

No. 721,016.

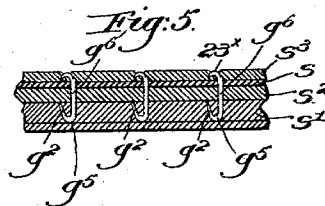
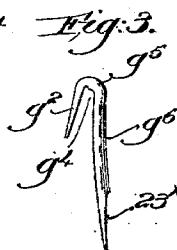
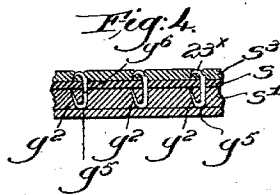
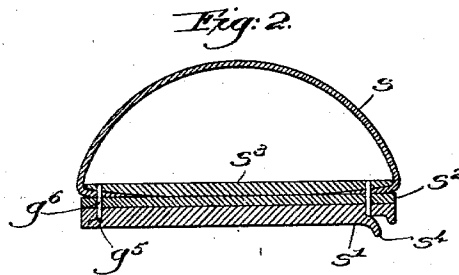
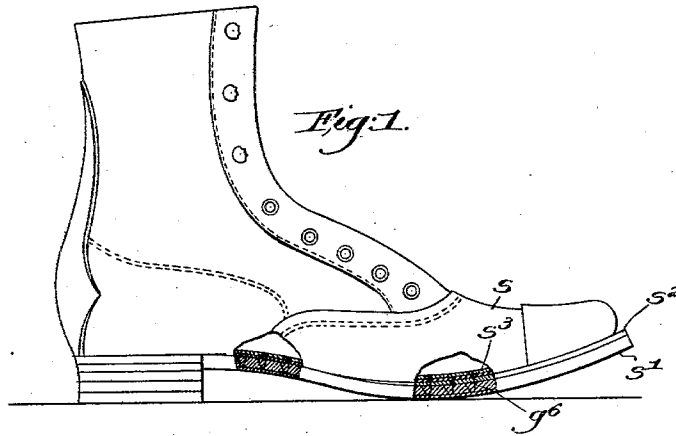
PATENTED FEB. 17, 1903.

L. A. CASGRAIN.

METHOD OF ATTACHING SOLES OF BOOTS OR SHOES OR SECURING
TOGETHER LAYERS OF MATERIAL.

APPLICATION FILED JAN. 7, 1901.

NO MODEL.



Witnesses
Edward F. Allen.

Thomas J. Drummond.

Inventor,
Louis A. Casgrain
by Lemley Gregory
attys.

UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO
UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS,
A CORPORATION OF NEW JERSEY.

METHOD OF ATTACHING SOLES OF BOOTS OR SHOES OR SECURING TOGETHER LAYERS OF MATERIAL.

SPECIFICATION forming part of Letters Patent No. 721,016, dated February 17, 1903.

Original application filed May 25, 1900, Serial No. 17,939. Divided and this application filed January 7, 1901. Serial No. 42,375. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented a Method of Attaching Soles of Boots or Shoes or Securing Together Layers of Material, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention consists in an improved method of securing together layers of material. The method is especially adapted for securing the outer soles of boots or shoes to their inner soles, and it is that specific application of the invention which is shown in the drawings. In applying this method I employ my novel metallic fastening known as the "double-clench" fastening. This fastening is shown in Letters Patent of the United States No. 669,025, granted February 26, 1901. As therein shown, the fastening comprises a shank or body with a clenching-point and a hook-shaped head having a depending point.

In my experiments to find a satisfactory method of securing together layers of material, and particularly a method applicable to the attaching of the outer soles of shoes with metallic fastenings, I found that I could secure great holding power combined with a large degree of flexibility in the stock by means of fastenings having when inserted in the material hook-shaped ends entering opposite sides of the material and a single strand of wire connecting said hook-shaped ends. I further discovered that the most practical method of uniting layers of material in this manner was to employ the fastening shown in said Letters Patent, inserting the point of the shank into the stock, forcing the shank through the stock, forcing the depending point of the head into the outer face of the stock, and clenching or turning back the point of the shank into the opposite face of the stock, thereby securing the double clench, which is the distinctive characteristic of my novel method.

A shoe having its sole attached by my novel

method is described and claimed in Letters Patent of the United States No. 669,022, granted February 26, 1901. This application is a division of the application for said last-named Letters Patent.

In the drawings, Figure 1 in side elevation, partially broken out, represents a shoe having its sole attached by my improved method, the shoe being partially broken out to show some of the inserted fastenings. Fig. 2 is a cross-section of the shoe represented in Fig. 1, showing the fastenings inserted in a channel in the outer sole, the lip at one side of the shoe being in place to cover the heads of the fastenings, the lip on the other side being opened. Fig. 3 is an enlarged view of the fastening before it is inserted in the stock. Figs. 4 and 5 show my improved method as applied to the shank and fore part of the sole, respectively, and these figures also illustrate the general application of my improved method of uniting layers of material of any kind.

Referring to the drawings, s represents the upper of a shoe; s' , the outer sole; s'' , the inner sole, and s^2 a tap or slip-sole. The outer sole is represented as provided with a channel formed by cutting into the sole, leaving the lip s^4 .

The novel fastening which I employ in applying my novel method is composed of a shank or body g^6 , having a clenching-point 23^x and having a hook-shaped head g^5 , with a point g^2 depending from the head.

In applying my novel method to attaching the outer sole of a shoe the shank of the fastening g^6 is first forced into the outer sole. In the latter part of the movement of the shank into the stock the point g^2 , depending from the head, enters and is forced into the outer sole, embracing between itself and the shank g^6 a portion of the outer sole. While the depending point g^2 of the head is entering the stock the clenching-point 23^x of the shank emerges from the inner sole and is turned backwardly into the inner sole, a portion of the inner sole being embraced between the inturned point and the shank of the fastening.

This I have found to be the most practical method of attaching the outer soles of boots and shoes or securing together layers of material of any kind by means of fastenings which when they are inserted in the stock consist each of a hook-shaped end entering the outer sole or layer and a hook-shaped end entering the inner sole or layer, with a single strand of wire connecting said hook-shaped ends.

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

1. The method of securing together layers of material which consists in inserting through said layers the shank or body of a fastening having a hook-shaped head with a depending point, forcing said depending point into one side of the stock and inturning or clenching the point of said shank or body into the other side of said stock, whereby the layers of material are secured together by a fastening having hook-shaped ends entering opposite sides of the material with a single strand of wire connecting said hook-shaped ends.

2. The method of attaching the outer soles of boots or shoes to their inner soles which consists in inserting into the outer sole a fastening having a shank and a hook-shaped head with a depending point, forcing the point of the shank through the outer sole and

inner sole, forcing said depending point of the head into the outer sole and clenching or turning back into the inner sole the point of the shank, whereby the outer sole is attached by a fastening having hook-shaped ends entering opposite sides of the material with a single strand of wire connecting said hook-shaped ends.

3. The method of attaching outer soles of boots or shoes to their inner soles, which consists in inserting into the outer sole a fastening having a shank and a hook-shaped head with a depending point, forcing the point of the shank through the outer sole and inner sole, forcing said depending point of the head into the outer sole and clenching or turning back the point of the shank into the inner sole between said shank and the depending point of the head, whereby the outer sole is attached by means of a fastening having hook-shaped ends entering opposite sides of the material but on the same side of the shank of the fastening.

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

LOUIS A. CASGRAIN.

Witnesses:

GEO. W. GREGORY,
NELSON W. HOWARD.