

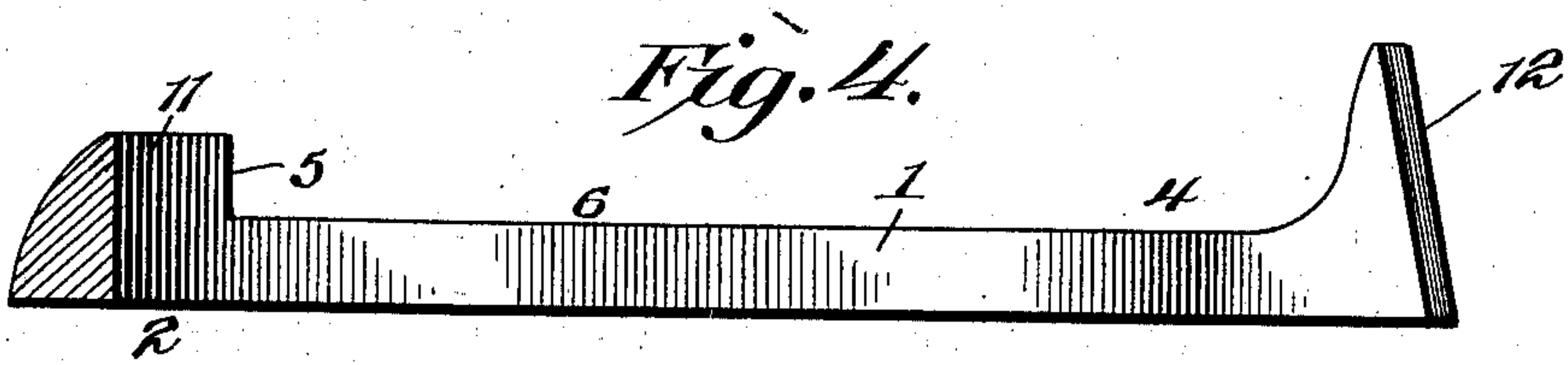
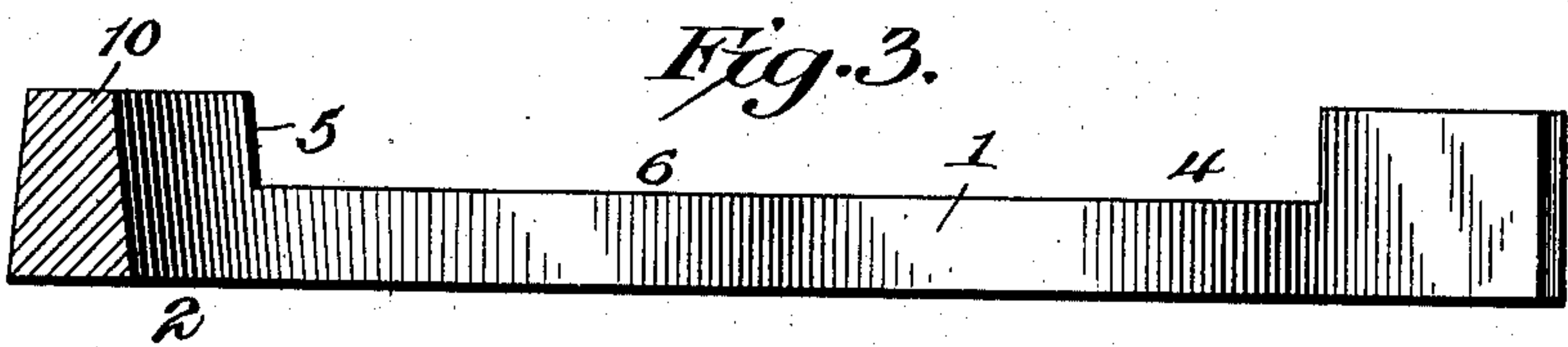
