(No Model.)

G. H. HATHORN.

DRIVING CALK.

No. 302,249. Patented July 22, 1884.

Fig. 1.

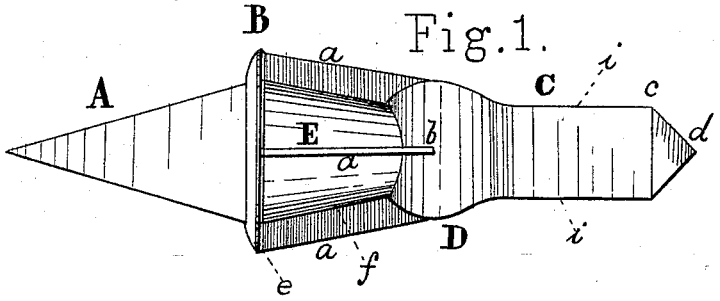


Fig. 2.

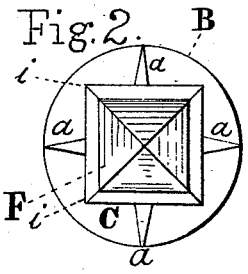


Fig. 3.

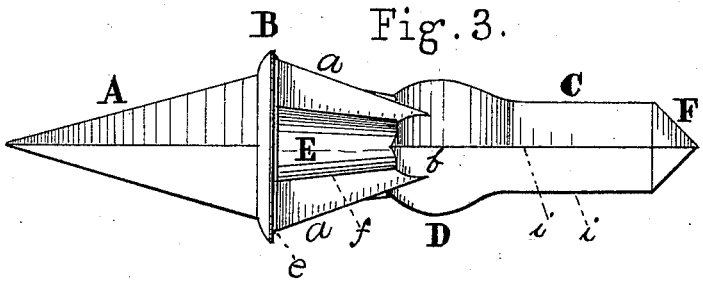


Fig. 4.

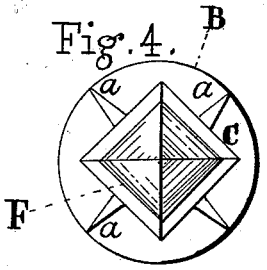
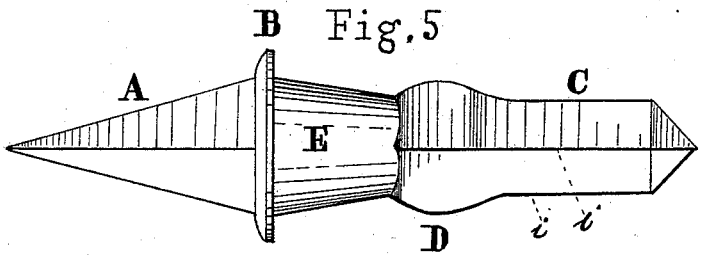


Fig. 5



Witnesses.

W. H. Harlow

John B. B. Tuske

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UNITED STATES PATENT OFFICE.

GEORGE HIRAM HATHORN, OF CHESTER, MAINE.

DRIVING-CALK.

SPECIFICATION forming part of Letters Patent No. 302,249, dated July 22, 1884.

Application filed May 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HIRAM HATHORN, a citizen of the United States, residing at Chester, in the county of Penobscot and State of Maine, have invented a new and useful Driving-Calk; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My improvement consists in forming, strengthening, and supporting flanged ribs on calks for lumbermen's use in driving logs, and for ordinary use upon logs in the water. I accomplish my object by forming longitudinally-flanged ribs *a a* integral with the other parts of the calk and projecting radially from the contracted neck E, thereby strengthening the calk, and in several ways improving it.

In the accompanying drawings similar letters refer to corresponding parts throughout the several figures.

Figure 1 is an enlarged side view of my invention, showing the side of the shank and the side of the point presented vertically and longitudinally. Fig. 2 is an enlarged rear view of my invention, as shown in side view or elevation in Fig. 1. Fig. 3 is an enlarged view of my invention, showing an angular presentation of two sides of the square point and two sides of the square shank, and therefore a partially angular view of the improved flanged rib. Fig. 4 is a rear view of Fig. 3. Fig. 5 is an enlarged angular view of my former invention upon which my present invention is an improvement, and showing clearly the contracted circular neck E.

