(No Model.)

# E. F. AYRES & T. H. FOSTER.

## HEEL PROTECTOR.

No. 457,394. Patented Aug. 11, 1891.

Fig. 1.

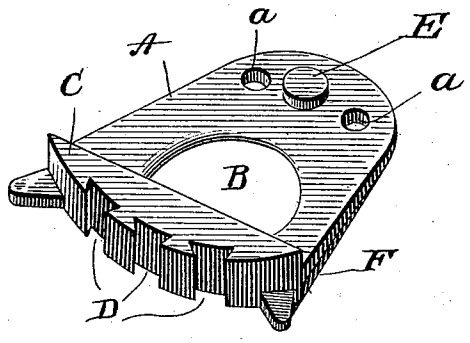
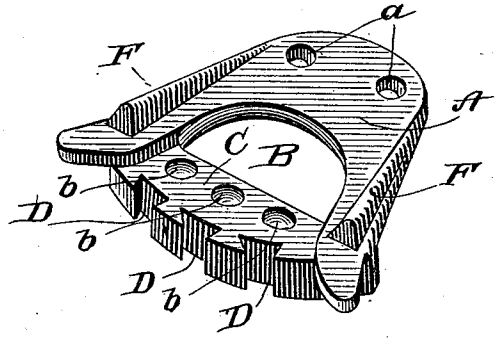



Fig. 2.




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# UNITED STATES PATENT OFFICE.

EDWARD F. AYRES AND TIMOTHY H. FOSTER, OF DANBURY, CONNECTICUT.

## HEEL-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 457,394, dated August 11, 1891.

Application filed August 12, 1890. Serial No. 361,822. (No model.)

*To all whom it may concern:*

Be it known that we, EDWARD F. AYRES and TIMOTHY H. FOSTER, citizens of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Rubber Boots or Shoes; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to the manufacture of rubber boots or shoes, and has for its object to provide means for the protection or re-enforcement of the wearing-points of the heel of the boot or shoe, thereby greatly increasing the durability of the latter.

Referring to the accompanying drawings, Figures 1 and 2 are respectively top and bottom perspectives of our invention.

Similar letters denote like parts in both figures.

Our improvement is cast and may be of any desired shape.

The essential features of our invention are the extended core A, the opening B, the raised rear portion C, the dovetailed notches D within the outer edge of said portion, and the stud E, rising from the forward part of the core to a level with the portion C. The core is forced within the heel under great pressure, and the rubber projects through the opening B and notches D and extends over the face of the core between the portion C and stud E, thereby firmly securing the core in place. Additional perforations *a* and depressions *b* may be provided to lighten the casting and to form extra locking-points for the rubber; but we do not wish to be limited thereby, since the gist of our invention in this respect rests in the broad idea of an open or perforated core. Ribs F may be formed on the bottom of the core to still further insure the securing of the latter as against any play within the heel. The faces of the portion C and stud E constitute the wearing-points of the heel, and the number of said points is of course immaterial.

It is not necessary that the notches in the rear edge of the portion C should be dovetailed, since any notches or recesses in said portion will answer the purpose of our invention in this respect.

Our invention has a decided advantage over the usual external heel-plate in that there is no slipping or independent movement of the core and no noise caused by the tread of the boot or shoe.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The herein-described protector, adapted to be contained within the heel of a rubber boot or shoe, consisting of a metal plate having an opening, a raised rear portion provided with dovetailed notches in its outer edge, and a stud projecting to the level of said portion, substantially as set forth.

2. The herein-described protector, adapted to be contained within the heel of a rubber boot or shoe, consisting of a perforated metal plate having wearing-points at the front and rear, which project to the same level, the outer edge of the rear wearing-point being notched, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD F. AYRES.
TIMOTHY H. FOSTER.

Witnesses:
J. S. FINCH,
F. W. SMITH, Jr.