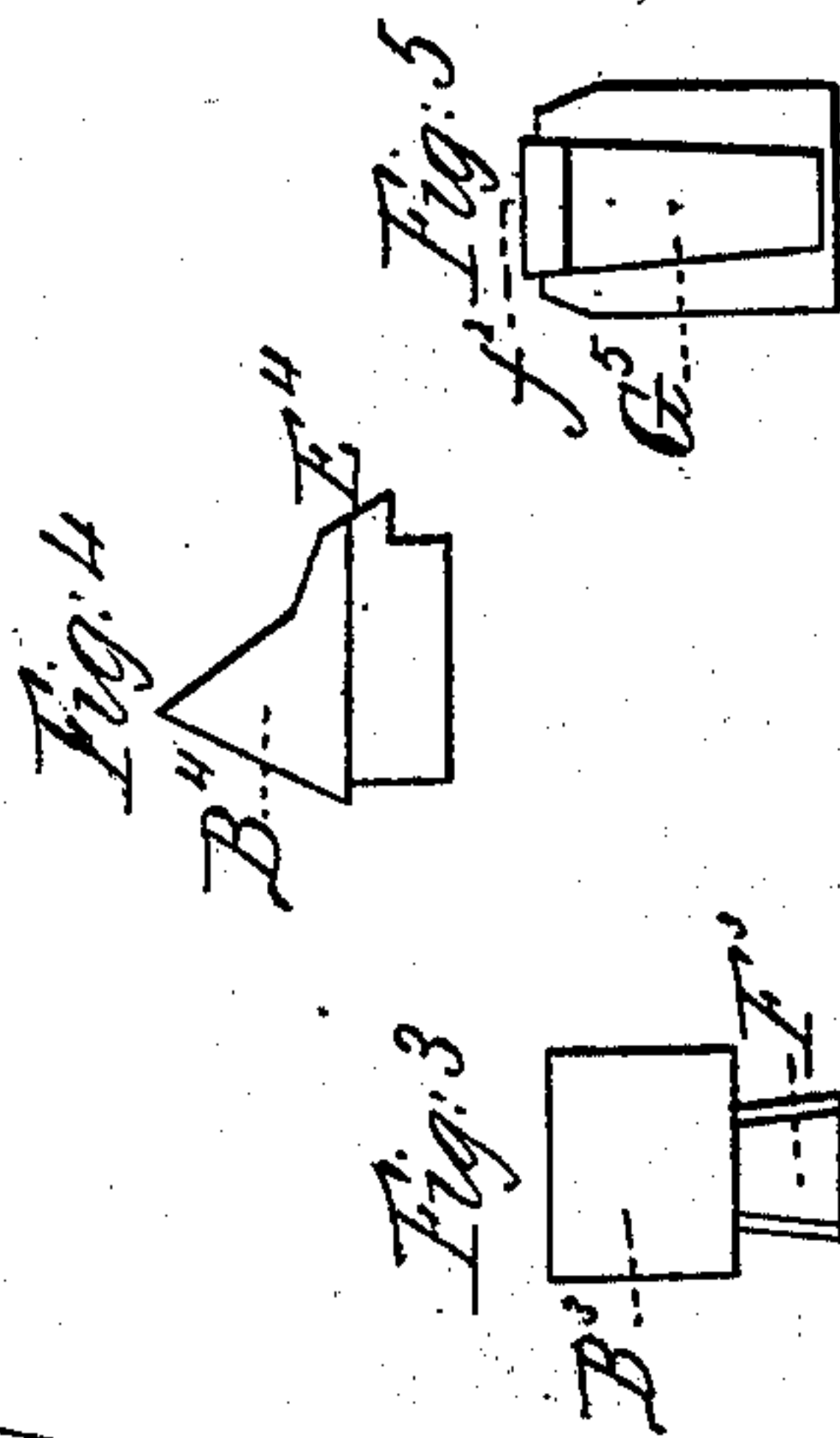
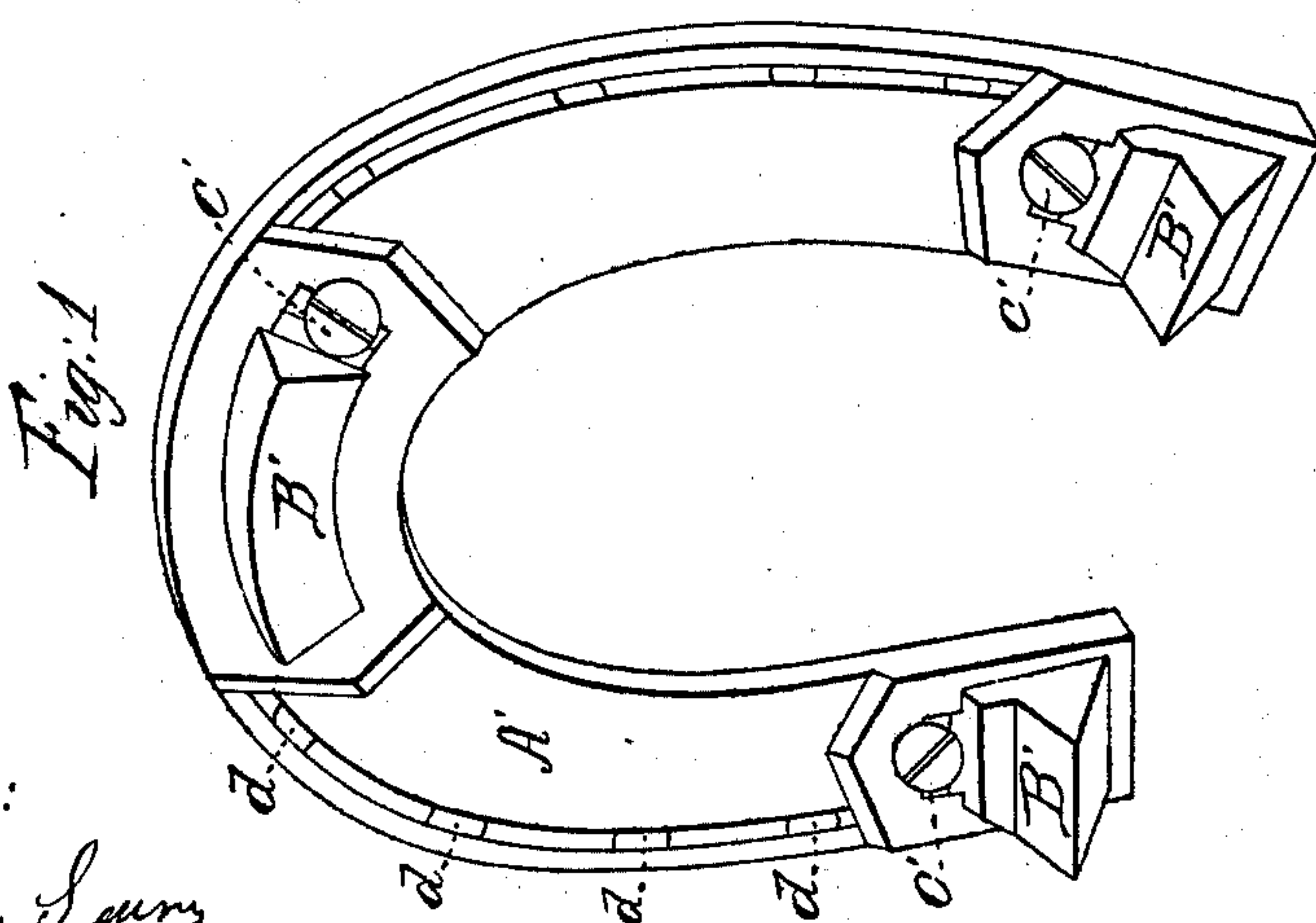
