To all whom it may concern:

Be it known, that I, MARTIN A. HAYWARD, a citizen of the United States, residing at Elmwood, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Systems of Handling and Storing Shoe-Uppers, of which the following is a specification.

This invention relates to boot and shoe making, and more particularly to the handling of the "tops" and vamps, constituting the complete uppers, during the process of manufacture.

To this end the invention contemplates a novel and practical system of handling and storing shoe-uppers which greatly facilitates the carrying out of the different steps pursued in the manufacture of boots and shoes and dispenses with the great amount of labor required in maintaining the uppers and parts thereof properly paired or mated while the articles in different stages of completion are transferred from one department to another of the factory.

A general object of the invention may be stated to be to provide a system for transferring and handling shoe-uppers which shall utilize to the very best possible advantage the handling-horse for shoe-uppers covered in my pending application, filed April 15, 1902, Serial No. 103,062.

The invention not only permits of the carrying out of every function ascribed to the handling-horse set forth in the other application aforesaid, but also provides a means whereby the uppers can be transferred from one department to another of the shoe-factory without laying the same upon the benches or upon the floor, thus keeping the same perfectly clean and obviating the possibility of the pairs of uppers being mixed up.

Also the invention contemplates an improved means in connection with the system whereby the uppers can be transferred properly not only from room to room on the same floor of the building, but to rooms on different floors, without disturbing the paired or mated condition of the uppers.

With these and many other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, as will be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention are susceptible to embodiment in different modifications without departing from the spirit or scope thereof; but a preferred arrangement of parts constituting the system is shown in the accompanying drawings, in which—

Figure 1 is a diagrammatic view of a portion of a building such as employed for shoe-manufacturing purposes, indicating in diagram different rooms on different floors of the building and also indicating an operative arrangement of the tracks, the horses, and the portable transferring-racks, which are especially useful in factories having elevators. Fig. 2 is a detail perspective view showing more plainly the manner in which one of the handling-horses or carriers is engaged with a track-wire. Fig. 3 is a detail perspective view of a preferable form of track associated with the system for transferring the filled handling-horses or carriers from one floor to another of the same building. Like reference characters designate corresponding parts throughout the several figures of the drawings.

The system contemplated by the present invention involves as one of the essential instrumentalities thereof a number of handling-horses or carriers comprising means for holding the uppers or upper parts in properly paired or mated relation. The preferable construction of the individual handling-horses or carriers is the same as set forth in my former application aforesaid, Serial No. 103,062. In this preferable construction each horse or carrier essentially comprises a spring-wire body 1, having at its base a combined handle and supporting-stem 2 and also provided with opposite side standards 3, constituting holders for the rights and lefts of the uppers or upper parts, said standards being provided at their upper or free ends with reversely-disposed catch-hooks or equivalent members 4, adapted to be detachably sprung into interlocked engagement and one or both of which are left sufficiently open in the present invention to provide a hanger member for en-
gagement with a track or tracks of the system. As pointed out in the application aforesaid, the combined handle and supporting stem 2 at the base of each handling-horse or carrier is adapted to be detachably fitted in a socket provided in the operator's bench where the horse or carrier is to be located during the filling or emptying of the horse of the uppers or upper parts.

It is understood that in the first instance the side standards or holders 3 of the horse are filled, respectively, with the rights and lefts of the shoe-tops. After being thus filled with tops the horse is removed to the bench where the vamps are to be stitched to the tops. The tops are then removed one pair at a time and the vamps stitched on, after which the complete uppers are placed on another adjacent horse. The latter horse when filled is likewise closed and removed to the bottoming-room, where the uppers are removed a pair at a time and the bottoms or soles attached.

The present invention provides simple and practical means whereby this transferring of the handling-horses or carriers from point to point and also from room to room, as well as to different floors of the same building, may be expeditiously carried out.

The individual upper horses or carriers are designed to be shifted along an elevated track 5 from one point to another during the progress of making the boot or shoe. Any number of the tracks 5 may be employed. Preferably each track consists of a wire or rod strung in an elevated position throughout the working floor of the factory and extending over the benches 6 for the operators, as plainly indicated in diagrammatic Fig. 1 of the drawings.

