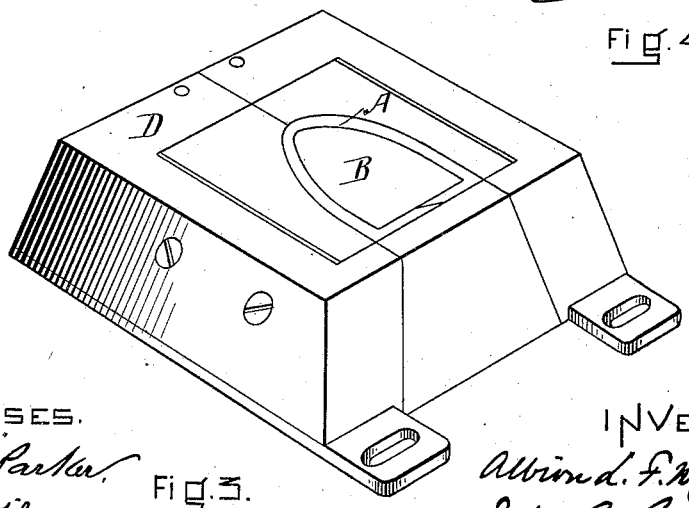

Fig. 3.

WITNESSES.
Frank G. Parker.
Fred B. O'Neil.

INVENTOR.
Albion d. F. Mitchell.
John P. Reynolds Jr.
by Geo. D. G. Brown.
their Atty.

UNITED STATES PATENT OFFICE.

ALBION L. F. MITCHELL, OF BEACHMONT, AND JOHN P. REYNOLDS, JR., OF MILTON, MASSACHUSETTS, ASSIGNORS TO THE LE GAY HEEL COMPANY, OF PORTLAND, MAINE.

MANUFACTURE OF HEELS FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 383,139, dated May 22, 1888.

Application filed January 24, 1888. Serial No. 261,808. (No model.)

To all whom it may concern:

Be it known that we, ALBION L. F. MITCHELL, of Beachmont, in the county of Suffolk and State of Massachusetts, and JOHN P. REYNOLDS, Jr., of Milton, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in the Art of Making Heels, of which the following is a specification.

Our invention relates to the manufacture of heels consisting of a core of wood or other like material which can be made of the desired shape and is of the requisite hardness and a shell of leather which is properly shaped and cemented to the core, thereby forming a rough heel which may be finished by the addition of a top lift and by burnishing or any other process of finishing.

Hitherto such heels have been made by wetting and shaping the leather under pressure and over an iron former, thereby giving the leather an approximately heel-like shape, and then, after the leather has become dry, wetting it again after covering its inner surface with cement, and then placing it about the core, which has also been covered with cement, and submitting it to pressure, so as to cause it to stick tightly to the core.

Our invention will be understood by reference to the drawings, in which—

Figure 1 shows a blank, and Fig. 2 a wooden core; Fig. 3, the core and blank under pressure in the mold, and Fig. 4 the finished heel.

A is the blank or shell.

B is the core, and C the finished heel.

D is a kind of mold which is useful for the purpose of putting our invention in practice. Its inner surface is the shape of the finished heel, and it does not differ materially in its mode of operation from the mold shown in United States Letters Patent No. 322,301.

Our process is as follows: The blank, having been cut out to the desired shape to cover the wooden core, is covered on one side with a suitable cement. We have found that a heavy rubber cement is the best for the purpose, and so describe our process when such cement is used. When this cement is dry, we soak the leather in some liquid which, without injuring the cement, will render the leather sufficiently flexible and soft to allow it to be molded into the desired shape. If rubber cement be used, we saturate the leather with water. The flat blank is next placed around the wooden core while still wet, with its cemented side next the core, and the whole is submitted to pressure, so as to give the leather the shape of the finished heel. After keeping the heel for a proper time under pressure sufficiently heavy to insure the shaping of the shell and a union of the cement with the wood of the core, the heel is removed from under pressure and submitted to the usual processes of finishing—viz., the addition of a top lift, which is generally best, and blacking and burnishing—after which it will be found to possess a greater luster and to have a more perfect shape than when made in the manner first above described. The core may be given a thin coat of cement or not, as desired.

By this process there is less waste in leather than when the leather is molded twice—once over the iron former and then over the core. Leather which is not of uniform strength or thickness is apt to tear on the corners of the iron mold or to be so strained as to become imperfect when submitted to the second pressure, and hence either has to be thrown away or the heel sold as a second-grade heel. With one molding, however, over a wooden core having softer and less sharp edges, and with no further manipulation in the process of making other than finishing, the leather is not so severely strained, and hence a thinner and less perfect leather can be used to make a perfect heel.

By using the core as a form over which to shape the leather shell the necessity for various sizes and shapes of metal forms is done away with, thus saving a large expense. There is also economy of both time and labor in the use of our new process. In some cases, with very soft leather, it is unnecessary to wet the leather at all, in which case, when one side of the leather has been covered with rubber cement which has been allowed to dry, the leather will be shaped and pressed around the wooden core in the operation of molding above described and without wetting.

The best kind of cement to be used is some

form of water-proof cement, though for some forms of heels fish-glue and other cements are available, in which case the blank covered with cement is to be applied to the core at the time when the cement is in proper condition to cause it to adhere to the shell, and not necessarily when it is dry. When fish glue is used, it is necessary that the leather should be rendered flexible by some liquid other than water, so that the glue with which the leather has been coated shall not be dissolved.

To supply pressure to shape the shell and attach it to the heel, we prefer the mold above described; but other forms of molds will answer the purpose, or the shell may be shaped and united to the core by a rubbing action in any machine suitable for the purpose.

Cement may be applied to the core instead of the blank, or to both core and blank; but in any case the blank must be saturated (if saturation is necessary) with a liquid which will not affect the cement.

What we claim as our invention is—

1. That improvement in the art of making molded heels which consists in covering one side of the flat blank with cement, and, when said cement is in proper condition to use, saturating the blank with a liquid of substantially the kind described, then molding the flat blank about the core, with its cemented face against the core, and by the same operation causing the shaped blank to adhere to said core, thereby forming the rough heel, and then finishing the heel in any desired way, all as set forth.

2. That improvement in the art of making molded heels which consists in first covering one side of a flat blank with cement, then molding it about a former which is to be the core of the heel, with its cemented face next said core under pressure, whereby said blank is molded and caused to adhere to said core, then finishing the heel in any desired manner, all as set forth.

In testimony whereof we have hereunto subscribed our names this 19th day of January, A. D. 1888.

ALBION L. F. MITCHELL.
JOHN P. REYNOLDS, JR.

Witnesses:
GEORGE O. G. COALE,
FRED B. O'NEIL.