M. J. S. FALCON.

Wooden-Soled Boots and Shoes.

No. 166,517. Patented Aug. 10, 1875.

Fig 1.

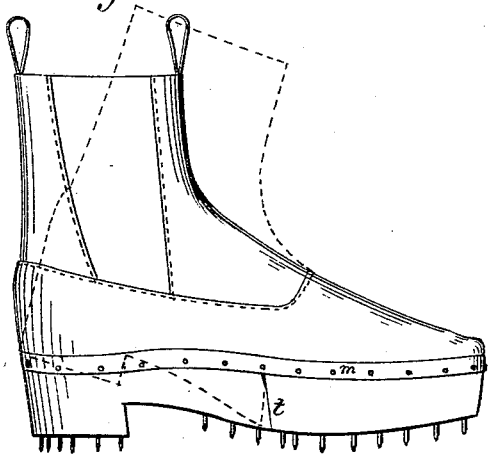


Fig 2.

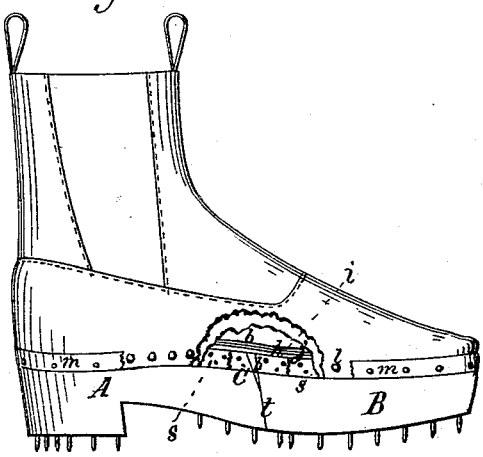


Fig 3.

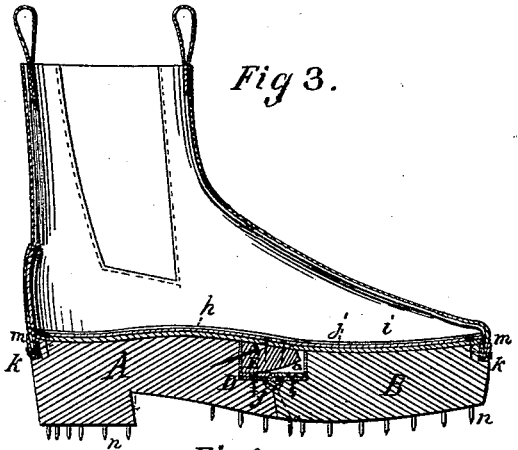


Fig 4.

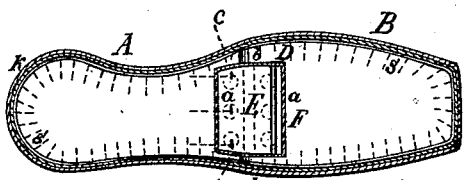


Fig 5.

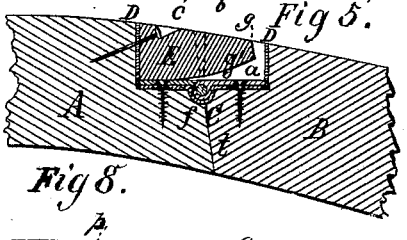


Fig 7.

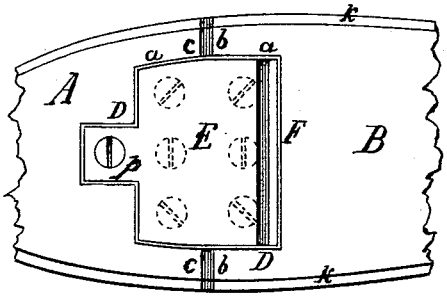


Fig 8.

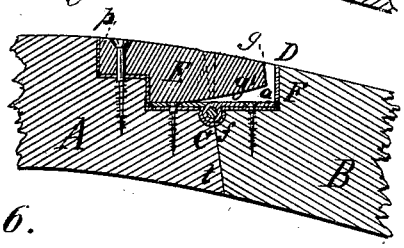
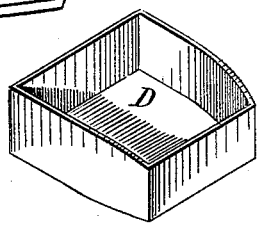


Fig 6.



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UNITED STATES PATENT OFFICE.

MANUEL J. SILVER FALCON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN WOODEN-SOLED BOOTS AND SHOES.

Specification forming part of Letters Patent No. **166,517**, dated August 10, 1875; application filed July 7, 1875.

To all whom it may concern:

Be it known that I, MANUEL J. SILVER FALCON, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Shoes and Boots with Wooden Soles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved shoe. Fig. 2 is a similar view, with a portion of the upper leather, and lining, and packing, and finishing-strip broken away for the purpose of showing one of the side abutments, which limit the extent of the movement of the hinge-joint of the shoe-sole. Fig. 3 is a longitudinal central section of the shoe. Fig. 4 is a horizontal section of the shoe in a plane just below the lining of the bottom. Fig. 5 is an enlarged vertical section of a portion of the shoe-sole. Fig. 6 is a perspective view of the water-proof packing for the hinge-joint. Figs. 7 and 8 are views showing a slight modification of the hinge-joint.

