

(Model.)

H. W. GRAGE.  
Horseshoe.

No. 233,234.

Patented Oct. 12, 1880.

Fig. 1.

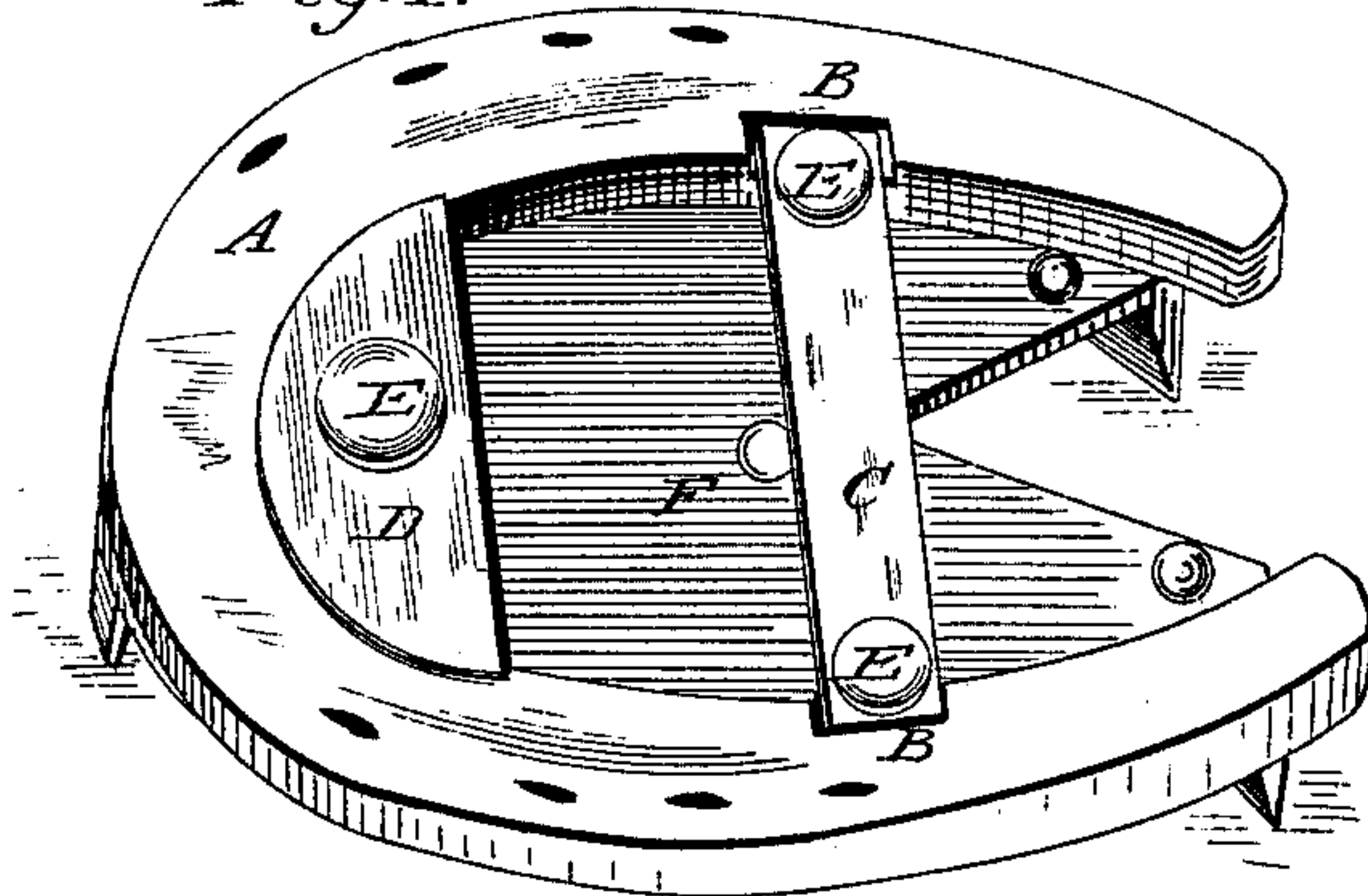


Fig. 2.

