

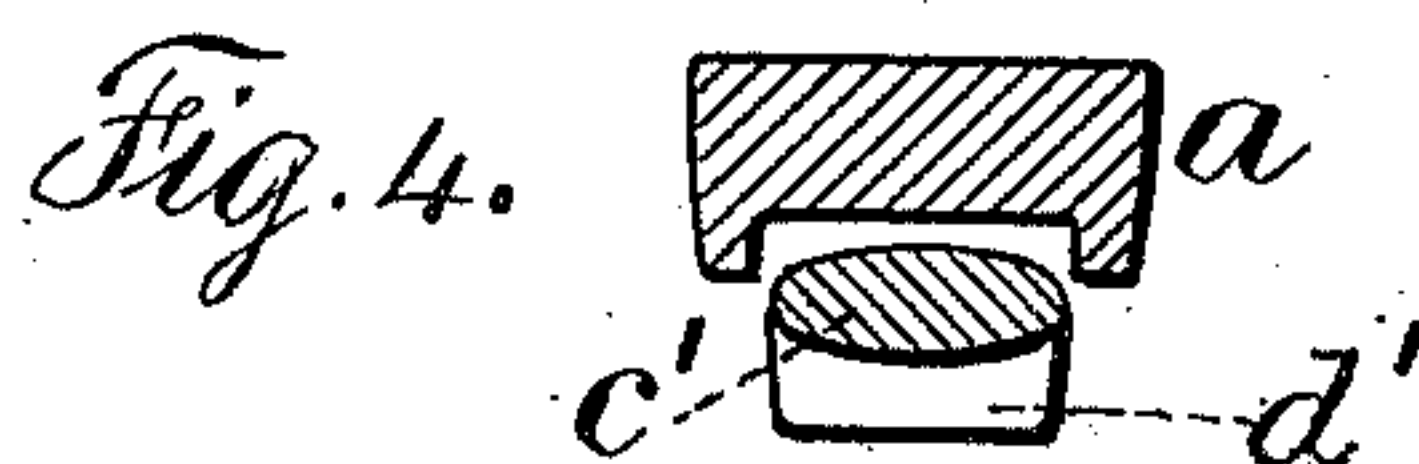
