

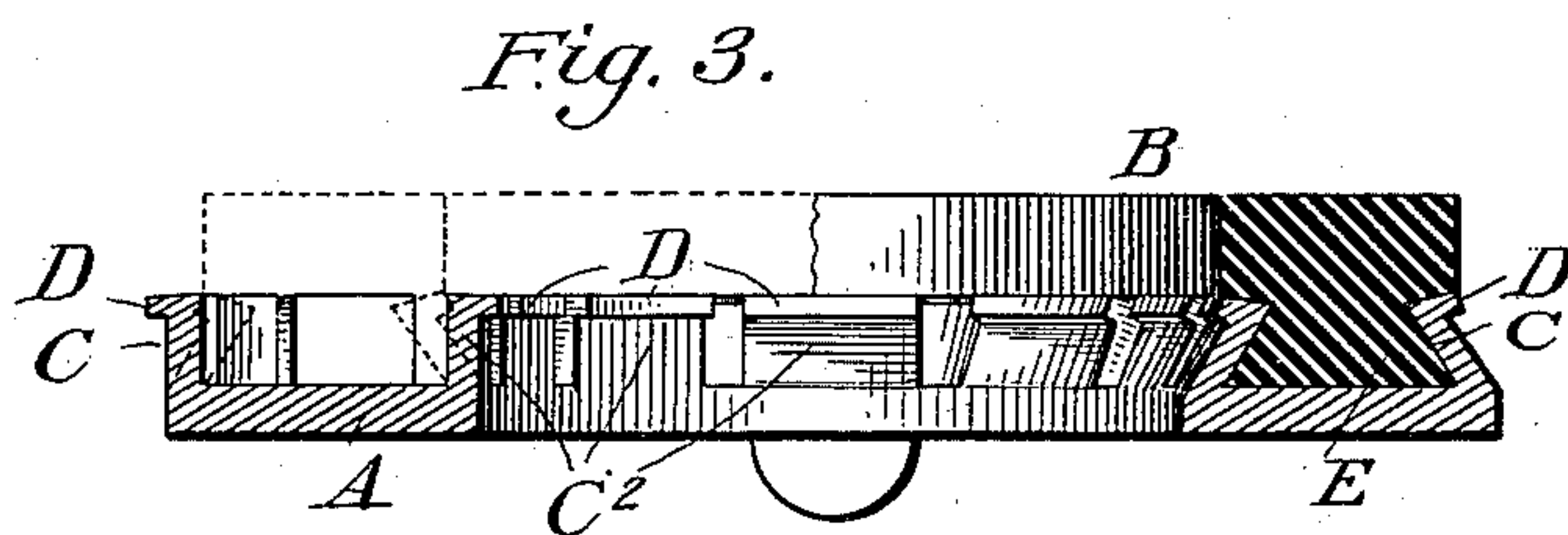
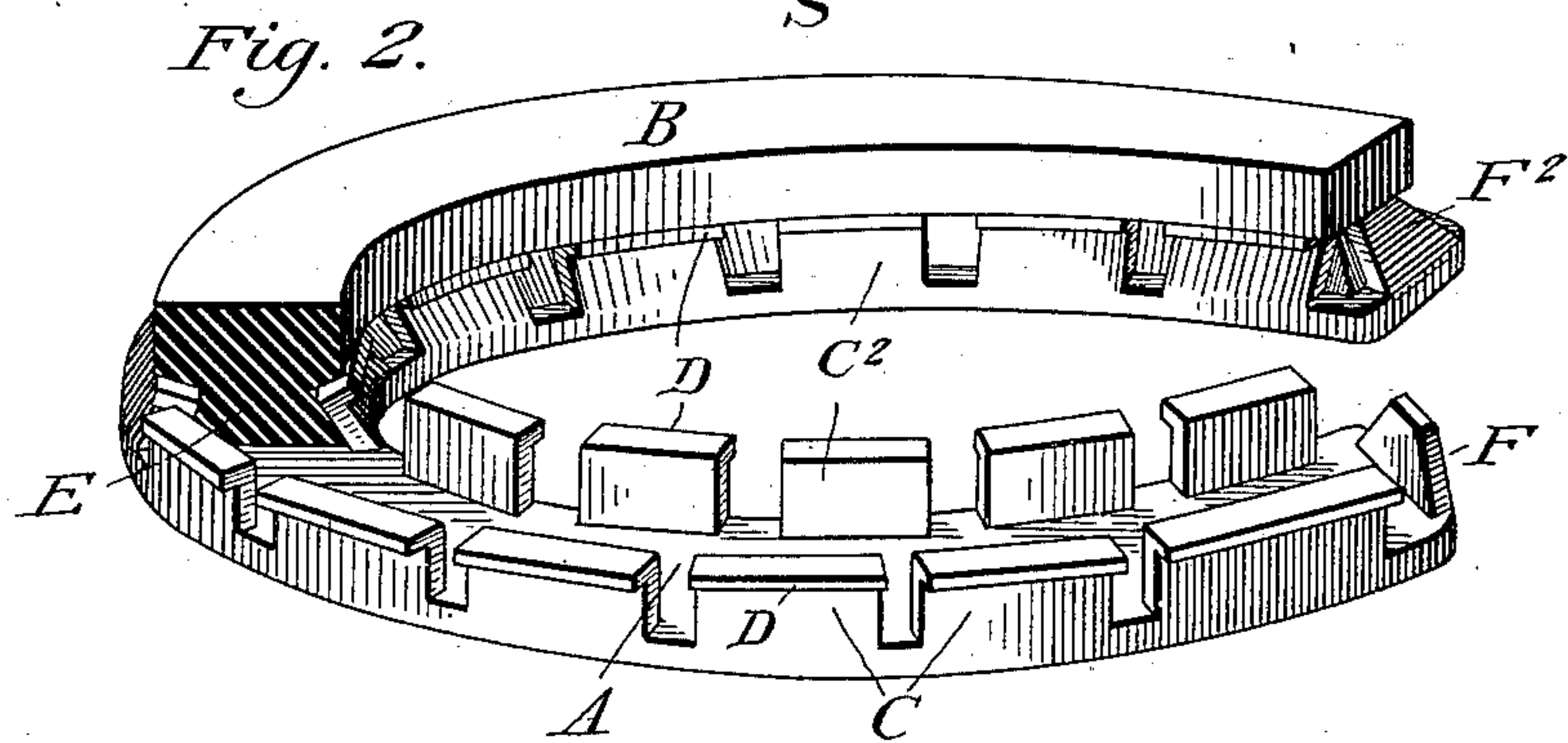
