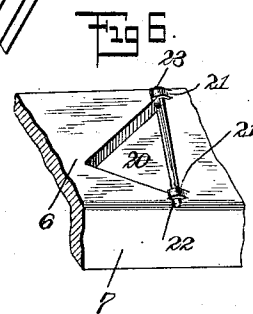
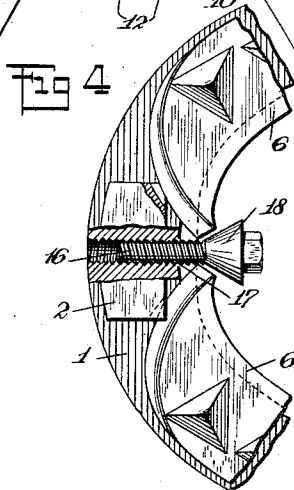
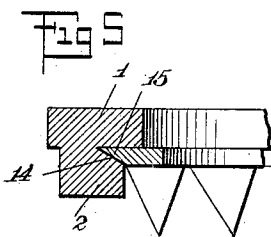
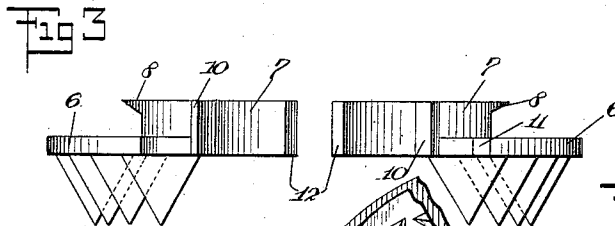
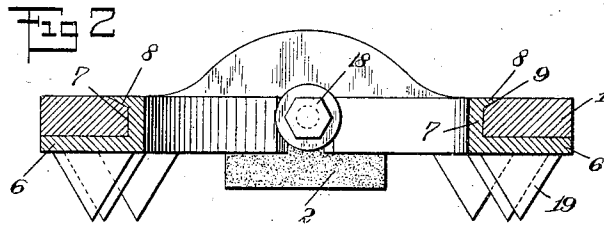
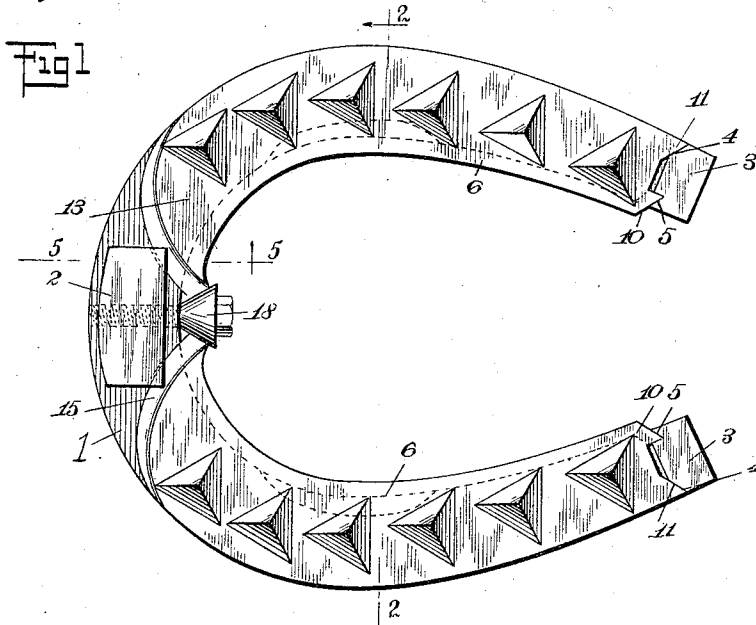


W. RUFF.
HORSESHOE.

APPLICATION FILED MAR. 29, 1911.

1,016,853.

Patented Feb. 6, 1912.



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WILLIAM RUFF, OF NEW YORK, N. Y.

HORSESHOE.

1,016,853.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed March 29, 1911. Serial No. 617,616.

To all whom it may concern:

Be it known that I, WILLIAM RUFF, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Horseshoe, of which the following is a full, clear, and exact description.

My invention relates to horseshoes, and it comprises improved means which can be readily attached to the bottom of the shoe to prevent the animal wearing the same from slipping or falling on streets and other thoroughfares covered with ice and sleet.

