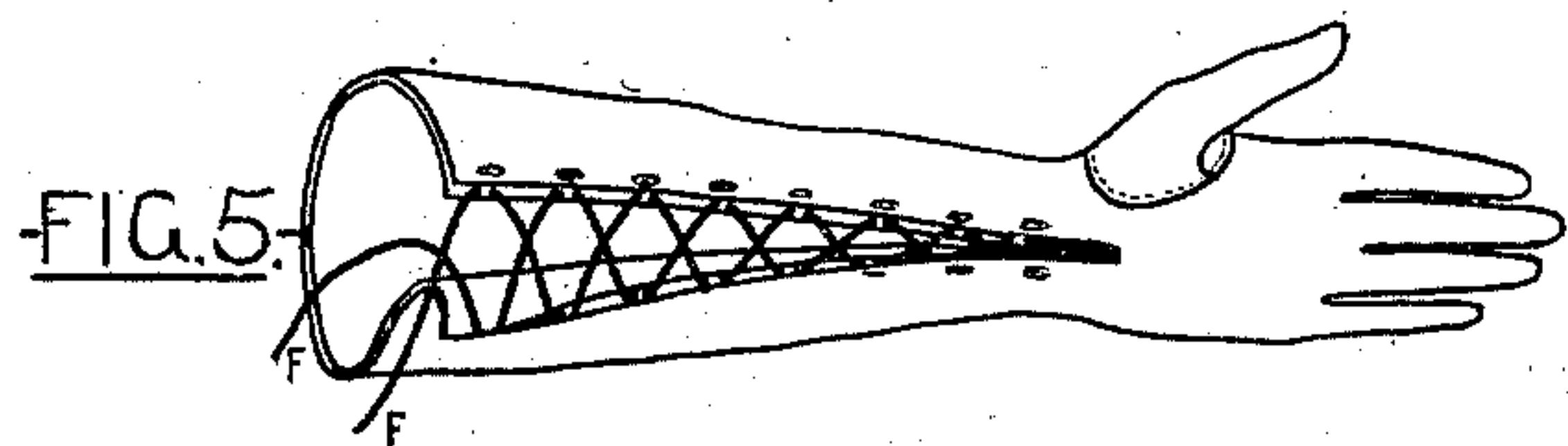
