

W. BIDDLE.
BOOTS AND SHOES.

No. 171,498.

Patented Dec. 28, 1875.

Fig. 1.

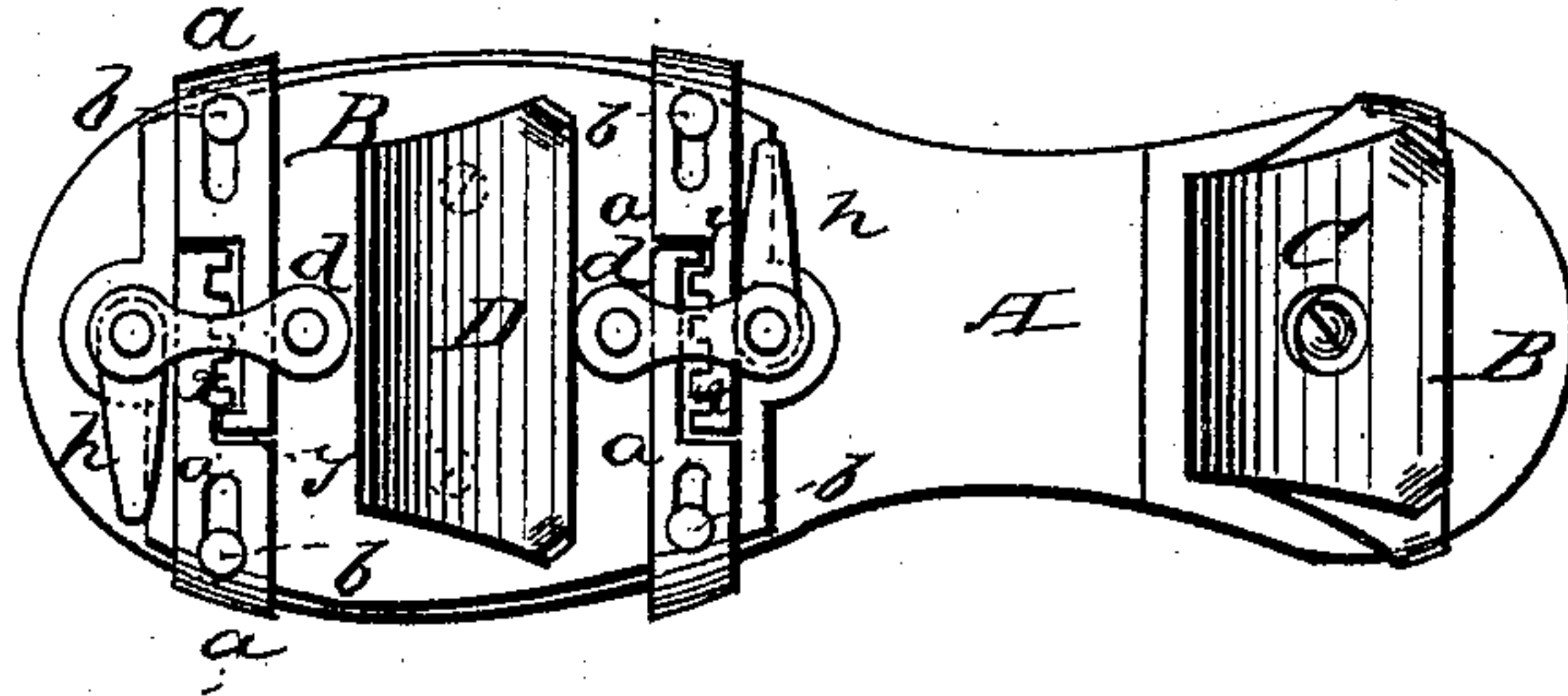


Fig. 2.

