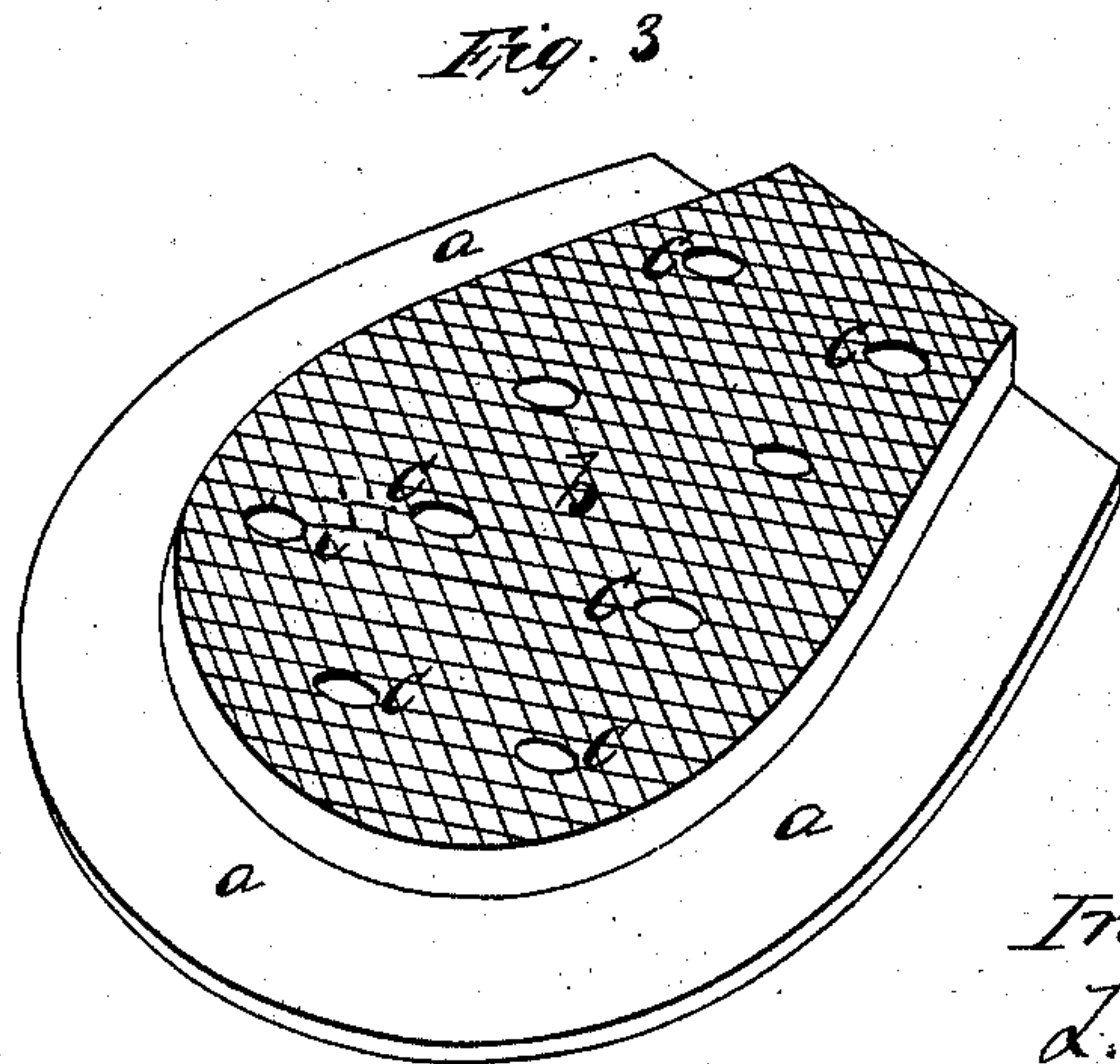
