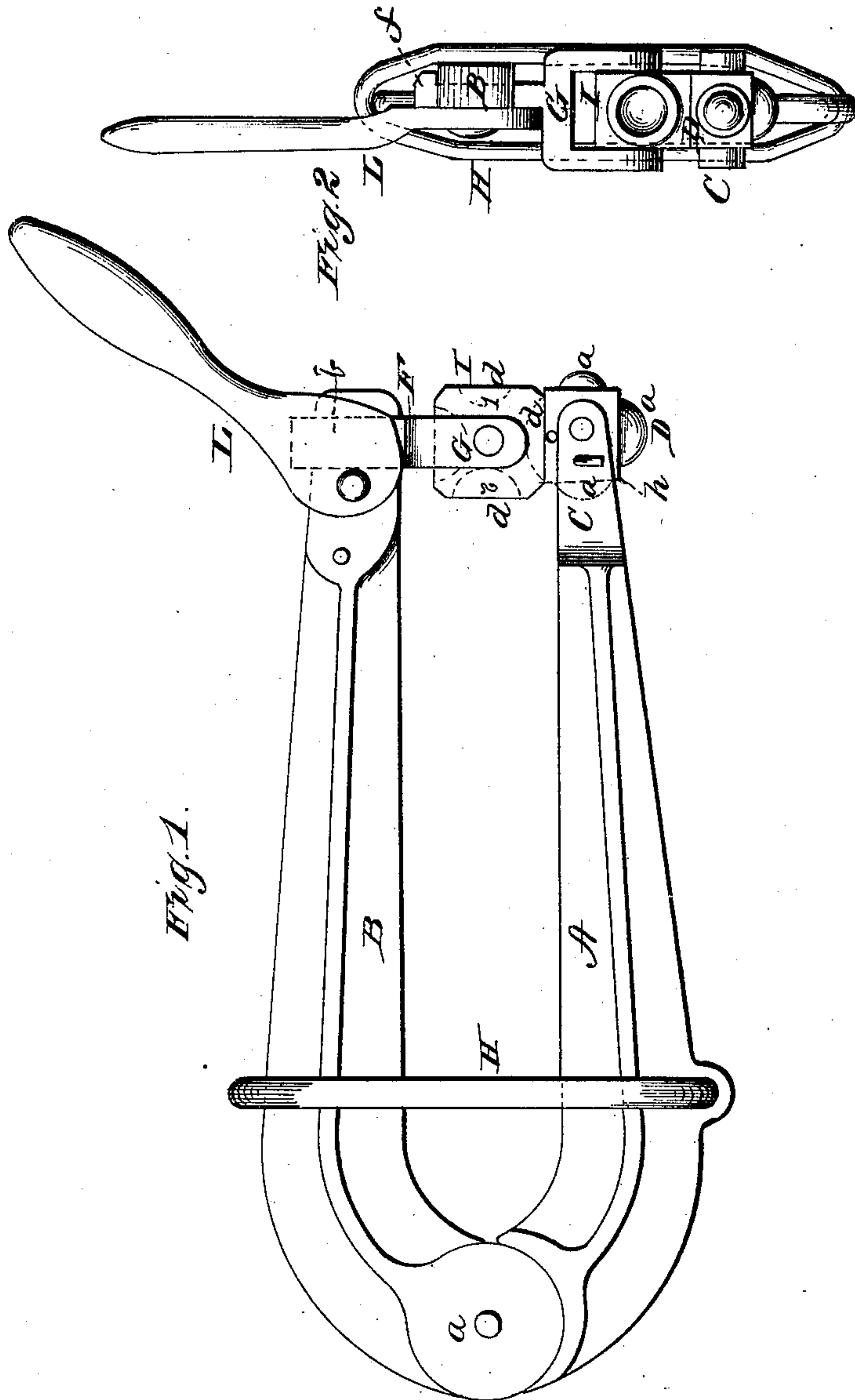


Stretchers for Forming Swells or Enlargements in the Uppers of Boots and Shoes.

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WITNESSES.
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IMPROVEMENT IN STRETCHERS FOR FORMING SWELLS OR ENLARGEMENTS IN THE UPPERS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **210,285**, dated November 26, 1878; application filed September 25, 1878.

To all whom it may concern:

Be it known that I, JOSEPH J. ADGATE, of New York, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Stretchers for Forming Swells or Enlargements on Boot and Shoe Vamps; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a device or stretcher for forming swells or enlargements on boot and shoe vamps, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view of my invention. Fig. 2 is an end view of the same.

A and B represent two metal arms or jaws, the inner ends of which are curved, as shown, halved together, and then united by a rivet, *a*, which allows said jaws to open and close sufficiently far for the purposes intended. The rivet *a* is preferably cast with one of the jaws in one piece, while the other jaw has a hole for the passage of the rivet.

On the end of the jaw A is formed a fork, C, and in said fork is journaled a male die, D, having four faces, (more or less,) and on said faces are protuberances *a a*, of different sizes and shapes.

The end of the jaw B is formed with a groove at *b*, and in the same is placed an arm, F, having a fork, G, formed on its inner end, and on its outer end is a shoulder, *f*, to form a stop for its movement. The bar F is held in the groove *b* simply by means of an eccentric-lever, L, pivoted to the side of the jaw B, and which eccentric is to work against the shoulder formed by the fork, to force the same inward. In the fork G is journaled a female die, I, having the same number of faces as the male die D, and has in its faces cavities or depressions *d*, corresponding in size and shape with the protuberances *a* of the male die.

The object of my invention is to stretch a boot or shoe at any point, and just at the point

only where needed, such as to give room for corns, bunions, &c.; and the operation is as follows: After selecting which face upon the male die D will best answer the purpose, according to the size and shape of the swell wanted, said die is turned with such face inward, and this die then held by a pin, *h*, as shown. The jaw A, with the male die D, is then inserted in the boot or shoe, bringing the die to the spot where wanted. The jaw B is then closed on the outside of the boot or shoe, the female die I being turned so as to bring the corresponding depression *d* against the outside. A ring, H, pivoted to one of the jaws, is then thrown over the jointed end of the instrument, and, by means of the lever L, the bar F is forced inward, when the leather will be stretched by the male die into the female die and form the desired swell on the boot or shoe. It will thus be seen that I stretch only that portion of the boot or shoe where any enlargement may be wanted, without stretching any other part.

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

1. Two pivoted jaws, carrying, respectively, a male die, having a series of faces, and a corresponding female die, and provided with compressing mechanism, for the purposes herein set forth.

2. The combination of a rotating male die, having a series of faces, and a corresponding rotating female die, arranged in the ends of pivoted jaws, and a compressing mechanism, for the purposes herein set forth.

3. The combination of the grooved jaw B, sliding bar F, with fork G, female die I, and eccentric-lever L with an opposing male die, substantially as and for the purposes herein set forth.

4. The combination of the jaw A, with fork C, male die D, with pin *h*, the jaw B, bar F, with fork G, female die I, lever L, and ring H, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of August, 1878.

JOSEPH J. ADGATE.

Witnesses:

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