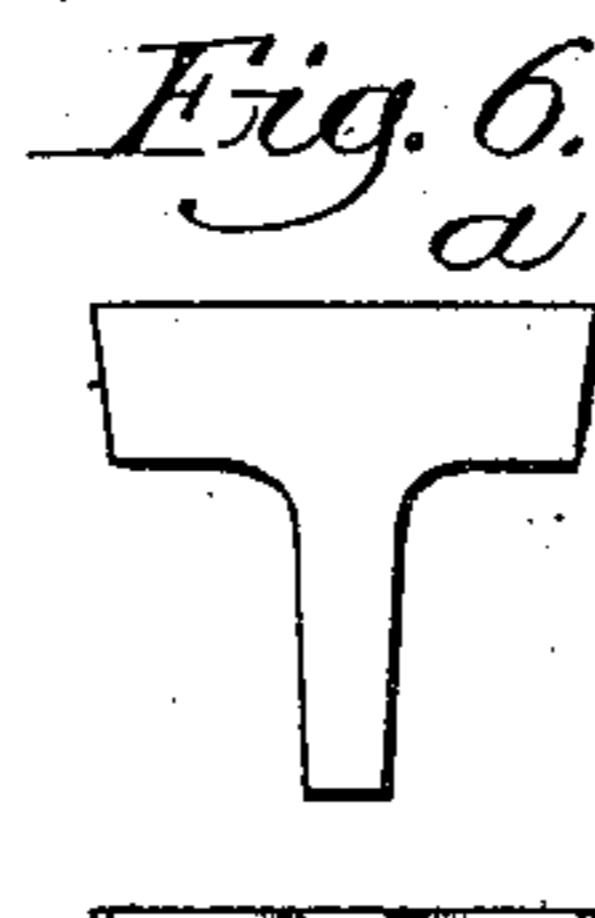
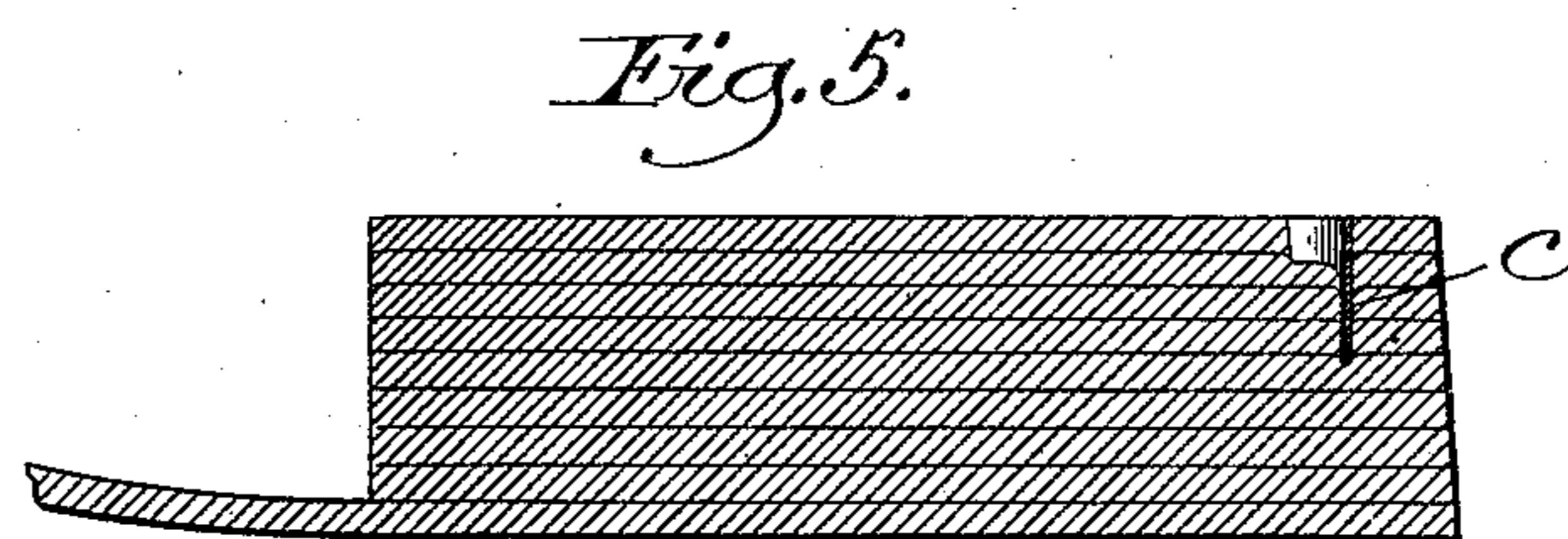
