

(No Model.)

C. A. ERDMAN.
BOOT OR SHOE HEEL.

No. 435,136.

Patented Aug. 26, 1890.

FIG. 4.

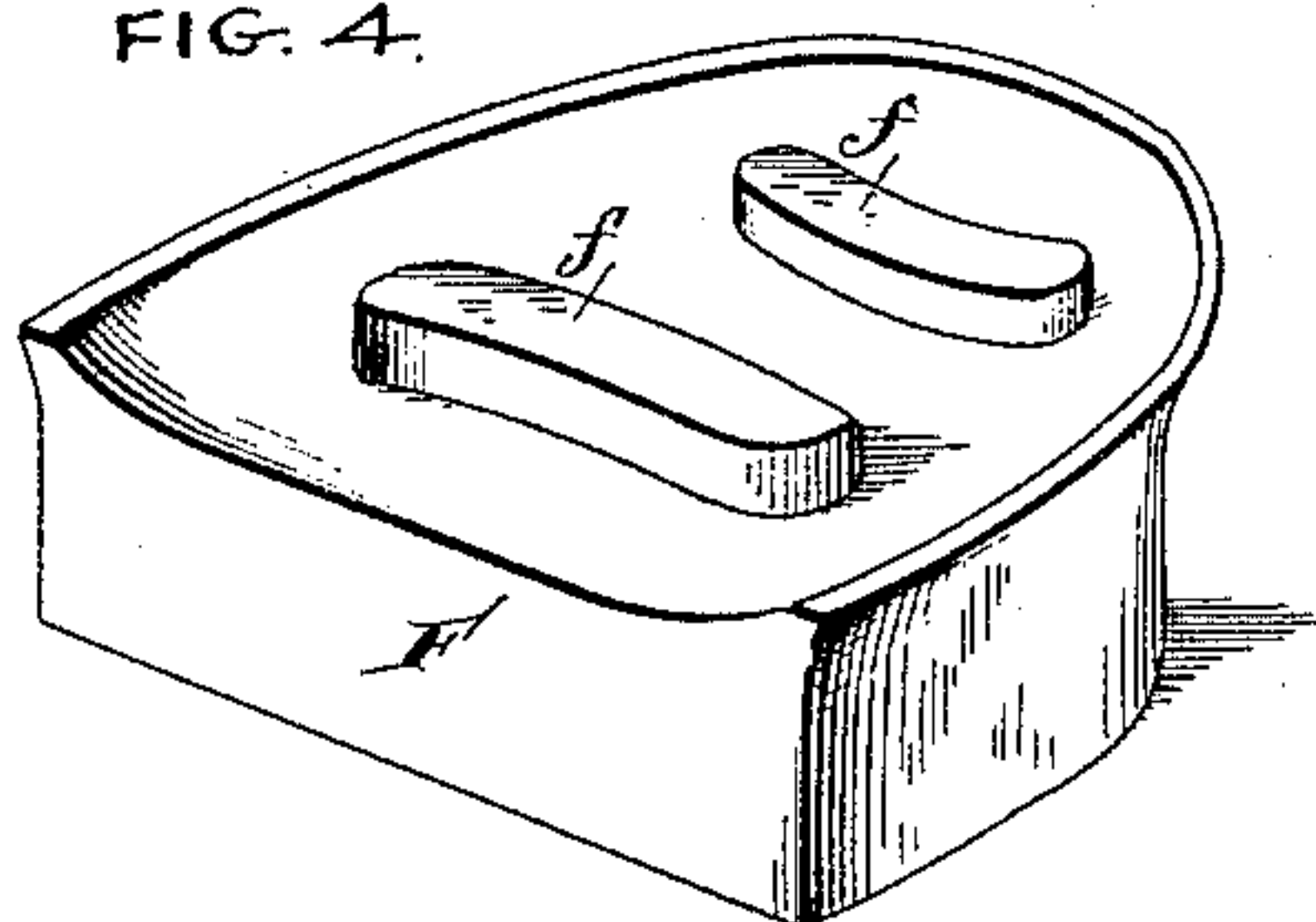


FIG. 5.