The object of my invention is to improve the wood-sole shoe or boot, which is made with a flexible joint across its bottom, and renders the soles of such shoes and boots impervious to water, and their joints limited in the extent of their movement.

The nature of my invention consists in certain constructions and combinations of parts, as hereinafter described and specifically claimed, whereby the objects above referred to are secured.

A and B are the two parts of a wooden sole for a shoe or boot. These parts are constructed and hinged together at their reversely-beveled or inclined adjoining ends in the following manner: Each of the parts A and B has a recess, *a*, cut in its meeting end. This recess is of a depth equal to about half the thickness of the sole. The two recesses *a a* form a rectangular cavity when the two parts of the sole are brought close together. Outside of the cavity, on the front part B of the sole, abutments *b b* are formed, for corresponding portions, *c c*, formed on the part A of the sole, to abut against and arrest the upward movement of the part A of the sole, as soon as it has risen to the desired degree, or as illustrated in dotted lines, Fig. 1. Within the cavity formed by the recesses *a a* a hinge, C, is fastened by screws. The rounded portion of the hinge is set downward in a corresponding recess, *f*, in the center of the bottom of the cavity. On top of this hinge, and around the walls of the cavity, a rubber packing, D, of box form, as represented in Fig. 6, is placed, so as to close the crevices about the hinge, which lead to the interior of the sole by way of the joint formed in the sole. E is an intermediate abutment-block fastened in the cavity, upon the bottom of the rubber packing, by screws. The front of this abutment-block is beveled, as at *g*, and its bottom is cut away on a curve or incline, as at *g'*, from the front to the rear of the abutment. The abutment-block fills the cavity with the exception of a small portion, which is near the front and under its bottom. At these points the block is beveled and rounded off in the manner shown. The beveling and rounding off of the block E allows the hinge to have the desired movement, and this movement is controlled by an abutment, F, formed on part B of the sole, said abutment, conjointly with the side abutments *b b*, arresting the movement of the part A of the sole when said part has been raised from the position shown in black lines to the position shown by dotted lines in Fig. 1. Over the whole of the upper surface of the wooden shoe-sole a rubber insole, *h*, is placed, so as to close the joint where the abutments *b b* and F are constructed, and upon this insole canton flannel and cotton insoles *i j* are placed. The rubber insole renders the wooden sole impervious to water at the joint and along its length, and the coverings *i j* of the rubber prevent the foot coming in direct contact with the rubber. In order to attach the upper leather with its lining to the wood sole a rabbet, *k*, is cut around the upper edge of said sole, and a rubber packing-strip, *s*, is placed against the rabbetting portion of the sole, and the leather and rubber strip tacked with copper tacks to the wood, as shown at *l*, Fig. 2. Over the tacks *l* a finishing-strip, *m*, is tacked. In the heel and sole, in front and

rear of the joint *t*, pointed nails, *n*, are inserted, when the shoe or boot is intended for use on ice or during slippery weather. The rubber strip *s* serves to pack the joint at the sides of the abutments.

In constructing the shoes various shapes and styles will be adopted, and in some cases the soles will be thicker than in others. And I may dispense with the use of the rubber insole, and only use a small strip of rubber or other water-proof material at the points where the abutments and hinge are constructed and arranged.

The rubber insole gives great elasticity to the joint of the wood sole, while the hinge allows the necessary flexibility thereof. The rubber insole and the rubber packing serve the purposes of a spring for returning the rear part of the wood sole to the normal condition, shown in Fig. 1 by full black lines, after it has been raised to the position shown by dotted lines in said figure of the drawings. In Figs. 7 and 8 the abutment-block E is shown as made with a fastening-tongue, *p*, which enters a corresponding recess in the part A of the wood sole. This construction renders the abutment less liable to become loose at the point where it is fastened to the sole.

Shoes constructed as described will answer well for overshoes, and they will keep the feet dry when worn as ordinary shoes.

What I claim is—

1. The hinge-jointed wood-sole constructed with a cavity, and with both front and side abutments, substantially as and for the purpose described.

2. The wood sole for boots and shoes having its hinge C arranged in a cavity, which forms front and side abutments, and which is packed with the box-shaped rubber, substantially as and for the purpose described.

3. The jointed wood sole constructed with a cavity, *a a*, and provided with an abutment-block, E, which is rounded and beveled as described, substantially as and for the purpose described.

4. The hinge-jointed wood sole constructed with a cavity, *a a*, provided with an abutment-block, E, and with an india-rubber insole, *h*, which covers the cavity and block and the joint between the side and intermediate abutments, substantially as and for the purpose described.

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