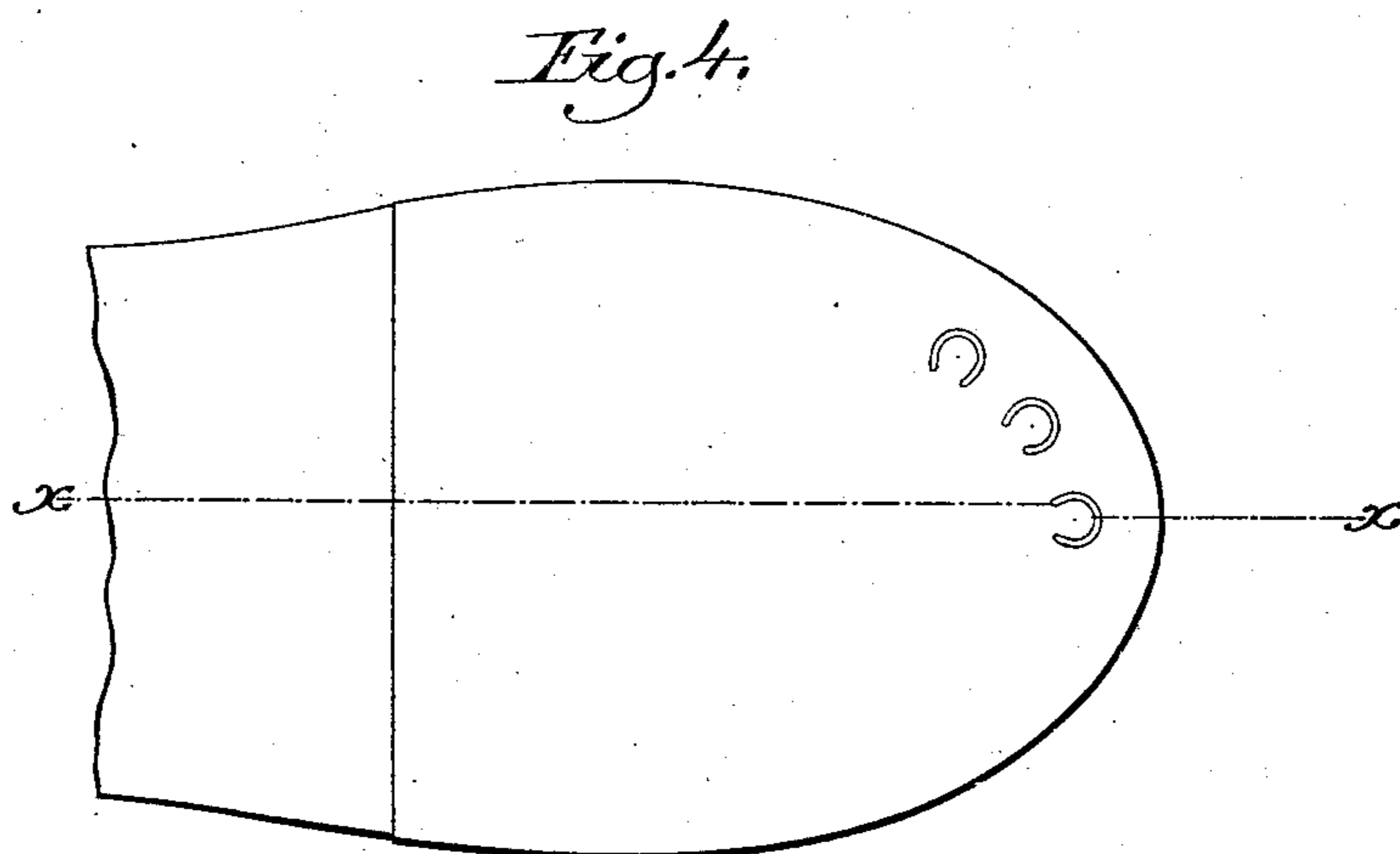
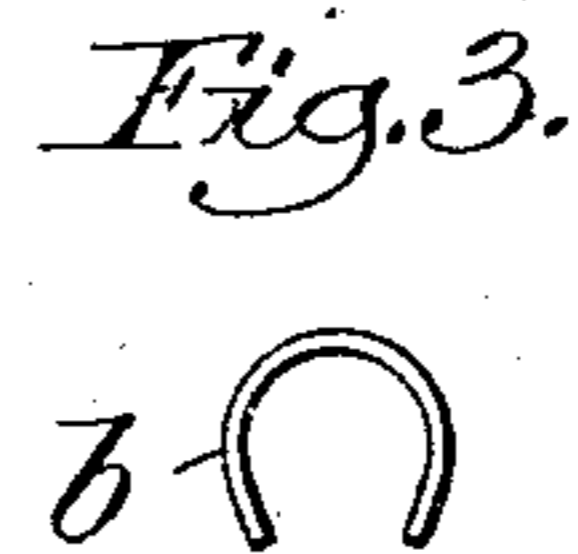
