

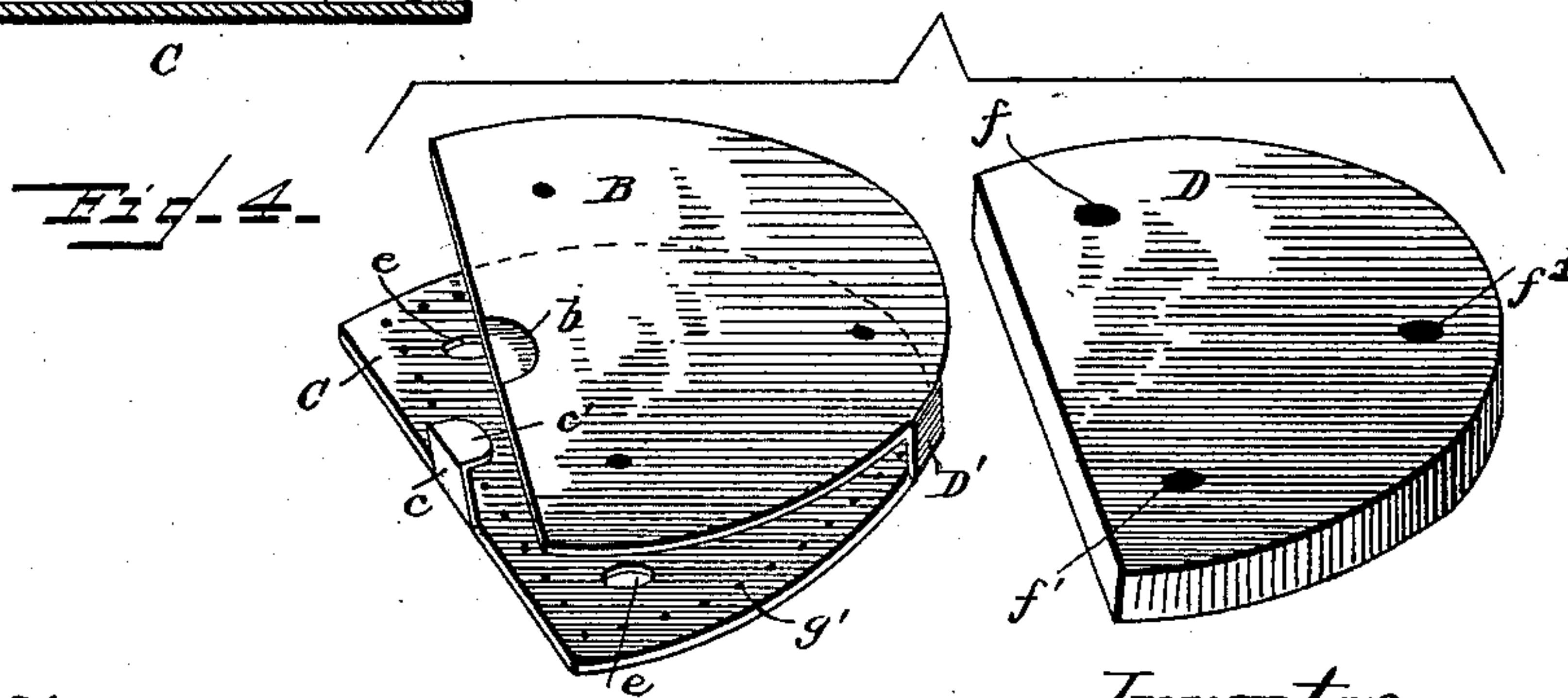
