(No Model.)

F. P. WOODBURY.

BOOT OR SHOE.

No. 343,747. Patented June 15, 1886.

Fig. 1.

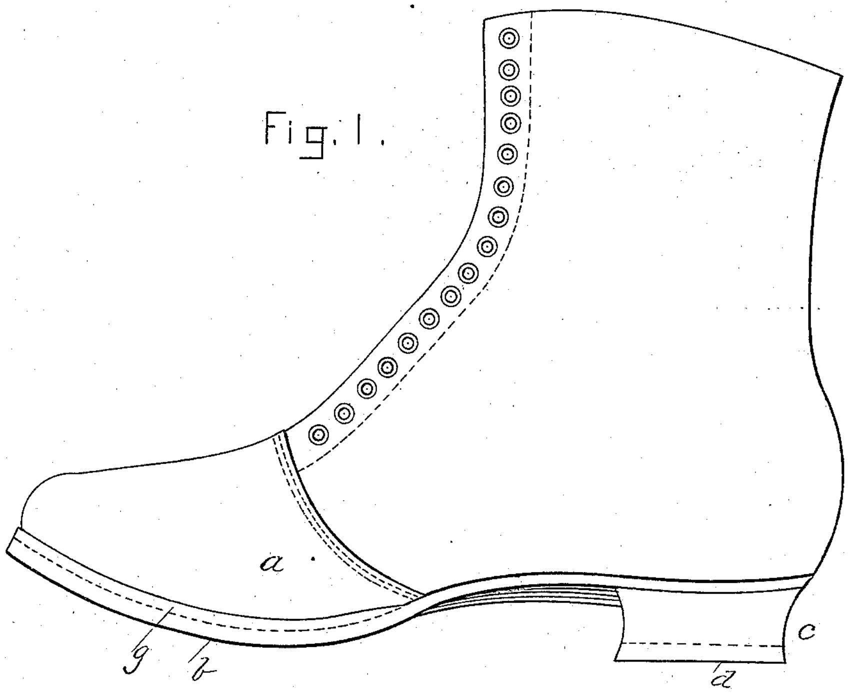


Fig. 2.

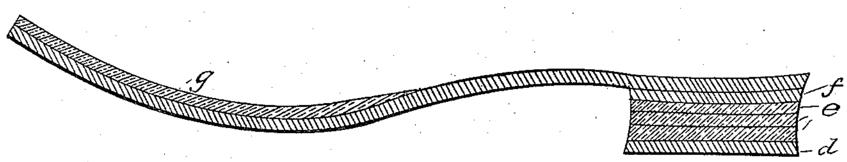
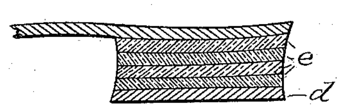


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANK P. WOODBURY, OF SALEM, NEW HAMPSHIRE.

BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 343,747, dated June 15, 1886.

Application filed February 1, 1886. Serial No. 190,465. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. WOODBURY, of Salem, in the State of New Hampshire, have invented certain new and useful Improvements in Boots or Shoes, of which the following is a specification.

My invention relates to boots and shoes, and has as its object to provide a substitute for leather in the construction of the heel or sole or portions of said parts of the boot or shoe, which, while greatly cheapening the cost of such articles of wear, will be quite nearly or equally as serviceable as leather, and superior to any substitute therefor now known to me.

My invention consists in a boot or shoe having the heel and sole or portions of the heel and sole, or either, composed of layers of compressed wood pulp, all as hereinafter described, and set forth in the claims hereto appended.

In the drawings hereto annexed and forming a part of this specification, Figure 1 represents a side view of a shoe embodying my invention. Fig. 2 is a vertical section through the sole and heel portions of the same, showing a modification. Fig. 3 is a vertical section through the heel of Fig. 1.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents the upper, *b* the sole, and *c* the heel, of a boot or shoe, constructed in any known way, except in the respects hereinafter noted.

In forming the heel of my boot or shoe I prefer to construct the lower layer, *d*, of leather, as heretofore, and the subsequent layers, *e e*, of compressed wood pulp, which layers of compressed wood pulp are struck up from sheets of the material as it is generally sold in the market, and subsequently subjected to pressure to give them the requisite shape and solidity. The heel thus built up is secured to the sole of the shoe in any of the well-known ways.

I sometimes construct the upper layer, *f*, of the heel, as well as the lower one, *d*, of leather, as represented in Fig. 2, forming the remainder of compressed wood pulp, and sometimes build up the entire heel of pulp.

In Figs. 1 and 2 I have shown the "tap" portion *g* of the sole constructed of compressed wood pulp, which tap portion I form in the same manner as the layers for the building up of the heel. I may, however, form the entire sole of leather in the usual manner, and construct the heel or portions thereof of compressed wood pulp, as described; or I may form the sole partially or wholly of compressed wood pulp and the heel of leather or other material, in the usual way.

It is well known that compressed wood pulp can be compressed to a degree of hardness that will render it almost absolutely impervious to water, which, with its toughness and good wearing qualities, as well as its cheapness and the readiness with which it can be manufactured into heels and soles for boots and shoes, renders its use in accordance with my invention peculiarly suitable and important.

I would have it understood that while I have described a form of heel and sole and a way or ways in which I propose to carry out my invention, I do not confine myself to the precise construction of heel and sole shown or to the manner of preparing the same as described, as I may vary the construction of the heel or sole, or both, as also the proportions of compressed wood pulp employed therein, to suit the class of goods manufactured or the requirements of the trade.

The advantages in constructing the heel or sole of a boot or shoe of layers of compressed wood pulp, instead of a single block or homogeneous mass, or instead of layers of wood proper or layers of leather, or other substances and wood proper, may be enumerated as follows:

First, any portion of the heel or sole may be made of the compressed wood pulp, employing a layer or lift or any number thereof instead of leather at just such points and in just such instances as may be desired.

Second, the same implements that are employed in the use of the leather may be used in the manufacture of the wood pulp into soles and heels.

Third, wood pulp in its commercial shape may be utilized, it being commonly sold in sheet, thus reducing the cost of producing heels and soles of this material.

Fourth, the heel or sole can be more readily repaired, from the fact that the partially-worn lifts or layers can be easily and conveniently removed, leaving those that are unworn

in place and securing layers or lifts of leather thereto.

Fifth, the layers of compressed wood pulp have, when properly stained, the appearance of leather, giving better satisfaction to the wearer.

Sixth, wood pulp may be compressed to a degree of hardness much beyond that of wood proper, and be compounded with other material or materials, so as to make it tough and substantially water-proof.

It is to be understood, also, that I do not confine my invention to boots or shoes of the style shown, as it is equally well adapted to any species of boots or shoes of any style or trade name.

Having thus described my invention, I claim—

1. A boot or shoe having a portion of the heel composed of a layer or layers of compressed wood pulp and the remainder of leather, substantially as set forth.

2. A boot or shoe having the lower layer, *d*, of the heel composed of leather and the remainder of layers, *e*, of compressed wood pulp, substantially as set forth.

3. A boot or shoe having a portion of the sole composed of a layer or layers, *g*, of compressed wood pulp and the remainder of leather, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of January, 1886.

FRANK P. WOODBURY.

Witnesses:

ARTHUR W. CROSSLEY,

CHAS. S. GOODING.