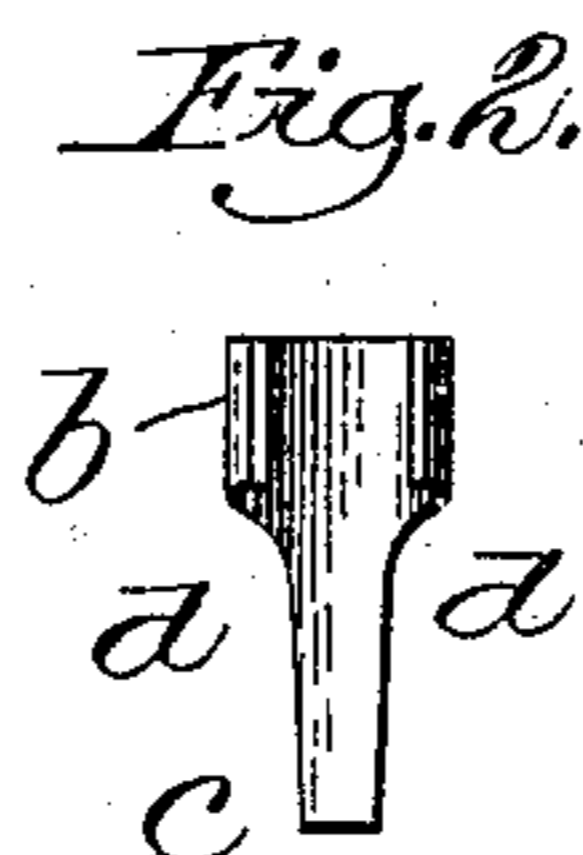
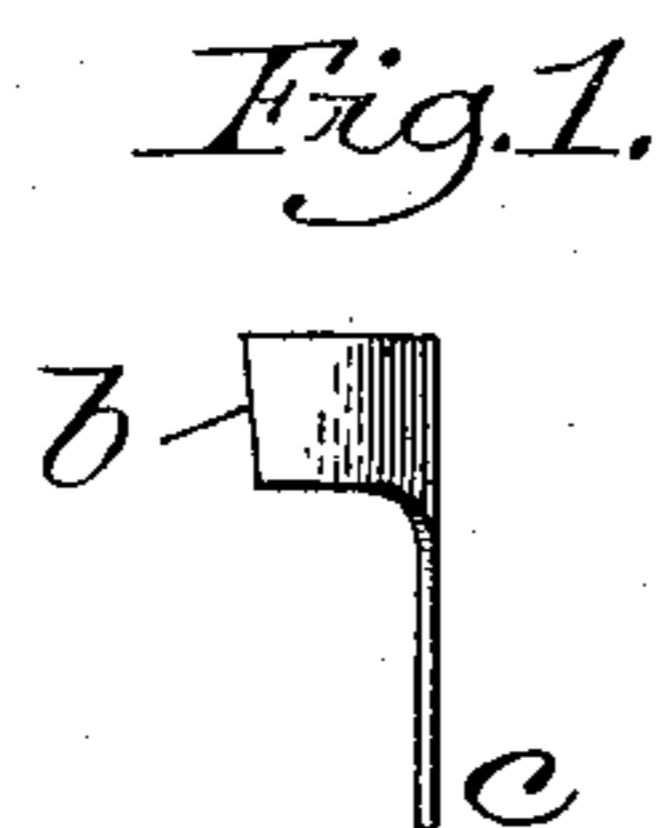