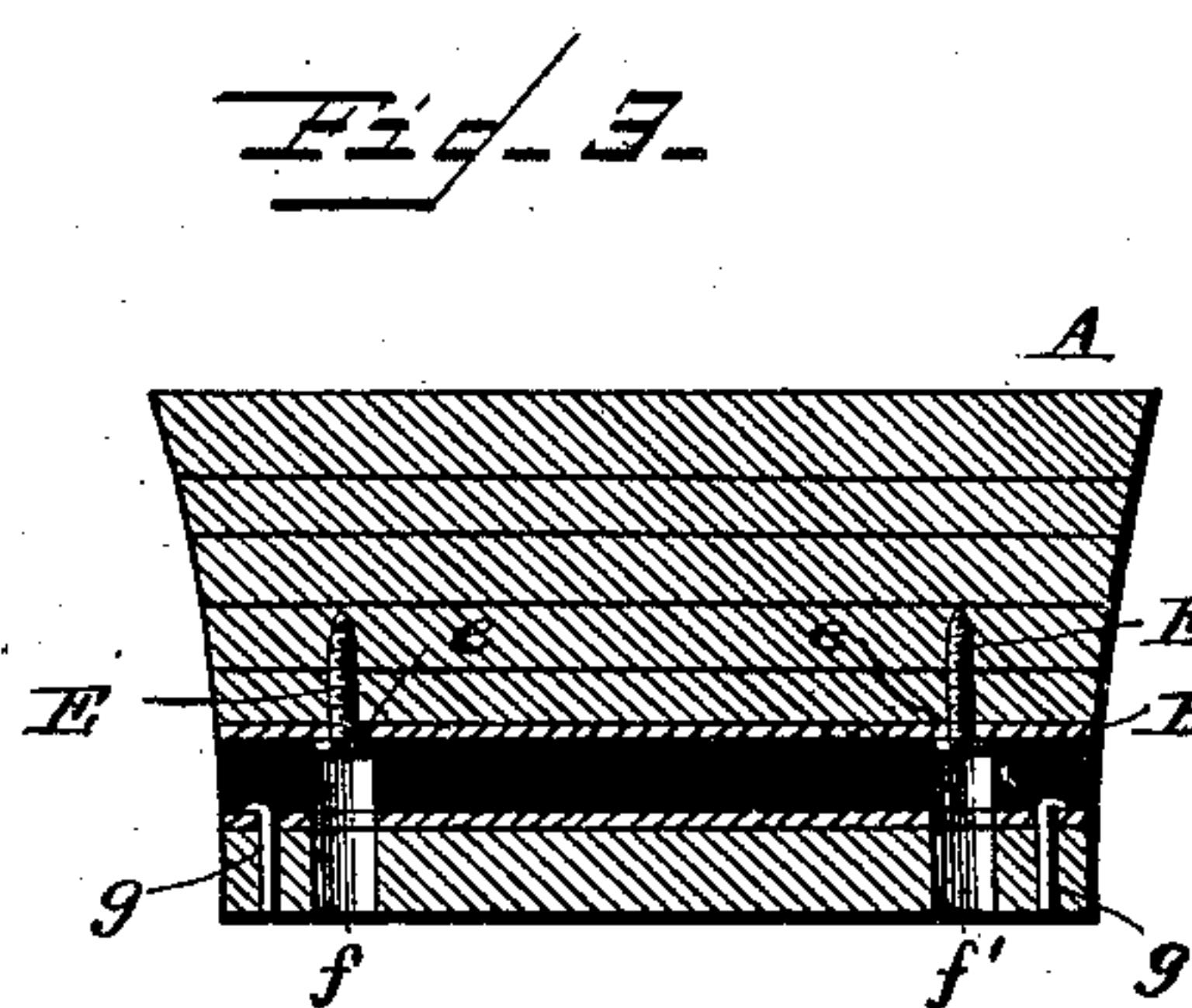
