(No Model.) 2 Sheets—Sheet 1.

W. L. FAIRE.

BOOT STRETCHER.

No. 474,376. Patented May 10, 1892.

Fig. 1.

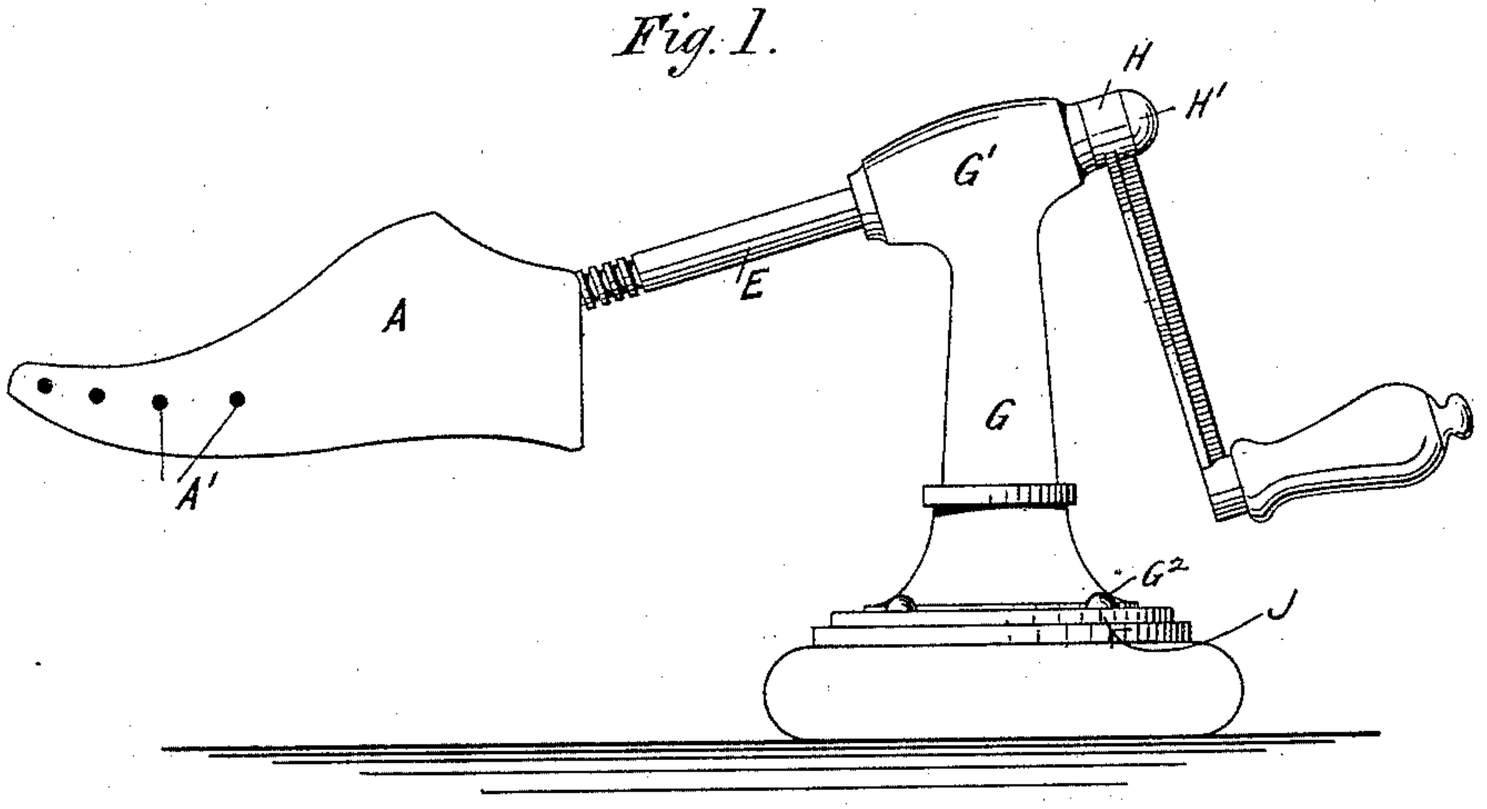
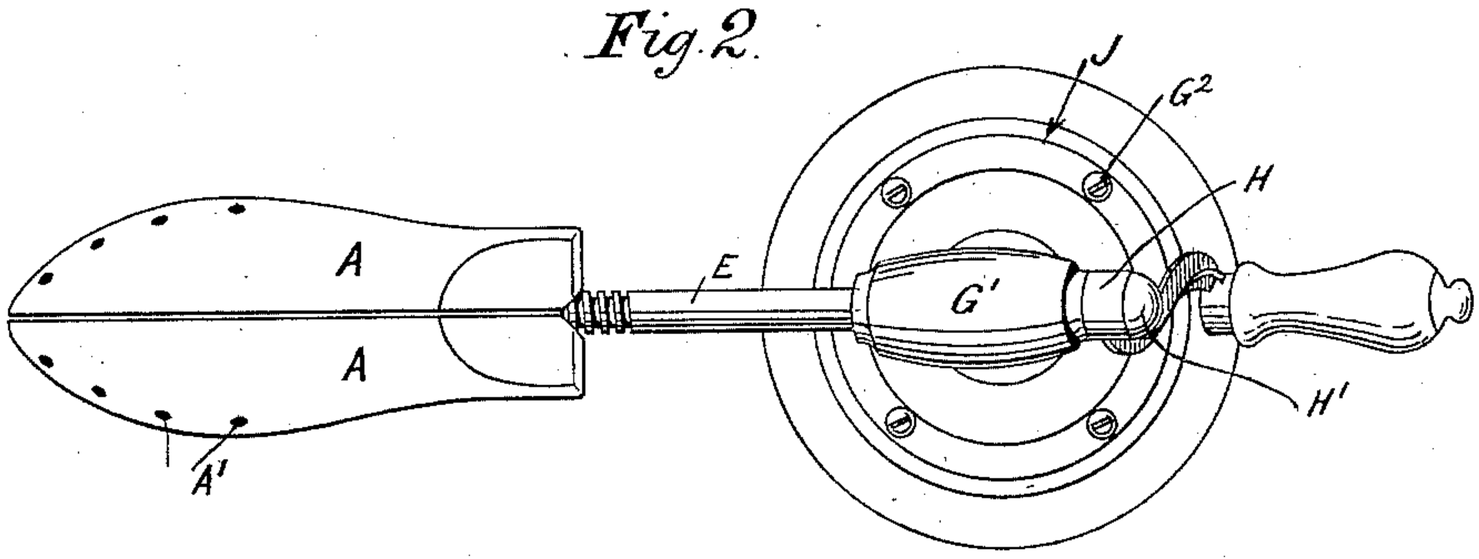


