

(No Model.)

A. F. HILKER.
SWIMMING SHOE.

No. 509,535.

Patented Nov. 28, 1893.

Fig. 1.

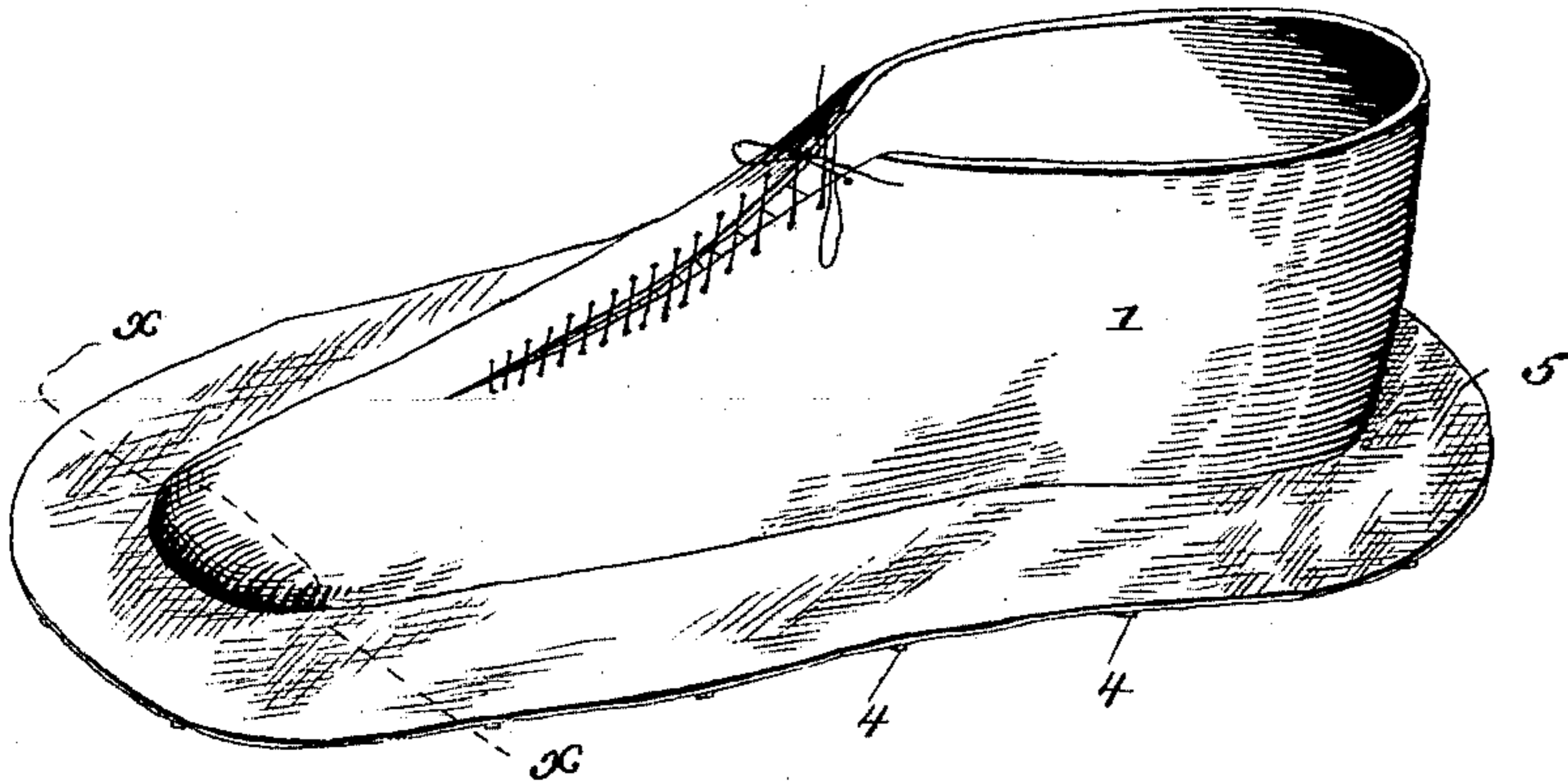
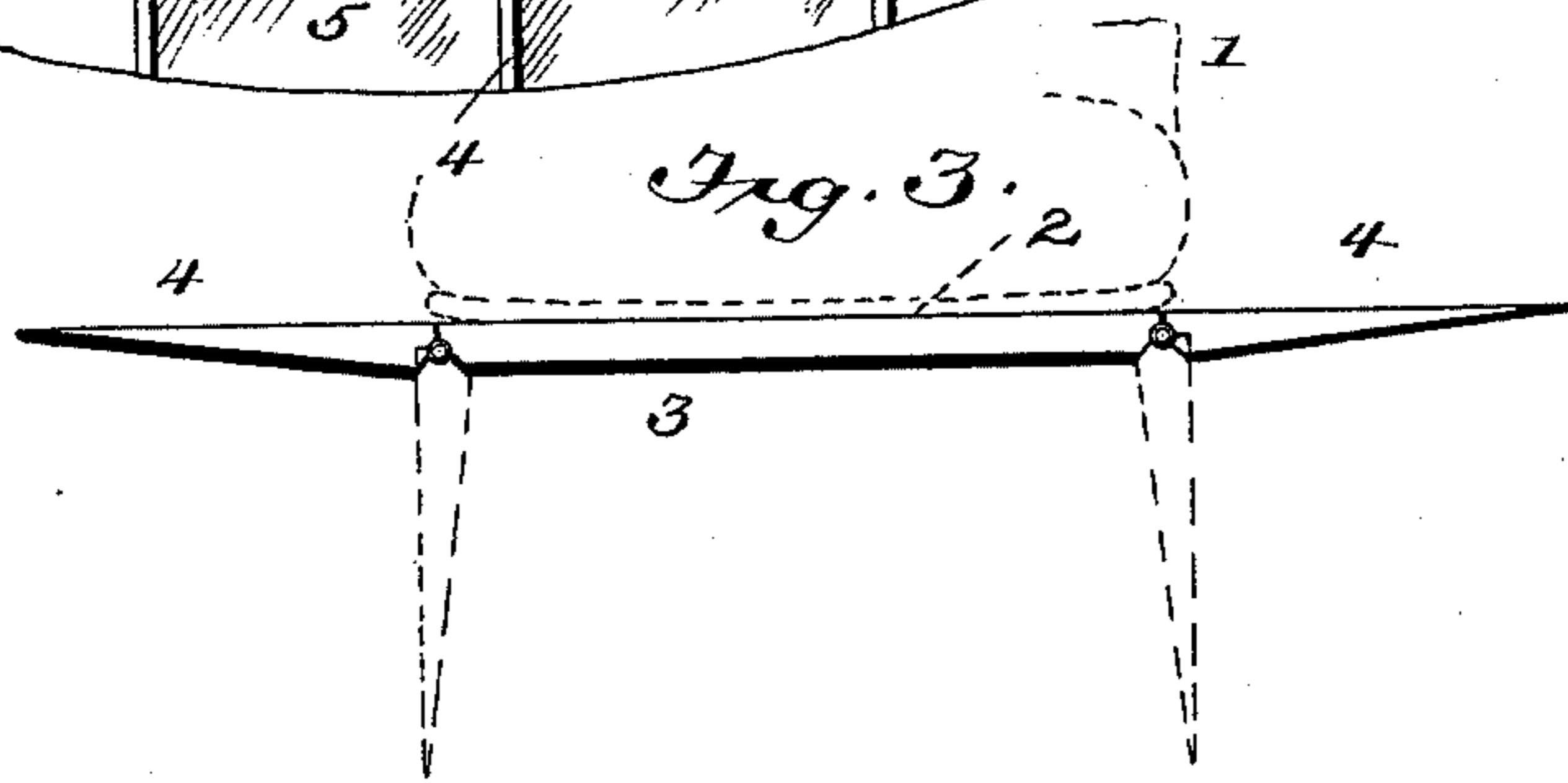
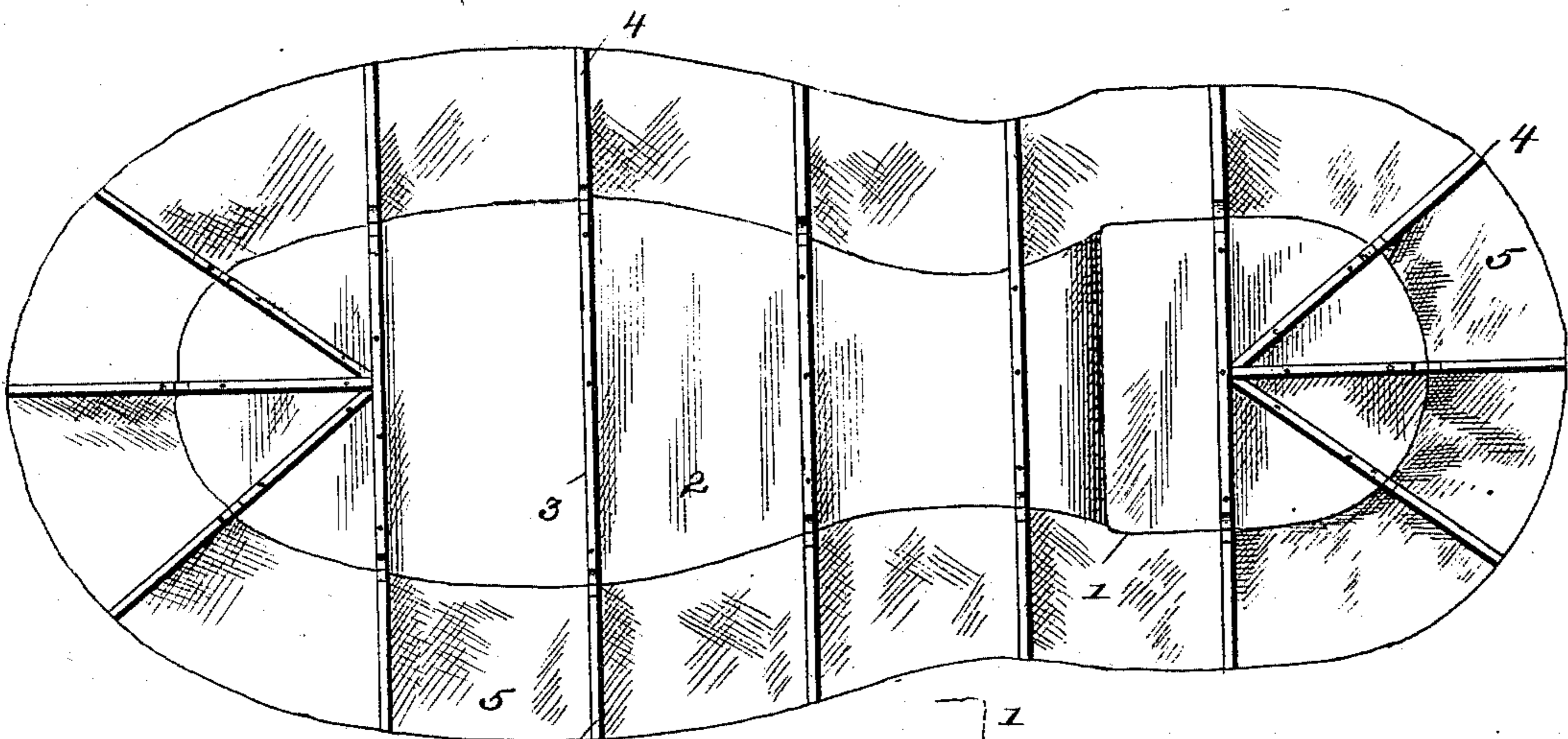


