(No Model.)

G. WATKINSON.

RUBBER BOOT OR SHOE.

No. 322,224. Patented July 14, 1885.

Fig. 1

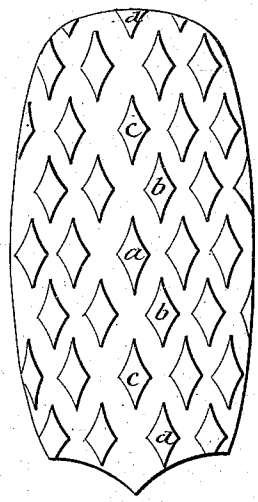


Fig. 2

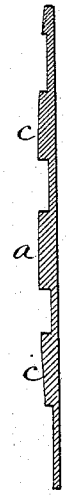


Fig. 3

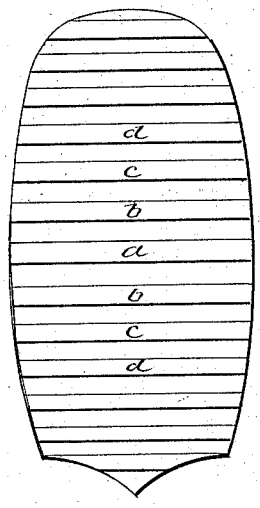
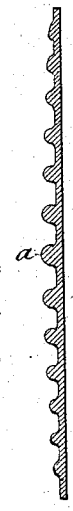


Fig. 4



Witnesses.
J. H. Shumway.
Jos. C. Earle

Geo Watkinson.
Inventor
By Atty
Wm C Earle

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE

GEORGE WATKINSON, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE L. CANDEE & CO., OF SAME PLACE.

RUBBER BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 322,224, dated July 14, 1885.

Application filed May 18, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WATKINSON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Rubber Boots and Shoes; and I do hereby declare the following, when taken in connection with accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a face view of the sole, showing the projections of lozenge shape; Fig. 2, a longitudinal section of the same; Fig. 3, a face view showing the projections in the form of transverse ribs; Fig. 4, a longitudinal section of the same.

This invention relates to an improvement in india-rubber boots and shoes, with special reference to that class of boots and shoes in which an overlying sole is applied, extending from the shank to the toe, commonly called "tap-soles," and is an improvement on the invention for which Letters Patent No. 282,423 were granted to me July 31, 1883.

Previous to that invention tap-soles had been made of an equal thickness from shank to toe; but to avoid the early destruction of the shoe by the greater wear which comes upon the sole at the ball, I construct the sole thick at the ball and gradually diminished in thickness toward the toe and shank. While that invention fully accomplishes the object so far as wear is concerned, it stiffens the sole to a very considerable extent, and is not as comfortable as a thinner sole. To obviate this difficulty is the object of my present invention; and it consists in constructing the sole with projections upon its wearing-surface, the said projections gradually diminishing in extent toward the toe and shank, and as more fully hereinafter described.

In carrying out my invention I make the body A of the sole of substantially uniform thickness from toe to shank; but upon its outer or wearing surface I raise projections *a b c d*, &c., which projections are of the greatest extent at the ball, as *a*, and gradually diminishing in extent of projection toward the toe and shank, as seen in Fig. 2. As represented in Figs. 1 and 2, these projections are of lozenge shape, and in series transversely across the sole; but the projections may be made in the form of transverse ribs, as seen in Figs. 3 and 4, or they may be of any desirable shape or design. By thus making the projections in series or in ribs transversely across the sole, the body of the sole may be left quite thin between the ribs, and the projections offer but slight resistance to the bending of the sole, or very much less than when the sole is solid, as in my previous patent. In fact, the flexibility of the sole is substantially as free as if there were no projections upon the wearing-surface; but the projections taking the wear, the increased extent of the projection at the ball where the greatest wear comes, and the gradual diminishing toward the toe and shank as the wear diminishes, give to the sole the increased wear provided for in my previous patent, but yet retain the elasticity of the thinner or uniform thickness of sole.

The projections are formed on the face of the sole in the process of rolling the material from which the sole is cut, so that the projections and sole itself are integral.

What I claim as my invention is, as an improvement upon the invention described in Letters Patent No. 282,423—

The herein-described tap sole for india-rubber boots and shoes, consisting in the tap-sole, having projections on its wearing surface, diminishing in extent of projection from the ball of the foot toward the toe and shank, substantially as described.

GEORGE WATKINSON.

Witnesses:
JOHN E. EARLE,
JOS. C. EARLE.