(No Model.)

F. J. HERRICK.

HEEL PROTECTOR.

No. 382,260. Patented May 1, 1888.

Fig. 1

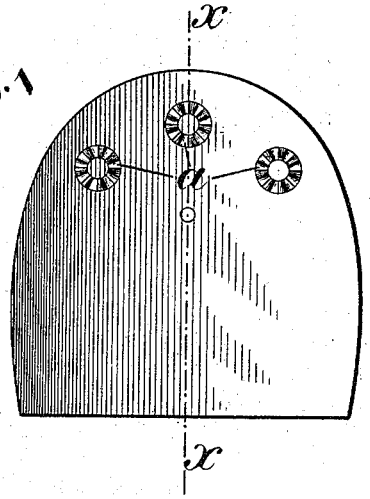

Fig. 2

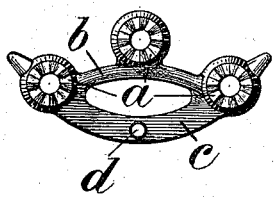

Fig. 3

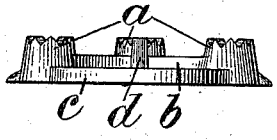

Fig. 4

Witnesses:
Wm. Byorkman.
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Inventor:
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Attys.

UNITED STATES PATENT OFFICE.

FRANK J. HERRICK, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO H. C. NOBLE, OF SAME PLACE.

HEEL-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 382,260, dated May 1, 1888.

Application filed December 13, 1886. Serial No. 221,360. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. HERRICK, of New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement Pertaining to Heel-Protectors, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a view of the bottom of a rubber heel having in it a metallic protector embodying my said improvement. Fig. 2 is a view of the metallic protector in the same position as shown in Fig. 1, but with the heel omitted. Fig. 3 is a side view of the metallic protector. Fig. 4 is a view of the part shown in Fig. 1 in section on the plane X X.

This improvement pertains to a metallic heel-protector designed and intended to be embodied in a rubber heel in the process of forming the heel.

The letter *a* denotes what I will term "friction-studs." Their arrangement with reference to each other is parti-circular. I do not mean to be understood by the use of this term "parti-circular" that these friction-studs are necessarily any part of a true circle, but simply that they conform in their arrangement in a general way to the outer rounded surface or periphery of the heel. The faces of these friction-studs come to the surface of the heel and there act as heel-protectors. These friction-studs *a* are united by a bar, *b*, which is not adapted or designed to come to the surface of the heel, but in the finished heel is sunk below the surface. Being thus sunk below the surface, the connecting-bar *b* not only greatly assists in retaining the friction-studs in the heel—that is, from dropping out or working out—but it also maintains them in their vertical position, each stud being, through the medium of the connecting bar, a help to the others in this respect.

The letter *c* denotes a strengthening-bar.

Rubber heels are formed from a rubber mass in molds under pressure, and this heel-protector is embedded and fastened in the rubber heel during this process of forming the heel.

The preferred mode of making this heel-protector is to cast it in one piece of very hard iron. On the strengthening-bar *c* there is a spur, *d*, which I call a "mold-rest," because in the mold and when the heel is being formed it rests on one face of the mold and keeps the whole protector from canting over.

The studs *a* are by preference hollow, and the heel-protector is by preference made of very hard cast-iron.

I claim as my improvement—

1. The heel-protector herein described, consisting of a series of studs attached to or connected by a substantially-angular bar, and having a strengthening-bar, *c*, provided with a centering-spur or mold-rest, *d*, all substantially as described.

2. The within-described heel-protector, consisting of a series of hollow studs attached to or connected by a substantially-angular bar, and having a strengthening-bar, *c*, provided with a centering-spur or mold-rest, *d*, all substantially as described.

FRANK J. HERRICK.

Witnesses:
A. B. JENKINS,
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