

(No Model.)

S. STONE.
HORSESHOE CALK.

No. 335,395.

Patented Feb. 2, 1886.

Fig. 1

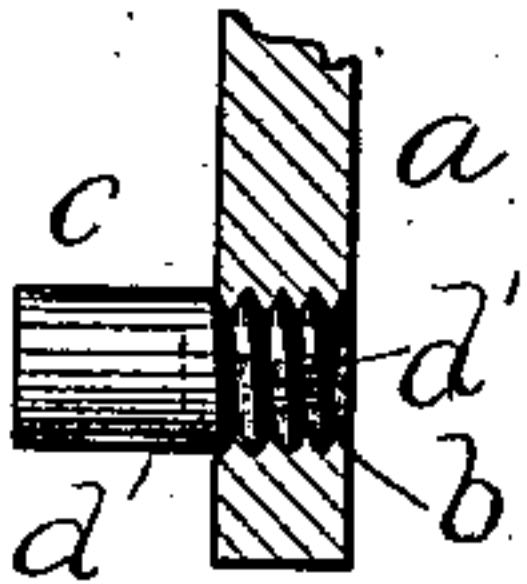


Fig. 2

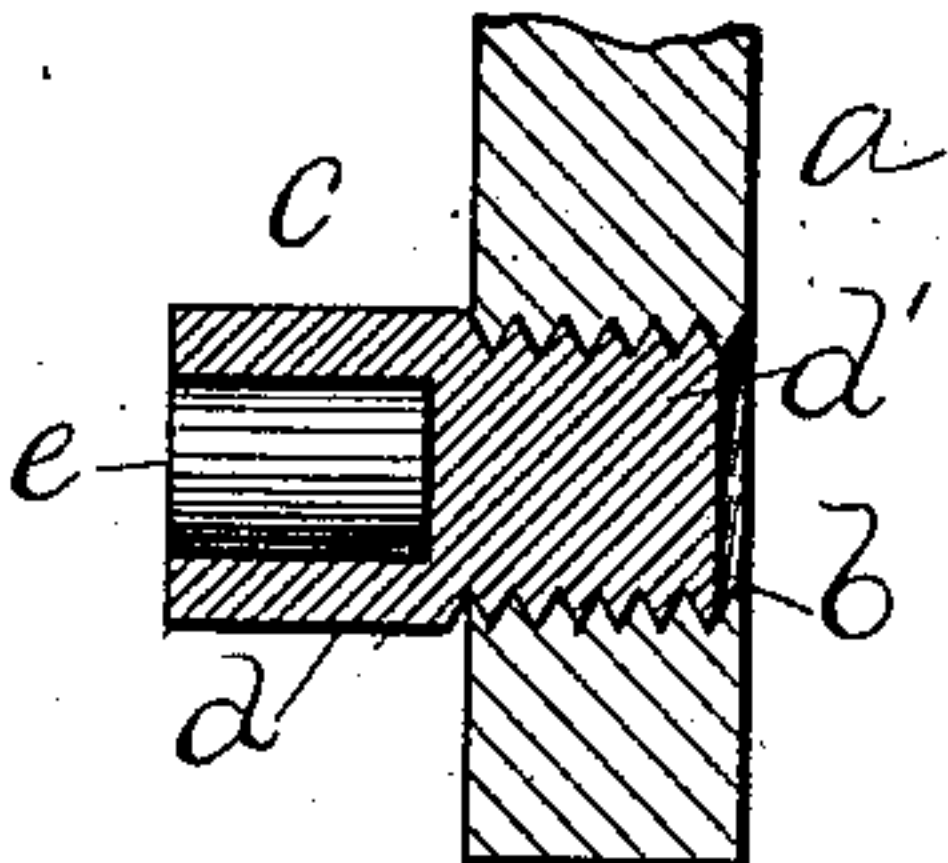


Fig. 3

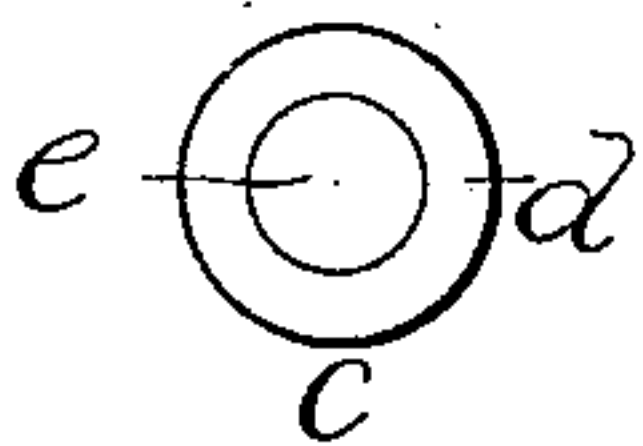
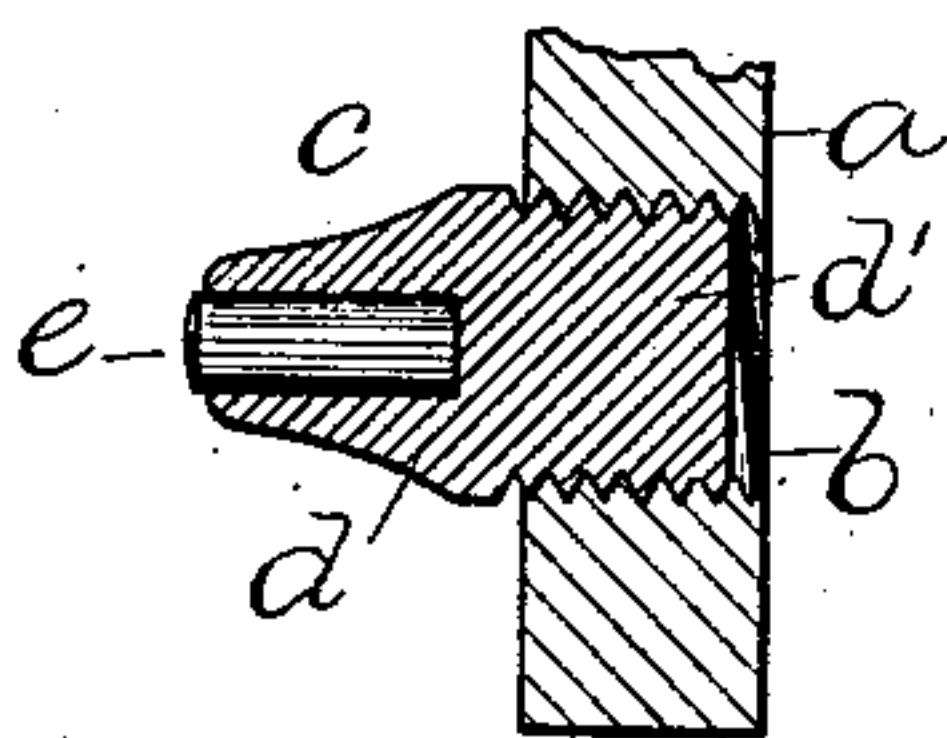


Fig. 4



Witnesses:

W. M. Forkeman.

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UNITED STATES PATENT OFFICE.

SAMUEL STONE, OF NORTH MANCHESTER, CONNECTICUT, ASSIGNOR TO THE
NEVERSLIP HORSE-SHOE COMPANY, OF BOSTON, MASSACHUSETTS.

HORSESHOE-CALK.

SPECIFICATION forming part of Letters Patent No. 335,395, dated February 2, 1886.

Application filed February 27, 1885. Serial No. 157,190. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL STONE, of North Manchester, in the county of Hartford and State of Connecticut, have invented certain
5 new and useful Improvements in Horseshoe-Calks, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a detail view in section of part
10 of a horseshoe, showing the calk-socket and a blunt calk in place in the socket. Fig. 2 is a detail view, on enlarged scale, in central longitudinal section, of one of my improved calks with a blunt core in place in the socket. Fig.
15 3 is an end view of the same. Fig. 4 is a detail view, in central longitudinal section, of one of my improved calks, constructed so as to be self-sharpening, with a small core in place in the socket.