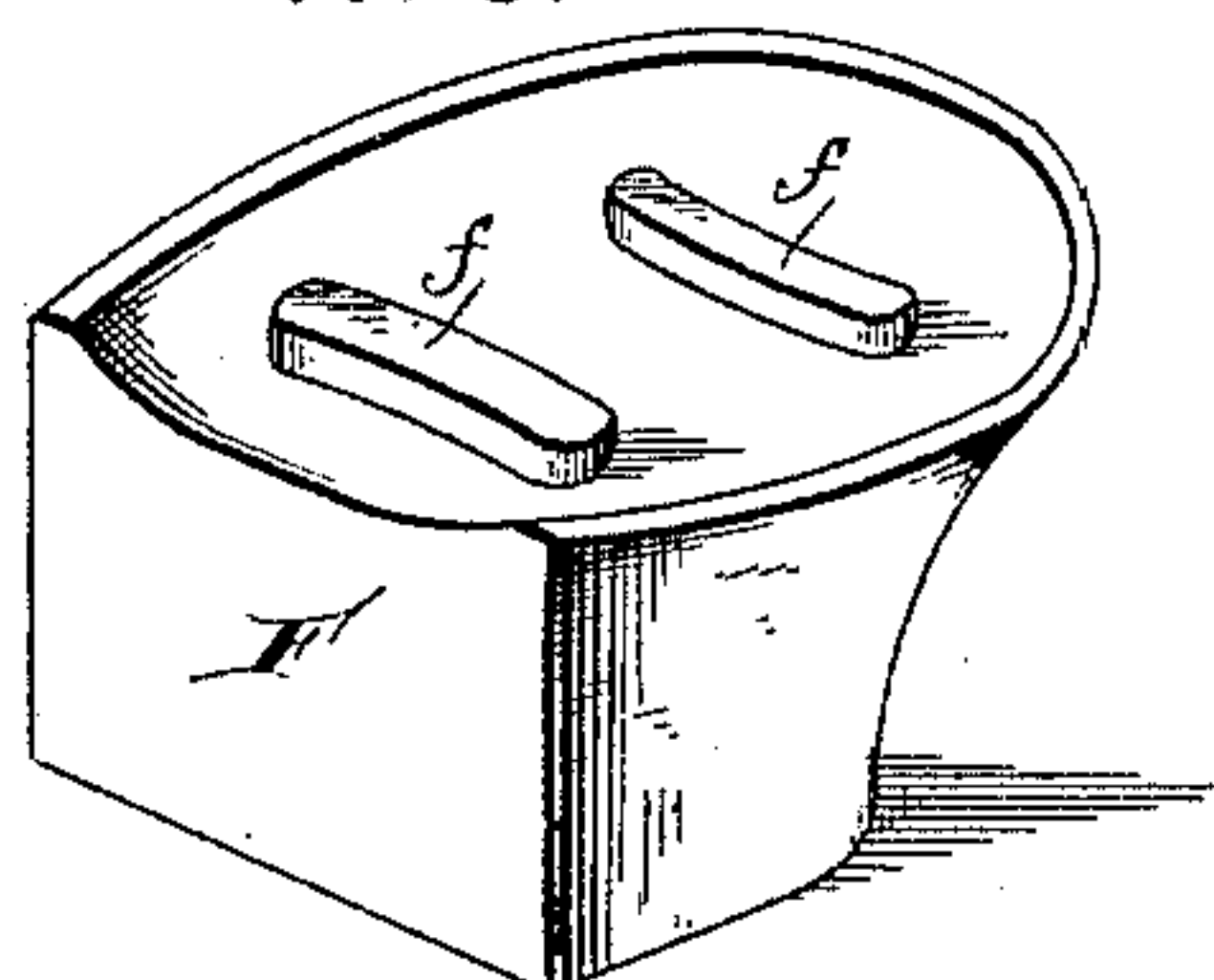


FIG. 1.