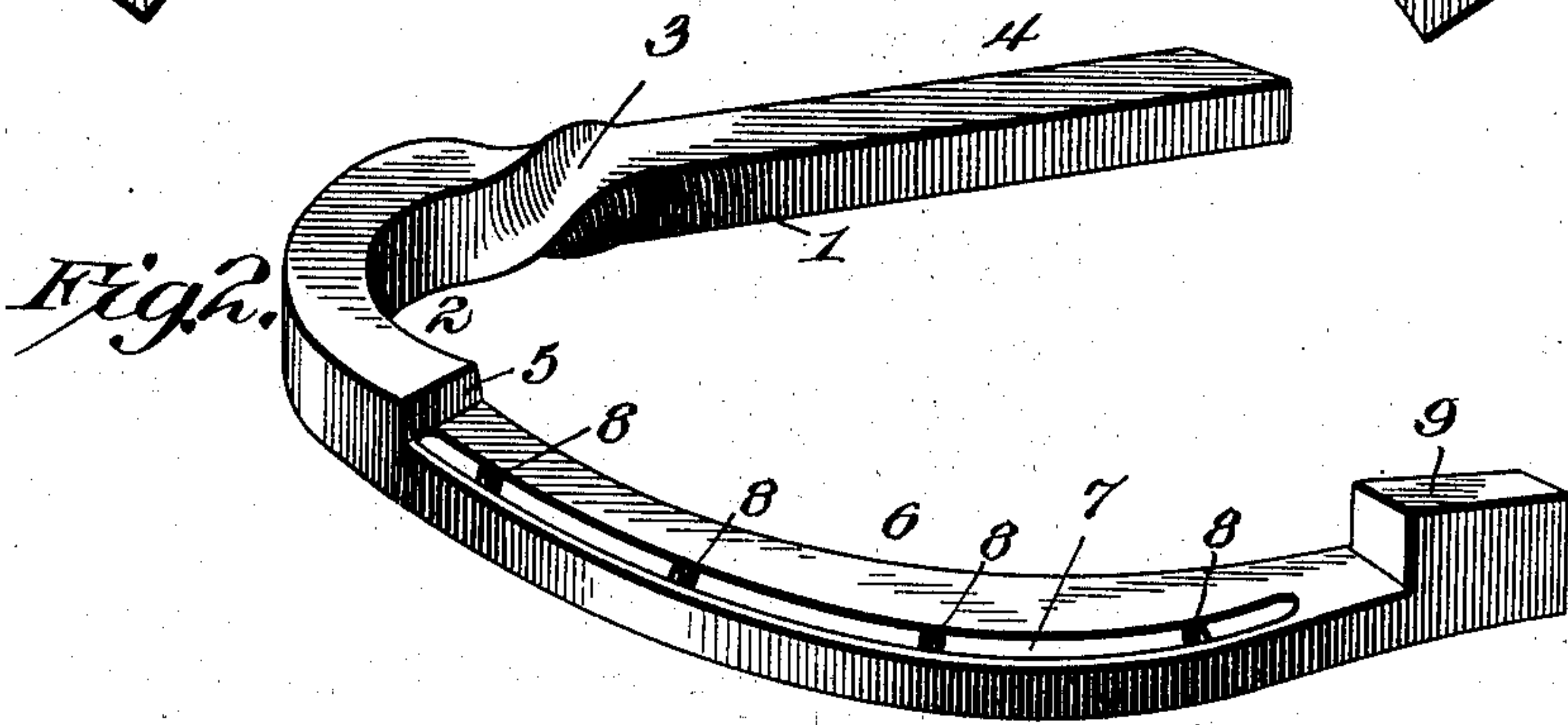
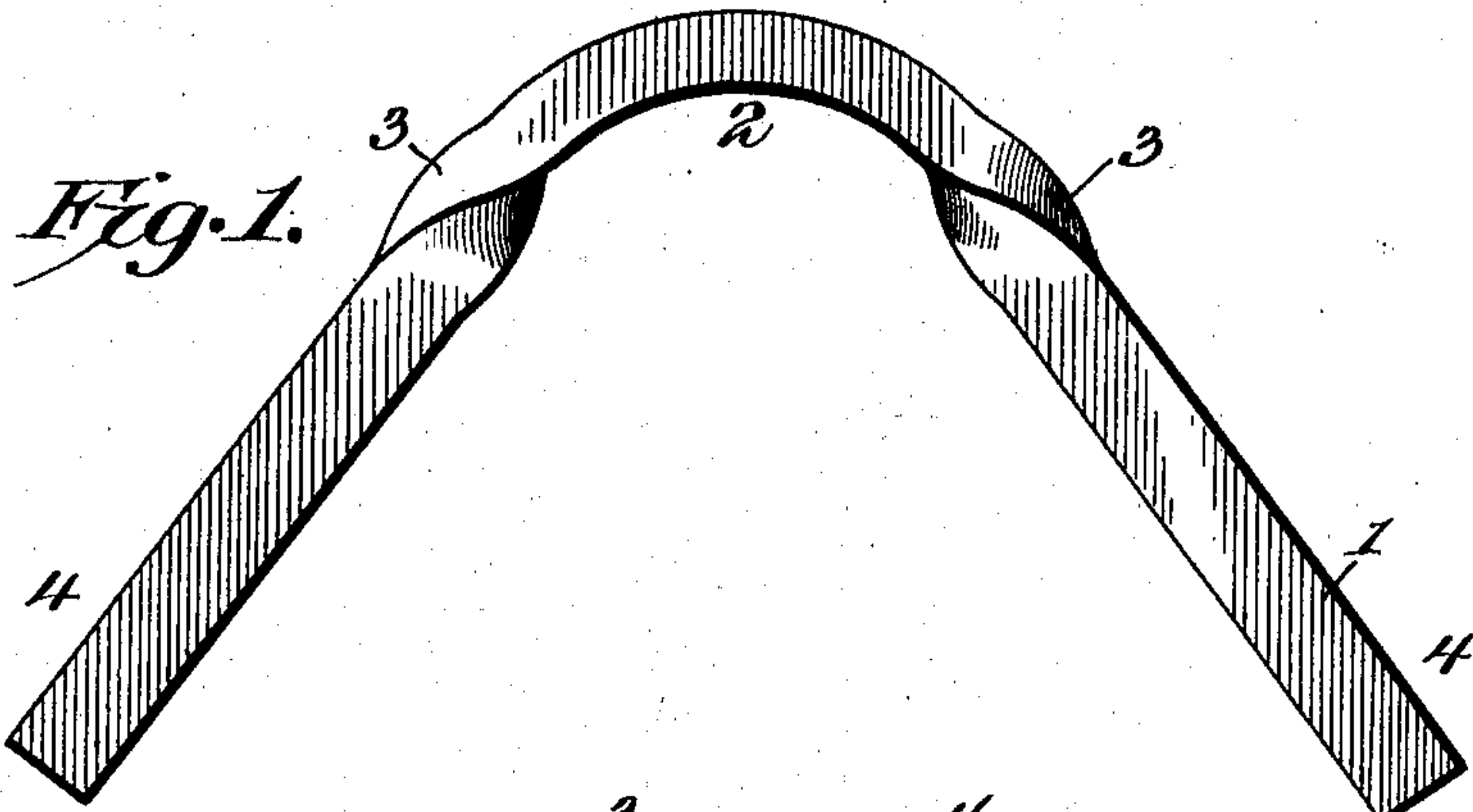
No. 757,275.