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet. 2.

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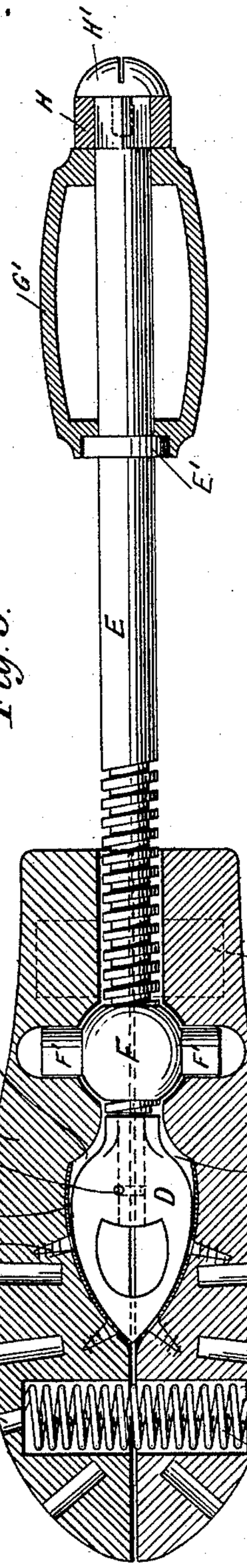

Fig. 3.

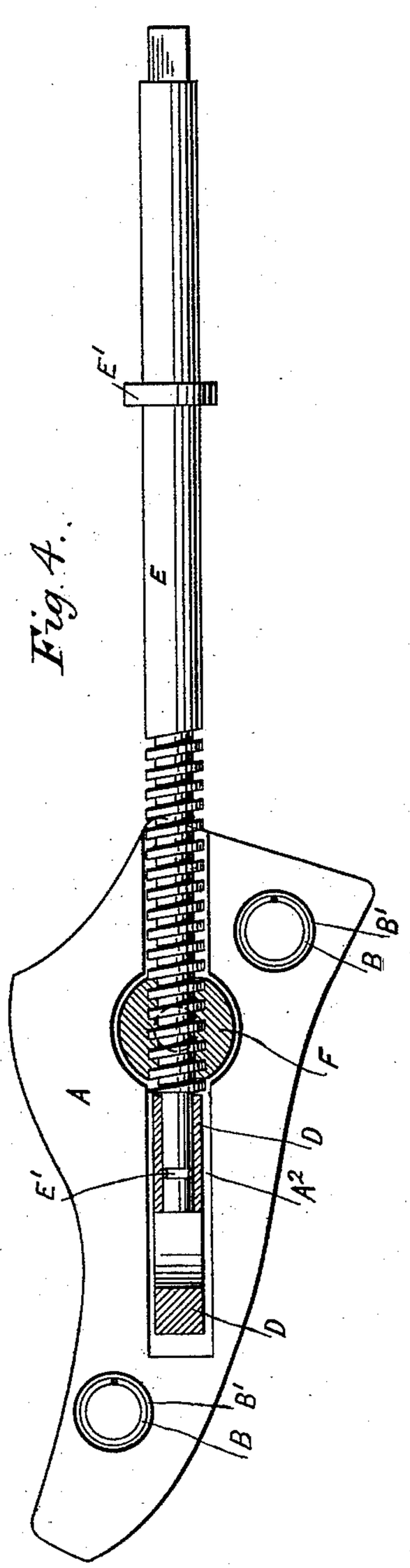

Fig. 4.