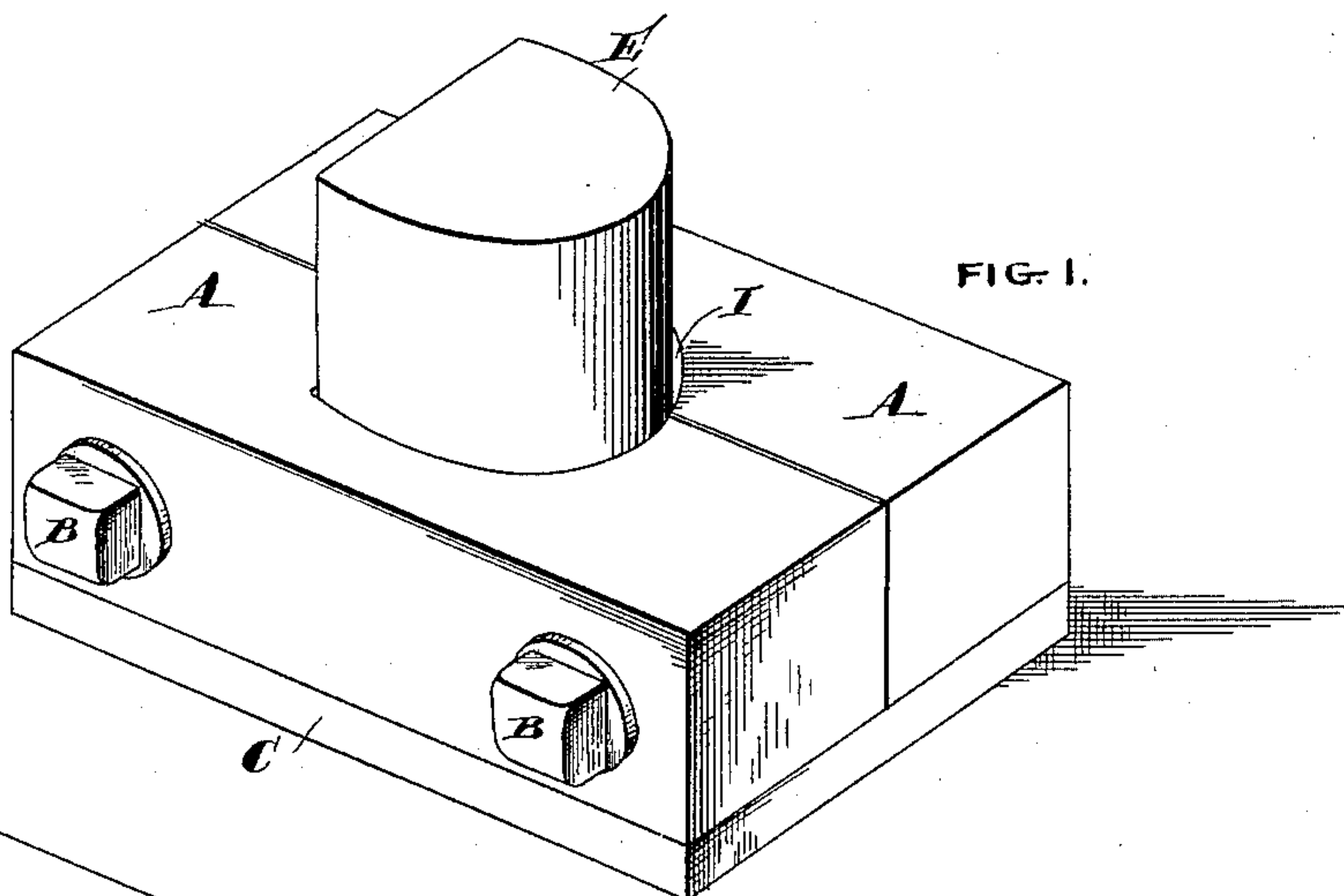


FIG. 2.

