

M. KANE.
SOFT TREAD HORSESHOE.
APPLICATION FILED JAN. 6, 1909.

924,790.

Patented June 15, 1909.

2 SHEETS—SHEET 2.

Fig. 5.

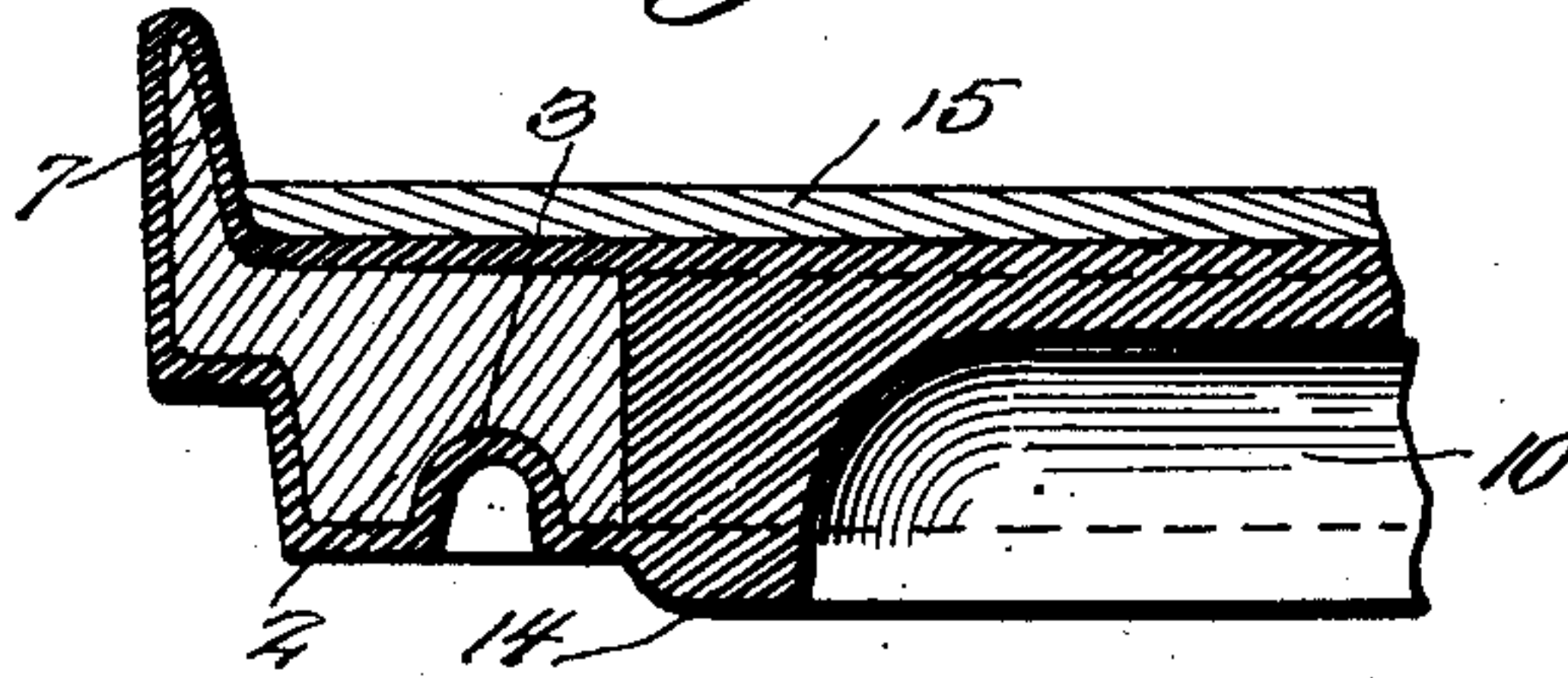


Fig. 6.

