

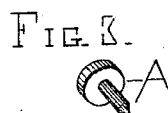
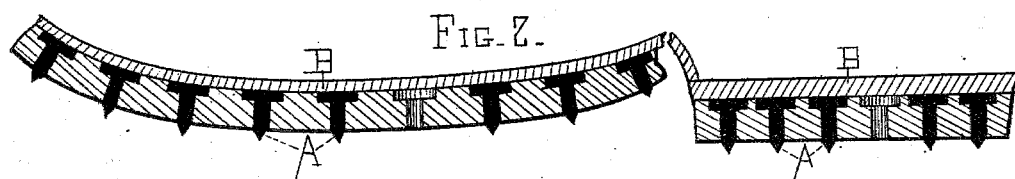
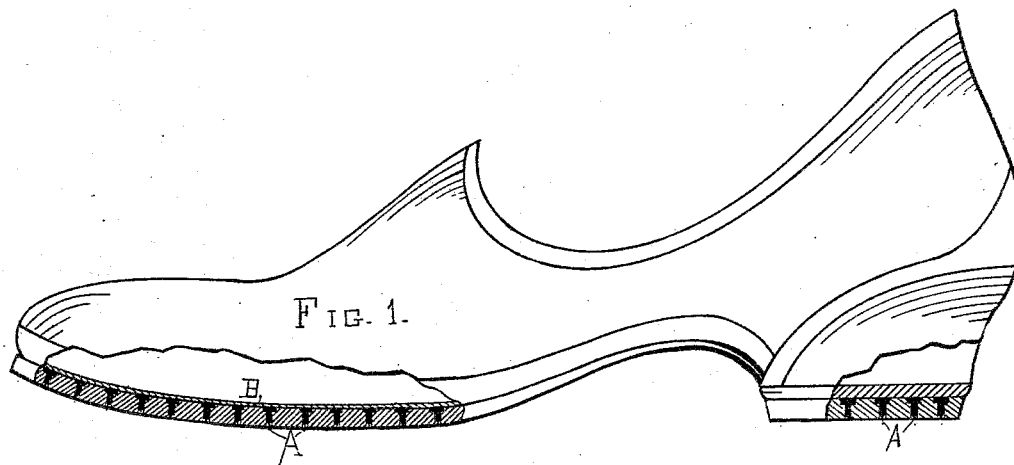
(No Model.)

E. S. HUNN.

ICE RUBBER.

No. 303,287.

Patented Aug. 12, 1884.



WITNESSES

John H. Chase  
Ephraim T. Hunn

INVENTOR

Edward S. Hunn  
PER Lucius C. West  
ATTORNEY

# UNITED STATES PATENT OFFICE.

EDWARD S. HUNN, OF KALAMAZOO, MICHIGAN.

## ICE-RUBBER.

SPECIFICATION forming part of Letters Patent No. 303,287, dated August 12, 1884.

Application filed March 4, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD S. HUNN, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Ice-Rubber, of which the following is a specification.

My invention consists in certain improved features of construction hereinafter described and claimed.

10 In the drawings forming a part of this specification, Figure 1 is a side elevation of a rubber shoe, the sole and heel being in sections, showing the construction; Fig. 2, a broken horizontal section of the shoe-sole enlarged; 15 and Fig. 3 is a perspective view of a spur.

The sole of the rubber is provided, when manufacturing it, with spur-holes having a countersunk recess at the upper end adapted to receive the headed spur A, Fig. 2. These 20 spurs are pointed at the lower end, where they extend through the sole. The inner lining, B, of the sole forms a cover to the heads of the spurs A, and prevents said spurs from pushing up out of place when trod upon by 25 the wearer. The lining B, in manufacturing the rubbers, is cemented in.

In the manufacture of this class of rubber goods, especial lines may be provided with the spurs with a view to the especial use set forth. 30 The spurs are made as long as the uncontracted sole is thick. Thus the points of the spurs do

not sustain the entire weight of the wearer. The pressure of the foot upon the rubber tends to force the points of the spurs through the elastic soles and into the ice or frozen snow. 35

In Fig. 1 the spurs are shown when not under pressure of the foot; and in Fig. 2 the spurs are shown forced through the sole, as when engaging the ice.

By providing the sole with the spurs when 40 manufacturing the goods, the rubber is just as useful for its original purpose, and but little expense is added, and the rubber never slips, as do the common style, after they are a little worn on the bottom.

45 Having thus described my invention, what I claim is—

A rubber foot-wear provided in the elastic sole thereof with spurs having their pointed ends extending to the lower surface only, and 50 their headed ends countersunk and covered by the cemented inner sole, whereby the spurs are adapted to be forced down into the ice by the pressure of the foot upon the sole, substantially as set forth.

55 In testimony of the foregoing I have hereunto subscribed my name in the presence of two witnesses.

EDWARD S. HUNN.

Witnesses:

EPHRAIM F. HUNN,  
JOHN H. CHASE.