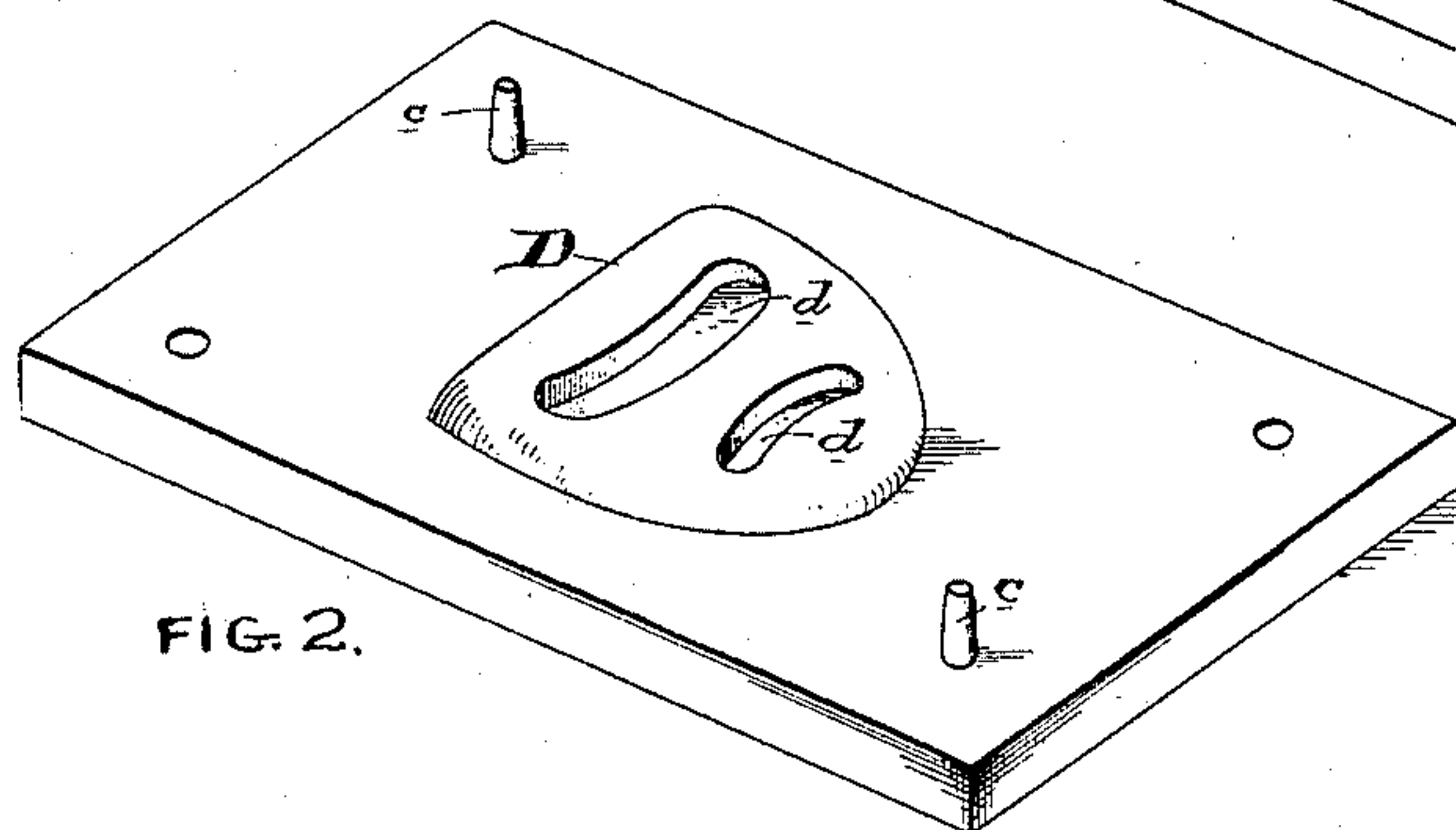
