Sept. 30, 1969 W. M. BECKER 3,469,631

PLASTIC HORSESHOE

Filed Feb. 2, 1968

Fig. 1.

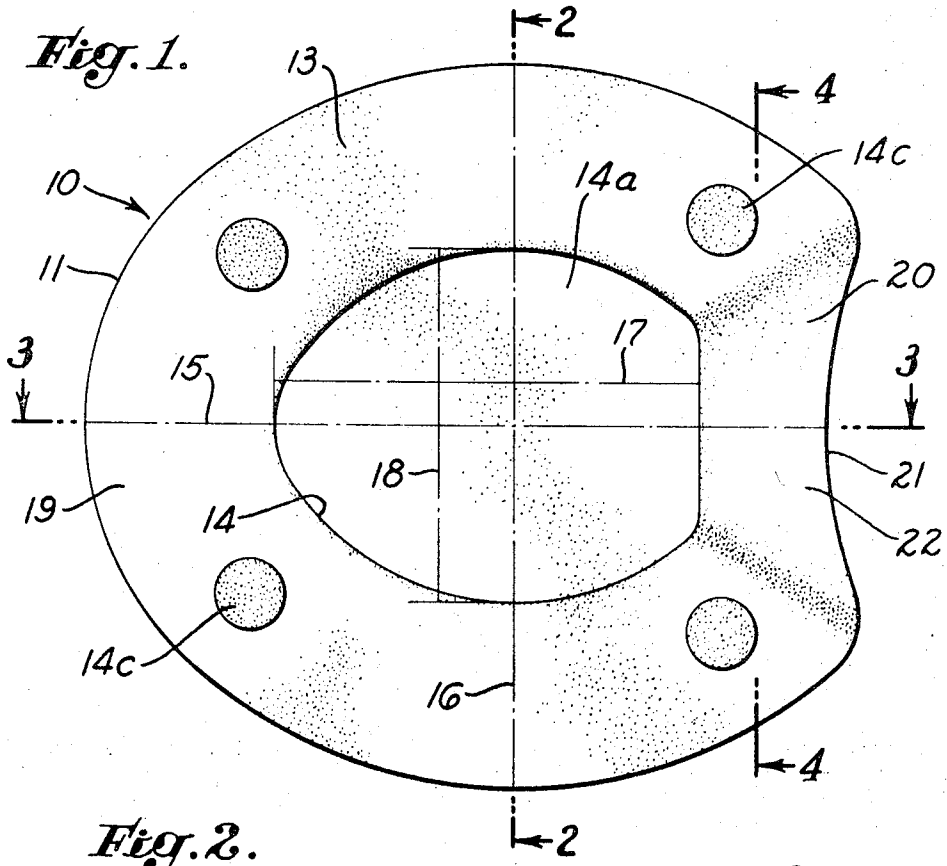


Fig. 2.

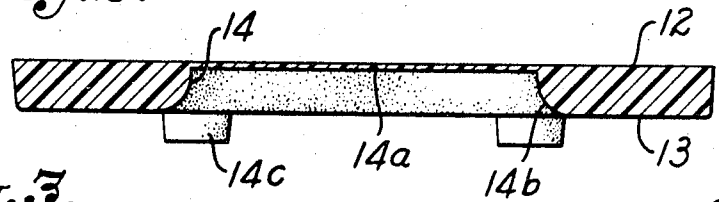


Fig. 3.

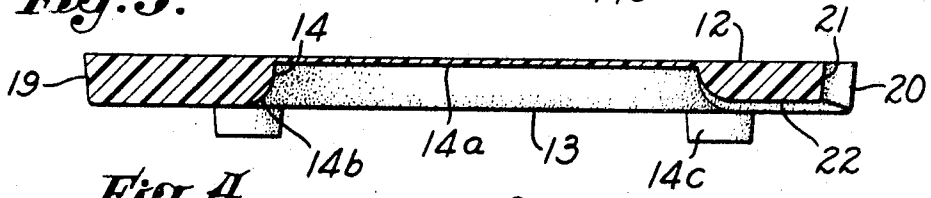


Fig. 4.

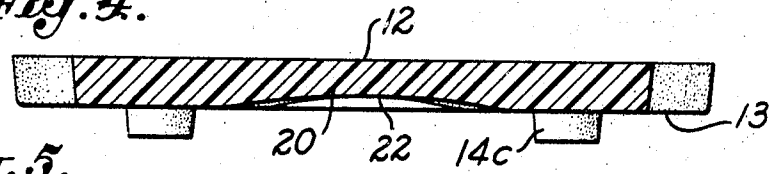
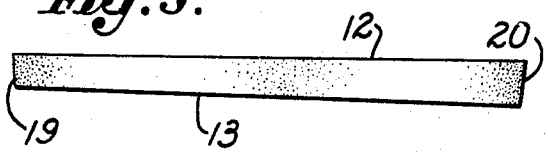


Fig. 5.



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PLASTIC HORSESHOE

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U.S. Cl. 168—4 5 Claims

ABSTRACT OF THE DISCLOSURE

As an article of manufacture, a horseshoe of plastic material having a transverse heel which includes an inwardly concave central portion.

