

A. W. SMITH.

HORSESHOE.

No. 170,911.

Patented Dec. 7, 1875.

FIG. 1.

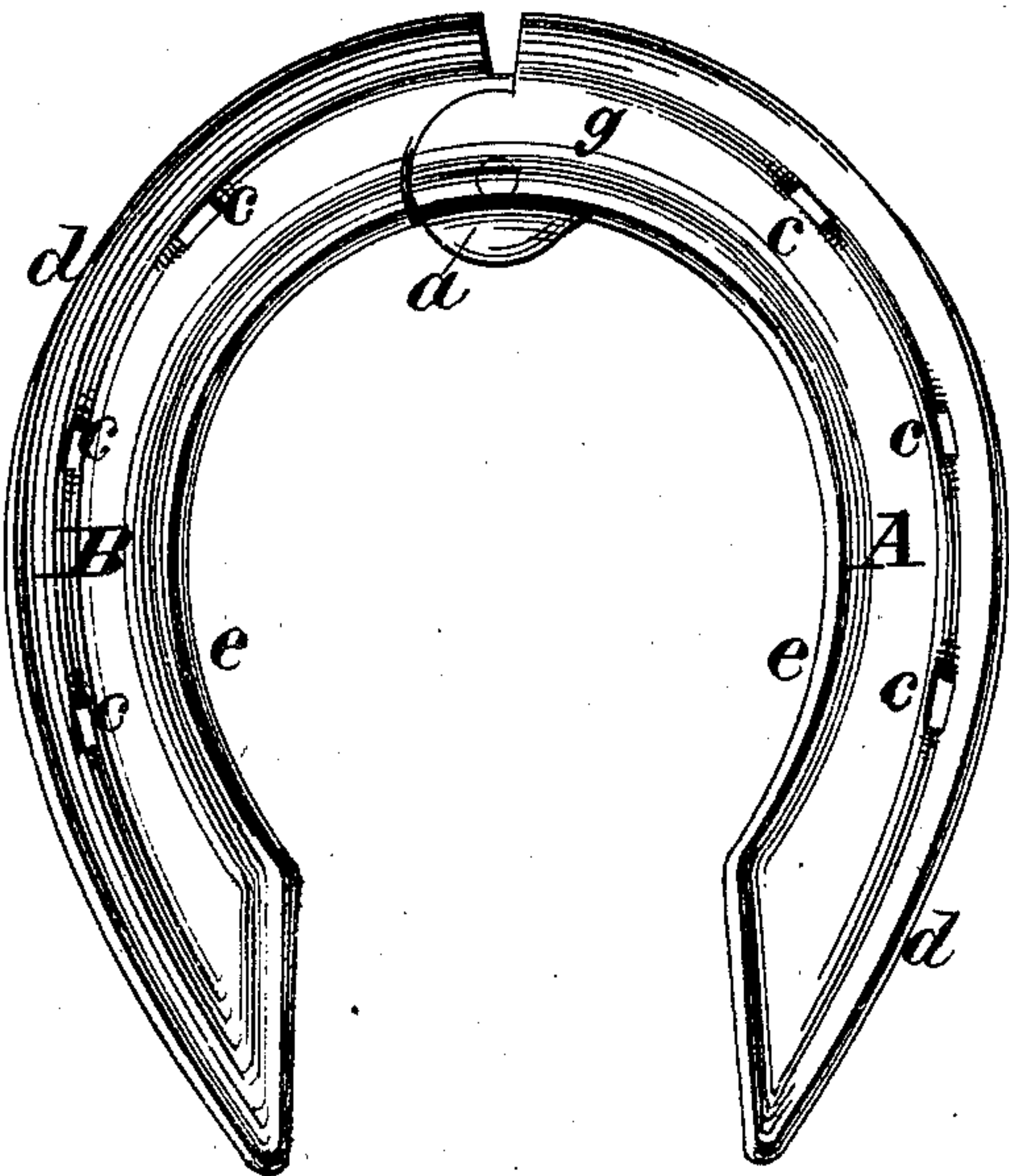


FIG. 2.