The elevated-track wires or rods 5 necessarily extend in any desired direction, according to the requirements of the factory, so long as they maintain an elevated position directly above the benches where the operators work, so that after an operator finishes his work upon a pair of uppers or upper parts and fills the upper horse or carrier upon his bench such upper horse or carrier is closed through the medium of the interlocking catches and hung upon the wire track above the bench, from which point the horse or carrier can be slid along the track by another helper to another department, where it is removed from the track and placed back upon the bench of the operator at that point.

In the stock-room of the factory a number of track-sections 5 may be employed for holding a large number of the filled upper horses or carriers preparatory to being taken to the making-room or other point should the work in the factory require the temporary positioning of the horses or carriers upon the track-sections in the store-room.

Ordinarily in a shoe-factory different departments are upon different floors, which are easily reached by elevators, and to meet such a condition there is preferably employed in the system as a part thereof a portable transferring-rack 7. The portable transferring-rack 7 may be constructed in any suitable manner, but preferably consists of an open rectangular skeleton framework essentially comprising corner uprights 8 and a plurality of horizontal bars 9, arranged at the sides and ends of the frame and suitably united to the corner uprights 8. The said bars 9 are arranged in spaced parallel relation and may consist of wires or rods constituting suspending elements to be engaged by the hanger member or members 4 of the individual upper horses or carriers, and at this point it will be observed that the bars 9 of the rack are spaced sufficiently apart to permit of the individual horses or carriers being swung up on the said bars 9 without interference.

The portable transferring-rack is preferably provided at the bottom corners thereof with rolling supports or casters 10, which permit of the same being readily rolled along the floor into and out of the elevator.

In the use of the portable rack it will be understood that the bars 9 thereof practically constitute track-sections, inasmuch as when the paired uppers are to be removed from one floor to another the individual upper horses or carriers are transferred from the tracks 5 to the bars 9, and vice versa.

To illustrate more fully the carrying out of the system, the letter A in Fig. 1 designates an individual upper horse or carrier in position on the bench in the stitching-room, while the letter B designates the manner in which the filled horses or carriers are engaged with the elevated track for being shifted to a different position. The letter C also designates a horse or carrier upon another bench in the stitching-room for the purpose of assembling or pairing up the vamps, &c., while the letter D designates a portable transferring-rack 110 upon the floor of the stitching-room ready for transferring a number of filled horses or carriers to the elevator 12.

Where all of the various departments are upon the same floor, the wire tracks may be arranged accordingly to provide for shifting the filled horses or carriers therealong and the portable rack may be dispensed with; but ordinarily it forms a necessary part of the system.

From the foregoing it is thought that the essential arrangement of parts constituting the system and the advantages thereof will be readily understood without further description, and it will also be understood that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is

1. A system of handling shoe-uppers in fac-
tories comprising, in combination with the building, provided with benches and an elevated track, and a transferable upper-horse having means for support upon the benches and the said track.

2. A system of handling shoe-uppers in factories comprising, in combination with the building, provided with benches and an elevated track extending over the benches, and an upper-horse having means for sliding engagement with the track and also comprising means for holding the paired uppers or upper parts.

3. A system of handling shoe-uppers comprising, in combination with the building, provided with benches and an elevated track extending over the benches, and a transferable upper-horse having means for support upon the benches and also for sliding engagement with the track, said horse being further provided with means for holding the paired uppers or upper parts.

4. A system of handling shoe-uppers comprising, in combination with the building, provided with benches and an elevated track extending over the benches, and a transferable upper-horse having means for support upon the benches and also having catches for holding the horse closed, an element of the catch constituting the hanger member for engagement with the track.

5. A system of handling shoe-uppers comprising, in combination with the building, provided with benches and elevated tracks extending over the benches, a portable transferring-rack having a plurality of suspending elements, and a transferable upper-horse having means for support upon the benches and also having common means for engagement with the tracks and the suspending elements of the rack.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN A. HAYWARD.

Witnesses:
FRANK C. WOODWARD,
CHARLES L. WOODWARD.