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UNITED STATES PATENT OFFICE.

WATKIN LOUIS FAIRE, OF LONDON, ENGLAND.

BOOT-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 474,376, dated May 10, 1892.

Application filed January 20, 1892. Serial No. 418,668. (No model.)

To all whom it may concern:

Be it known that I, WATKIN LOUIS FAIRE, a subject of the Queen of England, residing at 68 Aldermanbury, London, England, have invented certain new and useful Improvements in Boot-Stretchers, of which the following is a specification.

This invention has reference to devices or apparatus used for the purpose of stretching boots and shoes and technically known as "boot-stretchers."

The object of the invention is to construct a boot-stretcher the maximum stretching capacity of which shall be obtained with the application of considerably less power or energy than is possible with boot-stretchers of ordinary construction.

According to this invention the last or block, which is inserted within the to-be-stretched boot, differs from those at present employed by being formed into two separate parts, unconnected except by two or more springs between their adjacent faces or located within the divisional interstice, and by which they are maintained closed and against each other when in their normal positions. The screwed spindle by which the last-block is opened or expanded when in the boot is mounted in a bearing in the upper end of a suitable pedestal, and is provided at its end with a crank-handle or equivalent by which the power is applied and the device operated for stretching purposes.

In order that the invention may be understood, reference is made to the accompanying drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a plan of my improved boot-stretcher. Fig. 3 is a longitudinal section, and Fig. 4 is a view of the screwed rod and one half of the stretching-block, the other half being removed for clearness sake.

A are blocks forming the last, which is inserted within the boot to be stretched. These blocks are provided on their exterior with a series of openings A′ for the reception of the usual metal bunion-pieces, and the blocks are maintained in position against each other so as to form the complete last, preferably by means of spiral springs B, Figs. 3 and 4, located within cavities or recesses B′ in the inner faces of the blocks A, and firmly secured in position by means of their extreme ends passing through the body of the blocks to the exterior and being bent or turned at a right angle thereto, as in Fig. 3, the end being afterward covered over by cement or other material, so as to hide it from view.

In order to enable the last to be expanded, each of the blocks A is provided on its inner face with a groove A^2, having a metal lining C, secured by screws C′, and in which a metal cam-piece D is located. The piece D is movably fitted onto the end of the screwed rod E, and is maintained in position thereon by a pin D′, Fig. 3, which passes through the piece D and enters a groove E′ in the circumference of the rod E. The screwed rod E has also a follower-nut F, having a lug F′ on each side situated within a recess in each of the blocks A, so that the latter will travel up and down the screwed rod with the nut, as hereinafter described. The said rod E passes through the back of the blocks and between the same at their upper parts, Figs. 1 and 4, and through a bearing G′ in the apex of the pillar or pedestal G. The screwed rod is maintained in position in the bearing G′ by a collar E′, which is located within and flush with one end of the latter, as in Fig. 3, and by a crank-handle H at the opposite end. The said rod, which is fixed in the oblique position shown, is of square section at its elevated end to receive the crank-handle H, by which the stretcher is operated, and the said handle is secured in position by means of a screw H′, the threaded shank of which passes into the end of the rod E, which is internally threaded to receive it. The bearing G′ for the screwed rod may be formed in any suitable pedestal, pillar, or equivalent, and the latter may be fixed by screws G^2 to a circular base, such as J, or to a bench or counter or other firm and rigid foundation.

The operation of the device is as follows: The to-be-stretched boot having been placed over the last A, the operator or attendant takes it in one hand, while the crank-handle is turned by the other hand. As the screwed rod E is rotated in its bearing G′ the follower-nut F travels toward the upper end of the thread, bringing the last and boot with it,

while the cam-piece D, getting toward the lower and narrower part of the groove, forces the blocks apart, so that the space or interstice between them becomes increased and the last expanded within the boot or shoe. From this it will be readily seen that the operation is much more easily effected and much less energy is required in the turning of the handle to force the blocks a given distance apart than in stretchers of ordinary construction, where the screwed rod is not mounted in a bearing and in which the power is applied through the medium of a small cross-bar on the end of the screwed rod.

I do not limit myself to the employment of the spiral springs B to keep the blocks against each other, although this appears to be a most convenient form; but I may, if desired, adopt the usual method of connecting them—*i. e.*, by means of a hinge at the heel portion—and instead of the crank-handle on the end of the screwed rod I might substitute a hand-wheel or equivalent device for rotating the screwed rod; but this would not be so suitable for the purpose as the crank-handle described.

I claim—

In a boot and shoe stretcher, the combination, with the divided last and the standard, of the screw-rod journaled in a bearing in the top of the standard, the follower-nut held within the last and adapted to travel on the screw-rod, and the cam-piece fitted on the end of the screw-rod, co-operating with grooves in the last, whereby when the rod is turned the last will be moved along the rod and be brought into co-operation with the cam-piece and spread apart, substantially as set forth and described.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

WATKIN LOUIS FAIRE.

Witnesses:

E. NORTH LEWIS,
Berridge Street, Chambers, Leicester.
THOMAS S. SHOULES.