

(No Model.)

W. A. YOUNG.

STRETCHER FOR FELT BOOTS, SHOES, OR STOCKINGS.

No. 333,910.

Patented Jan. 5, 1886.

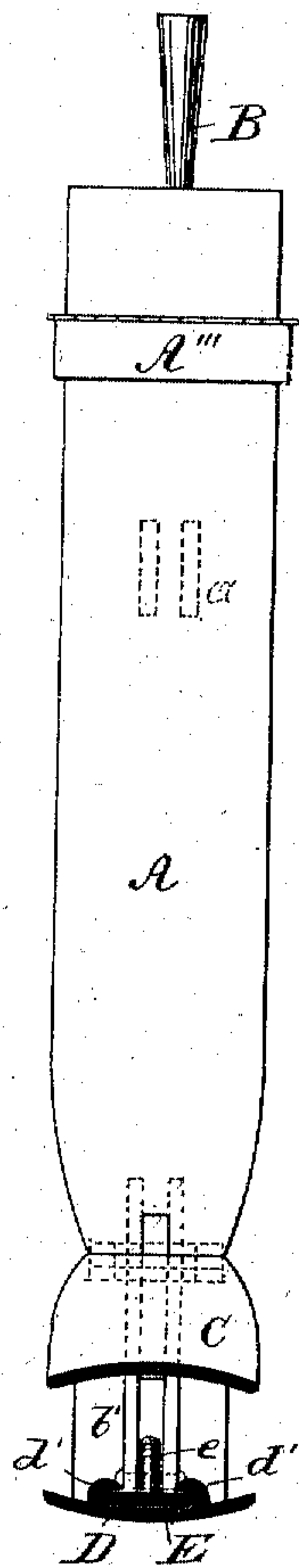


Fig. 1.