PATENTED APR. 12, 1904.

J. CROWLEY.  
METHOD OF MAKING HORSESHOES.

APPLICATION FILED DEC. 23, 1902.

NO MODEL.



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# UNITED STATES PATENT OFFICE.

JOHN CROWLEY, OF JACKSONVILLE, FLORIDA.

## METHOD OF MAKING HORSESHOES.

SPECIFICATION forming part of Letters Patent No. 757,275, dated April 12, 1904.

Application filed December 23, 1902. Serial No. 136,361. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CROWLEY, a citizen of the United States, residing at Jacksonville, in the county of Duval and State of Florida, have invented a new and useful Method of Making Horseshoes, of which the following is a specification.

The invention relates to a method of making horseshoes.

The object of the present invention is to provide an improved method of making horseshoes, together with the toe and heel calks, and to enable them to be constructed of a single piece of bar metal without drawing out the same and weakening the shoe at the toe-calk, which is subjected to the greatest wear and strain.

A further object of the invention is to enable a horseshoe of this character to be constructed by any ordinary blacksmith with the ordinary tools—such as a hammer, sledge, creaser, and punch—which are required in making an ordinary horseshoe.

The invention also has for its object to avoid weakening the metal of the shoe at the front thereof by heating the same thereat for welding material to it for forming a toe-calk and to enable the latter to be made either wide or narrow without drawing the metal.