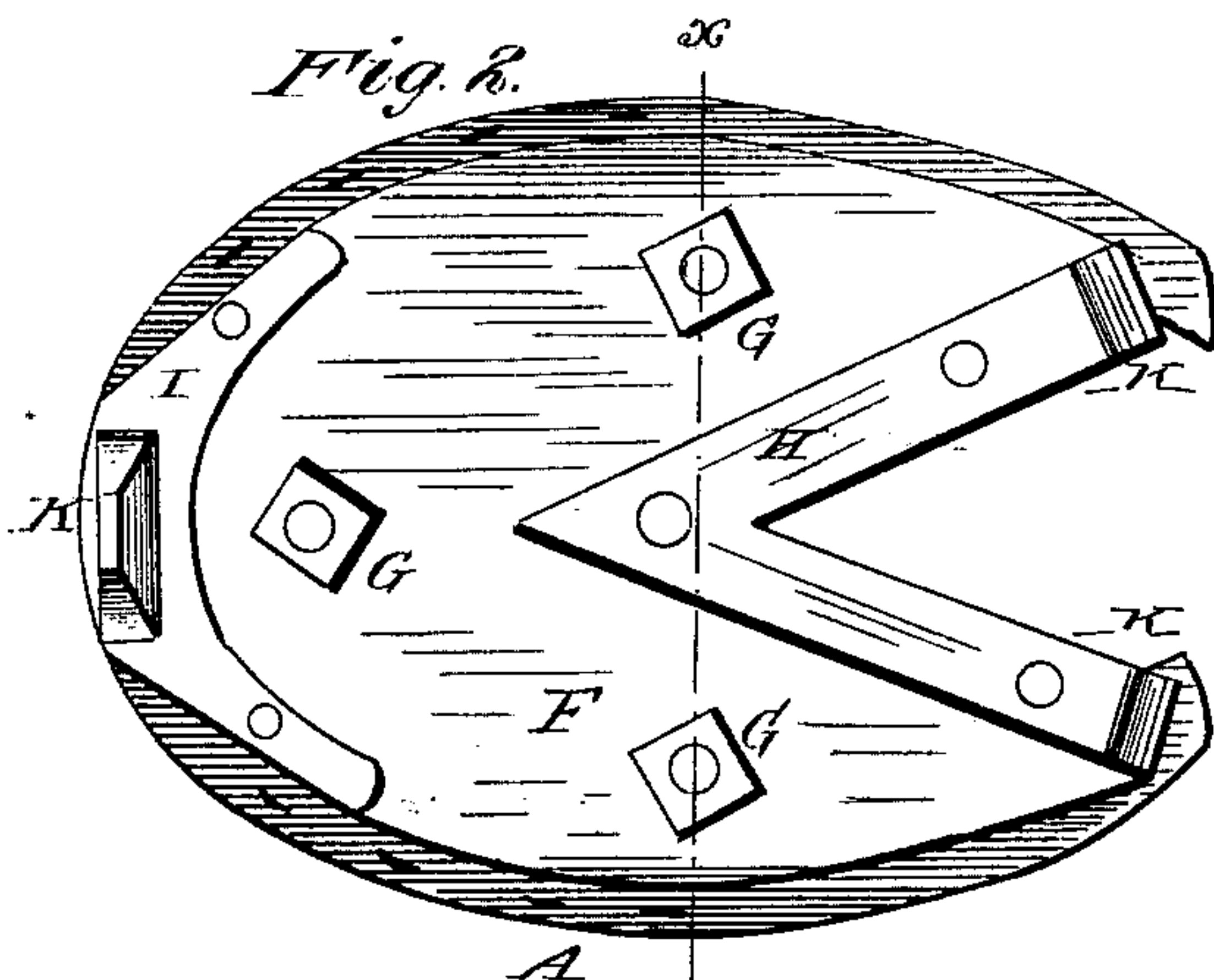


Fig. 3.