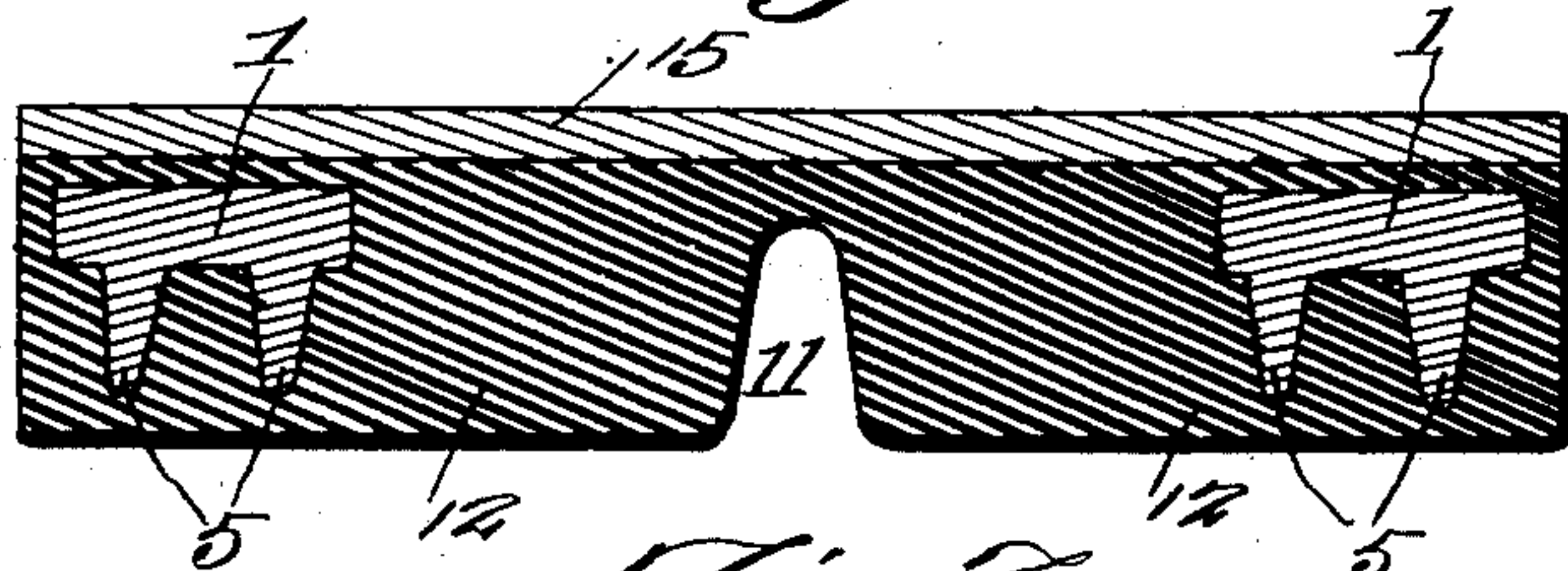


Fig. 7.