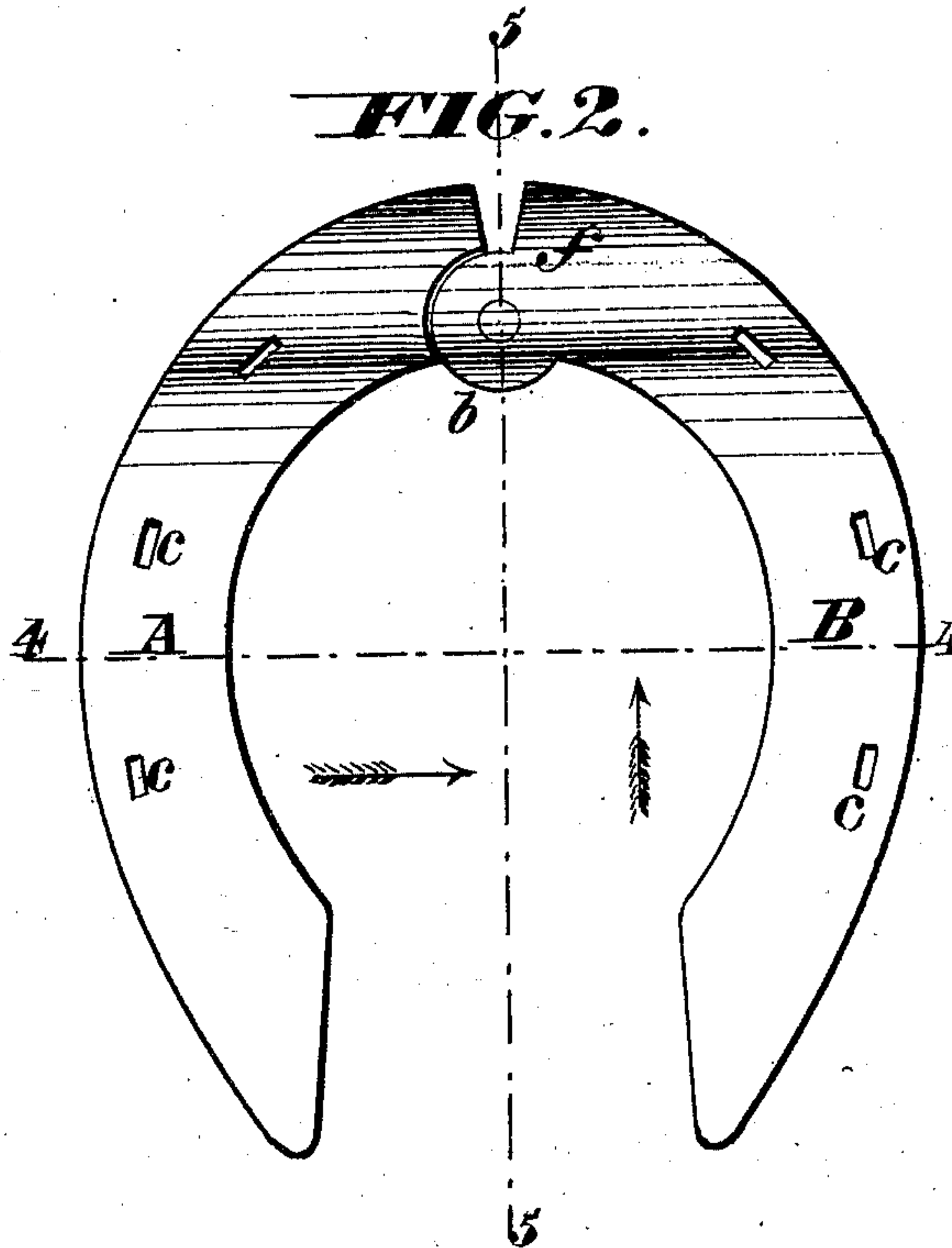


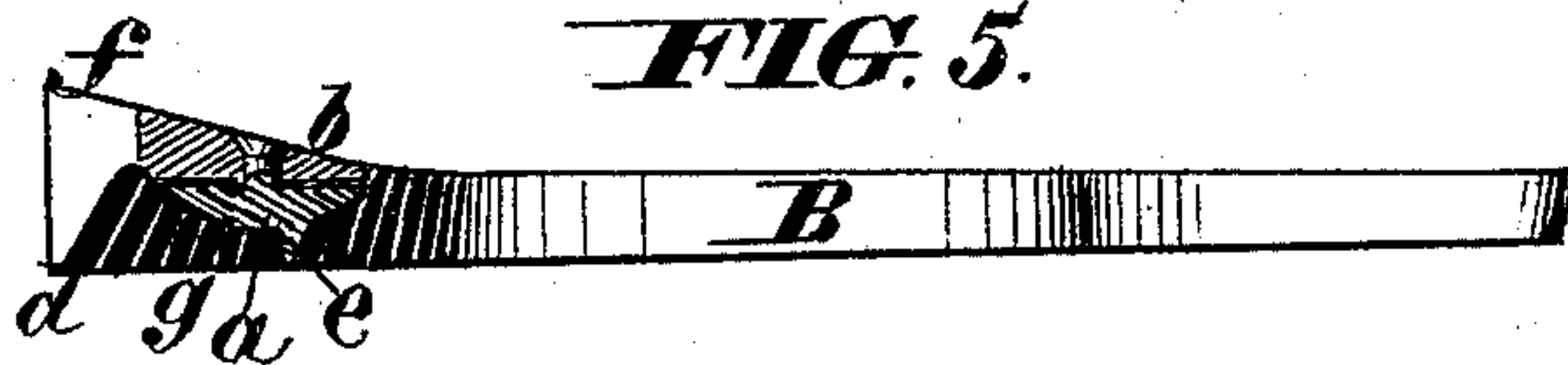
FIG. 3.



FIG. 4.



FIG. 5.