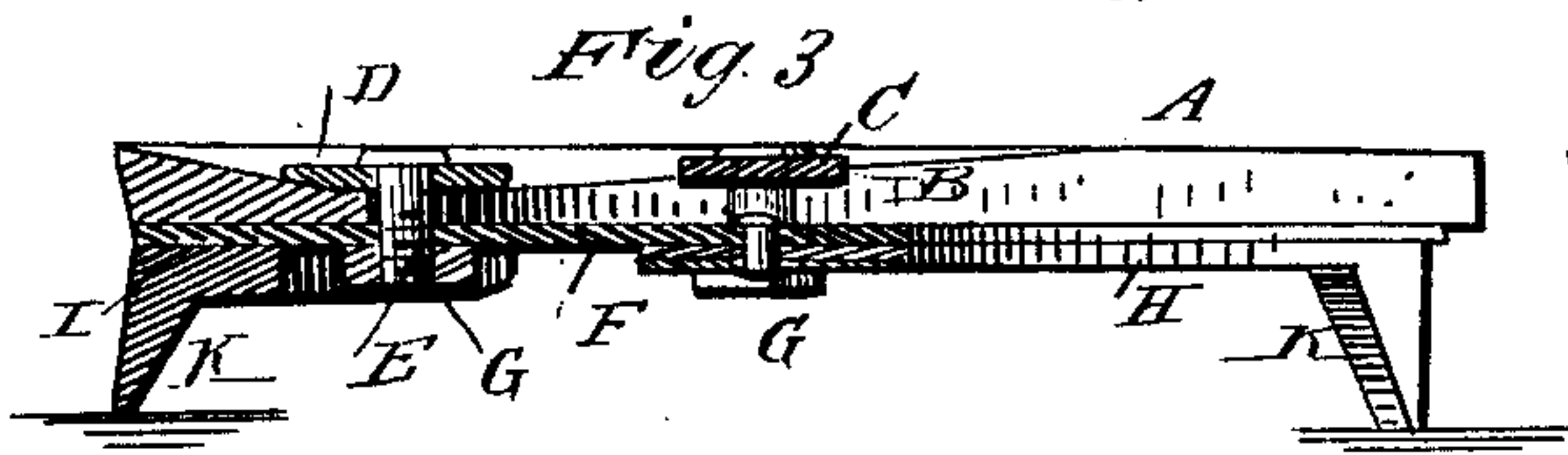
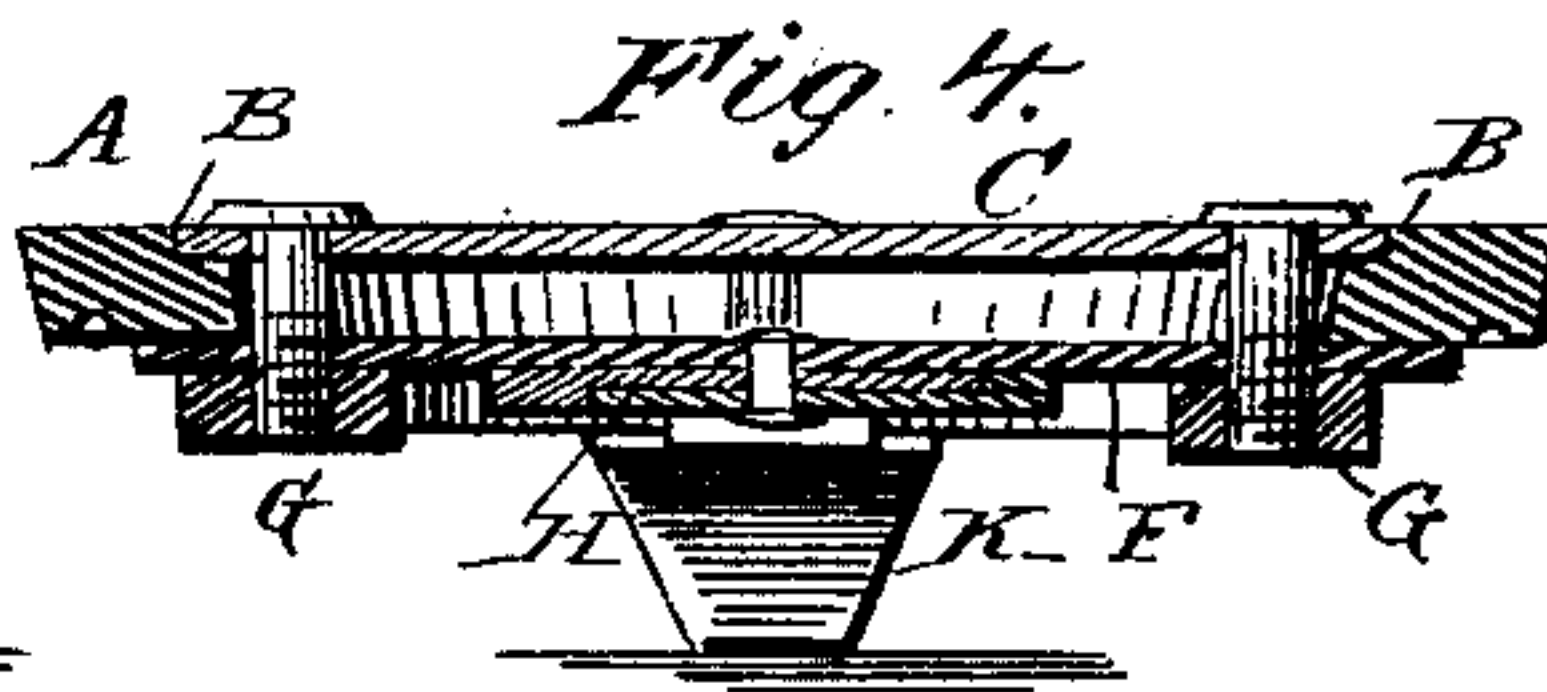