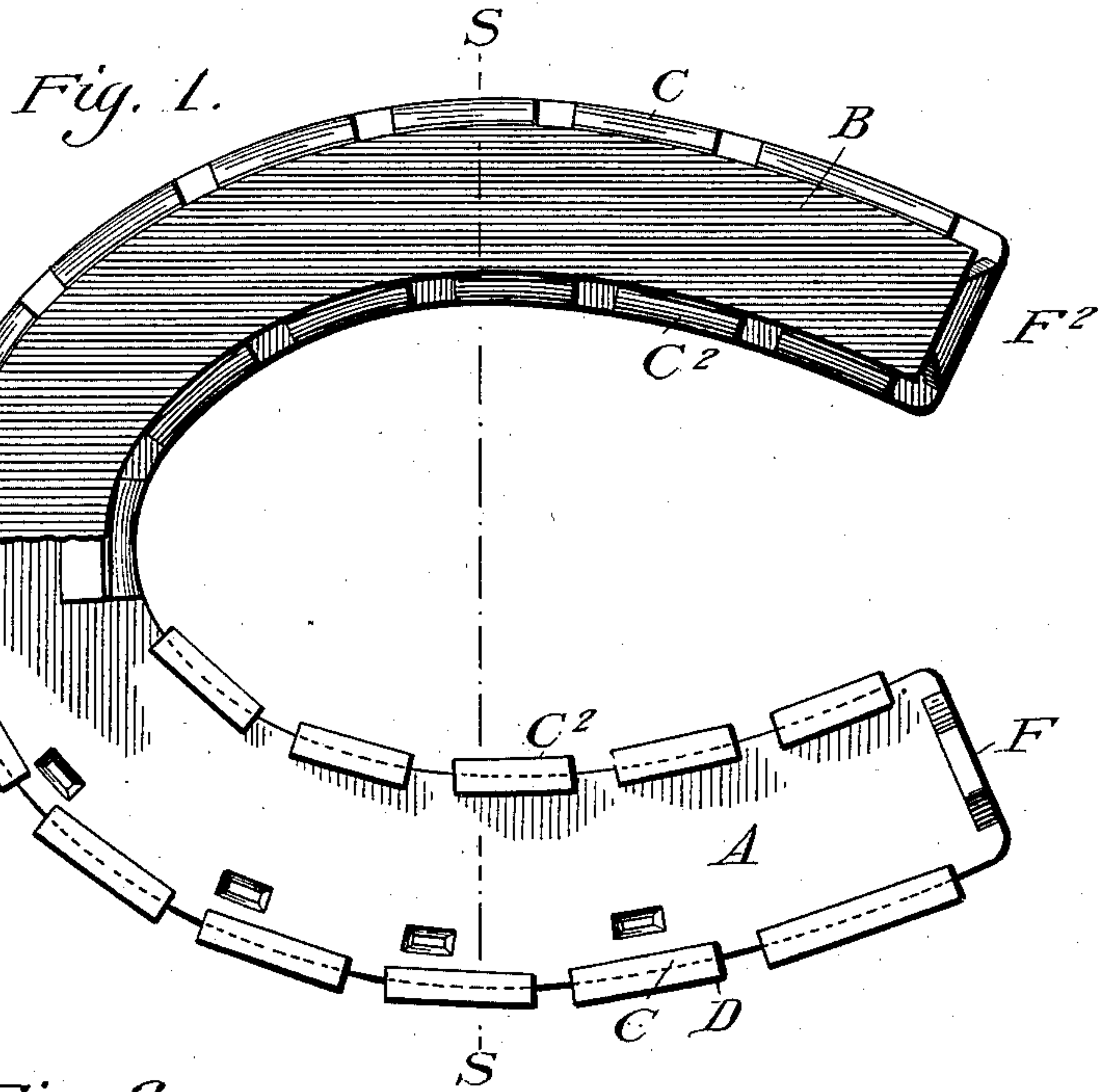
No. 661,593.

