No. 776,925. PATENTED DEC. 6, 1904.

F. M. MILLER.

SOFT TREAD HORSESHOE.

APPLICATION FILED MAR. 28, 1904.

NO MODEL.

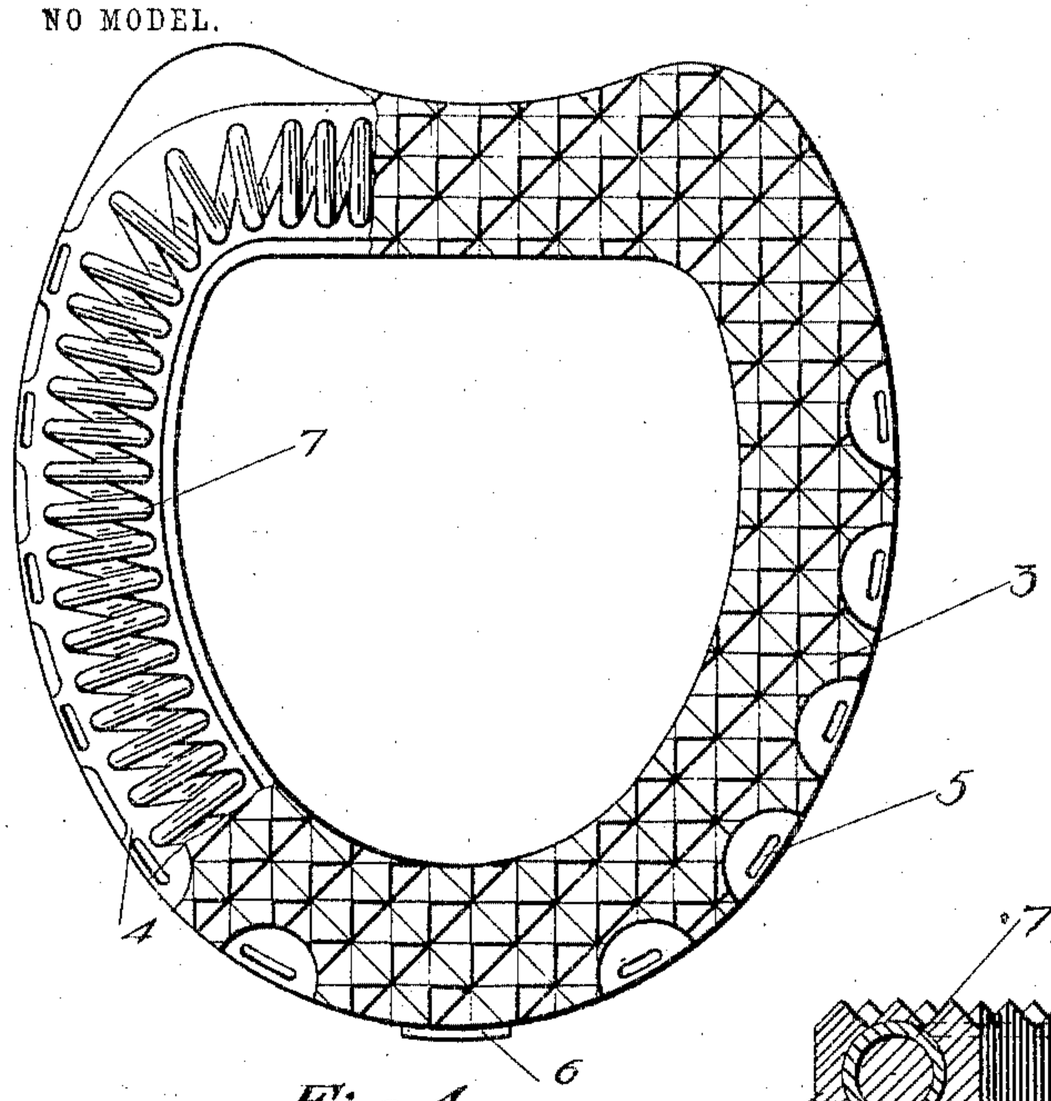


Fig. 1

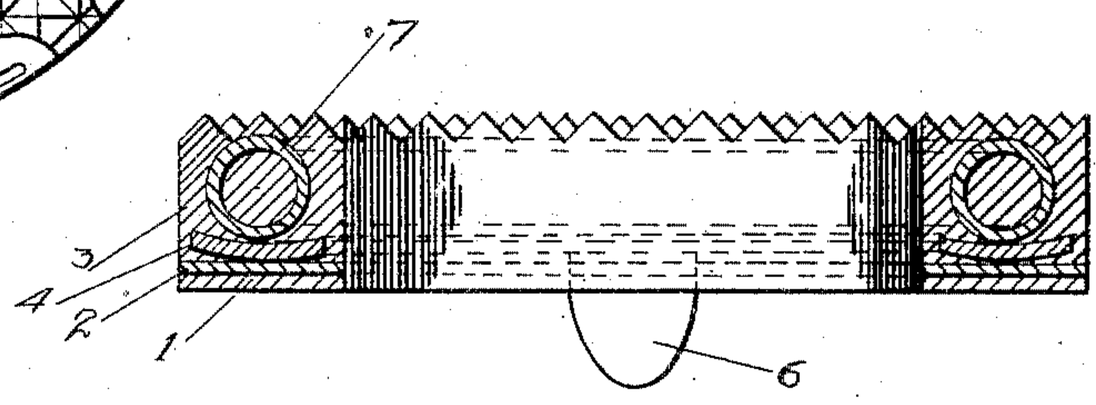
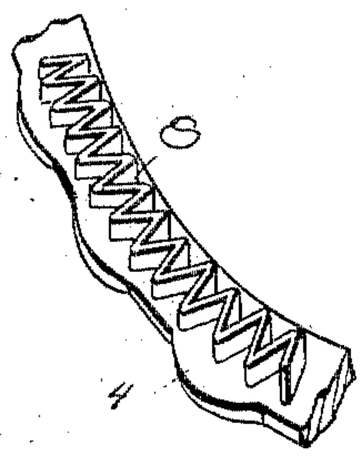


