No. 803,086. PATENTED OCT. 31, 1905.

W. B. ARNOLD.

SHOE HOLDER FOR FACTORY RACKS.

APPLICATION FILED APR. 17, 1903.

Fig. 1.

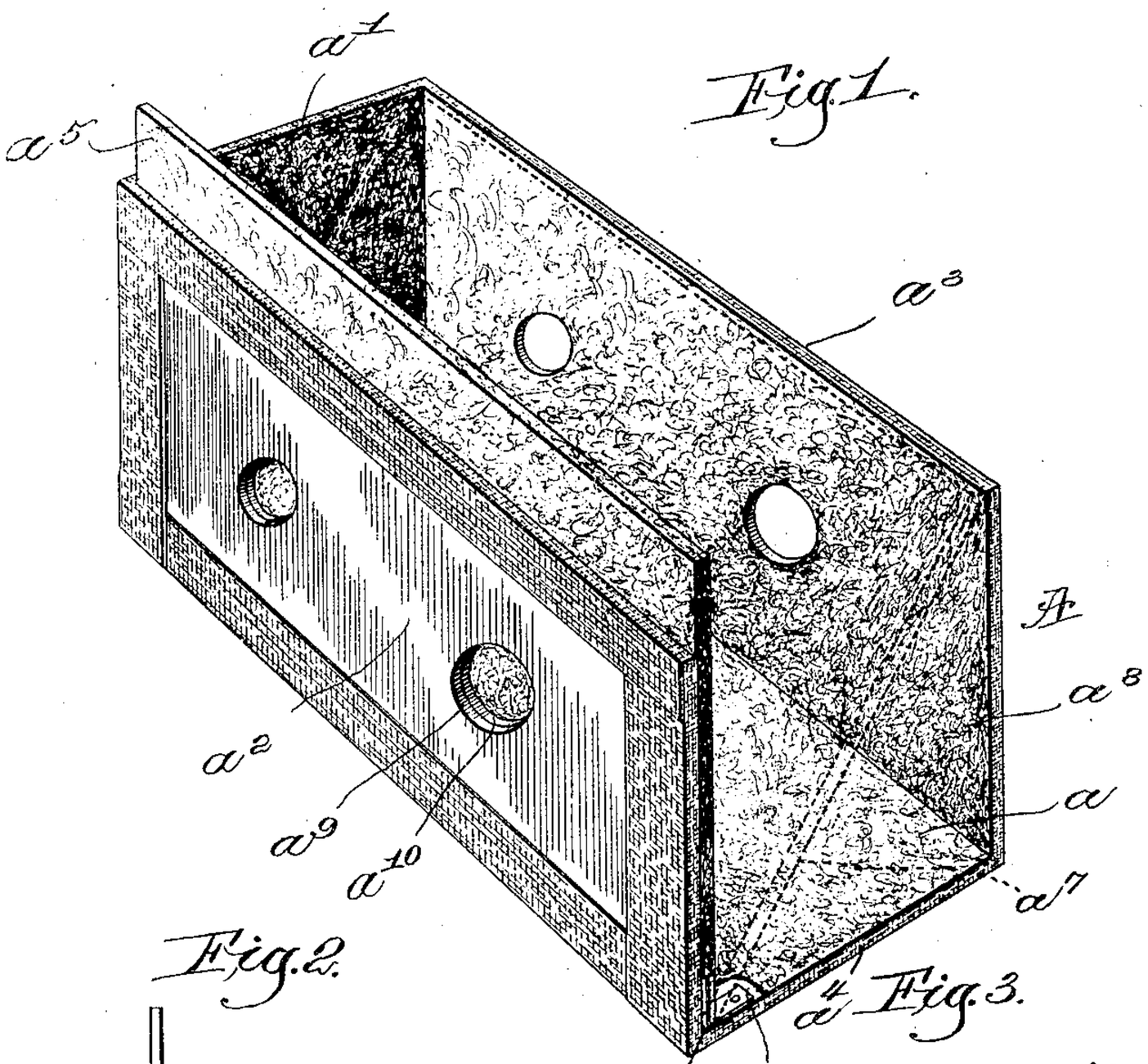


Fig. 2.