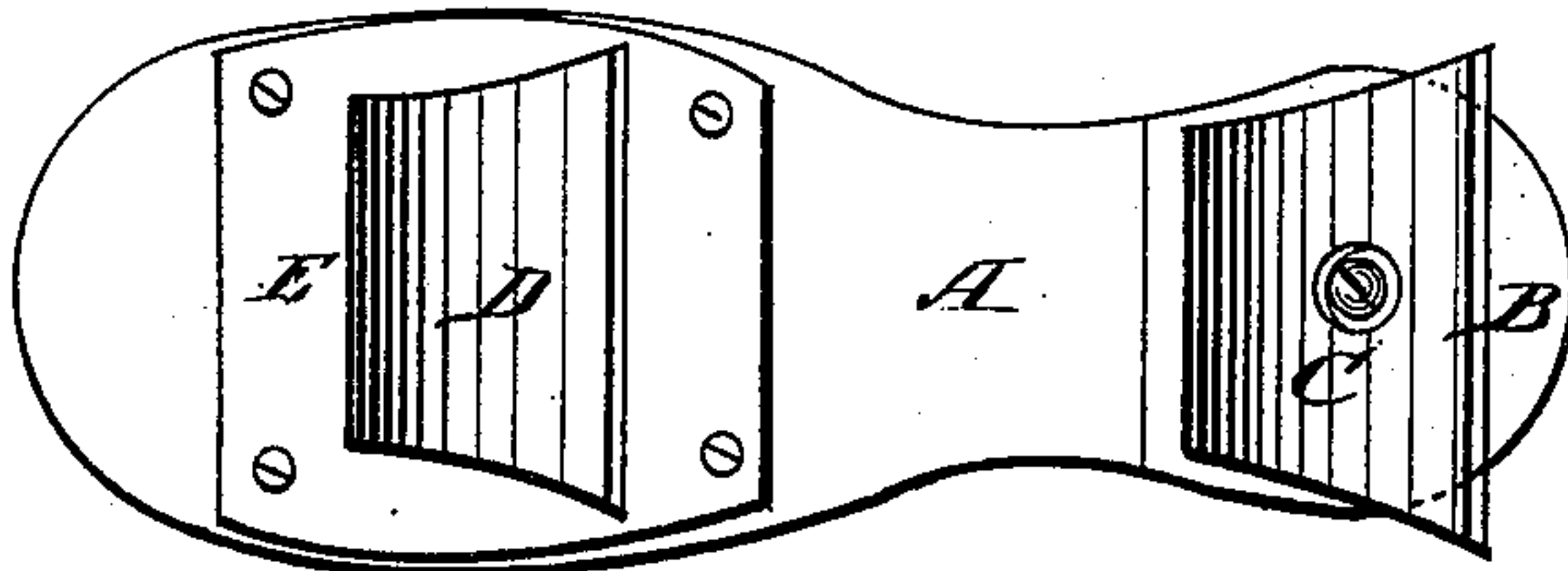


Fig. 3.

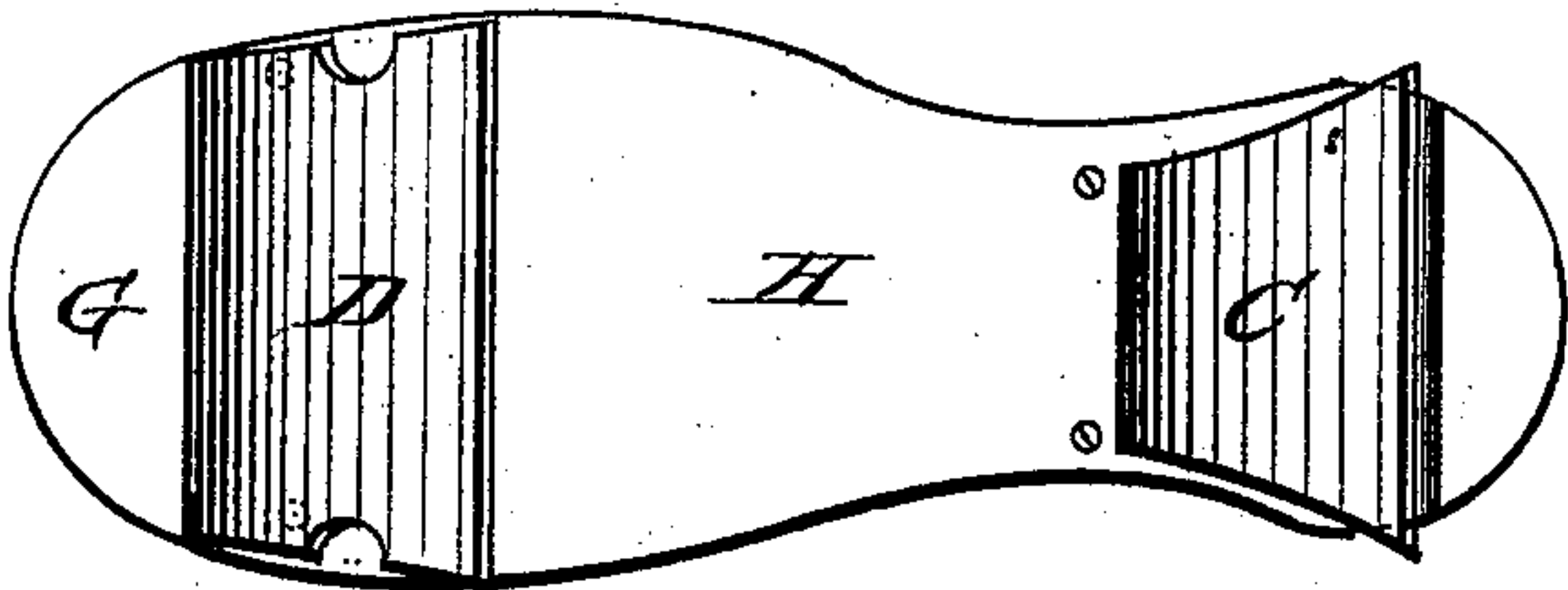
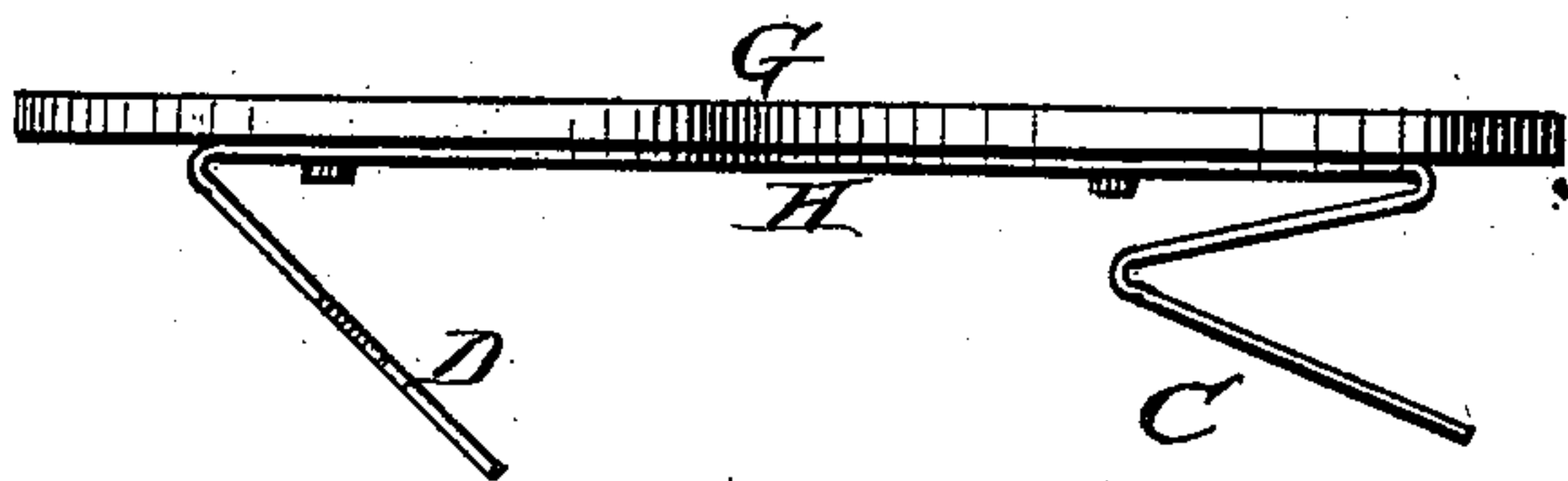