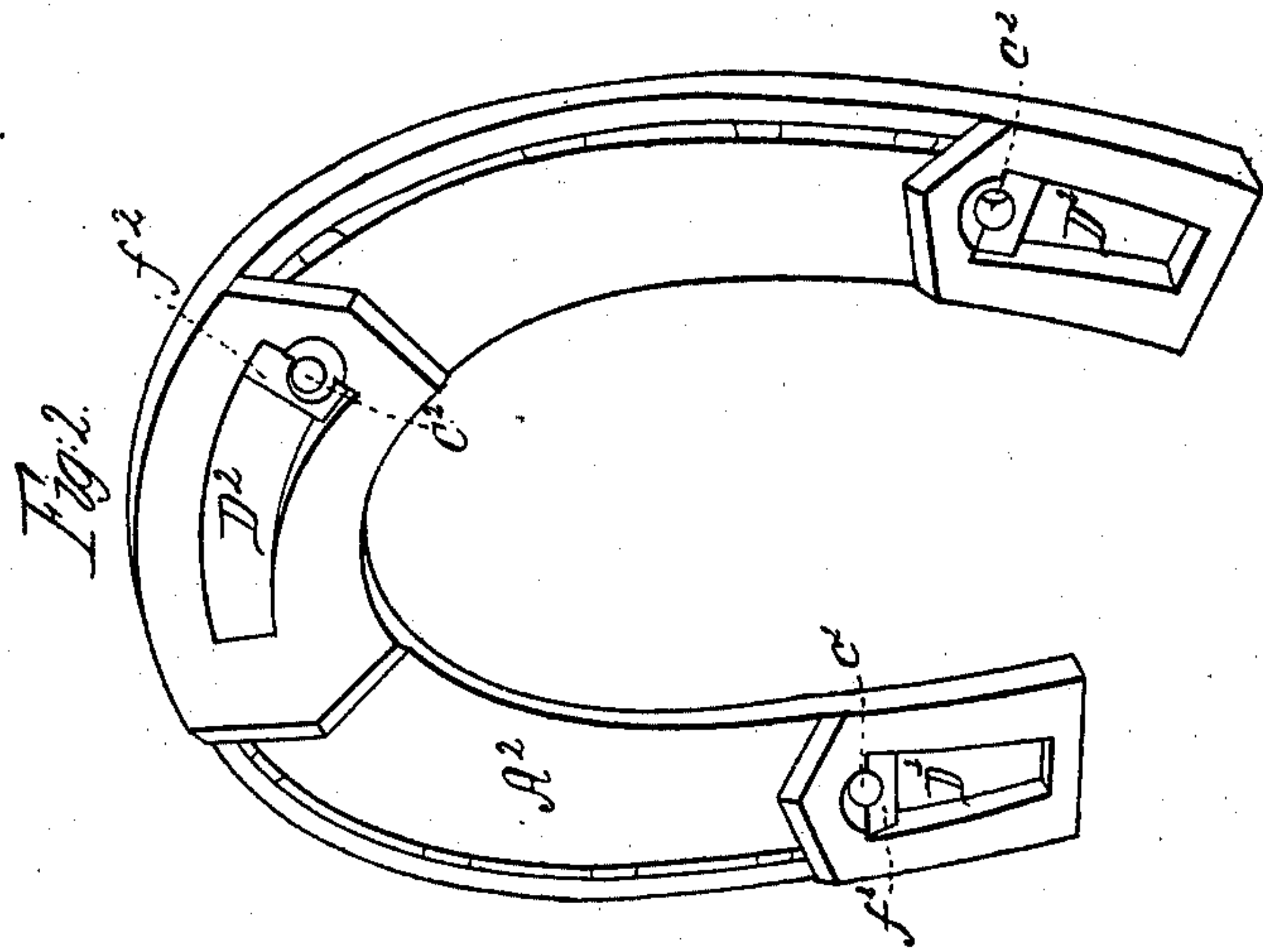