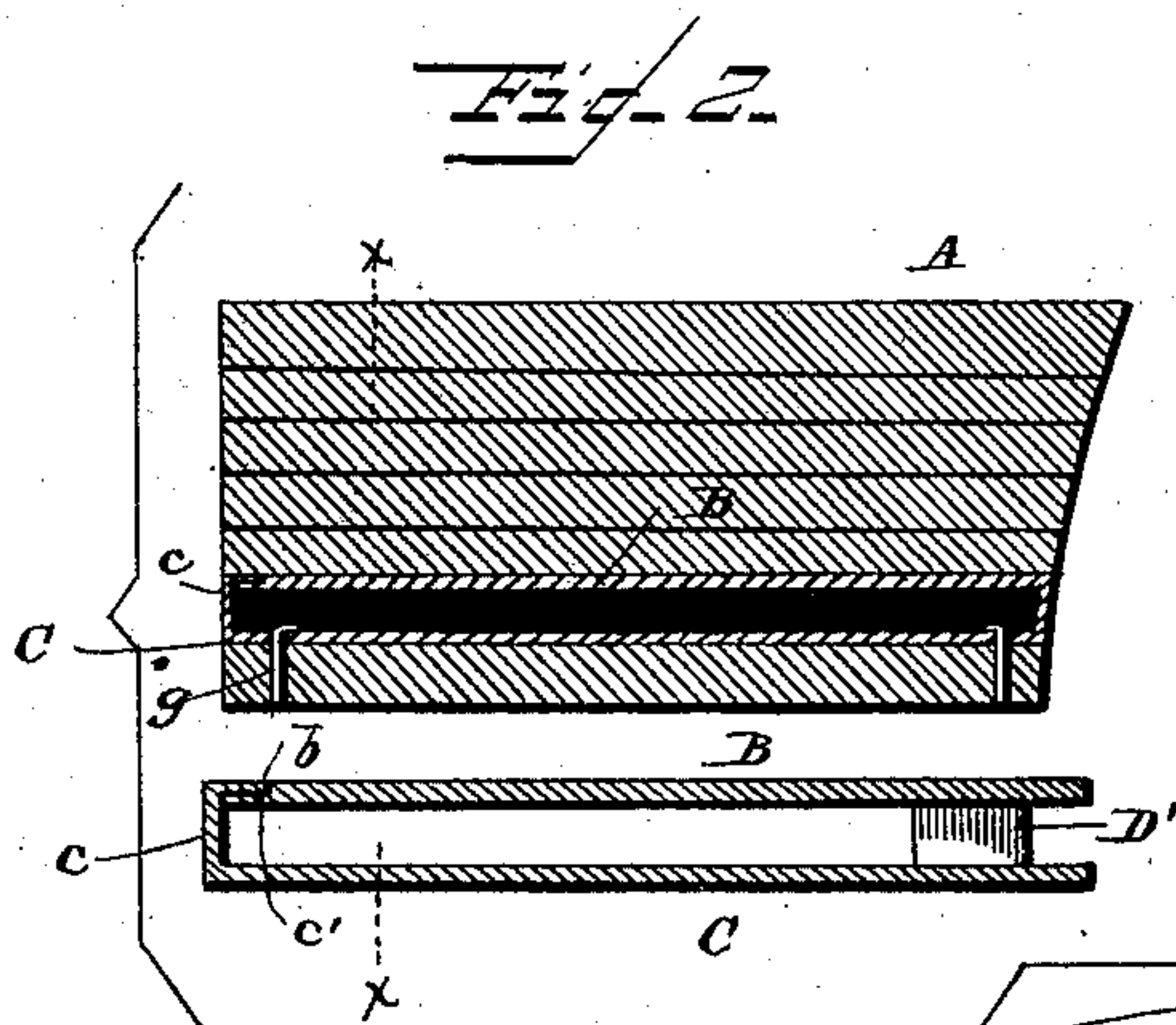