Fig. 4.



*H. W. Grage,*  
INVENTOR.

WITNESSES:  
*Fred. E. Dieterich*  
*J. R. Littell,*

By his Attorneys, *Chas. Snow & Co.*

# UNITED STATES PATENT OFFICE.

HEIRICH W. GRAGE, OF FORT WAYNE, INDIANA.

## HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 233,234, dated October 12, 1880.

Application filed July 2, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, HEIRICH WILHELM GRAGE, of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Horseshoes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a perspective view. Fig. 2 is a bottom plan. Fig. 3 is a longitudinal sectional view, and Fig. 4 is a vertical cross-section.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to horseshoes; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A represents an ordinary horseshoe, the inner sides of which are notched on top, at B B, to accommodate a cross-bar, C.

D is a plate having a curved and beveled front edge, so as to fit upon the upper inside of the toe of the shoe, as shown.

Cross-bar C and plate D have bolts E projecting downward through a plate, F, fitted

under the shoe, which said plate is retained securely by nuts G. Upon the under side of the plate F is riveted, or otherwise secured, a V-shaped plate, H, and a crescent-shaped plate, I, at the heel and toe, respectively, upon which said plates are formed the calks K.

By this invention the plate F may at any time be readily detached by an unskilled person for the purpose of sharpening or renewing the calks. There is no wear upon the shoe, which may therefore be made very light, and the entire device is simple, convenient, and inexpensive.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, with the shoe A, having inner notches, B B, of the cross-bar C, plate D, having curved front edge, detachable plate F, having V-shaped plate H, and crescent-shaped plate I secured thereto and carrying the calks K, all united by screws E and nuts G, as and for the purpose set forth.

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

HEIRICH WILHELM GRAGE.

Witnesses:

DANIEL LAHMEYER,  
JOHN GAETZE.