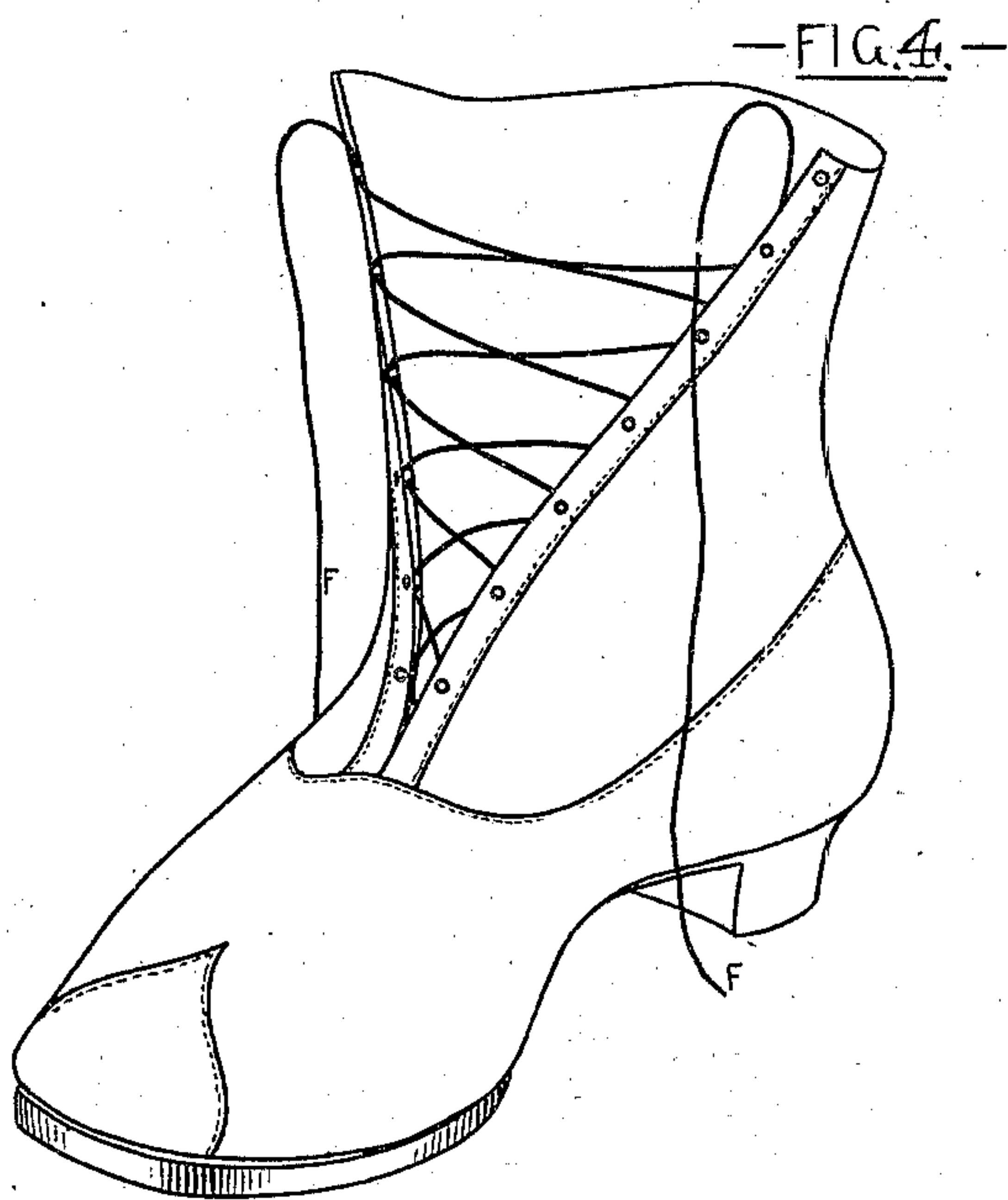
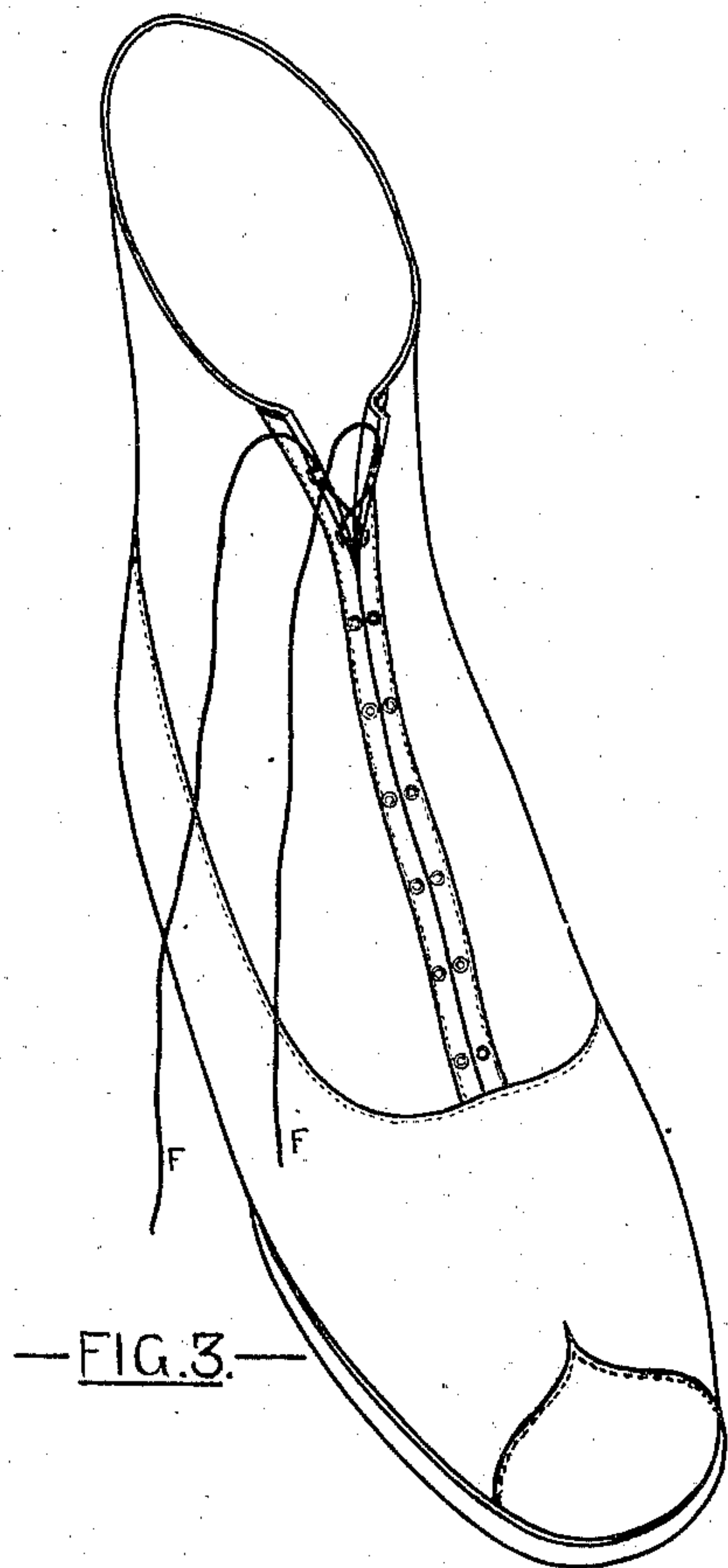