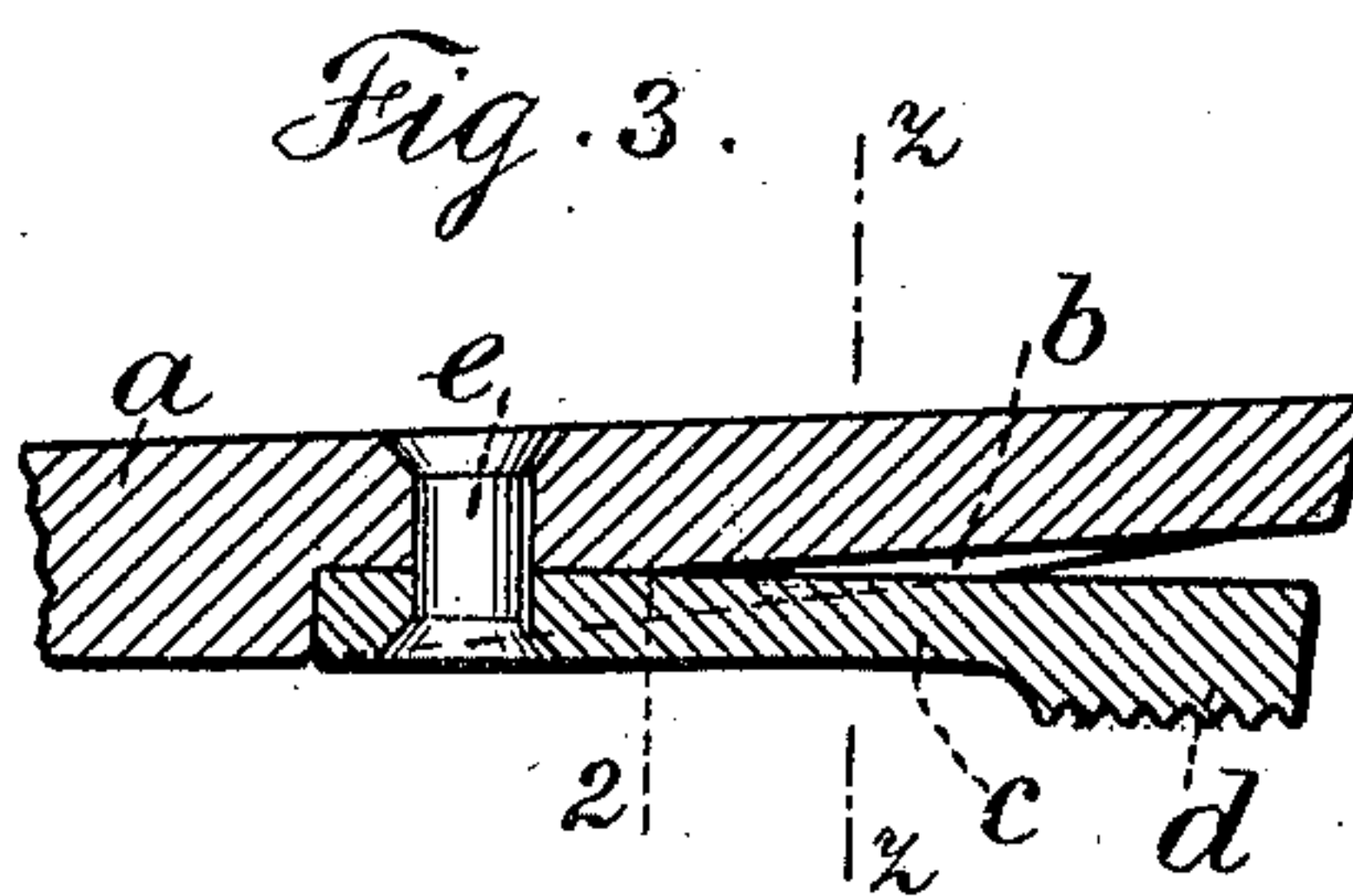
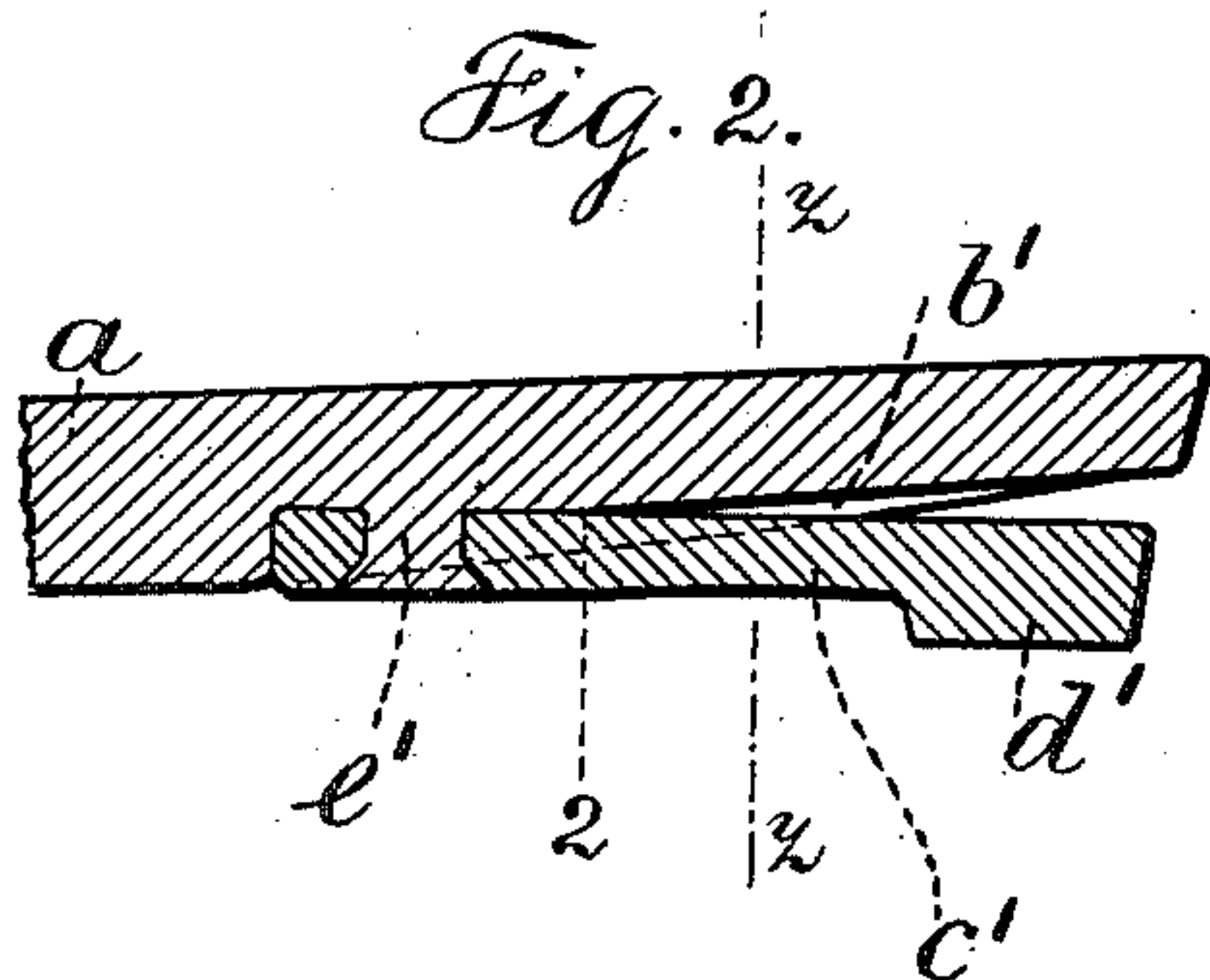
