

(No Model.)

H. MENIER.  
HEEL.

No. 502,571.

Patented Aug. 1, 1893.

Fig. 1

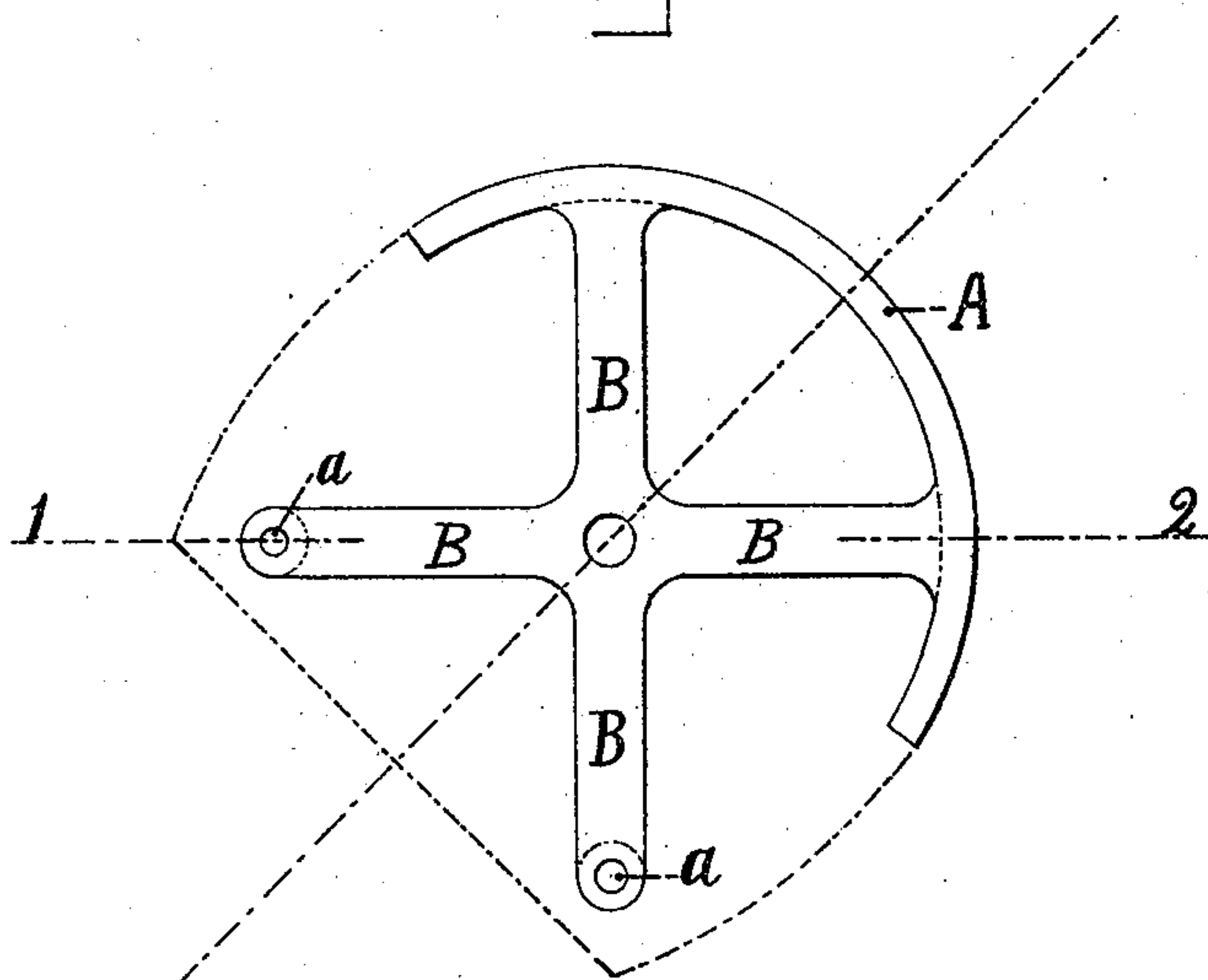
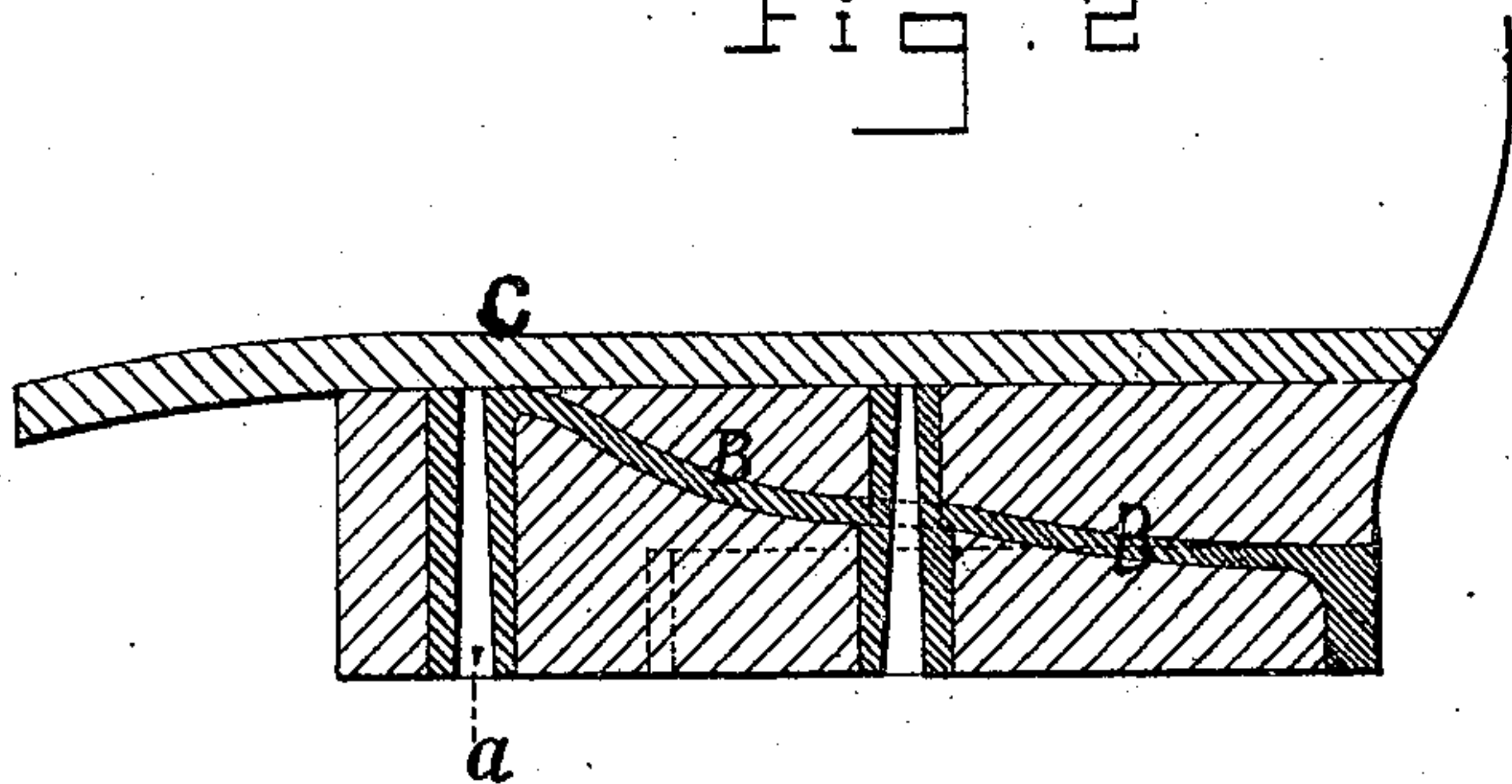