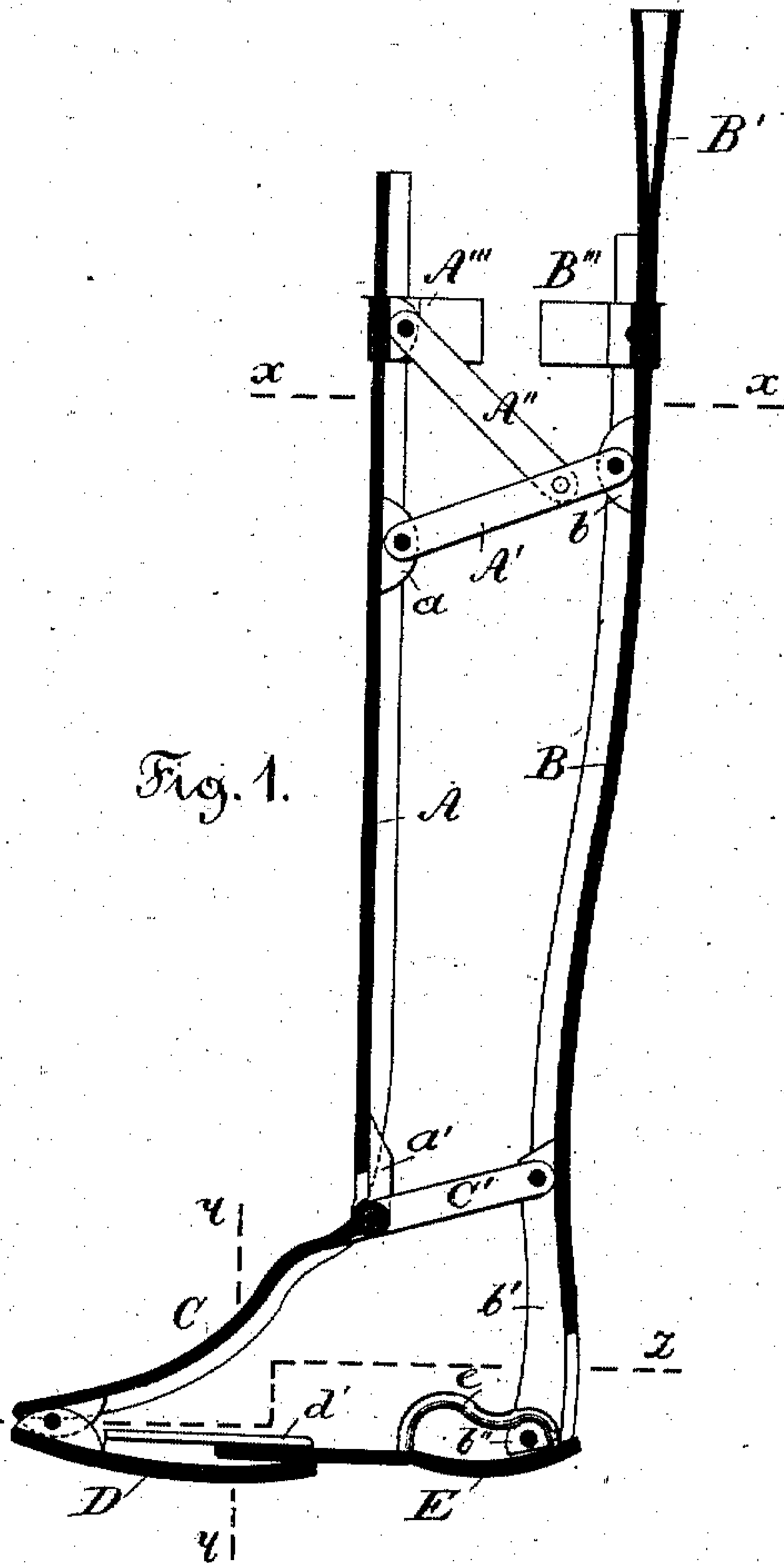


Fig. 2.

Fig. 4.

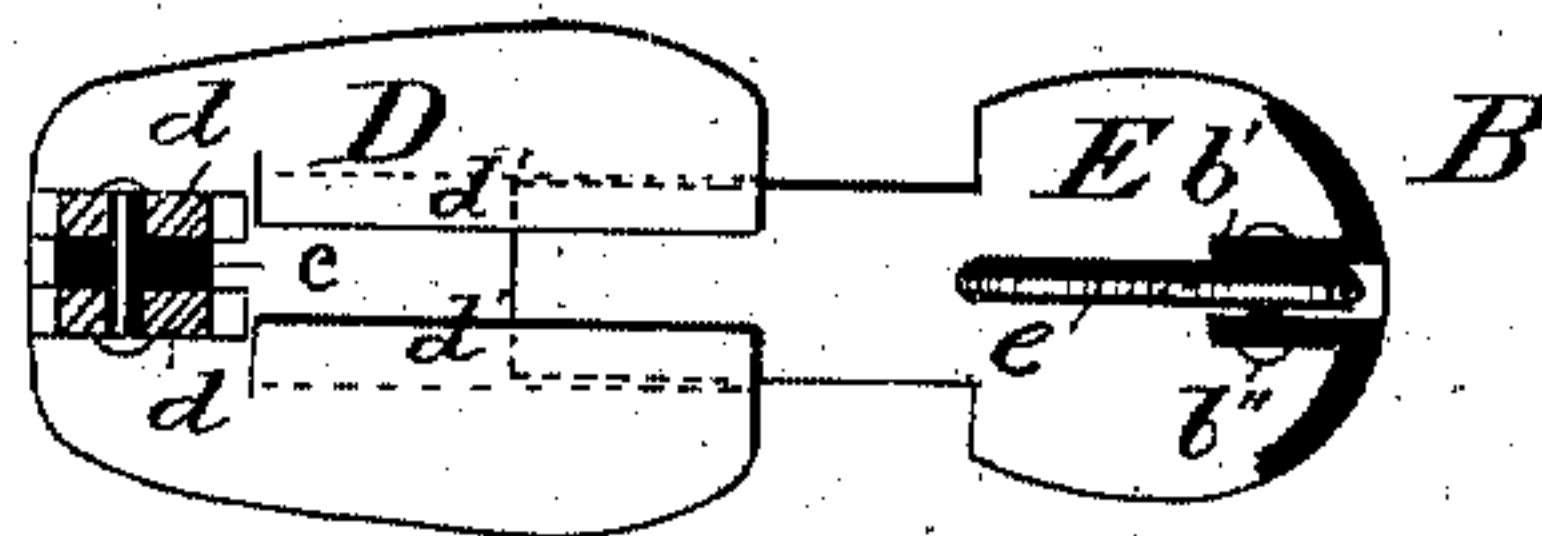


Fig. 5.