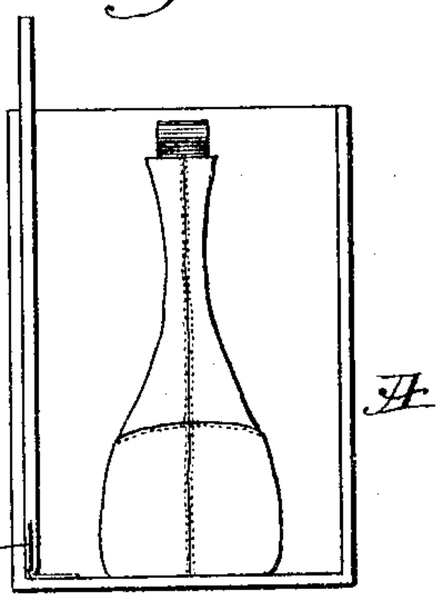


Fig. 3.

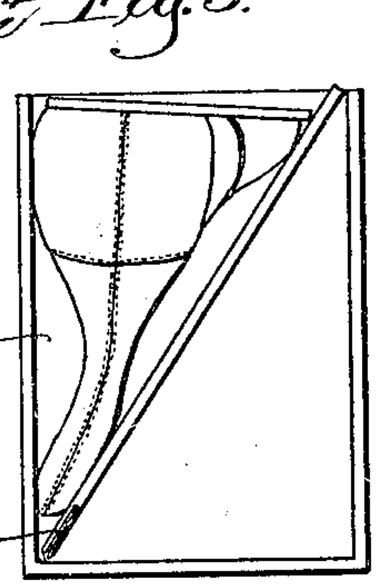


Fig. 4.

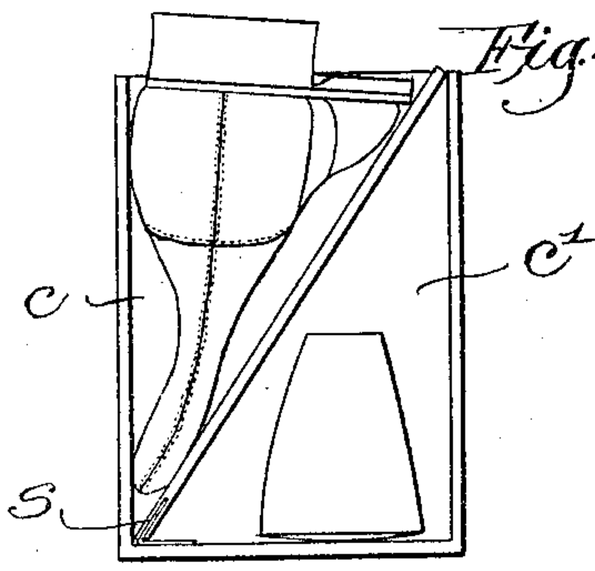
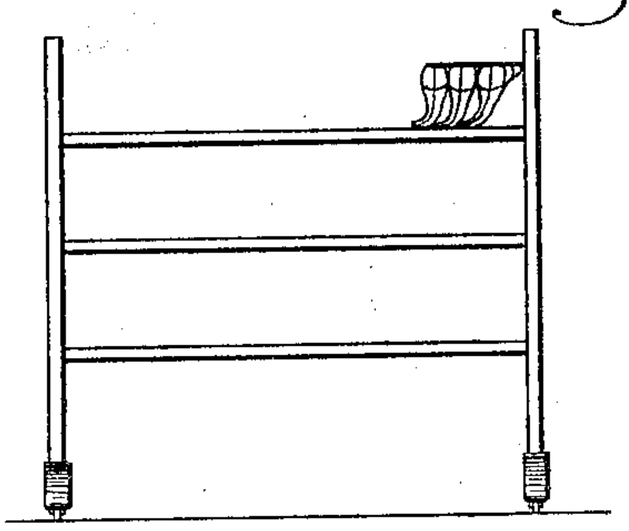


Fig. 5.



Witnesses.
Thomas L. Drummond.
M. C. Lunsford.

Inventor.
William B. Arnold,
by Lemby & Gregory
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM B. ARNOLD, OF NORTH ABINGTON, MASSACHUSETTS.

SHOE-HOLDER FOR FACTORY-RACKS.

No. 803,086. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed April 17, 1903. Serial No. 153,060.