20 My invention relates to the class of shoe-calks that are adapted to be removably secured to the lower side of a horseshoe; and it consists of a metallic body or shell having a threaded shank and a core of harder metal secured in a
25 socket in the face of the calk.

In the accompanying drawings, the letter *a* denotes a horseshoe of ordinary construction having therein a threaded orifice, *b*. *c* is a calk made up of a shell or body, *d*, having a
30 threaded shank, *d'*, and a central core or plug, *e*, of harder metal than the body of the calk. The body or shell of the calk is preferably of iron or soft steel, and the core or plug of hardened steel, the latter being inserted in the
35 socket (formed by drilling or otherwise) in the body of the calk, and held therein by welding it thereto, by adhesion to the body or shell of the calk, or by any other suitable method.

The within-described invention is an improvement upon the invention patented in Letters Patent granted to me November 2, 1875, No. 169,495, in which the steel core in the center of the calk extends through the body of the calk. The difficulty with the calk constructed
40 with the steel center extending completely through it has been that in cutting the thread upon the stem of the calk the steel center is liable to be exposed, and as it is hard and brittle the calk breaks off after but very little
50 wear, and the stem left in the shoe is very dif-

55 ficult and almost impossible to remove without completely destroying the threaded socket in the shoe. This is especially true when the central part—that is, the steel portion of the calk—is made of sufficient diameter to produce a blunt calk with a suitable wearing-surface. It is desirable to make the calk of steel throughout, if this could be done, on account of its wearing properties; but the danger of breakage prevents the use of such a calk.

60 With my present improvement I can produce a calk having a large proportional area of wearing-face of steel, at the same time removing all danger of breakage, and also obviate the difficulties appurtenant to the calks having the core or center extending completely
65 through them. In my present improvement the socket in which the steel or hardened core is inserted does not extend through the body of the calk, and consequently the top 70 of the socket resists the thrust of the core, and the welded or adhesive joint between the lateral surface of the core and that of the socket is to a considerable extent relieved from strain. This steel core is not only limited in length, but
75 it is so limited as to stop short of the threaded stem of the calk, and is so arranged with respect to this threaded portion as to extend only to within a short distance of the plane of the under face of the shoe when the calk is
80 screwed up to place, as shown in the drawings, and thus leaves a sufficient body of iron in the calk to give it strength in the place where the breakage is most likely to occur. This method of construction has a special advantage
85 when a blunt calk is desired, such as is shown in Figs. 1, 2, and 3, for the socket does not extend into the threaded portion of the shank, and therefore there is afforded the full strength of an iron shank with a large wearing-
90 surface of steel. If a blunt calk is made by the method described in my said former patent, the thin shell of iron which surrounds the steel core in the shank is liable to be cut through in forming the thread on the calk, and
95 the calk will lack strength at that point, because of the brittleness of the steel, which is thus deprived of the tougher iron support.

My within-described method of construction is as applicable to self-sharpening calks as is 100

that in my said former patent, and in this particular kind of calk it has the particular advantage of leaving a shank or stem, after the calk has been well worn down, that is made of
5 metal sufficiently soft to be firmly grasped by a pair of tongs or that can be easily bored through for the reception of an angular tool, that may be used to unscrew the threaded stem without injury to the thread in the socket of
10 the shoe.

I claim as my invention—

As an improved article of manufacture, a horseshoe-calk consisting of a metallic body or

shell having a threaded shank and a plug of harder metal, as steel, secured in a socket in 15 the wearing-face of the calk, the core being inclosed laterally by the shell, but terminating at a short distance from the plane of the under face of the shoe when the calk is screwed up to place in a horseshoe, all substantially as de- 20 scribed.

SAMUEL STONE.

In presence of—

CHAS. H. BALDWIN,
W. A. SARGENT.