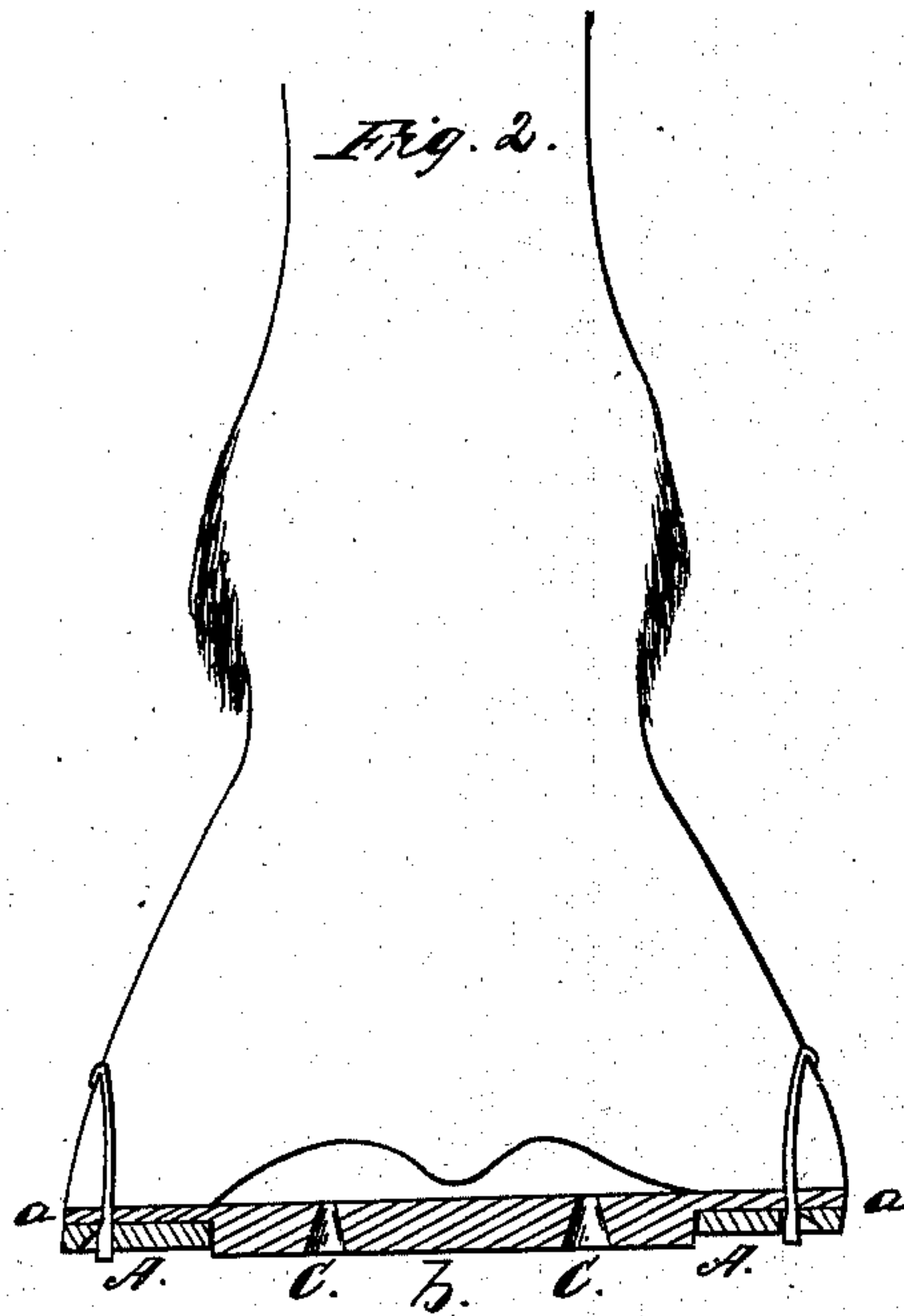