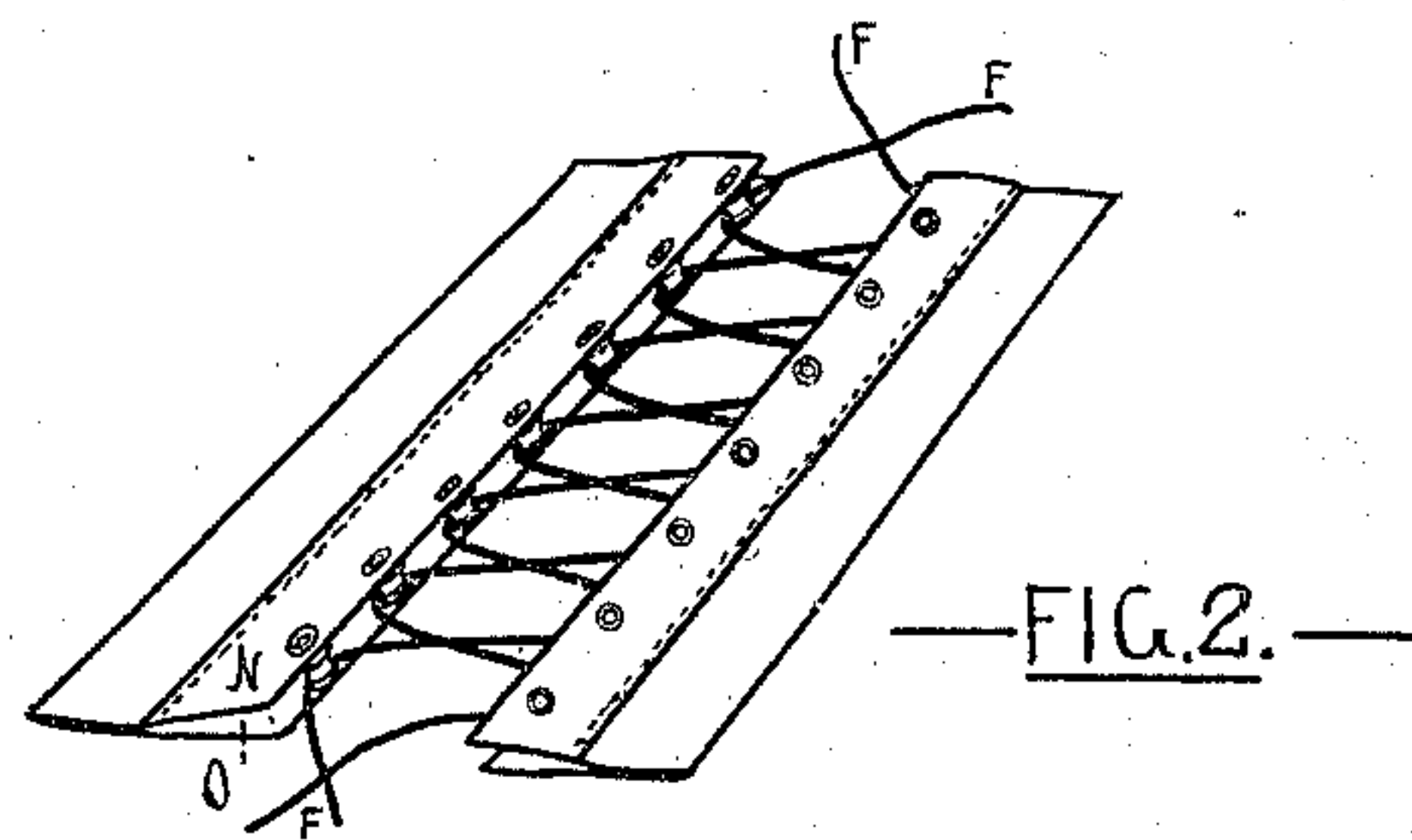