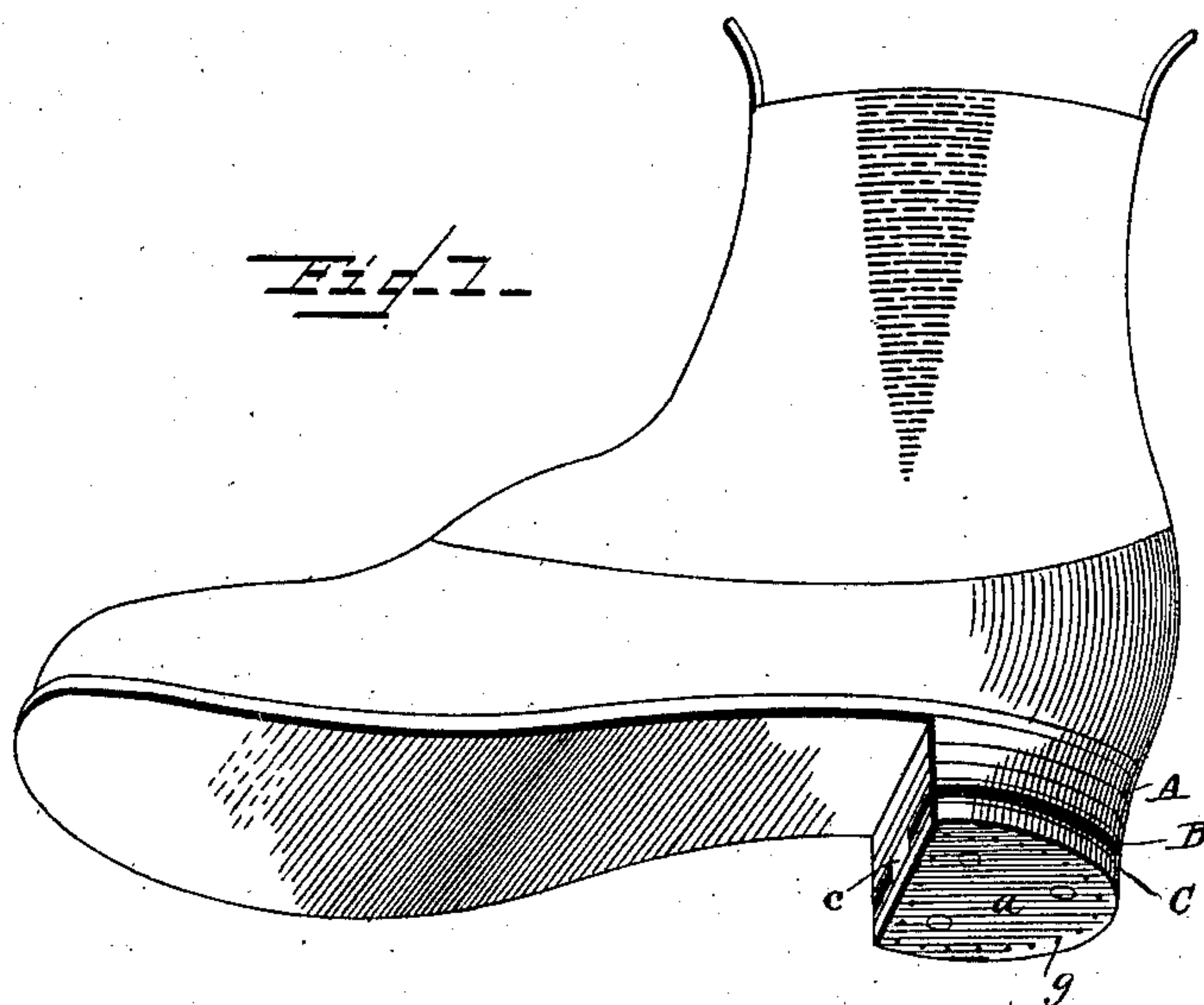
(No Model.)