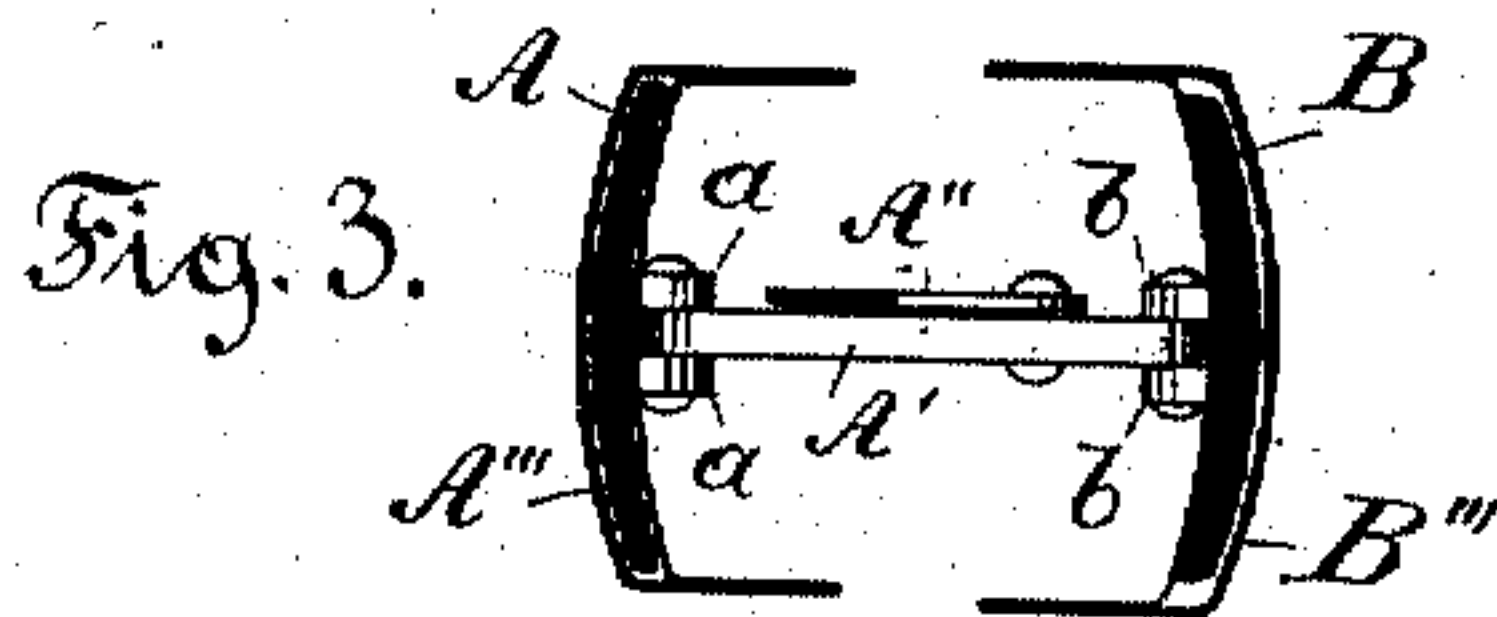


Fig. 3.

Witnesses:  
B. Harvey  
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William A. Young  
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# UNITED STATES PATENT OFFICE.

WILLIAM A. YOUNG, OF BERLIN, ONTARIO, CANADA, ASSIGNOR TO HUGO KRAUZ AND HENRY ALETTER, BOTH OF SAME PLACE.

## STRETCHER FOR FELT BOOTS, SHOES, OR STOCKINGS.

SPECIFICATION forming part of Letters Patent No. 333,910, dated January 5, 1886.

Application filed October 22, 1885. Serial No. 190,572. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM ARNOLD YOUNG, of Berlin, in the county of Waterloo, in the Province of Ontario, Canada, have invented new and useful Improvements in Stretchers for Felt Boots, Shoes, or Stockings; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to apparatus used in the manufacture of felt boots, shoes, or stockings, &c., and particularly to the shaping of the articles when in a more or less plastic state and before being dried.

The object of my improvements is to construct a stretcher that will work rapidly and efficiently.

Figure 1 is a vertical section of my improved stretcher, showing the same open or expanded. Fig. 2 is a similar section showing the stretcher closed or folded. Fig. 3 is a cross-section of the leg at  $x x$ . Fig. 4 is a cross-section of the foot at  $y y$ . Fig. 5 is a longitudinal section of the foot at  $z z$ , giving a top view of the sole of the foot.

My improved stretcher consists, essentially, of a front, back, and foot section suitably connected by links and hinges, the foot-section being composed of three pieces. I prefer to make the sections of strong sheet metal; but they may also be cast.