Fig. 4.



WITNESSES:

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WILLIAM BIDDLE, OF CORVALLIS, OREGON.

IMPROVEMENT IN BOOTS AND SHOES.

Specification forming part of Letters Patent No. **171,498**, dated December 28, 1875; application filed June 18, 1875.

To all whom it may concern:

Be it known that I, WILLIAM BIDDLE, of Corvallis, in the county of Benton and State of Oregon, have invented certain new and useful Improvements in Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to all kinds of foot-covering; and it consists in the application of two springs to a boot or shoe, one at the heel and the other at the toe, set on an angle toward the rear, to assist in walking, the object being in having the springs extend backward that as the foot is pressed down in walking the rearwardly-projecting springs hold the foot from backward strain, and throw the foot forward as it is raised. It also consists in the combination of parts, as hereinafter more fully set forth.

In the annexed drawing, Figures, 1, 2, and 3 are bottom views, showing various forms of the spring; and Fig. 4 is a side view of the spring shown in Fig. 3.

A represents the sole, and B the heel, of a boot, shoe, or other foot-covering constructed in any desired manner. On the under side of the heel B is fastened a metal plate, C, which is bent under from the front backward, as shown, forming a spring, upon which the wearer will step in walking. D represents a similar bent spring, fastened to a plate, E, which may be either permanently attached to the under side of the sole A, as shown in Fig. 2; or the plate E may be removably attached to the same, as shown in Fig. 1, by the following means: At each end of the plate are two bars or straps, *a a*, the ends of which are prop-

erly bent upward to catch on the edges of the sole A. These bars are slotted, and held to the plate by headed pins *b*, and their inner ends pass through a loop or staple, *d*, attached to the plate. The inner end of one bar, *a*, is formed with a series of notches, *x x*, and that of the other bar with a projection, *y*, to enter either of said notches, and they are, when adjusted, pressed together, and held by means of a cam-lever, *h*, pivoted at one end of the loop *d*. When this lever is thrown outward the bars may be separated and adjusted to the sole, and when thrown to one side the bars are fastened together.

In some cases—for instance, on slippers—a thin wooden sole, G, may be used, and a single metal plate, H, fastened thereto, with its ends bent to form both springs, as shown in Figs. 3 and 4.

Springs under the foot assist materially in walking, and render the same easy and natural.

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

1. A boot or shoe having the rearwardly-projecting sheet-metal heel-spring C and toe-spring D, constructed substantially in the manner and for the purpose specified.

2. The combination, with the spring D and plate E, of the bent and slotted bars *a a*, having notches *x* and projection *y*, as described, the loop or staple *d*, and cam-lever *h*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM BIDDLE.

Witnesses:

M. S. WOODCOCK,
SAMUEL P. FRANTZ.