Fig. 2



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRI MENIER, OF PARIS, FRANCE.

## HEEL.

SPECIFICATION forming part of Letters Patent No. 502,571, dated August 1, 1893.

Application filed November 12, 1892. Serial No. 451,768. (No model.)

*To all whom it may concern:*

Be it known that I, HENRI MENIER, manufacturer, a citizen of the Republic of France, residing at 56 Rue de Chateaudun, Paris, in the Republic of France, have invented certain Improvements in or Connected with Heels for Boots and Shoes, of which the following is a specification.

This invention forming the object of the present application for a patent relates to heels for boots and shoes composed of elastic material and combined with a flexible metallic wearing plate partly embedded in the elastic body of the heel as hereinafter explained.

It is known that heels for boots and shoes have heretofore been made of leather, india rubber or gum and in various other ways but owing to the great amount of strain which this part of the foot covering is exposed to in walking it rapidly wears away. In order to obviate this disadvantage nails, iron plates and other protecting devices have been employed and although it is true that they reduce the wear, they present the very serious disadvantage of producing a shock or concussion on coming in contact with the ground and increase the fatigue which should on the contrary be diminished as much as possible.

The following are the principal advantages possessed by the heels constructed according to this invention which are free from all the foregoing defects: first, they possess great elasticity on coming in contact with the ground owing to the nature of the material, india rubber or gum, of which they are composed; second, they are extremely durable owing to the addition of a metallic part acting as a spring and are flexible although rigidly attached to the sole so as to be incapable of being displaced laterally but retaining the elasticity in a vertical direction.

In order that the construction of the improved heels may be clearly understood a specimen is represented by way of example in the accompanying drawings referred to in the following description.

In the drawings Figure 1 represents the heel plate in plan, and Fig. 2 represents the heel in vertical section on the line 1—2 Fig. 1.

As represented in the figures the elastic mass or body of the heel is surrounded at the

rear and lower part or edge with a semi-circular metal plate or wearing ring A extending to a part of the height only. This plate being made in one or more pieces of suitable section and connected to the mass or body by any convenient means is connected to flexible arms B which may be of any number and extend in any direction being embedded in the elastic mass. These flexible arms are slightly curved so that their extremities come in contact with the sole C where they cease to participate in the elasticity of the mass and can consequently be attached in a rigid and permanent manner. In order that the nails, screws or rivets employed to fix these flexible arms to the sole may not be exposed to strain in walking which strain should bear solely upon the semi-circular plate A these nails, screws or rivets are inserted into cylinders *a* made of ebonite metal or any other strong material which pass completely through the heel and afford the advantages set forth in the specification annexed to my former application for a patent, dated March 30, 1891, Serial No. 385,763. The cylinders *a* are perforated as described in that specification with conical holes for the reception of nails, screws, or rivets of corresponding form.

The flexible arms B which form an essential feature of my invention perform a very important part in the improved heel. They secure the semi-circular part A of the metal plate in a rigid manner in a lateral direction and moreover they connect this plate to the heel and prevent it from becoming detached independently of any adhesion or loosening of the metal parts relatively to the elastic mass.

The flexible metallic plate or attachment comprising the semicircular metallic part and the inclined flexible arms constitutes a combination which while increasing the strength of the heel insures its elasticity in a vertical direction and prevents any lateral displacement. Rubber or gum heels provided with these plates can be readily renewed, are very durable and not liable to slip owing to the adhesion of the gum to the ground. It should be observed that these plates or attachments may be of any shapes or dimensions, those represented in the drawings being given merely as examples and in order to clearly elucidate



the principle. Moreover they may be made of anysuitable metal and I do not limit myself to any details of construction which do not influence the principle of the invention.

5 What I claim is—

1. A heel provided with a protecting metal plate or attachment having an arm or arms embedded therein, yielding in the vertical direction and unyielding in the lateral direction, said arm or arms adapted to be rigidly  
10 attached to the sole, whereby the plate is capable of participating in the elasticity of the material of which the heel is made, substantially as described.

2. A heel composed of compressible material with a flexible metallic plate consisting of a semicircular protecting or wearing piece at the lower back part of the heel, having a flexible arm or arms passing through the heel and rigidly attached to the sole at one end, 20 substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRI MENIER.

Witnesses:

LÉON FRANCKEN,  
ROBT. M. HOOPER.