To all whom it may concern:

Be it known that I, WILLIAM B. ARNOLD, of North Abington, county of Plymouth, State of Massachusetts, have invented an Improvement in Shoe-Holders for Factory-Racks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The modern competition in excellence and cost in shoe manufacture makes it not only important, but vital, to reduce to a minimum the waste and breakage in the shoe-making devices and injury to the shoes as they are being made.

My present invention has for its object the facilitating of this end and providing means for expeditiously handling the shoe while being made, preventing one shoe from injuring another, maintaining the shoe uninjured by cement, promoting economy in the use of lasts, and minimizing the breakage and loss thereof, avoiding the loss of time now common in searching for duplicate lasts, saving time in edge-trimming, and encouraging the use of lasts for treeing and subsequent operations.

I provide for each shoe a protector, which accompanies a shoe through its entire manufacture, being normally of proper size for receiving the shoe in loose position until it is ready for the welting-machine. From this point the operator wants the shoe maintained bottom up, and accordingly the protector has means therefor, and instead of simply resting the cemented shoes against each other on a rack, as is now common, my protector is provided with means for preventing one shoe-sole from tipping against its neighbor and getting cement on the side of the vamp.

A shoe can be leveled on such machines as the giant leveler without the last much faster than on those machines which make use of the last, and accordingly I provide the protector with means for receiving the last and preventing the same from getting lost, thereby promoting the process of leveling without the last. This results in a great saving of lasts, time, and expense.

The protector carries the shoe bottom up in one compartment and the removed last in another compartment to the heeling-machine and through the trimming and other steps of manufacture which take place while the shoe is off from the last, and before the edge-setting operation the last is taken from its place in the protector and is put back in the shoe, where it remains until the shoe is finished, if desired. This enables the operator to edge-trim the shoe without the weight of the last therein, the result being that he can do a much better and quicker job.

The structural details of my invention and further advantages thereof will be pointed out in the course of the following description, reference being had to the accompanying drawings, in which I have shown one of many embodiments thereof.

In the drawings, Figure 1 is a perspective view of a preferred embodiment of my invention. Figs. 2 to 4 are end views thereof, showing its manner of use. Fig. 5 shows in side elevation the customary manner of handling shoes at present.

The importance of my invention will be appreciated if it is understood that for proper manufacture of shoes it is essential that the same last shall be used with the same shoe substantially throughout its manufacture, as no two lasts are exactly the same, and inasmuch as thousands of shoes in a factory pass from workman to workman rapidly and endlessly much loss is experienced by inadvertent change or loss or last, with the result that ordinarily workmen are loath to remove the last from the shoe whenever it is possible to get along without doing so.

One object of my invention is to provide means which will facilitate the handling of the shoe, either within or without the last, without danger of loss or mixing the lasts and without liability of injuring the shoe.

Referring to Fig. 1, it will be seen that the protector or housing which I have provided to go with each shoe consists of a box A, having an open end a, a closed end a', and suitable sides a^2 a^3, and bottom a^4. A separator a^5, preferably higher than the sides of the box, is hinged therein at one corner, as indicated at a^6, by a leaf-spring s and adapted to lie over against the opposite side when desired, as indicated in dotted lines a^7. The side of the box and the opposite sides of the separator a^5 are preferably covered with soft material a^8, such as canton-flannel or other substance, which will prevent abrasion of the leather or dimming of the enamel of fine shoes. The protector is provided with ventilating-holes a^9 a^{10} for facilitating the drying of the cement at that stage in the shoe manufacture, and the separator is preferably

held in normal upright position by springs at the hinged lower edge thereof. One of these protectors is provided at the beginning for each shoe and goes with it every step of its manufacture until the shoe is completed.