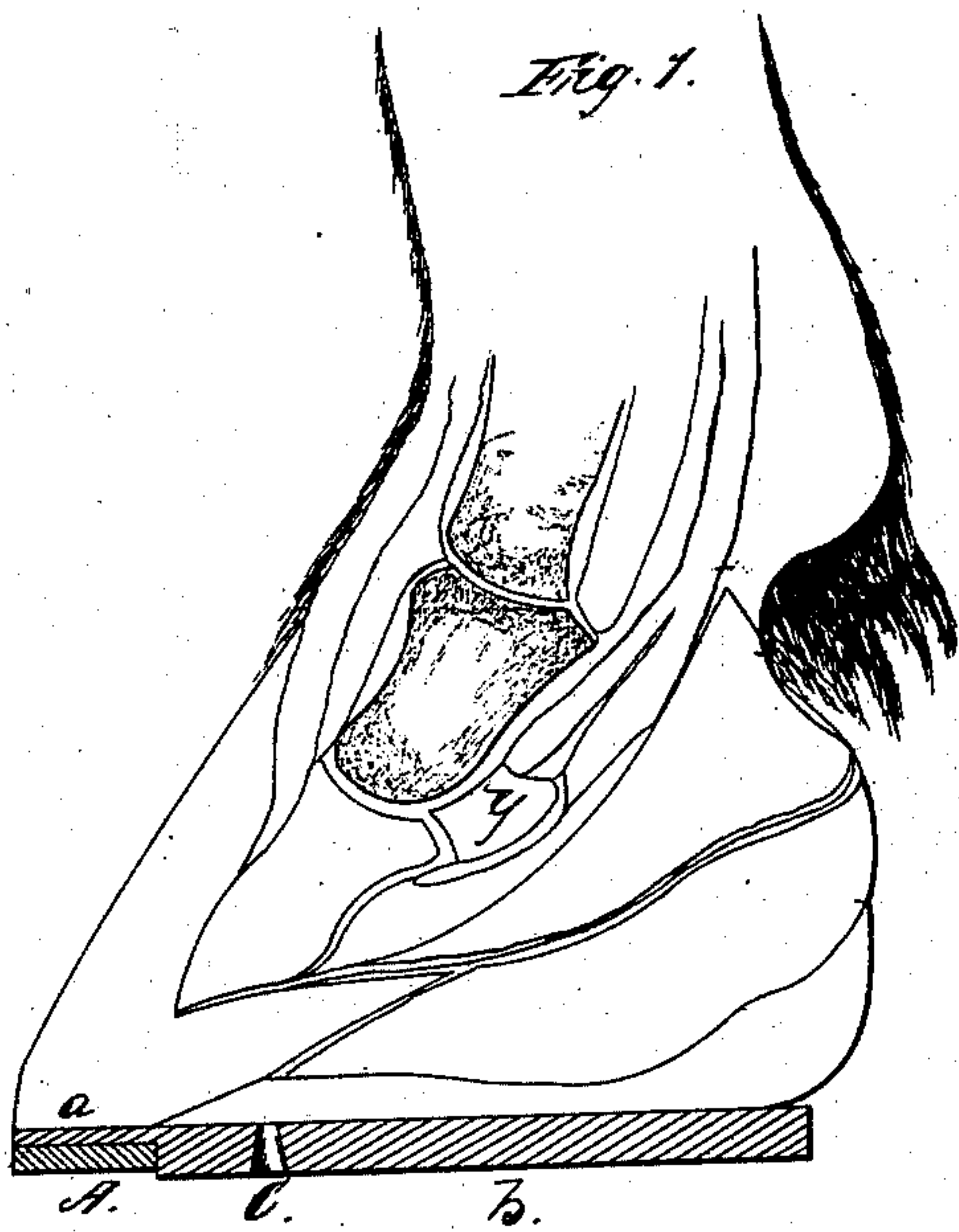