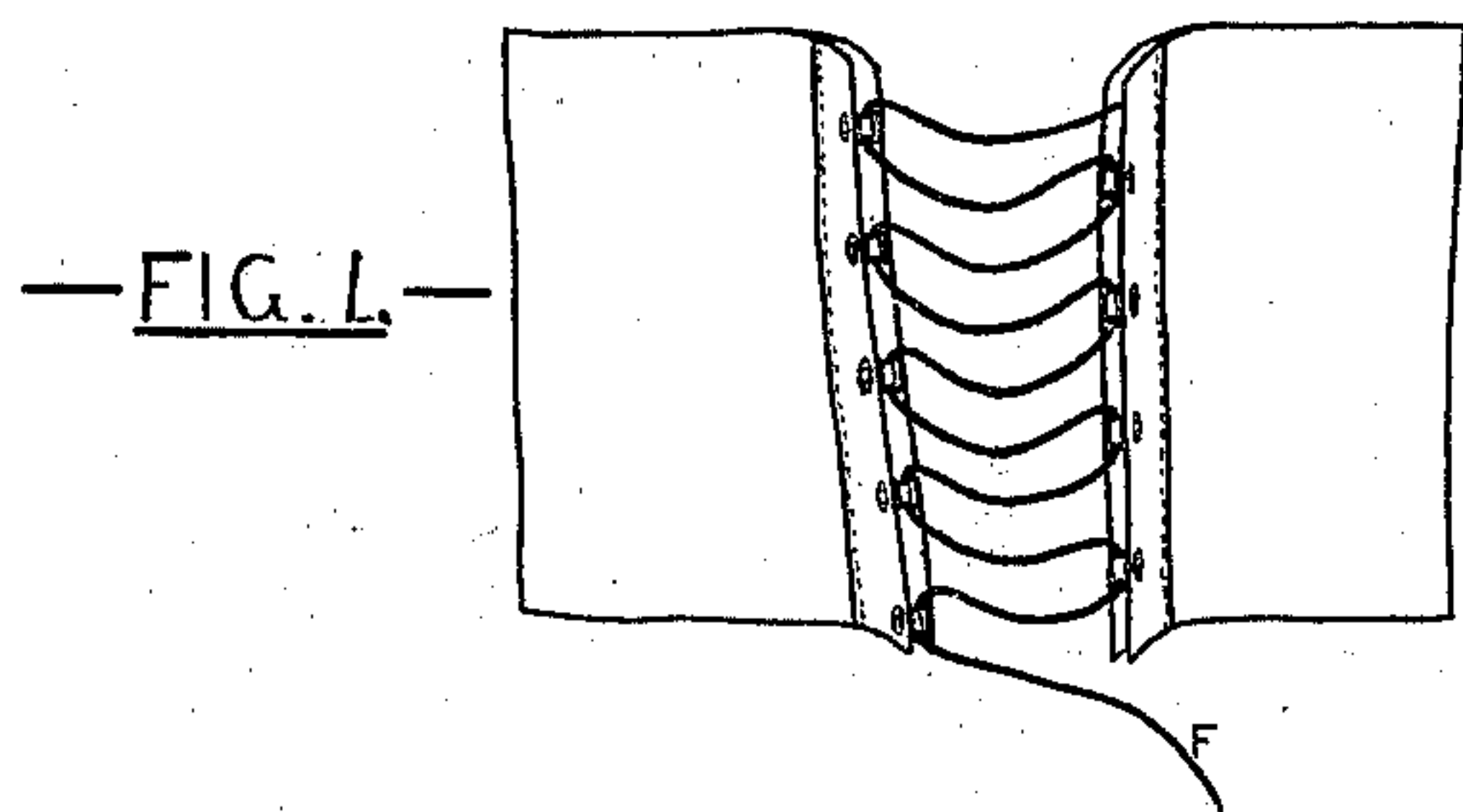