To this end it embodies certain novel features of construction which are fully described in the accompanying specification and pointed out in the claims appended thereto.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a bottom plan of my improved horse shoe; Fig. 2 is a section taken on the line 2—2 of Fig. 1, looking in the direction of the arrow; Fig. 3 is an end view of the plates which are attached to the bottom of the shoe, and by means of which a number of sharp projections are held in place; Fig. 4 is a fragmentary view of the front portion of the bottom of the shoe; Fig. 5 is a section taken on the line 5—5 of Fig. 1, looking in the direction of the arrow; and Fig. 6 is a detail view of a modification.

My improved horseshoe comprises a body 1 of the ordinary shape, having a front calk 2 and rear calks 3. The forward outer corners of the rear calks 3 are beveled, as shown at 4, and the forward inner corners of the rear calks 3 have notches 5 formed therein, these notches 5 extending through the body of the shoe 1.

Attached to the bottom of the shoe is a pair of plates 6, having a number of holes therein to receive projections or spikes and hold the same in place against the bottom of the shoe 1. These plates 6 have upward-extending rims or flanges 7 along their inner edges, their outer edges conforming to the contour of the body 1, and lying flush with the edges thereof. The flanges 7 have lugs 8 extending laterally from their tops for a portion of the length of the flanges 7; and

these lugs 8 are shaped as shown particularly on Figs. 2 and 3, and are adapted to engage against corresponding beveled surfaces 9 on the upper side of the body of the shoe 1, adjacent the inner edges thereof. The rear ends of the plates 6 have projections 11, which fit against the beveled off corners 4 of the rear calks 3; and the rear ends of the flanges 7 of these plates 6 turn outward, as shown at 10 on Figs. 1 and 3, to fit into the recesses 5 in the corners of the rear calks 3, and the body 1 adjacent thereto. The front ends of the flanges 7 of the plate 6 are beveled at 12, and the outer ends of the plates 6, adjacent the front of the shoe, are curved inward, as shown on Figs. 1 and 4. These curved front ends, which are indicated by the numeral 13, are arranged to fit under the rear corners of the front calk 2, a triangular notch 14 being formed in the corners of the calk 2, and the edges of ends 13 being beveled off, as shown at 15 on Fig. 5, to fit snugly within these recesses. An opening 16 is formed through the forward part of the body of the shoe just above the calk 2, and this opening receives a screw or bolt 17. This screw or bolt has a conical head 18 thereon, and when the bolt is screwed home, the plates 6 are held in place.

The plates 6 have openings therethrough, formed at regular intervals along their length, to receive a number of spikes or projections 19. These spikes or projections are preferably pyramidal in shape, tapering to a sharp point; and the sides of the openings through the plates 6 are inclined to correspond with the slope of the sides of the spikes 19. The wider ends of the openings lie adjacent the surface of the plate 6 which rests against the lower surface of the body 1; and the smaller ends of these openings are on the opposite face of the plate, so that the spikes or projections 19 cannot fall out of place when the shoe 1 is attached to the hoof of the animal.

To apply the plates 6, and the spikes or projections 19 carried thereby, the spikes or projections 19 are fitted into the openings, and the plates 6 are then fitted upon the body of the shoe 1, by causing the projections 10 and 11 to engage with the rear calks 3. The lugs or ears 8 will engage the body of the shoe at the beveled surfaces 9, and the beveled off edges 15 at the front of the

plates 6 will fit into the recesses 14 at the corners of the forward calk 2. By screwing home the bolt 17, the head 18 will engage against the beveled ends of the flanges 7 on the plates 6, and force the plates outward. This will cause the parts to have a tight interfitting engagement and prevent the plates 6 from becoming displaced. Instead of a screw or bolt 17, I may use a horse-shoe nail of ordinary shape, the head of which is conical in form and will engage with the beveled ends 12 of the flanges 7. The end of the nail will pass out through the front of the threaded opening 16, and can be bent over with a hammer or other tool, to prevent the nail from falling out.

The plates 6, after the spikes or projections 19 have been placed in the holes through the plates, can be attached to a horseshoe of any ordinary type, simply by boring the hole 16 in the end of the body of the shoe, and filing the edges of the same to form the beveled surfaces 9, and the rear calks 3 to form the beveled off corners 4, and the notches 5.