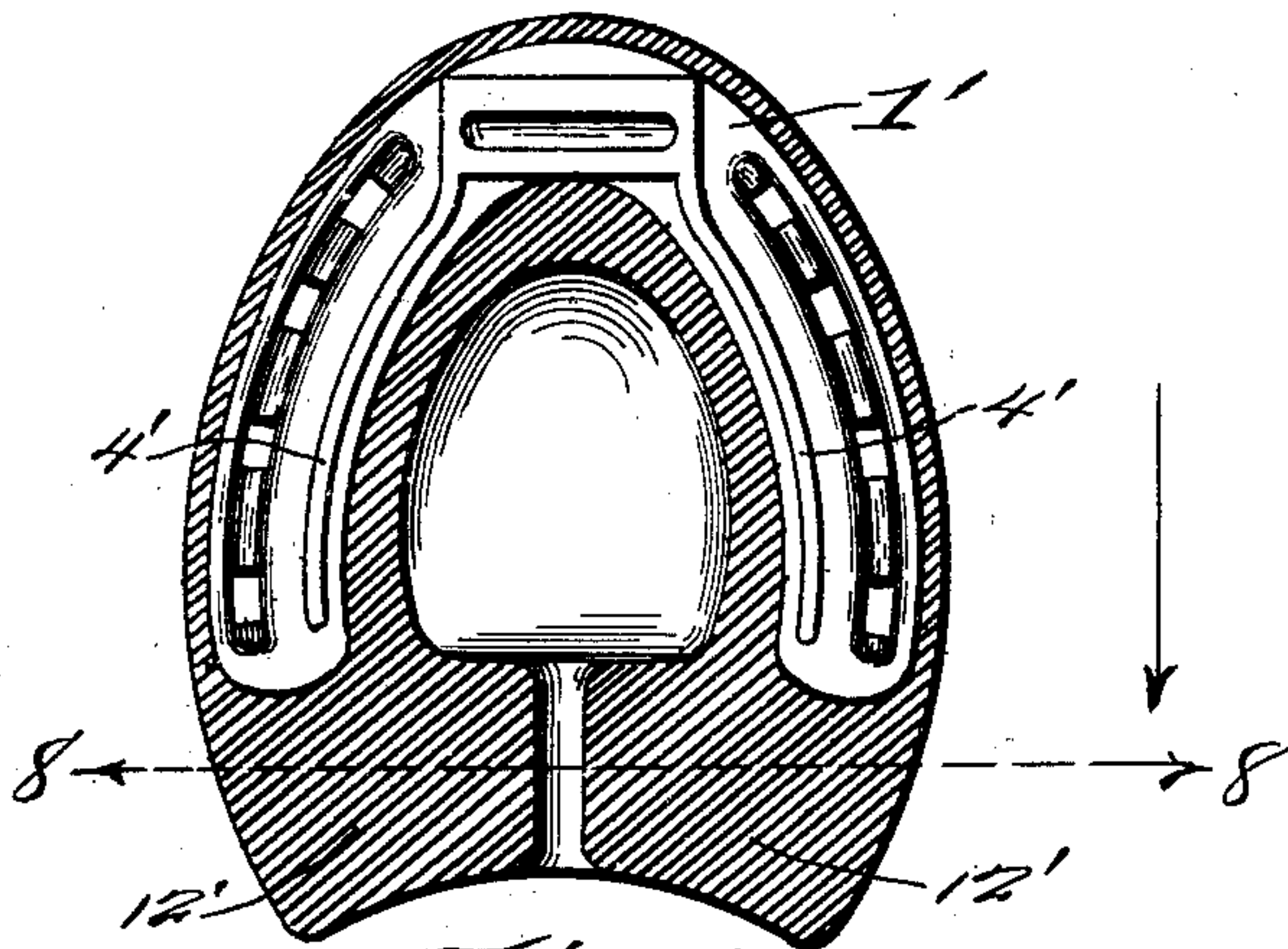
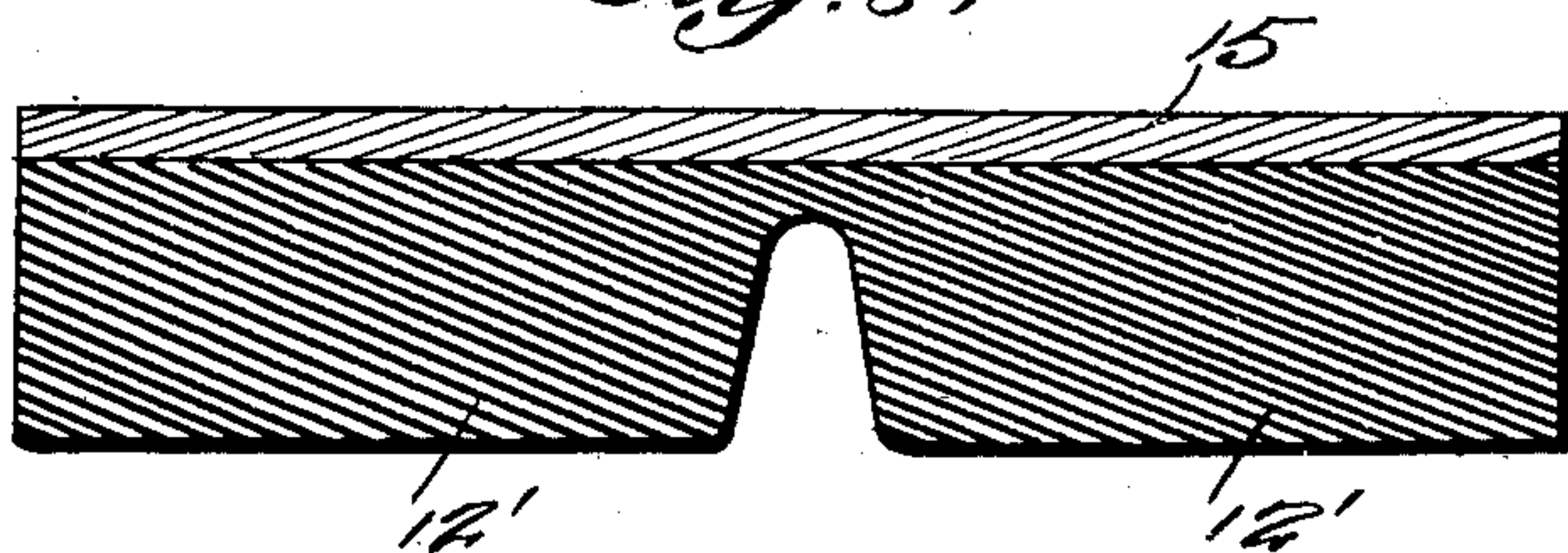


Fig. 8.



Witnesses

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SOFT-TREAD HORSESHOE.

No. 924,790.