E. H. SMITH.  
Means for Lacing Garments.

No. 232,420.

Patented Sept. 21, 1880.



Witnesses:  
Theodore F. Pickers.  
W. L. Duckett.

E. H. Smith  
by J. P. Pickers, Atty.

# UNITED STATES PATENT OFFICE.

ERNEST H. SMITH, OF WINCHMORE HILL, GREAT BRITAIN.

## MEANS FOR LACING GARMENTS.

SPECIFICATION forming part of Letters Patent No. 232,420, dated September 21, 1880.

Application filed September 8, 1879. Patented in England December 11, 1878.

*To all whom it may concern:*

Be it known that I, ERNEST HARMER SMITH, of Winchmore Hill, in the county of Middlesex and Kingdom of Great Britain, have invented certain Improvements in the Means of Fastening Wearing-Apparel and other articles which require to be laced, of which the following is a specification.

The nature of my invention consists, essentially, in forming the edges of the article to be laced with a leaf or flap by sewing or otherwise attaching thereto a strip of suitable material of proper width, and between these two parts placing, at more or less frequent intervals, a small friction-roller rotating upon a shaft, the ends of the shaft passing through the two parts, and, upset or riveted, bind the said edges together. A cord or cords passing around the rollers from side to side moves over the rollers almost without friction and admits of the edges of the garment being brought closely together by a single pull upon either end.

In the drawings, Figures 1 and 2 show sections of a garment provided with a double flap edge, N and O, between which is a series of friction-rollers.

The rollers consist of a small pulley rotating upon a solid or hollow shaft.

A washer may be placed around the shaft or not, as may be thought necessary. Holes are punched in the flaps, the ends of the shaft

passed through, and the extremities, being upset or riveted, bind the two edges together.

My improvement applied to shoes and gloves is shown in Figs. 3, 4, and 5.

It will be seen that besides forming a very strong and durable fastening my arrangement permits the edges of the garment to be brought closely together, and the lacing is entirely out of sight, and is protected from the wear and chafing to which a lacing passing through the common eyelets is necessarily subjected.

The strips or leaves with the rollers between may be manufactured in lengths, as shown at Figs. 5 and 6, and afterward attached to the garment by stitching or any other convenient means, or a second strip may be applied directly to the edge of the garment as ordinarily constructed.

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

As an improved means for lacing articles of wearing-apparel, a double flap, between which flaps rollers are placed at suitable intervals, the shafts of said rollers passed through both the flaps to hold the two edges together, substantially as described.

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