Patented Nov. 13, 1900.

C. WASTE.  
SOFT TREAD HORSESHOE.

(Application filed Mar. 24, 1900.)

(No Model.)



Witnesses.

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# UNITED STATES PATENT OFFICE.

CHARLES WASTE, OF GALESBURG, ILLINOIS.

## SOFT-TREAD HORSESHOE.

SPECIFICATION forming part of Letters Patent No. 661,593, dated November 13, 1900.

Application filed March 24, 1900. Serial No. 10,111. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES WASTE, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Improvement in Horseshoes, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to that class known as "soft-tread" horseshoes, and has for its object to relieve concussion upon hard roads and pavements, to avoid slipping, and to secure a practically noiseless tread. I accomplish this by means of a rubber or other elastic cushion firmly secured to a metallic shoe-plate similar in form to the usual plate-shoe. The cushion is secured to the plate in such manner as to be readily replaced when necessary without the removal of the metallic shoe-plate from the foot and so securely attached as to avoid danger of displacement in mud or by violent wrenches and also allowing the cushion to have a large bearing-surface, thereby minimizing wear by attrition.

In the drawings, Figure 1 is a bottom view of the shoe with one-half of the cushion removed. Fig. 2 is a view in perspective with the half-cushion removed. Fig. 3 is a view in cross-section upon the line *s s* of Fig. 1. Referring to the drawings, A is the metallic plate of the shoe.

B is the cushion.

C and C<sup>2</sup> are flanges or grips securing the cushion to the shoe-plate, the series of flanges C at the outer edge and the series C<sup>2</sup> at the inner edge of the plate.

D represents ribs or secondary flanges at the extremity of the flanges or grips C and C<sup>2</sup>.