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To all whom it may concern:

Be it known that I, MICHAEL KANE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Soft-Tread Horseshoes, of which the following is a specification.

This invention relates to improvements in soft tread horseshoes, and has for its object a shoe of this class which will be durable, and efficient in use, of marked longevity, simple in construction and comparatively inexpensive in manufacture.

The invention further aims to generally increase the utility and practicability of shoes of this type, all of which recited objects and others being later herein manifested.

In the drawings, Figure 1, is a view in perspective depicting the wearing tread of the shoe, Fig. 2, is a horizontal section of Fig. 1, Fig. 3, is a transverse section taken on line 3—3 of Fig. 1, looking in the direction of arrow X, Fig. 4, is a view similar to Fig. 3, but looking in the direction of arrow Y, Fig. 5, is a section taken on line 5—5 of Fig. 2, Fig. 6, is a section taken on line 6—6 of Fig. 2, Fig. 7, is a horizontal section of a modified form of the invention, and Fig. 8, is a transverse section taken on line 8—8 of Fig. 7.

The invention as at present contemplated embodies a metal shoe 1, of wrought or cast iron, or steel possessed of the conventional shape more clearly shown in Fig. 2.

The toe of the shoe is formed with a rectangular raised portion 2 which is centrally grooved as at 3, on its under face. Arranged along the inner side edge of the shoe on each leg thereof is a rib 4, joined at the front end thereof to the raised portion 2, which ribs in outline pursue the general conformation of that of the shoe legs being slightly spaced from the inner side edges of the latter. The free ends of the shoe legs, which constitute the heel of the shoe are each formed with an integral J-shaped rib or projection 5, the longer leg of the J being located so as to be disposed on the outer side edge of each of the shoe legs. Between the rear end of each curved rib 4, and the shorter leg of the J-shaped rib 5, and in spaced relation to each there is a short projection 6.

As more clearly shown in Figs. 3, 4, 5, and 6 the metal shoe above described is completely embedded in a body of rubber, this being accomplished by molding the rubber body about the metal shoe. Inasmuch as

the several ribs 4, 5, and 6, and the raised portion 2, present varied configurations it will be evident that a firm and inseparable union will be effected between the body of rubber and the metal shoe. Due to the spaces which exist between the short ribs 6 and the adjacent ends of ribs 4 and 5, and, due to the peculiar shape of the rib 5, there are presented a plurality of pockets or grooves in which the molten rubber may seat in the molding process, resulting in a secure, inseparable relationship between the rubber body and shoe upon completion of the molding operation.

The advantage just referred to may be more fully appreciated upon inspection of Fig. 6, which clearly illustrates the resultant effect derived. Moreover it will be understood that the various ribs act as braces for the rubber body preventing any sidewise movement of the latter due to the enormous static pressure brought to bear on the rubber body due to the weight of the animal. The toe of the shoe is provided with the usual upwardly projecting rib 7 as is commonly practiced in the art. The under face of the shoe is also formed with the nail grooves 8, in which the nail-receiving openings 9, are formed. The rubber body on its under face is formed with a central cavity 10, and a comparatively narrow groove 11 which latter leads into cavity 10, and extends through the heel of the rubber body dividing the latter into two similar members 12 of T-shape which extend substantially the width of the shoe heel. Integral with the heel members 12, and of contracted width as compared thereto is the inverted U-shaped portion of the rubber body, the outer faces of the legs 13, of which are located at the inner sides of the nail grooves 8 as clearly depicted in Figs. 1, 3 and 4. The connecting portion 14 of the legs 13 as shown in Fig. 5, abuts the rear side of projection 2, thereby receiving substantial support from the latter, it being further observed in said figure that the projection 2, is provided with a layer or coating of the rubber body which completely surrounds said projection, seats in the groove 3 thereof and extends about rib 7. It should be further noted that the under faces of the U-shaped portion, which includes heel members 12, legs 13 and connecting portion 14, all project below the under faces of the metal shoe 1 and thereby provide a soft tread which is firm, braced against sidewise deflec-

tion, and possessed of substantial wearing properties. By virtue of the presence of groove 11, which separates the heel members 12, it will be obvious that the inner ends of the latter may have individual movement in a direction toward the groove due to the compression of the rubber of which the heel members are constituted when the weight of the animal is placed thereon, which results in the provision of a softer tread than were the heel member composed of an integral portion of the rubber body. The upper face of the mass of rubber has cemented, or otherwise suitably secured thereto a leather facing 15 which comes in contact with the hoof of the animal when the shoe is applied in position.