A and B are the front and back sections, respectively, forming the leg of the stretcher, and C D E are the three parts composing the foot-sections. A and B are connected near the upper end by a link, A', pivoted between the double brackets or lugs  $a$  and  $b$ . A link, A'', is pivoted to the link A' at a point about two-thirds the length of the latter from the front pivot, and carries at its upper end the longitudinal stretching-jacket A''', consisting of a curved piece conforming to the shape of the leg and slidingly connected with the front section, A. A similar piece, B''', slightly larger, is fixedly secured to the rear section B. These jackets are provided with suitable teeth. The foot-section has its upper part, C, and the sole D E hinged together at the toe by lugs or brackets  $c d$ , and the two parts of the sole D and E are slidingly connected. The front

section, A, adjoins the foot-section C above the instep. A lever, C', integral therewith or rigidly secured to it immediately below the joint, is pivoted on the front section, A, between the brackets  $a'$ , and then reaches across to the rear section B, on which it is pivoted between the lugs or brackets  $b'$  at a point distanced one-fourth the length of the stretcher from its lower end. This lever C', while controlling the relative position of the foot-section to the leg, also acts as a connecting-link between the sections A and B similar to the link A'. The heel-joint is both pivotal and sliding, the brackets  $b'$  being extended down to the heel extremity of the section B and a pin,  $b''$ , inserted, which plays in an elongated eye in the bracket or staple  $e$ , secured to the heel-piece E. The front part of the heel-piece is made of uniform width and thickness to adapt it to slide in the toe-piece D, overhanging lips  $d'$  being formed on the upper (or inner) face of the latter to form a bed for the former. The rear section B is also provided at its upper end with a socket, B', in which a handle may be inserted for operating the stretcher.

It will be observed that the stretcher, as shown in Fig. 2, is ready to be inserted in the article that is to be shaped and stretched. When inserted, and the toe placed on a table or other support, the section B is pushed down, when simultaneously the leg is expanded, the foot brought into position, expanded, and extended, the whole operation occupying merely the time it takes to press down the rear section B. To withdraw the stretcher, it is first collapsed by holding the article with one hand and lifting rear leg-section B by the handle B'' with the other. A last or shape, usually termed a "drier," is then placed in the formed article to occupy the place of the stretcher during the process of drying.

I claim as my invention—

1. A stretcher for felt boots and the like articles, consisting of the leg-sections A and B, collapsibly connected by link A', the foot-section composed of the pieces C, D, and E, collapsibly connected to the leg-sections above the instep by a lever, C', and a sliding pivot-joint at the heel, the toe-pieces C and D,



hinged together at the toe, and the heel-piece E, slidingly connected with the sole-piece D.

2. The combination of the sections A and B, link A', pivoted thereto, upper foot-plate, 5 C, having lever C', which is pivoted to A and B, sole-piece D, pivoted to C at the toe, heel-piece E, sliding in a bed formed by lips d' on the sole-piece and slidingly hinged to the leg-section B at the heel by a pin working in an 10 elongated slot in the bracket or staple e.

3. The combination of the front leg-section, A, stretching-jacket A'', slidingly connected thereto, rear leg-section B, having socket B' for handle B'', and stretching-jacket B'', link 15 A', connecting said sections, and link A'', pivoted to link A' and jacket A''.

4. The combination of the top foot-piece, C,

lever C', front leg-section, A, hinged thereto, and rear leg-section B, hinged to the end of lever C' at one-fourth the length of the stretcher 20 from the heel.

5. The combination of the top foot-piece, C, front sole-piece, D, pivot-joint at the toe, heel-piece E, slidingly connected with D, bracket or staple e, having elongated slot to receive 25 slidingly a pin, b'', in the brackets b', all substantially as shown and described, as and for the purpose set forth.

Signed at Berlin, Ontario, this 14th day of July, 1885.

W. A. YOUNG.

Witnesses:

H. ALETTER,  
HUGO KRAUZ.

It is hereby certified that the name of one of the assignees in Letters Patent No. 333,910, granted January 5, 1886, upon the application of William A. Young, of Berlin, Ontario, Canada, for an improvement in "Stretchers for Felt Boots, Shoes, or Stockings," was erroneously written and printed "Hugo Krauz," whereas said name should have been written and printed *Hugo Kranz*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 24th day of January, A. D. 1888.

[SEAL.]

D. L. HAWKINS,  
*Acting Secretary of the Interior.*

Countersigned:

BENTON J. HALL,  
*Commissioner of Patents.*