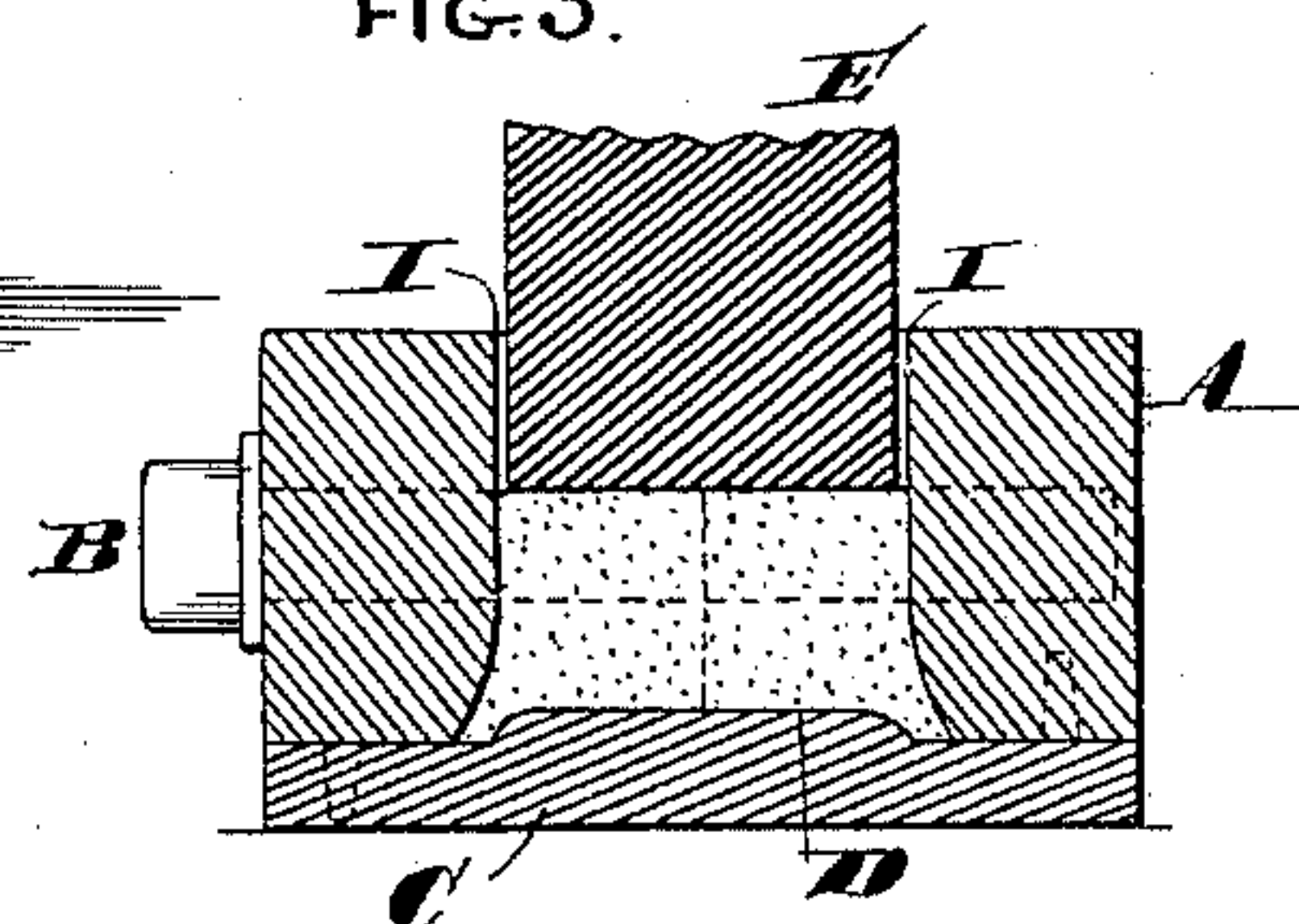