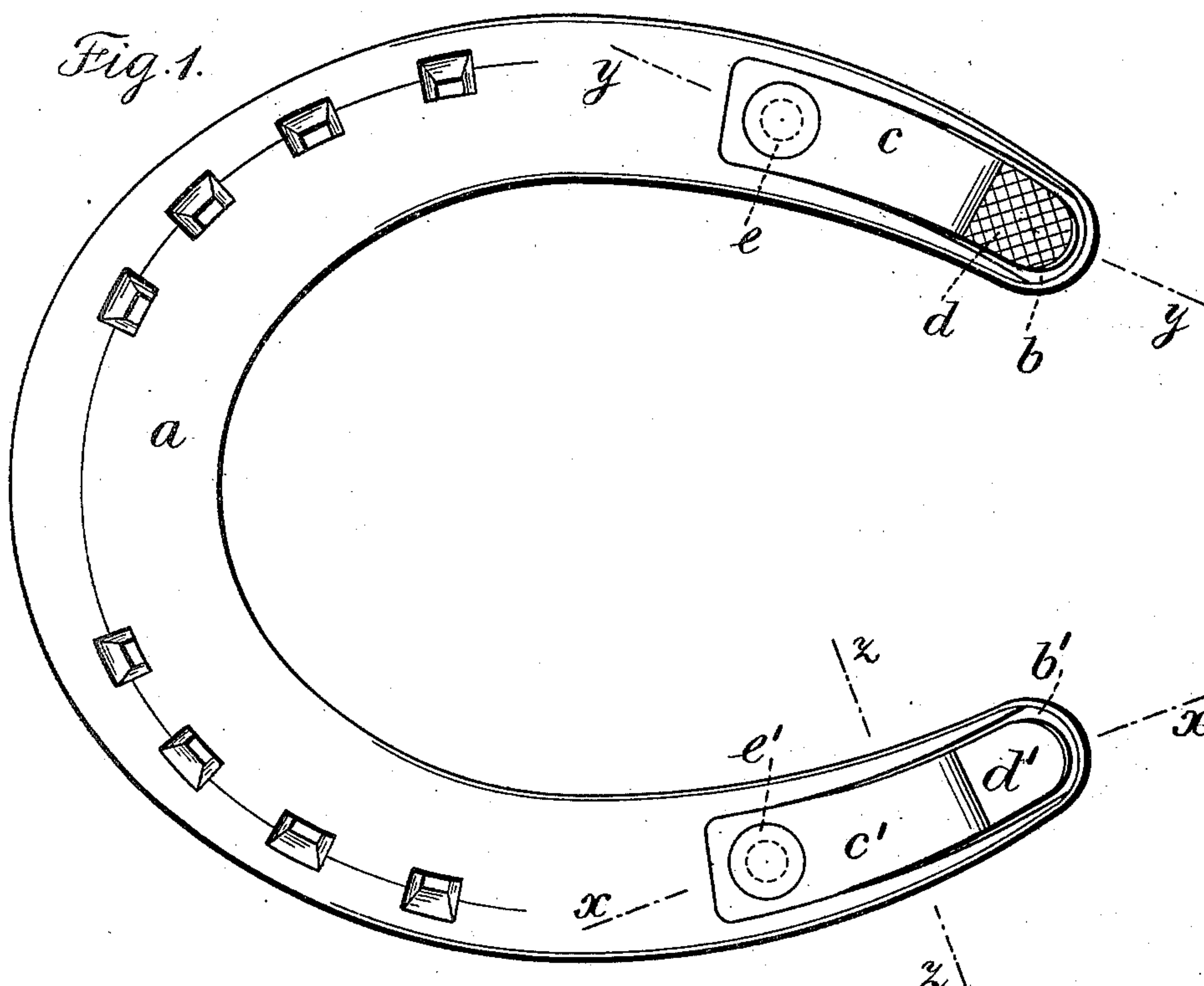
No. 693,541.

