E. MATTHEWS.

HORSESHOE.

APPLICATION FILED DEC. 30, 1910.

1,003,117.

Patented Sept. 12, 1911.

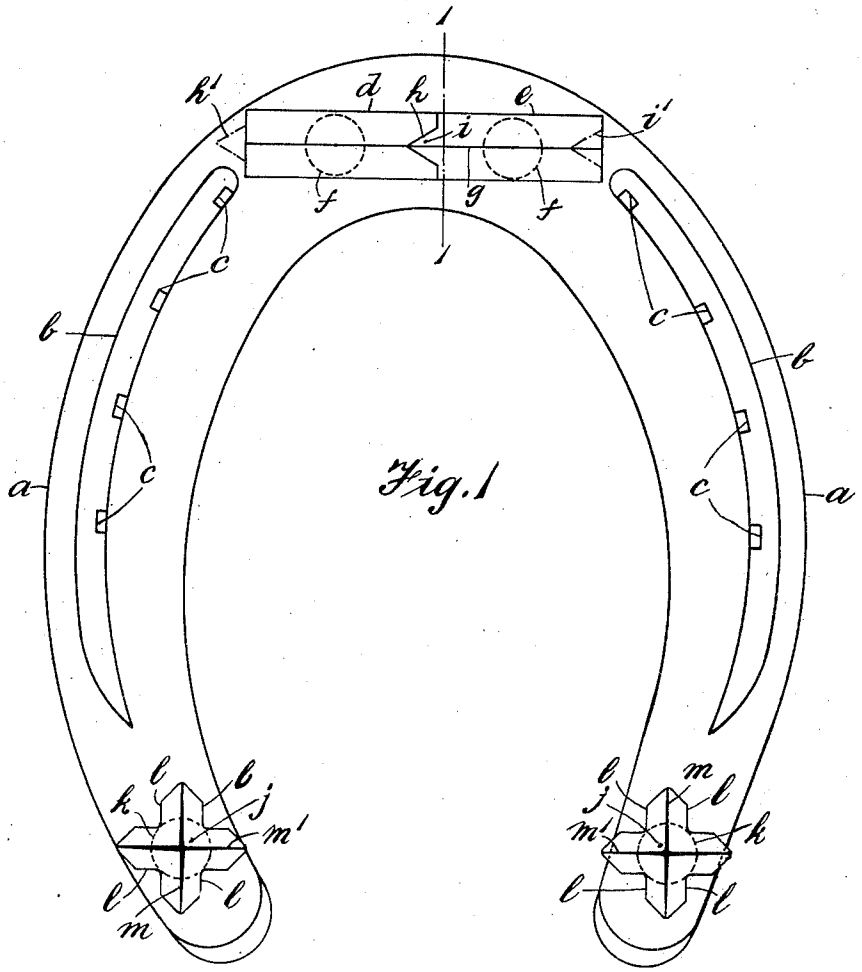
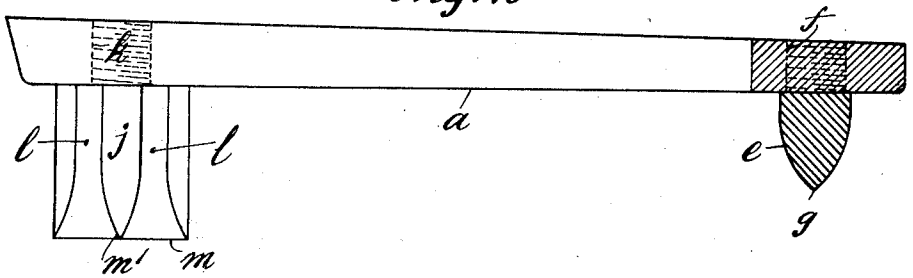


Fig. 1

Fig. 2



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UNITED STATES PATENT OFFICE.

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HORSESHOE.

1,003,117. Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed December 30, 1910. Serial No. 600,204.

To all whom it may concern:

Be it known that I, EDWARD MATTHEWS, residing at 27 John street north, in the city of Hamilton, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented new and useful Improvements in Horseshoes, of which the following is a specification.

This invention relates to horseshoes, and it has for its main object to provide a ready means whereby the calks may be easily removed and set or ground when worn without removing the shoe proper from the hoof.

A further object of my invention resides in the provision of means whereby calks which are adapted for ordinary wear and tear may be replaced by calks adapted for use in frosty weather or under extraordinary conditions.

A still further object of my invention resides in providing a horseshoe in which the welding-on of the calks is dispensed with.