By means of the improvement shown in Fig. 6, I am enabled to place the plates in position upon the bottom of the shoe before putting the spikes or projections 19 in their places in the plates 6. I do this by forming openings through the plates 6 somewhat larger than the thick ends of the spikes 19, and forming lugs 21 adjacent the transverse edge of each of the openings. After the plates are fixed to the shoe, the thick ends of the spikes 19 are put into the openings, the sides of which are sloped, as described above, to correspond with the inclination of the lateral surfaces of the spikes. A nail 22 having a head 23 is then driven in under the lugs 21, against the adjacent surface of the spike, and the end of the nail is then bent over the edge of the plate 6, to prevent the same from falling out. With this construction, any one of the spikes or projections 19 can be taken out and replaced at will without taking off the plate 6; and at the same time each of the spikes will be held in position as firmly and securely as conditions require. The spikes 19, it will be observed, are shaped like a regular pyramid, that is, they are each formed with four points and have their four faces all alike. When one point is worn off, the position of each spike in its plate 6 can be changed so as to cause another point to project from the bottom of the shoe 1.

While I have shown and described my invention as embodying the details above noted, I wish to reserve to myself the right to make such small changes in the shape, size and arrangement of the parts as fairly fall within the scope and spirit of my invention.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. The combination with a horseshoe, of a plurality of plates engaging the bottom of said horseshoe, said plates having projections at their opposite ends, and said shoe having recesses formed in the forward and rear calks to receive said projections, and removable means carried by the forward part of the shoe and engaging the forward ends of the said plates to lock the plates against displacement.

2. The combination with a horseshoe, of removable plates attached to the bottom of said shoe, said plates having projections formed on their opposite ends, and said shoe having recesses or notches in the forward and rear calks to receive said projections, said plates also having upstanding flanges for engaging against the inner sides of the shoe, and each having a lug extending laterally from the top of said flanges, said lugs being beveled on their lower sides and engaging against the corresponding beveled surface of the body of the shoe, and means removably fastened to the front part of the body of the shoe to engage the adjacent ends of the plates to lock the said plates against displacement.

3. In a device of the kind described, a plate adapted to fit against the bottom of the horseshoe, and having one edge curved to correspond with the outer edge of the horseshoe, and an upstanding flange formed along the opposite edge, said plate having projections at its front and rear to engage notches on the shoe, to hold the same in place.

4. In a device of the kind described, a plate adapted to fit against the body of the horseshoe, said plate having projections extending from its front and rear to engage recesses formed in the body of the shoe, and having an upstanding flange along one edge, said flange having a laterally-extending lug adjacent the top, to engage a corresponding surface on the body of the shoe.

5. A plate for attachment to the bottom of a horseshoe, having a series of openings therethrough, the plane of the sides of said openings being inclined to the plane of the plate, and a series of pointed spikes having lateral surfaces inclined to correspond with the sides of the said openings, said spikes being smaller than said openings, and a plurality of lugs arranged adjacent one edge of each of said openings, whereby the spikes can be put in place after the plate is attached to the bottom of the horseshoe, and means held in place by said lugs and engaging the lateral surfaces of the said spikes to keep the spikes from falling out.

6. In a device of the kind described, the combination of a horseshoe having front and rear calks, a plate adapted to fit against the under side of said horseshoe, said plate hav-

ing projections extending from its front and rear to engage recesses formed in the calks of said horseshoe, and means carried by said shoe to engage said plate and hold the same in place thereon.

7. In a device of the kind described, a plate adapted to fit against the bottom of a horseshoe and having one edge curved to correspond with one of the edges of said shoe, and an upstanding flange formed along the opposite edge of said plate, said plate also having projections at its front and rear to engage notches on the shoe to hold the same in place.

8. The combination of a horseshoe with a plurality of sharp, removable spikes extending from the under side of said shoe, each of said spikes being shaped like a regular pyramid, there being depressions in the

under sides of said shoe, to receive said spikes, said depressions being of larger area than said spikes, and means carried by the under side of said shoe, adjacent the edge of each of said depressions, to engage said spikes, to hold the same removably in place, whereby when one point is worn off the position of the spike can be changed to cause another point to project in the bottom of the shoe, and whereby a new spike can be substituted when said spike is worn out.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM RUFF.

Witnesses:

WILLIAM F. NICKEL,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."