Patented Feb. 18, 1902.

D. CRUISE.
SPRING HEELED HORSESHOE.

(Application filed Apr. 28, 1899. Renewed July 19, 1901.)

(No Model.)



Witnesses:
J. Stait
Chas. H. Smith

Inventor:
Daniel Cruise
per L. W. Luzzell & Son attys

UNITED STATES PATENT OFFICE.

DANIEL CRUISE, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, AND ERASMUS JONES AND JOHN A. JONES, OF YONKERS, NEW YORK.

SPRING-HEELED HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 693,541, dated February 18, 1902.

Application filed April 28, 1899. Renewed July 19, 1901. Serial No. 68,965. (No model.)

To all whom it may concern:

Be it known that I, DANIEL CRUISE, a citizen of the United States, residing at the city of New York, in the county and State of New York, have invented a new and useful Improvement in Horseshoes, of which the following is a specification.

The object of my invention is to lessen the concussion arising to the limbs of the horse as the animal places its feet solidly on the ground. This concussion is especially noticeable to the animal where stone pavements are used or where the animal is required to draw heavy loads. This concussion is also more injurious to the front limbs of the animal than to the hind limbs, because the greater weight of the body is carried forward and the forward limbs are always lighter than the hind limbs.

In carrying out my invention I provide channels along the outer face of the shoe at the respective ends and secure in these channels yielding plates that are preferably made with integral calks. These plates are to be securely riveted to the shoe proper, and I prefer to make the channels in the ends of the shoe with a base, a part of which is flat and a part of which is inclined, the inclined portion being toward the ends of the shoe and the flat portion where the yielding plates are riveted to the shoe. This flat portion provides a bearing for the yielding plate at its point of attachment to the shoe, so that the yielding portion of the plate in relation to the shoe is behind the bearing portion. The calks integral with the yielding plates may have smooth surfaces or serrated surfaces, and the rivets connecting the yielding plates to the shoe may be separate or a part of the shoe or yielding plate.

