J. J. SAWIN.

Manufacture of Heels and Soles of Boots and Shoes.

Patented June 1, 1875.

No. 163,948.

Fig. 2.

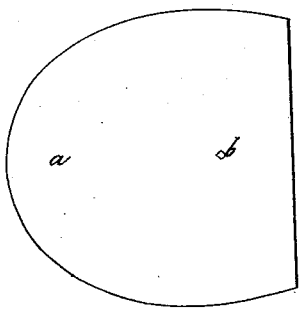
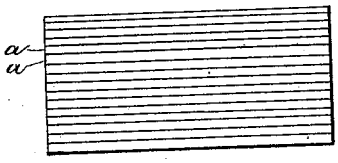


Fig. 1.



Witnesses.

L. H. Latimer.

Wm Pratt.

Inventor.

James J Sawin

per Crosby Gregory Attys.

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UNITED STATES PATENT OFFICE.

JAMES J. SAWIN, OF NATICK, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF HEELS AND SOLES OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **163,948**, dated June 1, 1875; application filed April 7, 1875.

To all whom it may concern:

Be it known that I, JAMES J. SAWIN, of Natick, in the county of Middlesex and State of Massachusetts, have invented an Improvement in the Manufacture of Heels or Soles of Boots and Shoes, and the treatment of leather for the same, of which the following is a specification:

This invention has for its object the manufacture of heels and soles for boots and shoes of waste strips or scraps of curried and oiled or dressed leather, such as is commonly used for uppers, for harnesses, and for belting; and my invention consists in a process for treating such leather, and for the heel-blank made therefrom as a new article of manufacture.

In the manufacture of boots and shoes there are large quantities of waste leather or scraps of calf-skin, &c., and known as upper leather. This leather is of good quality, and adapted for the manufacture of heels were it not for the oil in the curried and oiled leather. A heel made of lifts of this oiled leather is not suitable to use in the manufacture of boots and shoes, for the reason that the oil from the leather will work through the top lift or the layer at the exposed end of the heel, which, in all first-class shoes, is left of a light color, and will spoil the appearance of the top lift and the sale of the shoe; and, further, such a heel will not receive the blacking and polish under the action of the burnisher, as is necessary for first-class work; and, further, the oil will work up through the thin inner soles and soil the stockings. By this, my invention, the heel-blank made from this waste or scrap, curried and oiled leather, is freed from oil, and the leather is left in the condition of leather simply tanned, or as sole-leather, and it will burnish as readily as a heel made of the best sole-leather. By this, my invention, I am enabled to produce a very cheap heel, and at the same time I am enabled to save the oil in the leather to be reused.

I place the pieces of oiled leather in a suitable receptacle, and cover them with naphtha or other volatile hydrocarbons or products of petroleum capable of taking up or combining with the oil in the leather, the quantity of naphtha being determined by the quantity of oil in the leather, or whether or not the leather is to be subjected after immersion to pressure. In practice, I find that leather containing about twenty per cent. of oil requires about fifteen gallons of naphtha to one hundred pounds of leather, and the leather is left in the naphtha until the oil is thoroughly diffused throughout the naphtha; and I prefer to agitate the liquid naphtha while covering the leather. The combination of oil and naphtha is then drawn off, and, if desired, fresh naphtha may be added for a second immersion of the leather, or the leather may be squeezed by a suitable squeezing mechanism; and the leather, when removed from the naphtha, is allowed to dry. The naphtha containing the oil is then separated by distillation, the naphtha passing over and the oil extracted from the leather remaining in the still. Instead of immersing the leather as scraps I prefer, first, to die out into the shape of heel-lifts; and, second, secure such lifts together with a nail, making a heel-blank, and such blanks of accumulated heel-lifts, when immersed in and removed from the naphtha and dried, are found to be substantially free from oil. Belting-leather may be treated in this way, and it is then fitted for soles; and oiled leather so treated is adapted for filling between the soles and for inner soles. Turpentine may be used instead of naphtha, but it will not operate as well, and would be more expensive.

Figure 1 represents an edge view of a heel-blank made from layers of upper leather, *a a* being the layers of substantially uniform thickness. The grain of the upper leather is finer than the grain of the sole-leather, and the heel, when attached to the shoe and trimmed, presents a very smooth surface for the reception of the blacking, and a surface which polishes finely.

Fig. 2 represents a top view of one of my heels, showing the nail *b* for holding the lifts together, forming the heel-blank, as an article of commerce.

I claim—

1. In the process of manufacturing heels from curried and oiled leather, the immersion

of the oiled leather to form the lifts in naphtha or other volatile hydrocarbons, substantially as described.

2. As a new article of manufacture, a heel-blank made from lifts or layers of scrap upper leather with the oil extracted, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES J. SAWIN.

Witnesses:

G. W. GREGORY,

S. B. KIDDER.