Fig. 2.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

AUGUST F. HILKER, OF BIGGS, CALIFORNIA.

SWIMMING-SHOE.

SPECIFICATION forming part of Letters Patent No. 509,535, dated November 28, 1893.

Application filed June 15, 1893. Serial No. 477,626. (No model.)

To all whom it may concern:

Be it known that I, AUGUST F. HILKER, a citizen of the United States, and a resident of Biggs, in the county of Butte and State of California, have invented certain new and useful Improvements in Swimming-Shoes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to swimming shoes, and has for its object to provide simple and convenient means for accelerating the speed of a swimmer by devising an automatically operating web or fin which increases the impelling power of the feet of the wearer.

With this end in view, the invention consists of the combination and arrangement of the parts as will be more fully hereinafter described and claimed.

In the drawings:—Figure 1 is a perspective view of the improved shoe showing the web down. Fig. 2 is a bottom plan view of the shoe, showing the web distended. Fig. 3 is a transverse section of the shoe on the line $x-x$, Fig. 1, on an enlarged scale.

Similar numerals of reference are employed to indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates a rubber shoe to the sole, 2, of which a series of small sole-bars, 3, of suitable metal are secured and extend transversely of said sole, said bars at the toe and heel being radially arranged to compensate for the curvature at these points. To the outer ends of the said sole-bars are hingedly connected a series of metallic web-bars 4, to which is secured a rubber web 5. The joints of the bars 4 are similar to the well-known form of rule-joint, and permit the said bars

to open at a half angle only or in line with the sole-bars 3. The web completely surrounds the sole of the shoe and forms with the said bars 4 an automatically adjustable extension which increases the resisting surface.

In operation, when the swimmer draws his feet up to make a pedal stroke, the web is forced down, as shown in Fig. 3, and on the return or impelling stroke, the said web expands, as shown by Fig. 2, and thereby increases the resistance and provides a greater purchase.

The shoe, as heretofore described, may be used to walk on land without difficulty and injury to the same.

The advantages of this form of shoe are self-evident, and it is also obviously apparent that minor changes, within the scope of the invention, in the proportion and various details may be readily made, and also the shoe and web may be formed of other materials if desired.

Having thus described the invention, what is claimed as new is—

In a swimming shoe, the combination of a rubber shoe, a series of transversely extending bars secured to the sole of said shoe, said bars at the heel and toe being radially arranged to compensate for curvature, another series of bars hinged to the outer ends of said sole-bars, and a rubber web attached to the latter bars and completely surrounding the sole, substantially as described.

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

AUGUST F. HILKER.

Witnesses:

GEO. E. CURTIS,
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