A still further object of my improvements is to furnish a horseshoe the calks of which may be removed or placed in position or sharpened by any one without recourse to a blacksmith, said calks when in place being identical with the ordinary welded ones and answering the same purpose.

A further important object of my invention is to provide a heel calk which effectively prevents side slipping and thereby insures a considerably increased resistance to wear and tear.

With these and other objects in view, my invention consists essentially in making the toe-calk in two parts having an interlocking engagement when applied to the shoe, but which are readily removable when desired, and in furnishing a heel calk specially adapted for use in hard and frosty weather.

The accompanying drawing is in illustration of my invention, Figure 1, being an underside plan of a horseshoe embodying my improvements and specially adapted for use in frosty weather. Fig. 2, is a section on the line 1, 1, in Fig. 1, and looking to the right thereof.

According to my invention I make the shoe proper *a*, as heretofore from suitable material, and on the underside thereof I form the usual grooves or channels *b*, to receive the heads of the nails which are driven through the holes *c*, *c*, into the hoof in the well known way.

The toe calk is, in conformity with my improvements, made in two parts *d*, *e*, each of which is furnished with a screw threaded shank or projection *f*, for insertion from the underside into a correspondingly threaded hole provided for the purpose in the shoe proper *a*. It is to be particularly noted that I form one of the shanks *f*, with a right-handed and the other with a left-handed thread for the purpose hereafter explained. The toe calk is formed either rectangular in cross-section for ordinary purposes, or as shown, of a somewhat wedge-shaped cross-section the apex *g* whereof is downwardly disposed, and at one end of the part *d*, for example, I form a vertical V-shaped groove *h*, into which a correspondingly shaped and reversely disposed projection *i*, on the part *e*, is adapted to fit when the parts are brought together. Obviously if the shank *f*, of the part *d*, is provided with a right-handed screw thread and the shank *f*, of the part *e*, is left-handed the tendency of movement of the animal will be to keep said parts in firm interlocking engagement. Furthermore I may form the part *d*, with a groove *h*, at one end thereof and a projection *h'*, at the other end, and correspondingly form the other part *e*, with a projection *i*, and a groove *i'*, as indicated respectively by the full and dot-and-dash lines in Fig. 1, whereby a half turn of either element will bring both parts into interlocking union. The heel calks *j*, *j*, are also each formed with a screwed shank *k*, by means of which said calks are fixed to the shoe proper *a*, and they are preferably made of a more or less star shaped cross section as clearly shown by Fig. 1. The heel calks *j*, *j*, as shown are made from square section metal having a V-shaped groove *l*, cut or otherwise formed longitudinally down the center of each flat side. After a length of metal sufficient to make the calk has been cut-off and the shank *k*, screw threaded, the outer ends of the grooved parts *l*, *l*, are chamfered off by grinding or filing toward center lines passing across the diagonal points of the square section metal; or, in other words to more or less sharpen edges *m*, *m'*. In use, I prefer to arrange the knife edges *m*, for example, longitudinally of the shoe, and the other *m'*, transversely thereof, said disposition I find effectively preventing slipping in any direction.

Although I have specifically described the toe and heel calks as being of a cross section

to insure a firm grip in frosty weather I wish it understood that for ordinary wear I may substitute the parts *d*, and *e*, by others of rectangular cross-section but provided with the interlocking connection *h*, *i*; similarly plain square section heel calks *j*, *j*, may be substituted for the star-shaped ones when necessary.

From the foregoing description and accompanying drawings it will be seen that once the shoe proper *a*, is fixed to the hoof there will be no necessity for its future removal when "roughing", or renewal of the heel and toe or either of the calks is desired, as said calks can be easily unscrewed and sharpened or replaced by new ones without the least difficulty. Furthermore any person may remove or replace, or sharpen the calks without recourse to a blacksmith or farrier. Also by using my improved shoes animals' hoofs are prevented from the injury attendant upon the ordinary method of nailing, while I may use star-shaped heel calks for ordinary purposes without having the lower ends chamfered-off as described above.

I claim:—

In a horseshoe, the combination with a body portion, of a toe calk made in two parts from material wedge-shaped in cross section, each of said parts being provided with a threaded shank for insertion into a correspondingly threaded opening provided for its reception in the body portion and one of said shanks having a right-hand thread and the other of said shanks having a left hand thread, and each of said parts being formed at one end with a vertical groove and at the other end with a vertical rib adapted to enter said groove when said parts are moved into longitudinal alinement with each other upon each half revolution thereof.

Signed at Hamilton, Ontario, this 27th day of December 1910.

EDWARD MATTHEWS.

In the presence of—

ALFRED T. BRATTON,
FRANK G. BOOKER.