In the drawings, Figure 1 is a plan of the under or outer surface of the shoe. Fig. 2 is a longitudinal section at xx of Fig. 1. Fig. 3 is a longitudinal section at yy of Fig. 1, and Fig. 4 is a cross-section at zz of Figs. 1 and 3.

The shoe a is of ordinary shape and construction, excepting that at the respective ends the outer face of the shoe is provided with open-ended channels at $b b'$. The yielding plates are shown at cc' , and they are pref-

erably made with integral calks $d d'$, which calks when the plates are secured to the shoe occupy the usual position adjacent to the ends of the shoe. Rivets ee' are made use of to secure the yielding plates to the shoe. These rivets may be separate from the shoe, as shown in Fig. 3, or form a part of the shoe, as shown in Fig. 2, it being entirely optional which form of construction is used. The yielding plates are preferably widest at the rivet end, and the side walls of the channels are preferably parallel. Consequently the yielding plates fit the channels snugly at the rivets. It will be noticed from the section Figs. 2 and 3 that there is a portion of the shoe adjacent to the rivets and at the base of the channels where the yielding plates lie flatwise upon the shoe and bear evenly around and adjacent to the rivets, so that the yielding plates are connected securely to the shoe by the rivets and bear upon these flat bases and that beyond these points, which I have represented by the dotted lines 2 in Figs. 2 and 3, to the end of the shoe the channels are inclined and the shoe sectionally tapers toward the ends. It will also be noticed that the yielding plate from the line 2 to the integral calk of the plate contains less metal and is lighter than the portion of the plate at the rivets. This is more apparent from the cross-section, Fig. 4, taken at the lines zz , Figs. 2 and 3, in which the plate is shown of elliptical form in cross-section. The plate yields specially at this portion under the weight of the animal and yielding relieves the concussion caused by the blow in placing the feet forcibly on the ground. Dirt and foreign materials are prevented from remaining between the yielding plates and the shoe, because the curved or convex inner surface of the plate acts to force out the said materials. These yielding plates may be made without calks and still perform the function for which they are made; but I have found that it is preferable to use calks, as the same assist the footing of the animal on an uneven surface and also upon a slippery surface, and it is optional whether the surface of the calk be smooth or roughened by serrations.

It is well known among horsemen that animals go lame or have some trouble with the

front limbs more frequently than they have anything the matter with the hind limbs. This arises very largely from the causes first hereinbefore mentioned, and while my invention is especially adapted for use in connection with shoes upon the front limbs of the animal I do not in any respect limit myself therein, because this improvement may be equally applicable to shoes upon the hind limbs of the animal, especially with trotting horses and possibly with heavy draft-horses.

I claim as my invention—

1. As a new article, a horseshoe having open-ended channels along in the outer face of the shoe near the ends, each channel having a flat portion and an inclined portion causing the shoe to taper toward the ends, and yielding plates in the channels, the plates being thinnest about midway between their respective ends, substantially as set forth.

2. As a new article a horseshoe having open-ended channels along in the outer face of the shoe near the ends, the base of each channel having a flat portion and an inclined portion causing the shoe to taper toward the ends, yielding plates and rivets for securing the

same in the channels, the said plates being tapering toward the respective ends and heaviest adjacent to the rivets and provided with integral calks at the ends, said plates being thinnest about midway between the rivets and the calks, substantially as and for the purposes set forth.

3. As a new article a horseshoe having channels along in the outer face of the shoe near the ends, the base of each channel having a flat portion and an inclined portion causing the shoe to taper toward the ends, yielding plates and rivets for securing the same in the channels, the said plates being tapering toward the respective ends and heaviest adjacent to the rivets and provided with integral calks at the ends, said plates being convex on the inner surface and elliptical in cross-section about midway between the rivets and the calks, substantially as and for the purposes set forth.

Signed by me this 26th day of April, 1899.
DANIEL CRUISE.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.