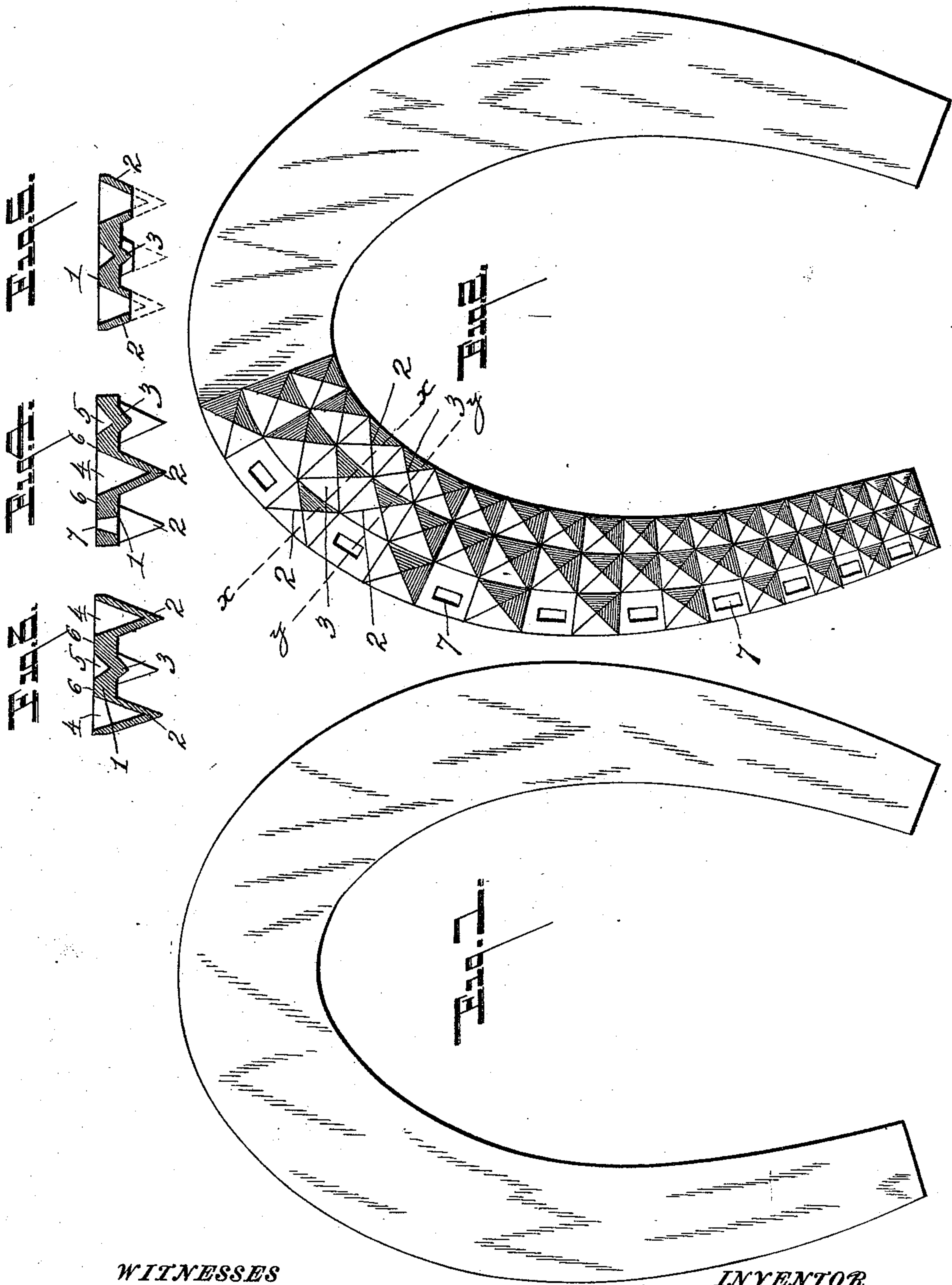


(No Model.)

W. R. KINNEAR.
HORSESHOE.

No. 514,011.

Patented Feb. 6, 1894.



WITNESSES

F. L. Ourand
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INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM R. KINNEAR, OF COLUMBUS, OHIO.

HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 514,011, dated February 6, 1894.

Application filed November 23, 1893. Serial No. 491,745. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. KINNEAR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in 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 ap-
10 pertains to make and use the same.

The object of my invention is to provide a horseshoe that shall be light in weight, durable, inexpensive, and which shall always have a rough or gripping under surface to prevent the slipping of the animal.
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My invention is embodied in a horseshoe made from a single piece or plate of steel having hollow spurs or projections of different altitude stamped on its under side, so that when the points of the longer spurs or pro-
20 jections are worn off they present tube-like gripping ends which together with the shorter spurs form a rough frictional surface.

In the accompanying drawings: Figure 1 represents a blank from which my horseshoe may be formed. Fig. 2 is a plan view of the under side of a shoe having my spurs, said spurs being shown on one half of the shoe only. Figs. 3 and 4 are cross sectional views,
30 on lines $x-x$ and $y-y$ respectively of Fig. 2. Fig. 5 is a sectional view illustrating the shoe with the longer spurs worn down.

In the illustrations referred to, 1 designates the body of the shoe and 2 and 3 spurs or pro-
35 jections of different altitude on its under side. These spurs or projections which may be of conical, pyramidal, or other pointed shape are stamped, pressed, or formed by the action of suitably shaped dies. The male dies in pressing out the metal to form the spurs make
40 cavities 4 and 5 in the uppersides of the spurs

or projections 2 and 3 respectively, the cavities 4 extending below the points of the shorter spurs 3. The level surfaces 6 between the cavities of the spurs afford abundant surface for supporting the hoof. Nail
45 holes 7 are formed at proper intervals around the outer edge of the shoe. The spurs or projections may be disposed regularly or irregularly over the bottom of the shoe and they
50 may be of any number that taste may dictate or utility require.

It is obvious that the longer spurs will come into use and wear off first and that when their points are worn off their ends will be like
55 those of tubes and afford a very effective gripping surface, until the shorter spurs are reached. The horse is thus continuously rough shod and sure footed.

By reason of the depressions in the upper
60 side of the spur I am enabled to produce shoes that are at least one third lighter than the ordinary shoes at present in use without diminishing their durability.

What I claim, and desire to secure by Letters Patent, is—

1. A horseshoe provided with spurs of different altitudes on its under side, the longer of said spurs having cavities 4 extending below the points of the shorter ones, substantially as described.
70

2. A horseshoe provided with hollow spurs of different altitudes on its under side, the cavities of the longer spurs extending below the points of the shorter ones, substantially
75 as described.

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

WILLIAM R. KINNEAR.

Witnesses:

FRANK M. RAYMOND,
GEORGE M. FINCKEL.