No. 889,383.

PATENTED JUNE 2, 1908.

S. D. LELAND.  
PROTECTIVE SLUG.  
APPLICATION FILED JAN. 18, 1902.



Witnesses:  
Fred S. Grunhof.  
Adolph H. Kain.

Inventor  
Seymour D. Leland,  
by Marley Ferguson,  
attys.

# UNITED STATES PATENT OFFICE.

SANFORD D. LELAND, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF NEW JERSEY.

## PROTECTIVE SLUG.

No. 889,383.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed January 18, 1902. Serial No. 90,237.

*To all whom it may concern:*

Be it known that I, SANFORD D. LELAND, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Protective Slugs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention consists of a novel protective slug adapted to be driven into stock such as the heels and soles of boots and shoes, for the purpose of resisting wear or for ornamentation, or for both of said purposes.

The novel protective slug to be herein described and claimed comprises a head shaped to embrace the stock and a shank depending from the head midway its ends, said shank being in excess of the height of the head at its ends. The ends of the head are of equal length from the center line of the shank, and said ends are tapered toward the shank to aid in driving the slugs into the stock.

By the expression "shaped to inclose stock" in the specification and claims I mean that the protector is so shaped that when it is in the stock a portion of the stock is between the ends of the head.

Figures 1, 2 and 3 show respectively side elevations and a top or plan view of my protective slug enlarged; Fig. 4 shows some of my protective slugs driven into the heel; Fig. 5 a section in the line *x*, Fig. 4, and Fig. 6 shows the blank from which my protective slug is formed.

Referring to Figs. 1 to 4 inclusive, *b* represents the head of my novel protector, and *c* its shank. The shank depends, as shown, centrally from the underside of the head, and the inner and outer faces of the shank are preferably in line with the inner and outer faces of the head immediately above said shank and in line therewith. The shank is of a length preferably in excess of the depth of the head, and preferably the sides of the shank are beveled outwardly toward the underside of the head, as at *d*, Fig. 2, to aid the head in cutting its way through the stock as the protector is being driven therein.

To facilitate the driving of the protector into the stock and insure that the opening made at the surface of the stock in the operation of driving a protector shall be completely filled when the protector is fully

driven, the ends of the head are inclined with relation to the longitudinal center of the shank, so that as the protector is driven the ends of the head act to cut the stock for the reception of the head. This beveled surface also assists in holding the top lift on the heel.

Fig. 4 shows several protectors driven into the stock with the upper ends of the heads arranged in a curved line to insure a symmetrical appearance for the driven slugs.

Fig. 5 shows the shanks of the slugs driven through a plurality of layers of stock below that in which the head itself is driven, this being the manner in which the protectors will preferably be driven into heels. This long shank is of great utility in holding the protector firmly in position and will secure this purpose even after most or all of the head is worn off. This shank also greatly facilitates the handling of the protectors in the machine which is employed to drive them.

In the formation of protective slugs embodying my invention I prefer to take sheet metal, and by any suitable devices punch or cut therefrom blanks such as shown at *a*, Fig. 6, the blank being preferably of uniform thickness throughout, although such uniformity is not essential to my invention. This blank is acted upon by a suitable tool to bend or curve the head more or less so that when the slug is driven into the stock the head will inclose portions of the stock, and it will be understood that the degree or extent of curvature of the head may be varied and yet be within the scope of my invention.

I am aware that it has been proposed to construct a protector from a strip of sheet metal by cutting into one edge of the strip at each side the center of the length thereof notches at two places, thus removing portions of the stock and leaving three prongs, one midway the ends of the strip and one at each end of the strip, said prongs being all of the same length. The notches made in the underside of the strip are curved sharply from the middle of the length of the protector towards its opposite ends where the curve is intumed; and thereafter the inner edge of the end prongs is beveled outwardly toward the end of the strip. The protectors referred to are then bent into S-shape, leaving the end prongs substantially parallel and the middle prong curved. Such a protector does not present the shank that constitutes the chief

essential novel feature of the protector herein to be claimed.

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

1. A protective slug comprising a head and a centrally depending shank, a portion of the head being substantially in the vertical plane of the shank, said head being curved from substantially the median line of the shank to its ends to present a contracted mouth opposite one side of the shank.

2. A protective slug, comprising a head and a centrally depending shank of uniform thickness, a portion of the head being substantially in the vertical plane of the shank,

said shank being in excess of the height of the head, said head being curved from substantially the median line of the shank to its ends to present a contracted mouth opposite one side of the shank, the ends of the curved parts of the head being inclined in the same direction from the vertical plane of the shank and occupying positions at the same side of said shank.

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

SANFORD D. LELAND.

Witnesses:

NELSON W. HOWARD,  
BERTHA L. HANNAH.