DISCLOSURE

This invention is a horseshoe formed of a generally resilient material, which can be readily applied and fitted to the hoof of a horse, or other animal.

In the drawing and the following specification, which are for the purpose of illustration only:

FIG. 1 is a plan view of the horseshoe;

FIG. 2 is a cross-section on the line 2—2 of FIG. 1;

FIG. 3 is a cross-section on the line 3—3 of FIG. 1;

FIG. 4 is a cross-section on the line 4—4 of FIG. 1; and

FIG. 5 is a view similar to FIG. 3 of an alternative embodiment.

In the drawing, FIG. 1 shows a horseshoe having a generally oval-shaped body **10** formed of a continuous strap **11** of a slightly resilient plastic material, such as a polyurethane, for example, the body having an inner surface **12** and an outer surface **13**, and providing a generally oval-shaped central opening **14**, with a web **14***a* closing one end of the opening, the opening being provided with a radius **14***b* therearound to reduce mud packing therein, which is a feature. The outer surface **13** is provided with slightly protruding buttons, calks or lugs **14***c*, to improve the traction of the shoe, but may be omitted if desired. The body **10** has a major axis **15** and a minor axis **16**, and the opening **14** has a major axis **17** and a minor axis **18**. For general application to most horse hoofs, I prefer to make the major axis **15** of the body about 5½ inches in length and its minor axis **16** about 5¼ inches in length, the major axis **17** of the opening **14** about 3¼ inches in length and its minor axis **18** about 2½ inches in length. These dimensions may be changed, but I prefer to maintain about the same ratios between them for larger or smaller shoes. The body **10** has a toe portion **19** and a heel portion **20**. At the heel portion **20**, the strap **11** is truncated between its sides to provide a concave end surface **21**. As shown in FIGS. 3 and 4, the heel portion **20** is inwardly concave at **22** to provide an area at the heel portion which is of less thickness than the remainder of the body, which is an important feature of the invention, and the concave end surface **21** also contributes to this. This construction of the heel portion **20** permits it to expand or contract with variations in weight put upon the shoe by the horse, and it helps prevent the formation of corns on the hoof. As will be noted, the inner surface **12** and the web **14***a* are coplanar and the outer surface **13** is also coplanar and parallel to the inner surface, except in the area of the heel portion **20**.

FIG. 5 shows an alternative embodiment of the invention, in which similar numerals are used to designate

similar parts, and shows a horseshoe identical with that of the preceding views except that the heel portion **20** is slightly thicker than the toe portion **19** with the outer surface **13** coplanar as illustrated, to build up the heel, which is desirable in some applications.

The body **10** is readily penetrated by conventional horseshoe nails and thus may be nailed to the hoof of a horse, or other animal, with the inner surface **12** against the hoof and the outer surface **13** away from the hoof. The external edge of the body **10** may be trimmed readily with a knife, or other tool, to conform to the shape of the hoof of the animal. The web **14***a* normally protects the animal's hoof against stones and pebbles, and is an important feature of the invention, but may be removed readily with a knife, if so desired, which is also a feature of the invention. Also, it may be omitted entirely if so desired. I have found that the horseshoe of my invention is easier to apply to a horse's hoof, and is more comfortable to the animal, and affords better protection to the hoof, than conventional steel horseshoes. It tends to reduce cross-firing, knee-knocking, and cow-like action of the horse's leg.

I desire to be afforded the full scope of the following claims.

I claim:

1. As an article of manufacture, a horseshoe formed of a resilient plastic material, such as a polyurethane, having a generally oval-shaped body formed by a continuous strap to provide a generally oval-shaped opening in the center, the strap having inner and outer surfaces, the body having a toe portion at one end of the body and a transverse heel portion at the other end of the body, the heel portion being truncated to form an outer concave surface extending between the outer sides of the body, the inner surface of the body being coplanar and the outer surface of the body at said heel portion being inwardly and upwardly concave to provide a central area at the heel which is more readily bendable than the remainder of the body.

2. A horseshoe as defined in claim **1** in which there is a thin, readily removable membrane coplanar with the inner surface and covering the hoof contacting portion of the opening.

3. A horseshoe as defined in claim **1** in which the ratio of the major axis of the body is to the minor axis thereof as about 5.5 inches is to about 5 inches, the ratio of the length of the major axis of the opening is to the length of the minor axis thereof as about 3 inches is to about 2.5 inches, and the ratio of the major axis of the body is to the major axis of the opening as about 5 inches is to about 3 inches.

4. A horseshoe as defined in claim **1** in which the strap has projecting lugs on its outer surface.

5. A horseshoe as defined in claim **1** in which the body is thicker at its heel portion than at its toe portion.

References Cited

UNITED STATES PATENTS

796,994	8/1905	Gay	168—27
1,702,882	2/1929	Tweed	168—12

OTHER REFERENCES

Hoofbeats, "Plastic Horseshoes," November 1967, pp. 13–15 and 67.

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