In the drawings, A is the point or serviceable part of the calk. B is a circular peripherical flange. C is a square shank. D is a bulbous enlargement of the shank C. E is the contracted or reduced truncated neck. *a a* are the flanges or flanged ribs constituting my invention. *b* is the point of mergence of the flanged rib *a* with the bulbous enlargement D of the shank. *c* is the point at which the shank bevels. *d* is the final point or the apex of the bevel. *e* is the junction of the rib *a* with the flange B. *f* is the junction of the rib *a* with the contracted neck E. *i i* are the angles of the shank C.

In construction the calk is formed as described in my former patent granted to me March 18, 1884, No. 295,493, with a square or angular enlargement of the shank integral with and in extension of a contracted circular neck. My whole invention relates to forming radial flanged ribs *a a* upon this neck E. I disclaim all reference to my former invention further than its acting as a basis for my present improvement.

Having discovered that in turning the calk manufactured as claimed in my former patent when in the sole of a boot or shoe, it simply forms an internal enlargement of the hole or bore in which it was inserted, and thereby renders the removal of the calk from the boot or shoe somewhat difficult. I obviate this difficulty by my present improvement.

In forging my improved calk I form several flanged radially-projecting ribs integral with the peripherical flange B and the contracted neck E and the bulbous enlargement D of the shank C, and finally merging in the enlargement D at *b*. These flanged ribs *a a* are spaced on the surface of the contracted neck and peripherical collar B half-way between the angles *i i* of the shank C, so that the grooves formed in the leather of the sole of the boot or shoe by the angles *i i* of the shank C shall not be identical with the grooves formed by the flanged ribs *a a*. I place the flanged ribs *a a* at intermediate points as compared with the angles *i i* of the shank C, for the purpose of avoiding the grooves made in the leather by the passage of the angles *i i* of the shank C in driving the calk into the boot or shoe. By the intermediate location of the ribs *a a* each rib forms an individual groove, and by that groove individually strengthens and augments the resisting and retaining power of the point of the calk. This resistance to tilting or tipping is far superior to the resistance in the same material of a shank equal in size to the periphery of the outside measurement of the radial ribs or flanges *a a*. Again, in the operation of hardening calks it is practically demonstrated that almost all the calks crack at the junction of the peripherical flange B with the shank. Now, by introducing and forming the flanged ribs *a a* in manufacturing calks as I have shown and described, it is

found practically that the breakage in tempering is virtually entirely obviated. When, after the calk has performed its legitimate service in affording additional safety to life and limb, it becomes desirable and necessary to remove it from the boot or shoe with as little injury as possible to the sole of the boot or shoe, it is simply necessary to apply a wrench, claw-hammer, or any equivalent device, and turn the calk, when the flanged ribs *a a* act as reamers and bore out a tapering hole in the leather, releasing the bulbous enlargement D of the shank C, and allowing the calk to be pulled out by the fingers. In this case my improved flanges act antagonistically to their sustaining and strengthening prerogatives, and here it may be mentioned that in actual use or service there is very little twisting or turning strain on a calk, almost the whole strain being in the direction of tilting or tipping.

I am aware that many shapes and constructions of driving-calks are and have been used; and I do not claim anything in regard to the bodily or principal construction of a driving-calk; but

What I do claim, and desire to secure by Letters Patent, is—

1. In a driving-calk the shank of which is retained and secured in the leather or other sole of a boot or shoe by a bulbous enlargement of the shank, the integral radially-projecting longitudinally-extended flanges or flanged ribs *a a*, for the purpose of sustaining the calk in actual service, and acting as reamers when it is desirable to remove the calk from the sole of the boot or shoe.

2. In a driving-calk formed with the peripherical flange, ring, or collar B, connecting the point A and the shank C, the integral radially-projecting flanged ribs *a a*, located as described, intended to prevent cracking underneath the flange B during or incidental to the process of hardening.

GEO. H. HATHORN.

Witnesses:
W. H. HARLOW,
JOHN B. B. FISKE.