FIG. 3.



WITNESSES:

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INVENTOR:

Chas. A. Erdman
by his Attorney

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UNITED STATES PATENT OFFICE.

CHARLES A. ERDMAN, OF PHILADELPHIA, PENNSYLVANIA.

BOOT OR SHOE HEEL.

SPECIFICATION forming part of Letters Patent No. 435,136, dated August 26, 1890.

Application filed August 12, 1889. Serial No. 320,441. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. ERDMAN, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Boot or Shoe Heels, of which the following is a specification.

My invention relates to boot or shoe heels; and it consists of certain improvements, which are fully set forth in the following specification, and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to form an improved heel for boots or shoes, which shall be comparatively inexpensive to manufacture and of great durability.

In carrying out my invention I form the heel of a composition of matter subjected to a high degree of pressure in a suitable mold to impart the proper shape and to give solidity. These heels are then cemented to the shoes.

The composition of which these heels are formed consists, primarily, of asphalt, which is melted and mixed with a quantity of fibrous material disintegrated or separated into fine particles. I prefer to mix with the asphalt during the process of melting a small quantity of tar or other oil to assist the melting operation. I also find it expedient to mix with the asphalt a quantity of pitch; but this is not necessary.

In making the composition I take of the asphalt a sufficient quantity for the purpose in hand and place it in a boiler with a small quantity of oil. This mixture is then subjected to heat, and when the asphalt is thoroughly mixed I add a quantity of disintegrated material and thoroughly mix it with the asphalt and reduce the mixture to a thick liquid, which is then introduced into the mold.

In order to obtain a rich black color for the finished heels, it is necessary to use the finer and more expensive quality of asphalt; but I find that a satisfactory result can be obtained by combining the cheaper light-colored asphalt with the darker and more expensive quality. Heels made of a composition of the two asphalts mixed in about the relative proportions of three parts of the black to four of the lighter and cheaper are found to possess the desired qualities.

The composition is primarily composed of as-

phalt, of which I employ a considerably larger quantity than of the fibrous material. I prefer to use from five to six parts, by weight, of asphalt to one of disintegrated fibrous material, though the relative proportion of asphalt may be considerably increased even above that ratio. By introducing other materials into the mixture the finished heel may be made to possess certain desired characteristics. The introduction of a quantity of burnishing-wax will form a surface that is readily polishable. By using only the light-colored asphalt and adding a suitable coloring substance tan or russet colored heels may be obtained, such as are suitable for russet shoes.

The details of the mold or die for molding the heel into its finished shape are immaterial to my invention. Any convenient mold may be employed, such as that shown in the drawings, in which—

Figure 1 is a perspective view of the mold. Fig. 2 is a similar view of the base-plate of the mold. Fig. 3 is a cross-sectional side elevation of the mold, showing the heel in process of formation; and Figs. 4 and 5 are perspective views of finished heels.

A A are the two metallic pieces adapted to be secured together by bolts B B, and having their inner lateral faces formed with recesses or dies corresponding in shape to the sides of the finished heel.

C is a base-plate supporting the pieces A A and provided with a die shape D at its center corresponding to the shape of the top of the finished heel. The pieces A A, bolted together, are placed upon the base-plate C, and are held against lateral displacement by pins c, the die shape D forming the bottom or base of the die I, formed by the recesses of the pieces A A.

E is a male die adapted to fit into the recess or female die I.

The die shape D is preferably formed with depressions or recesses *d d*, for the purpose of forming lugs or projections *b b* on the upper surface of the heel F, for the purpose of more effectively securing it to the shoe.

It is apparent that in place of the two pieces A A here shown a single metal piece may be employed with the die I formed therein when the shape of the finished heel permits.

The composition when in a fluid or molten state is introduced into the recess I, and pressure is exerted upon the male die E, forcing it down upon the material and making it conform to the exact shape of the die I, the base or bottom surface of the heel being formed by the surface of the male die itself. A large amount of pressure should be exerted upon the matter in the die, so that the finished heel may be perfectly compact and hard. Heels made in this manner possess greater durability and are much cheaper than the ordinary leather heels at present in use.

In order to further cheapen the cost of manufacture, the inner portion of the composition within the die I—i. e., that portion which will form the interior of the finished heel—may be largely mixed with such substances as ground leather scraps, sawdust, &c., which, while decreasing the quantity of the asphalt composition required, are also valuable for making the heel lighter in weight. Similarly the outer portion of the composition in the mold, or that which will constitute the surface of the heel, may be mixed with stone dust or iron filings to impart greater hardness, or

with burnishing-wax to give a readily-polishable surface.

The finished heels are attached to the shoes by cement, the lugs or projections *b b* being formed for the purpose of presenting better cementing-surfaces.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a heel for a boot or shoe, formed of asphalt and disintegrated fibrous material, combined in substantially the proportions described and pressed into the desired shape.

2. As an article of manufacture, a heel for a boot or shoe, formed of asphalt and disintegrated fibrous material, pressed into the desired shape, and provided with lugs or projections in its upper surface for attachment to the shoe.

In testimony of which invention I have hereunto set my hand.

CHARLES A. ERDMAN.

Witnesses:

ERNEST HOWARD HUNTER,
R. J. O. HUNTER.