Fig. 2

Fig. 3.



Witnesses

P. J. Jume

F. F. Johnson

Inventor

Francis M. Miller

By J. R. Nottingham

Attorney

No. 776,925. Patented December 6, 1904.

UNITED STATES PATENT OFFICE.

FRANCIS M. MILLER, OF NEW YORK, N. Y.

SOFT-TREAD HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 776,925, dated December 6, 1904.

Application filed March 28, 1904. Serial No. 200,365. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS M. MILLER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Soft-Tread Horseshoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to horseshoes of the "soft-tread" type; and it has for its principal object to provide an efficient means whereby the rubber is prevented from being forced or squeezed out under pressure at the sides of the shoe.

Other objects of the invention will become apparent upon a full description thereof.

In the use of shoes having a rubber tread it has been found that the rubber under pressure is forced or squeezed out over the sides, and the almost constant pounding received by the shoe from the animal's hoof striking paved roadways causes particles of the rubber to be broken off from time to time, so that the life of the shoe is materially diminished. To overcome this objectionable feature, I employ in the body of the tread a flexible or yielding holder, retainer, or binder, which effectually prevents the rubber from being squeezed out over the sides and becoming broken off piecemeal.

In the drawings, Figure 1 is a bottom plan view of my improved horseshoe, partly broken away to show the binder; Fig. 2, a transverse section, and Fig. 3 a modified form of the binder.

Referring to the several views, the numeral 1 indicates the base or foundation portion of the shoe, which is preferably made of leather, shaped to conform to the contour of the hoof of the animal wearing it, and having a closed heel. Securely attached to the leather base or foundation is a filling 2, of canvas or other suitable fabric, to which the rubber tread 3 is firmly attached by vulcanizing or other suitable and well-known means. The rubber tread is of the same general contour as the leather base, and its surface is suitably corrugated or roughened to prevent slipping.

The numeral 4 indicates a metal nailing-plate, preferably thin steel, provided with the usual nail-holes 5 on each side and with a toe-clip 6. The nailing-plate is preferably concavo-convex in cross-section and is made slightly thicker at the outer sides, where the nail-holes are situated, and also at the front to give sufficient strength to the toe-clip; but it is not the intention to make the plate so heavy as to add weight to the shoe.

Attached to the nailing-plate by any suitable means, such as soldering, is a flexible or yielding binder 7, preferably consisting of a coiled spring, which is embedded in the rubber tread. When the liquid rubber is poured into the mold, it runs into the spaces between the coils of the spring, filling up the interior space of the spring, and as thus embedded the spring forms a most effectual binder for preventing the rubber from being squeezed out around the edges of the shoe, as being flexible it causes the rubber to resume its normal condition the instant pressure is taken from the shoe.

While the yielding or flexible binder consists, preferably, of a round coiled spring, yet it will be apparent that other forms may be employed with equally good results—such, for instance, as a rectangularly-coiled spring 8, as shown in Fig. 3. The binding means being entirely hidden from view and being perfectly flexible presents no hard parts or points to hurt or injure the animal's foot and is in every respect a perfectly sanitary shoe.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A soft-tread horseshoe having a closed heel, composed of a leather base or foundation, a rubber tread, an endless nailing-plate embedded in the rubber tread, and an endless flexible binder, also embedded in said rubber tread between the nailing-plate and the outer surface of the rubber tread.

2. A soft-tread horseshoe having a closed

heel, composed of a leather base or foundation, a rubber tread, an endless nailing-plate, and an endless flexible binder secured to the nailing-plate, said nailing-plate and binder being embedded within the soft tread.

3. A soft-tread horseshoe having a closed heel, composed of a leather base or foundation, a rubber tread, an endless nailing-plate, and an endless coil-spring secured to the nailing-plate, said nailing-plate and coil-spring being embedded within the soft tread.

4. A soft-tread horseshoe having a closed heel, composed of a leather base or foundation, a rubber tread, an endless nailing-plate, a canvas filling between the leather base and nailing-plate, and an endless flexible binder secured to the nailing-plate, said nailing-plate and binder being embedded within the soft tread.

5. A soft-tread horseshoe having a closed heel, composed of a leather base or foundation, a rubber tread, an endless nailing-plate, a canvas filling between the leather base and nailing-plate, and an endless coil-spring secured to the nailing-plate, said nailing-plate and coil-spring being embedded within the soft tread.

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

FRANCIS M. MILLER.

Witnesses:
WILLIAM F. CRERAND,
JOHN C. STRATTON.