G. E. SWAN.

SPRING HEEL FOR BOOTS OR SHOES.

No. 370,906.

Patented Oct. 4, 1887.



Witnesses:
Edwin I. Yewell,
Wm. J. Rittell,

Inventor,
George E. Swan,
by
J. R. Rittell,
his Attorney,

UNITED STATES PATENT OFFICE.

GEORGE E. SWAN, OF BEAVER DAM, WISCONSIN.

SPRING-HEEL FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 370,906, dated October 4, 1887.

Application filed November 8, 1886. Serial No. 218,327. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. SWAN, a citizen of the United States, residing at Beaver Dam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Spring-Heels for Boots or Shoes; 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.

My invention relates to spring-heels for boots or shoes, and it has for its object to provide an improved device of this character which shall be simple in its construction and its application to the heel, and which shall serve to obviate the jar usually experienced in walking upon stone pavements, and also impart ease and elasticity to the step of the wearer.

In the drawings, Figure 1 is a perspective view illustrating the heel of a boot or shoe embodying my invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a transverse section on the line $x x$, Fig. 2. Fig. 4 is a detail perspective view illustrating the plate and also the cushion.

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

Referring to the drawings, A designates the heel of a boot or shoe to the bottom of which is secured my improved spring device. The latter comprises a spring-plate having a top and bottom wing, B C, respectively, these wings or plates being of a shape corresponding to the shape of the heel in horizontal section. The plates B C (being formed of one piece of bent-over metal) are connected by the bend shown at D' at the inner edge of the heel. It is well known that the heel of a boot or shoe usually wears at the rear outside edge, and the bend just mentioned is formed, therefore, preferably, at the rear inner edge, so that the spring action of the device at the point of wear just mentioned is not interfered with.

From the front edge of the bottom wing or plate, C, projects a flange or lip, c , which is bent up and over the front edge of the top wing or plate, B, the latter being provided with an indenture or depression, b , to receive the edge c' of the lip c . By reason of the in-

denture just described the top plate, B, presents a smooth surface in its application to the heel, and the relative play of the plates, when the device is depressed in walking, is permitted.

Between the plates B and C is provided a corresponding flat elastic cushion, D, which is preferably formed of rubber, and is adapted to be depressed by the action of the spring-plates in walking.

E designates securing-screws, which pass through perforations e in the top plate, B, and enter the heel A, perforations, as shown at f f' f^2 , respectively, being formed in the cushion D, bottom plate, C, and layer a , to admit the point of a screw-driver in the application of these screws. The bottom layer of leather, a , which forms the wearing-surface of my improved spring-heel, is secured against the under face of the plate C by means of nails or screws g , passing through perforations g' in the said plate.

The operation and advantages of my invention are obvious. In walking the jar and shock are received and lessened by the action of the spring-plates and intermediate cushion, and are not communicated to the wearer. The step is thereby rendered easy and elastic and the fatigue of walking materially lessened.

The form of spring-heel herein shown and described presents a modified form and construction from the invention embodied in my application for Letters Patent for elastic or spring heels filed April 2, 1887, and numbered 233,436. I therefore herein claim only such modified form and difference in construction. It is manifest, however, that modifications in the construction and arrangement of parts of the device herein illustrated may be made without departing from the spirit and scope of the invention, and I therefore reserve the right to all such modifications as properly fall within the scope of my present invention.

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

1. The combination, in a spring-heel for boots or shoes, of a spring-plate embodying a top and bottom wing and a connecting-bend, one of said wings being provided with a retaining flange or lip projecting from its edge and engaging the edge of the other wing, and a corresponding elastic cushion disposed be-

tween the wings of the plate, substantially as set forth.

2. The combination, in a spring-heel for boots or shoes, of a spring-plate embodying a top and bottom wing, a connecting-bend at the rear edges of the wings, and a flange or lip projecting from the front edge of the bottom wing and extending up and over the edge of the top wing, and an elastic cushion disposed between the wings of the plate, substantially as set forth.

3. The combination, with the heel of a boot or shoe, of a spring-plate comprising a top and bottom wing corresponding to the heel in horizontal section, and connected by a bend, and a retaining-flange projecting from the edge of one wing and engaging the edge of the other wing, a corresponding cushion disposed between the wings of the plate, a wearing surface secured to the under face of the bottom wing, and securing screws, substantially as set forth.

4. As an improved article of manufacture,

the herein-described spring device adapted to be applied to the bottom of the heel of a boot or shoe, and comprising a spring-plate bent up from a single piece to form a top and bottom wing, a connecting-bend, and a retaining-flange projecting from one wing and engaging the other wing, a cushion disposed between the wings, and a wearing-surface secured to the under face of the bottom wing, the several parts being provided with perforations for the admission of securing-screws, substantially as set forth.

5. In a spring-heel of the class described, comprising a top and bottom wing, a retaining-flange projecting from the edge of one wing and extending up and over the edge of the other wing, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE E. SWAN.

Witnesses:

J. R. LITTELL,

M. A. BALLINGER.