WITNESSES

Geo. L. Ewin  
Henry Tanner

INVENTOR

Aaron W. Smith.  
By *Knights* Attorneys



# UNITED STATES PATENT OFFICE.

AARON W. SMITH, OF MANCHESTER, NEW HAMPSHIRE.

## IMPROVEMENT IN HORSESHOES.

Specification forming part of Letters Patent No. **170,911**, dated December 7, 1875; application filed February 1, 1875.

*To all whom it may concern:*

Be it known that I, AARON W. SMITH, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Horse-shoes, applicable, in part, to ox-shoes; and I do hereby declare that the following is a sufficiently full, clear, and exact description of the same to enable those skilled in the art to make and use the invention.

This invention relates to continuous-calk or continuous-bearing shoes for animals.

The primary object of the present invention is to enable the employment or use of a very low and light shoe, sufficiently thin to let the frog get its bearing on the ground, the same as if the horse were barefoot, the shoe extending over the bars of the foot to support the same.

Another object of the invention is to secure in a rough shoe an equal and natural bearing and support.

Another object of the invention is to give a deeper hold at the toe of the shoe without any corresponding projection.

The invention consists in making the shoe thicker at the toe, and in locating the projection on the upper side; and in the employment of marginal and internal calk flanges or rims of equal prominence; and in making the recess between the calk-flanges at the toe deeper.

In the accompanying drawing, Figure 1 is a bottom view of a horseshoe illustrating this invention. Fig. 2 is a top view of the same. Fig. 3 is a front elevation. Fig. 4 is a transverse section on the line 4 4, Fig. 2. Fig. 5 is a longitudinal section on the line 5 5, Fig. 2.

This improved shoe, in the preferred form in which it is illustrated, consists of two parts, A B, united at the toe by a horizontal joint, *a b*; but this joint does not constitute an essential part of the invention, and may be dispensed with. The shoe may be made of malleable iron by casting, the pintle projecting from the lower member of the hinge, and headed by riveting within a countersink in the upper member. This joint is for the purpose of adapting the shoe to expand and contract with the horse's hoof. The shoe is made to extend over the bars of the foot to support the same, but not to support the frog. For

attaching it to the hoof, ordinary nail-holes *c* are provided in the respective parts. For obtaining a hold on the ground, the shoe is provided with downwardly-projecting calk flanges or rims *d e*, in lieu of the more common forms of calks.

To enable the employment of a very low and light shoe, sufficiently thin to let the frog get its bearing on the ground, the same as if the horse were barefoot, provision for wear is made where it is most required, so as to equalize the endurance of the shoe, and thus to render practicable the employment of this description of shoe. Its employment would be impracticable if it had to be renewed as frequently, in proportion to its weight, as ordinary shoes. The provision against wear consists in a toe of greater thickness than the remainder of the shoe, the projection *f*, incident to the increased thickness, being located on the upper side of the shoe, so as not to render the sole uneven. It is accommodated by paring away the toe of the hoof. This causes no injury to the horse. The outer calk-rim *d* is continued from the toe-joint around the outside of the shoe, and the inner calk-rim *e* is arranged at the inner edge, and is preferably continuous, as in the illustration, but may be interrupted by recesses, if preferred. This double system of calk-rims affords an equal and natural bearing and support over the entire surface of the shoe; and when employed in combination with a toe-joint, as in the illustration, it relieves the latter considerably from strain.

This arrangement of calk-rims is specially applicable to ox-shoes, and this application of the same is proposed.

The rims, as shown, are sharp for winter use, supplying the place of roughing calks. For summer use the shoes will be made with rims thicker on the edge.

The recess or channel *g* between the calk-rims accommodates the nail-holes, and its depth determines the prominence of the rims. In order to give a deeper hold at the toe of the shoe, this recess or channel *g* is deepened at this point, the thickened toe accommodating the same, and the object is obtained without any projection below the horizontal plane of the remainder of the sole or face of the shoe.



To protect the toe-joint against injury by wear, it is set back or inward, as shown in Figs. 1 and 2. This brings a sufficient amount of metal in front of the same to cause the joint to remain practically intact until the shoe is wholly worn out. The thickened toe, in connection with the toe-joint thus arranged, operates in a peculiar manner to protect the latter.

This improved shoe is considered preferable to any other, in that the horse is brought close to the ground, and will not slip for a much longer time after being shod than with calks at toe and heel. In this shoe there is also no up-and-down strain on the joint, as the frog comes through to the ground, and the shoe and foot strike the ground together. The shoe operates, also, to permit a natural action

of the foot better than any other. Being light, the shoe is adapted to be attached by very small nails, which is a great advantage to the foot.

The following is claimed as new in this invention, namely:

The horseshoe constructed, as herein described, with a horizontal grooved base and parallel upper and lower surfaces, giving to its main body an equal thickness from the heel nearly to the toe, and with an abrupt upward projection or thickening, *f*, at the toe, as and for the purposes set forth.

AARON W. SMITH.

Witnesses:

E. M. TOPLIFF,

HANNAH W. TOPLIFF.