E is the dovetailed part of the cushion.

F and F<sup>2</sup> are heel flanges or grips.

My invention consists in certain novel features of construction and adaptation of parts to the purpose in view, as more fully set forth in the following description, a metallic plate A having flexible segmental flanges or grips C and C<sup>2</sup> projecting therefrom, as shown in Fig. 2, on the half of the shoe where the cushion is removed; also, a flexible flange at each heel, as shown at F in the same figure. Between these flanges or grips C and C<sup>2</sup> is placed the cushion B, the part inclosed by the flanges being dovetailed, against which on each side

the flanges or grips C and C<sup>2</sup> are bent or clenched, securing it firmly to the shoe-plate, as shown in Fig. 2, on the side of the cushion in view and fully shown in cross-section, Fig. 3. Also the heel-flanges are clenched against the cushion, as shown at F<sup>2</sup> in Fig. 2.

The ribs or secondary flanges D at the extremity of the flanges C and C<sup>2</sup>, as shown in Figs. 2 and 3, are convenient in the clenching of the grips or flanges, and when the sides of the cushion extend beyond the dovetailed portion, as here shown in cross-section, Fig. 3, the ribs form a support or backing against which that portion of the cushion rests.

The metallic part of the shoe must be made of a metal suitably combining the qualities of strength and flexibility required for the purposes stated, preferably soft steel drop-forged.

The flexible segmental flanges or grips C and C<sup>2</sup> are not curved longitudinally where they join the shoe-plate, as it would injure their flexibility. Their thickness is such as to give the necessary strength to hold the cushion firmly and at the same time to allow the necessary flexibility. Their length along the shoe-plate should not be greater than will allow such conformation to the curvature of the shoe as will not injure the symmetry of its appearance. The longitudinal distances between these segmental flanges or grips C and C<sup>2</sup> may be varied as desirable in shoes of different classes and according to the strength of flanges or grips necessary to secure the cushion properly; but in any case they should not be so near as to interfere with each other in clenching against the cushion.

After the shoe-plate is attached to the foot in the usual manner the cushion B is inserted in the space between the flanges and secured therein, as before described.

Whenever a worn cushion is to be replaced by a new one, it is unnecessary to remove the shoe-plate from the foot; but the grips are bent back from the cushion, the old cushion removed, the new one put in place, and the grips or flanges clenched against the cushion as before, their flexibility allowing this to be done repeatedly, if necessary.

The nails for attaching the shoe to the foot may be set inside the outer flanges C and so countersunk as not to interfere with the



cushion, as shown in Fig. 1, where the cushion is removed, or the outer flanges C may be set far enough from the outer edge of the shoe-plate to give space to nail outside the flanges.

5 I prefer the former, as shown.

A modified form of my device may be successfully used wherein a rigid flange, continuous or in sections, may be used on one side, either outer or inner, of the shoe-plate, the  
10 other side of the shoe-plate having the flexible flanges or grips, as before described.

When a rigid flange is used on one side, its inner side will have the same angle as the dovetail of the cushion. I prefer, however,  
15 the device as shown in the drawings and fully described above.

That part of the cushion not inclosed between the flanges is not necessarily of the shape shown in the drawings, but may be varied in form as desired.  
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What I claim is—

1. In a soft-tread horseshoe, a metallic plate having on its outer and inner edges a series of separate downwardly-depending flanges,  
25 the heel ends of the plate having separate

flanges, and a cushion held in position between said edge and heel-flanges, substantially as described.

2. In a soft-tread horseshoe, a metallic plate having flexible segmental flanges projecting  
30 downwardly from its side edges, the heel ends of the plate being closed by other independent flanges, and a cushion clenched in position between and held by said side and heel flanges, substantially as described. 35

3. In a soft-tread horseshoe, a metallic plate bearing on its side edges a series of flexible separate downwardly-depending flanges, said flanges being provided on their ends with supporting-ribs, downwardly-depending separate  
40 plain flanges being formed at the heel ends of the plate, and a continuous cushion dovetailed and shouldered, so as to be grasped between all of said flanges and partly supported by said ribs, substantially as described.

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Witnesses:

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