With these and other objects in view the invention consists in the method hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim here-to appended, it being understood that changes in the form, proportion, and minor details of construction within the scope of the claim may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a piece of bar metal centrally bent and twisted at opposite sides of the center. Fig. 2 is a perspective view, one side of the metal being shaped to form a horseshoe. Figs. 3 and 4 are sectional views showing different forms of calks.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a piece of bar metal oblong in

cross-section and presenting flat side faces and edges, the side faces being of greater width than the edges. The bar is centrally bent at 2 to provide the curved front portion of the shoe, and the side faces of the bar are arranged in vertical planes at the inner and outer faces of the bent portion 2 to provide a deep vertically-disposed portion from which the toe-calk of the horseshoe is formed. By this arrangement the toe-calk is integral with the body portion of the shoe, and either a thick or thin toe-calk may be provided without drawing out the metal and without welding a piece of material to the front of the shoe and weakening the latter by the heating operation necessary for welding such extra material.

In order to arrange the side faces of the side portions of the shoe in horizontal planes to provide side portions of the desired width, the bar is given quarter-twists 3 at the ends of the curved portion 2 to arrange the side faces of the end portions 4 of the metal bar in planes at right angles to the planes of the side faces of the curved central portion of the bar. The shoulders 5 at the ends of the curved central portion of the bar are formed by placing the twist at the edge of the anvil, and the curved or toe portion is left intact without requiring any other tool than a hammer and sledge. The side portions of the bar at opposite sides of the curved central portion are then shaped to form the side portions 6 of the shoe, which side portions may be made as thin and as light as desired. The side portions are provided with the usual crease 7 and are punched to form nail-holes 8. The material at the terminals of the bar is bent backward on itself to form the heel-calks 9, which may be of any desired configuration. The curved front portion or toe of the shoe may be shaped to form a thick calk 10, as illustrated in Fig. 3 of the accompanying drawings, or its outer or front face may, as illustrated in Fig. 4 of the drawings, be curved to form a tapering calk 11. The rear or inner face of the toe-calk 11 is arranged flush with the inner face of the front portion of the horseshoe, and the front or outer face is curved to the inner or rear face at the outer or lower portion of the calk to prevent the latter from injuring the front legs of an ani-



mal when applied to an overreaching horse. The heel-calks may be provided with flat outer or lower faces, as illustrated in Figs. 2 and 3 of the drawings, or pointed calks 12 may be provided, as shown in Fig. 4.

The front or toe calk is formed integral with the horseshoe, which is made from a single piece of bar metal oblong in cross-section, and it is unnecessary to draw out the metal in forming the said toe-calk, and the toe of the shoe is not weakened, as is the case where the toe or front portion must be heated for welding on a supplemental piece for forming the toe-calk.

The desired thickness and width of metal at the front and side portions of the shoe is obtained by twisting the bar at opposite sides of the central curved portion thereof, to arrange the side faces of the bar at the curved central portion vertically, and to dispose those at the side portions of the bar in a horizontal plane. The shoulders at the ends of the central projecting toe-calk-forming portion of the bar are formed by simply hammering the latter on an anvil, with the twist at the edge thereof, and the side portions of the bar beyond the twist may be drawn out to provide a shoe of the desired size and to form heel-calks of the desired construction.

The horseshoe is constructed by the use of the tools employed in the construction of ordinary horseshoes—viz., a hammer, a sledge,

a creaser, and a punch. Also by forming a horseshoe of a solid bar of uniform dimensions, as set forth, the strength and durability of the said horseshoe is greatly increased and the cost is greatly reduced. Furthermore, the operation of constructing a horseshoe is greatly simplified and is rendered much easier and a much lighter horseshoe of the necessary durability may be obtained.

The resiliency of the steel of which the shoe is constructed is greatly increased by twisting the bar at opposite sides of the center in the construction of the shoe, and by thus arranging the edges of the side portions of the shoe in a plane at right angles to the edges of the central front portion a spring-shoe is provided for keeping the hoof expanded.

What is claimed is—

The herein-described method of making horseshoes consisting in twisting a bar of greater width than thickness at opposite sides or points to provide a thick front portion and to form an integral calk, and shaping the end portions of the bar to form the sides of the shoe, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN CROWLEY.

Witnesses:

T. H. LIVINGSTON,  
F. H. B. CRAIG.