In use the protector normally occupies the position shown in Fig. 2, so that the shoe as it is being made is simply thrown into the box and readily removed therefrom until it goes to the welting-machine, and then the welt having been applied the shoe is placed in the protector with its cemented bottom part uppermost, as indicated in Fig. 3, this being done by the workman quickly simply by striking the toe of the shoe sidewise against the projecting upper portion of the separator a^5, and thereby swinging the latter over into the position shown in Fig. 3, whereupon the shoe is dropped against the soft sides of the triangular-shaped opening thus formed therefor. As heretofore practiced the shoes were simply rested against each other on a rack, as shown in Fig. 5, the result being that more or less of the cement from one shoe would daub itself onto the next shoe and the shoes would be roughly handled and would otherwise receive many injuries which my invention prevents. When a shoe reaches the leveling operation, the last is removed therefrom and placed in a lower triangular compartment c' while the shoe is being leveled without the last. This provision of means for receiving the last and keeping it in the same protector or housing with which the shoe itself must necessarily go makes it feasible for the operator to perform the leveling, heeling, and trimming and various operations without the last, there being no danger of the last getting lost or mixed with other lasts. Before edge-setting the shoe the last is taken from the receptacle c' and put back in the shoe, and thereafter the shoe and last are together carried in the compartment c.

It will be understood that the protectors are set side by side on a rack in the same way that shoes have been heretofore placed thereon.

One of the most serious problems which I have tried for several years past as a shoe manufacturer to solve, repeatedly in vain, has been the devising of means for preventing the loss of lasts and quickening the progress of the shoe through the factory. It is impossible to rely upon the workmen for these results, as there are so many different workmen and the shoes remain with each one such a short time and must be handled with great rapidity and necessarily with more or less carelessness. The present invention, however, has finally solved the problem. It does not depend in any way upon the care or discretion of the workmen, but insures that the shoe will not only be properly protected, but that the shoe and the last will invariably go through the factory properly, and it enables and encourages the workman to do all that he can properly without the last in the shoe, especially the leveling and edge-trimming thereof.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A shoe-holder for factory-racks, comprising a receptacle approximately the size of a shoe for loosely receiving the same, said receptacle having an open top and end, and a separator adapted to extend diagonally from one side at the bottom to the other side at the top of said receptacle, and means normally maintaining said separator in vertical position at one side of the receptacle.

2. A shoe-holder for factory-racks, comprising a receptacle approximately the size of a shoe for loosely receiving the same, said receptacle having an open top and end, and a separator adapted to extend diagonally from one side at the bottom to the other side at the top of said receptacle, the inside of said receptacle and both sides of said separator being covered with soft, smooth, material.

3. The herein-described means for holding a partly-finished shoe during the manufacture thereof, comprising a box having the same length and height as the shoe, and being slightly wider than the shoe, and a movable separator adapted to extend from one of the lower longitudinal corners of the box diagonally up to the top of the other side for receiving on its upper side a shoe, bottom up, said separator forming the bottom of a receptacle narrow at the bottom for properly holding the ankle part of the shoe-top and sufficiently wide at the top to permit the shoe to rest within the receptacle against the sides thereof, said box having an open front end and top.

4. The herein-described means for holding a partly-finished shoe during the manufacture thereof, comprising a box having the same length and height as the shoe, and being slightly wider than the shoe, a separator hinged in one of the lower longitudinal corners, and capable of swinging vertically against the adjacent side of the box and obliquely against the opposite side thereof, said separator, when standing vertically being higher than the adjacent side of the box to permit of being swung downwardly by lateral engagement of the shoe with its projecting edge as the shoe is being placed bottom up against said separator.

5. The herein-described means for holding a partly-finished shoe during the manufacture thereof, comprising a box having the same length and height as the shoe, and being slightly wider than the shoe, a separator having its lower edge resting in one of the lower longitudinal corners and its upper

edge resting against the opposite side adjacent the top, thereby forming the bottom of a triangular receptacle for a shoe bottom up, and forming the top of a triangular compartment for the shoe-last, said compartment being open at its end for the handling of said last and said box being open at its top for the handling of the shoe.

6. The herein-described means for holding a partly-finished shoe during the manufacture thereof, comprising a box having the same length and height as the shoe, and being slightly wider than the shoe, a spring-held separator normally extending in vertical position against one longitudinal side of the box and adapted to be swung over against the opposite side thereof.

7. The herein-described shoe-protector for use with factory-racks, comprising a bottom and side having the same length as the shoe, an end joining said bottom and side for limiting the endwise movement of the shoe, and a diagonal member extending up divergently from the bottom edge of said side, forming with the latter a triangular compartment having an open end and top, the top thereof being slightly wider than the shoe for causing the shoe to rest within the compartment.

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

WILLIAM B. ARNOLD.

Witnesses:

GEO. H. MAXWELL,

S. WILLIAM LUTTON.