

(No Model.)

E. A. SAUNDERS.
RUBBER SHOE.

No. 477,851.

Patented June 28, 1892.

Fig. 1

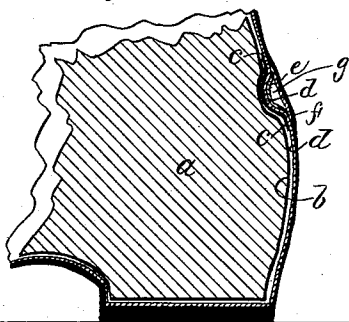
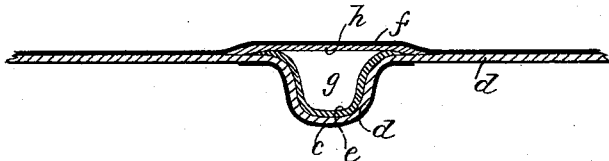


Fig. 2



Witnesses
J. C. Greer.
Fred Schumper.

Inventor
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By his Attorneys
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UNITED STATES PATENT OFFICE.

EMMETT A. SAUNDERS, OF NAUGATUCK, CONNECTICUT, ASSIGNOR TO THE
GOODYEAR'S METALLIC RUBBER SHOE COMPANY, OF SAME PLACE.

RUBBER SHOE.

SPECIFICATION forming part of Letters Patent No. 477,851, dated June 28, 1892.

Application filed July 31, 1891. Serial No. 401,274. (No model.)

To all whom it may concern:

Be it known that I, EMMETT A. SAUNDERS, of Naugatuck, in the State of Connecticut, have invented a new and useful Improvement in Rubber Shoes, of which the following is a specification.

Heretofore rubber shoes have been made with projections or protuberances extending into the inside thereof. In some cases these projections have been solid, (such as cannot be collapsed or compressed easily.) Such are shown and described in United States Patents Nos. 11,947, 364,006, 369,766, and 395,271. In other cases these projections have been made hollow, as a tube or an open loop, and therefore collapsible or compressible. Such are shown and described in United States Patent No. 447,564. These projections have been placed in different parts of the shoe, have been made of different shapes, and run in different directions—horizontal, perpendicular, and inclining at different angles—as shown in the said patents. They were sometimes intended for ventilating the foot, sometimes for holding the shoe more firmly in place, and sometimes for other purposes.

This invention relates to those shoes of the class above referred to having hollow compressible internal projections regardless of their shape, location, direction, or purpose, and elastic in the sense that after being compressed they will have a tendency to approximate their original form.

The common method of making such shoes heretofore has been upon a last containing a groove to receive the internal hollow projection. The lining of the shoe was put on the last in the ordinary manner. Before or after its application it was slit over the groove in the last. The material to constitute the projection already partially formed was thrust through the slit in the lining into the groove of the last, leaving upon the outside of the lining sufficient margin to secure it to the lining and the other parts of the shoe with which it came in contact. The shoe was then finished in the ordinary manner, and when finished the projection extended through the lining and between it and the outside ply of the shoe.

The object of this invention is to construct in a more economical manner a shoe containing an internal hollow projection or projections with an unslitted lining, thus increasing the strength and durability of the shoe, which is especially desirable where the projection is located at the rear of the shoe, as the contact with the heel of the leather shoe while the overshoe is being put on and taken off produces strains of a character tending very rapidly to work loose and roll up the edges of a slitted lining and ruin the whole structure.

In carrying out my invention I may proceed as follows, having reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a portion of a shoe constructed according to my invention containing the last, and Fig. 2 is a detail showing more completely the nature of the internal projection when finished.

a is the last. *b* is the groove therein.

c is the rubber or cement covering internally that part of the lining which forms the projection.

d is the lining.

e is the reinforcing-strip.

f is the outside ply of the shoe.

g is the space inclosed within the projection.

h is the bridging-strip.

If the object of the internal projection is to hold the shoe firmly in place on the foot, the lining should be coated with rubber or cement *c* at that portion where the projection is to be formed; but this is not necessary where the purpose is for ventilation. The lining is lasted up in the regular way; but that portion thereof which lies over the groove *b* in the last *a* is pressed into the groove until it fits the same properly.

If in the judgment of the maker the lining needs to be reinforced or thickened at the portion which is intended to form the projection, it can be done by pressing a suitable strip *e* of gum or frictioned cloth into the groove in contact with the lining, to which lining the strip should adhere throughout the whole area of the depression. Next a strip *h* of the proper material is laid flat over the depression, completely covering and bridging it throughout its whole extent and having mar-

gin enough to firmly secure itself in this position to the lining all around the depression. This forms a bridge over the depression throughout its whole extent, which stays the lining in its position, and there is left throughout the whole extent of the internal projection of the shoe a space *g* between the lining and the bridging-strip *h*. The shoe is next finished up in the regular way by proper stiffenings, stays, upper, sole, and vulcanization, and when removed from the last it will be found to contain upon its inside the required projection or projections, while it retains all the strength and continuity of lining characterizing shoes without such projection.

I am aware that, as in Patents Nos. 429,944 and 102,314, external projections have been formed on rubber shoes, beneath which the lining was continuous, by laying the rubber over a core-piece and subsequently pulling the core-piece out, the lining forming no portion of the projection. I disclaim such con-

struction, my invention relating exclusively to internal projections.

I claim—

1. As an improved article of manufacture, a rubber shoe having an internal hollow elastic projection formed of the lining depressed from the exterior and sufficiently stiff to stand out from the line of the shoe and having the “outer” bridging said projection, substantially as and for the purposes described.

2. As an improved article of manufacture, a rubber shoe having an internal hollow elastic projection formed of the lining depressed from the exterior and bridged by a separate external strip supplemental to the outer, and said outer, substantially as and for the purposes described.

EMMETT A. SAUNDERS.

Witnesses:

WM. D. CRAMPTON,
C. E. MERAMBLE.