T. B. BISHOP.
HORSESHOE.

No. 61,990.

Patented Feb. 12, 1867.



Witnesses
R. L. Campbell
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by
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United States Patent Office

THOMAS B. BISHOP, OF BALTIMORE, MARYLAND.

Letters Patent No. 61,990, dated February 12, 1867.

IMPROVEMENT IN HORSE-SHOES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS B. BISHOP, of Baltimore city, county of Baltimore, and State of Maryland, have invented a new and useful Elastic Sole for Horses' Feet; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of a horse's foot having the elastic sole applied to it.

Figure 2 is a transverse section of the foot and sole.

Figure 3 is a perspective view of the bottom of the elastic sole.

The object of my invention is to prevent injury to the sensitive parts of horses' feet, and thus avoid diseases which arise from this cause, by interposing, between the soles of the feet and the shoes, a cushion of India rubber or some other suitable substance, which will afford elastic bearing to the feet and allow of a natural expansion thereof. Also to so construct the elastic cushions or soles that they will cover the frogs and protect them from injurious contact with any hard substance, and protect the feet from becoming "balled" with snow or soft earth, all as will be hereinafter explained.

To enable others skilled in the art to make and use my invention, I will proceed to describe one mode of constructing and applying it.

The elastic cushion or artificial sole, consists of a web, *a*, which is interposed between the shoe *A* and the sole of the foot, and a central portion, *b*, which covers the frog, as shown in the drawings. The thin marginal portion *a* may be made of any suitable thickness, and of such size and shape as to receive through it the nails which secure the shoe to the foot. The intermediate or thickest portion *b*, which may be termed an artificial frog, may be made thicker than the shoe *A*, so that its bottom surface will form an auxiliary tread and frictional surface to prevent the animal from slipping. This artificial frog is made so as to fit snugly within the shoe *A*, and to extend back to the outer and inner heel portions thereof, as shown in the drawings. It forms an elastic connection of the marginal portion *a*, and a cushion which will protect the frog from contact with any hard substance, such as a stone, nail, or anything which might injure the animal. This artificial frog also prevents the foot from accumulating ice and snow, or what is commonly termed "balling." Holes, *c c*, may be made through this portion *b*, for the purpose of allowing of a free circulation of air to the frog for preventing the foot from heating, and if desirable the bottom surface of this portion may be serrated or roughened in a suitable manner to afford to the horse's feet a firmer hold and prevent slipping. Thus it takes the place of ordinary calks.

The artificial sole which I have above described may be made of any suitable elastic substance, and I prefer to use vulcanized India rubber, which can be made of the proper form by means of moulds in the usual manner of manufacturing rubber articles.

The most sensitive part of a horse's foot is the navicular joint indicated at *y*, fig. 1, the least injury to which entails disastrous consequences. It is situated beneath and somewhat behind the coffin joint, and is lined throughout by a delicate secreting membrane for the supply of the fluid necessary to the even sliding of the tendon over the bone. Any diminution in the quantity of fluid, either from inflammation of the membrane or other cause, will lay the foundation for fatal disease of the navicular joint. This joint is so located that it sustains nearly the whole weight of the horse, and the concussions caused by the forcible collision of the horse's feet upon hard, stony roads. For this reason I employ an elastic cushion between the shoe and sole of the foot, and also beneath the frog, which will in a great measure protect the sensitive part of the foot from injurious shocks, and at the same time allow a free expansion of the foot and a normal growth. In some sections of the country where the roads are properly macadamized and free from loose stones, the artificial frog *b* may be made very thin, or it may be dispensed with entirely. I am now speaking of the frog proper. Therefore, while I prefer to use a protection for the frog in all cases, I do not confine my invention to its use in combination with the elastic marginal sole. In the drawings I have represented a horse-shoe, *A*, without calks and clip, and believe that the additional friction-tread or base which is afforded by the artificial frog will render unnecessary the use of projections on the shoe, except for heavy draught horses.

This invention is applicable to the feet of mules and other animals used for the purposes that the horse is found useful for.

I am aware that coverings for the frog of a horse's foot have been devised; also that India-rubber devices confined between the shoe and the horse's foot for the purposes of forming a cushion, and also preventing "balling," have been devised; also that an India-rubber block arranged within the shoe, and fastened by lugs and screws, has been contrived; therefore, my claim does not embrace such inventions.

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

1. The combination of the artificial calk *b*, and flange *a*, formed above the base of said calk, when the calk bears upon the ground, and the flange is adapted for being applied between the hoof of the horse and the shoe, substantially in the manner shown and described.

2. The combination of air-passages *c*, with the elastic sole or frog, substantially as and for the purpose described.

3. Serrating or grooving the bottom surface of the frog *b*, substantially as and for the purpose described.

4. The combined cushion and elastic frog or calk, constructed as described, the same being a new article of manufacture.

T. B. BISHOP.

Witnesses:

SAM'L S. SMOOT,

R. T. CAMPBELL.