B. R. WATSON.
HORSESHOE.

No. 62,170.

Patented Feb. 19, 1867.



Witnesses:
Marshal G. Searcy
H. C. McWhite

Inventor:
Ben^y a R. Watson.

United States Patent Office.

BENJAMIN R. WATSON, OF NEW BEDFORD, MASSACHUSETTS.

Letters Patent No. 62,170, dated February 19, 1867.

IMPROVEMENT IN HORSE-SHOES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, BENJAMIN R. WATSON, of New Bedford, in the county of Bristol, and State of Massachusetts, have invented a new and useful Improvement in Metallic Shoes for Animals; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in the mode set forth for securing movable calks in metallic shoes.

Figure 1 is a perspective view of a horse-shoe, with the calks affixed by my invention.

Figure 2 is a perspective view with the calks removed.

Figures 3, 4, and 5 are respectively back, side, and bottom views of one of the heel calks.

Fig. 1. A^1 is the shoe; $B^1 B^1 B^1$ are the calks; $C^1 C^1 C^1$ are the screws by which the calks are held in the mortises; $d^1 d^1 d^1$, etc., are nail holes.

Fig. 2. A^2 is the shoe; $D^2 D^2 D^2$ are tapering dove-tail mortises, cut through the shoes; $e^2 e^2 e^2$ are holes for the screws shown by C^1 , fig. 1; $f^2 f^2 f^2$ are recesses cut into the shoe to admit the calks into the mortises.

Fig. 3. F^3 is a back view of a heel calk, showing the dove-tail tenon and shoulder.

Fig. 4. B^4 is a side view of a heel calk; E^4 shows the end cut off obliquely, against which the head of the screw presses to hold the calk tight in the mortise, as shown in fig. 1.

Fig. 5. G^5 is a bottom view of a heel calk, and shows the tapering or wedge-shape of the dove-tail tenon.

Operation.

Metallic shoes for animals, being forged or cast with tapering dove-tail mortises, as shown and described, (see fig. 2,) the calk forged or cast with tapering dove-tail tenons, as also shown, (see figs. 3 and 5,) the novelty of securing the calks in the shoes may be noted. Take the calk, fig. 5, and put it in mortise D^2 , (see fig. 2,) so that end x^2 will cover recess f^2 . By forcing it back, the tapering tenon shown by G^5 , (see fig. 5,) and the dove-tail shown by F^3 (see fig. 3) bind and secure the calks in the mortises. The screws $C^1 C^1$, etc., have conical heads on their under sides, (not shown,) which are of the same angle as the oblique end F^4 , (see fig. 4,) and being set down against the ends of the calks, prevent them from starting. Thus, the tapering dove-tail tenon calks are held firmly in the tapering dove-tail mortises by the conical heads of the screws set against the ends of them. The calks being one-eighth of an inch shorter than the mortises, may be tightened by driving them further in and setting down the screws to hold them. I do not confine to screws for holding and tightening the calks—they may be held and tightened with screws as herein shown, or by any practical device; nor to cutting the mortises through the shoes—they may be cut partially through; neither do I claim any device previously invented or patented for securing calks in metallic shoes, but what I do claim as my invention, and desire to secure by Letters Patent, is—

Securing calks in metallic shoes by fitting them with tapering dove-tail tenons to tapering dove-tail mortises cut through the shoes, and tightening them by screws or their equivalents, as set forth and described.

BENJA. R. WATSON.

Witnesses:

JAMES C. BRIGGS,
THOS. M. HART.