The modification comprehends the same general construction above set forth, with the exception that the heel of the metal shoe 1' is cut-away at points just beyond the rear ends of ribs 4'. Thus the heel members 12' are of solid rubber construction devoid of any metal as seen in Fig. 8, which results in an increased degree of softness of the heel tread, as distinguished from the type of shoe displayed in the preferred form of the invention. The modification however is not capable of withstanding the rough usage and treatment possible with the preferred form, and is more especially intended for use in light draft work, such as carriage use.

What is claimed is:—

1. A soft tread horseshoe composed of a metal body formed with a plurality of downwardly extending ribs arranged to have adjacent ends in spaced relation, a rubber body in which said metal body is embedded, said rubber body having its under face extending below the bottom sides of said ribs, and being formed with a central cavity on its under side and a groove which extends into said cavity and through the heel end of said rubber body whereby said rubber body is formed with a pair of spaced heel members.

2. A soft tread horseshoe composed of a metal body, a projection extending across the toe end of said metal body on the under face of the latter, ribs on the under face of said body extending along each leg thereof, and a rubber body in which said metal body is embedded, said rubber body abutting the inner side face of said projection so as to receive support therefrom and on its under face projecting below the under face of said projection, said rubber body on its under face being formed with a central cavity, said ribs extending into said rubber body at points between the cavity sides and the outer sides of the rubber body.

3. A soft tread horseshoe composed of a metal body, a projection on the under face of said body extending across the toe thereof and being formed with a longitudinal groove on its under face, a rib on each leg of the

metal body, extending from opposite ends of said projection to points adjacent the heel end of the body, a J-shaped rib on each heel end of said body, a short rib interposed between one leg of each of said J-shaped ribs and the heel end of said first named ribs and being spaced from each of the latter, and a rubber body in which said metal body is embedded, said rubber body abutting the inner side face of said projection to receive support therefrom and being formed with a central cavity and a groove which extends from the cavity through the heel end of the rubber body to form a pair of spaced heel members on the latter, said rubber body being formed with contracted side legs.

4. A soft tread horseshoe composed of a metal body, and a rubber body in which said metal body is embedded, said metal body being formed with a downwardly extending toe projection against which one end of said rubber body abuts so as to receive support therefrom said rubber body being formed with a central cavity and a groove which divides the heel end of the body into a pair of heel members.

5. A soft tread horseshoe composed of a metal body, a rubber body in which said metal body is embedded so as to completely inclose the metal body, and a leather plate secured to the rubber body above the top face of the metal body.

6. A soft tread horseshoe composed of a U-shaped metal body, and a rubber body in which the metal body is embedded, said rubber body having a thin web which extends across the space between the legs of said U-shaped metal body, said rubber body being of U-shape and having enlarged spaced heel members, the outer sides of said legs of the U-shaped rubber body being spaced from the outer sides of the metal body.

7. A soft tread horseshoe composed of a U-shaped metal body, a rubber body which is molded about the metal body so as to completely inclose the same, said rubber body having a thin integral web molded therewith to extend across the space between the legs of the metal body, and a flexible facing which is secured to the rubber body and extends across said web so as to contribute support thereto.

8. A soft tread horseshoe composed of a U-shaped metal body, a projection on said body which extends across the toe thereof, ribs on said body located adjacent the inner sides of the legs thereof, said body being formed with nail holes beyond said ribs, and a rubber body which completely incloses said metal body, said rubber body having a central cavity and a groove which extends into said cavity and through the heel end of the rubber body whereby the latter is formed with a pair of spaced heel members, said cavity being in spaced relation to the inner

side of the toe projection, the outer sides of the legs of the rubber body at the inner ends of the heel members, being cut-away so as to expose the nail holes.

- 5 9. A soft tread horseshoe composed of a U-shaped metal body having a toe projection and formed with nail holes, and a rubber body in which said metal body is embedded, said rubber body having legs disposed to the
10 inner sides of the nail holes, a pair of T-shaped ends which extend across the heel of the shoe, and a connecting part which connects the legs of the rubber body and which abuts the toe projection of the metal body.
15 10. A soft tread horseshoe composed of a metal body, and a rubber body in which the metal body is embedded, the sides of the

rubber body being spaced from the outer portions of the sides of the metal body, and being formed with T-shaped ends which constitute the heel of the shoe. 20

11. A soft tread horseshoe composed of a metal body and a rubber body molded about the metal body, formed with legs, a pair of T-shaped ends which constitute the heel of 25 the shoe and with a web which supports said ends and which extends across the space between the legs.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL KANE.

Witnesses:

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