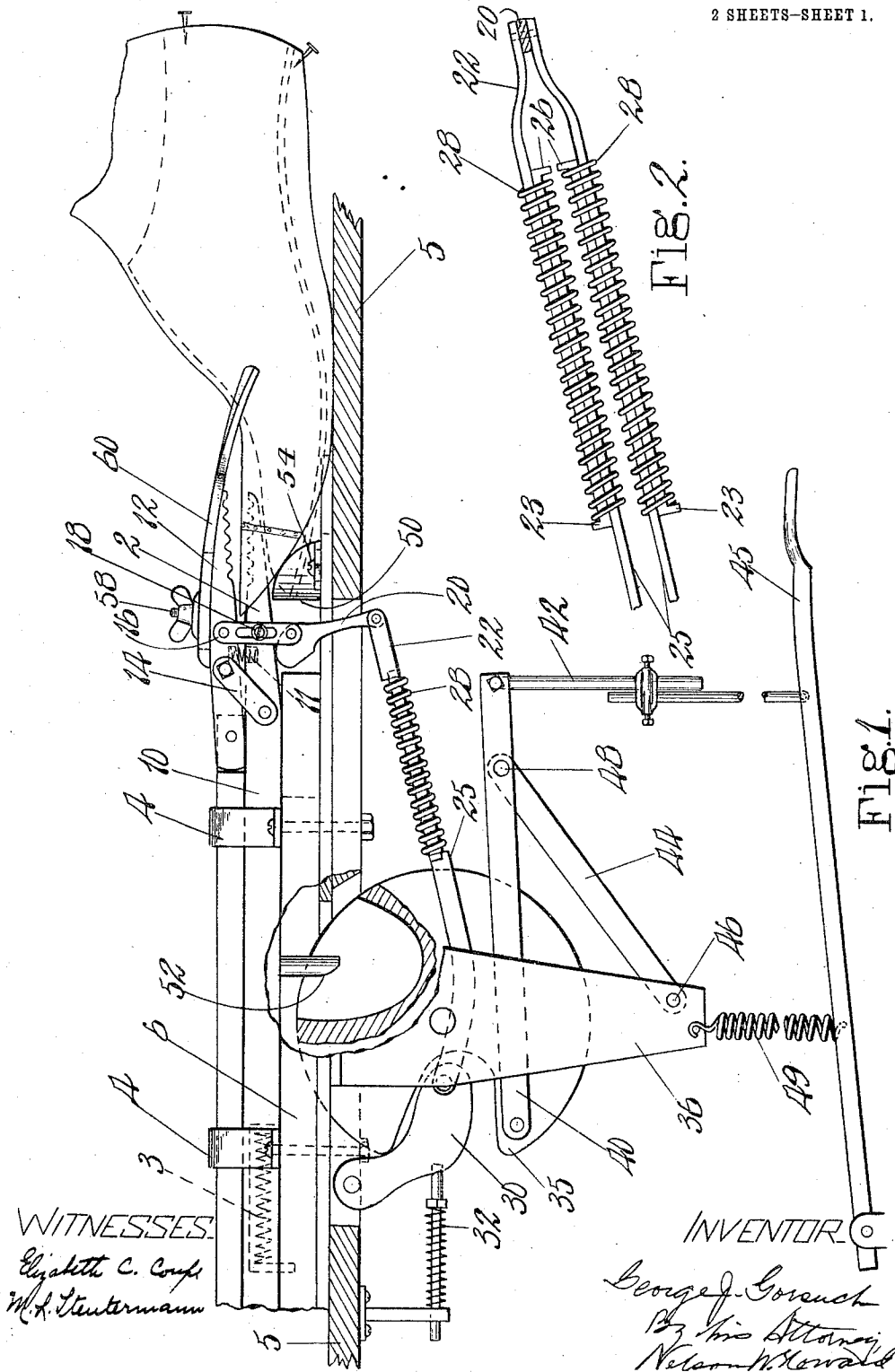


G. J. GORSUCH.  
VAMP PULLING APPARATUS.  
APPLICATION FILED NOV. 1, 1910.

1,030,579.

Patented June 25, 1912.

2 SHEETS-SHEET 1.

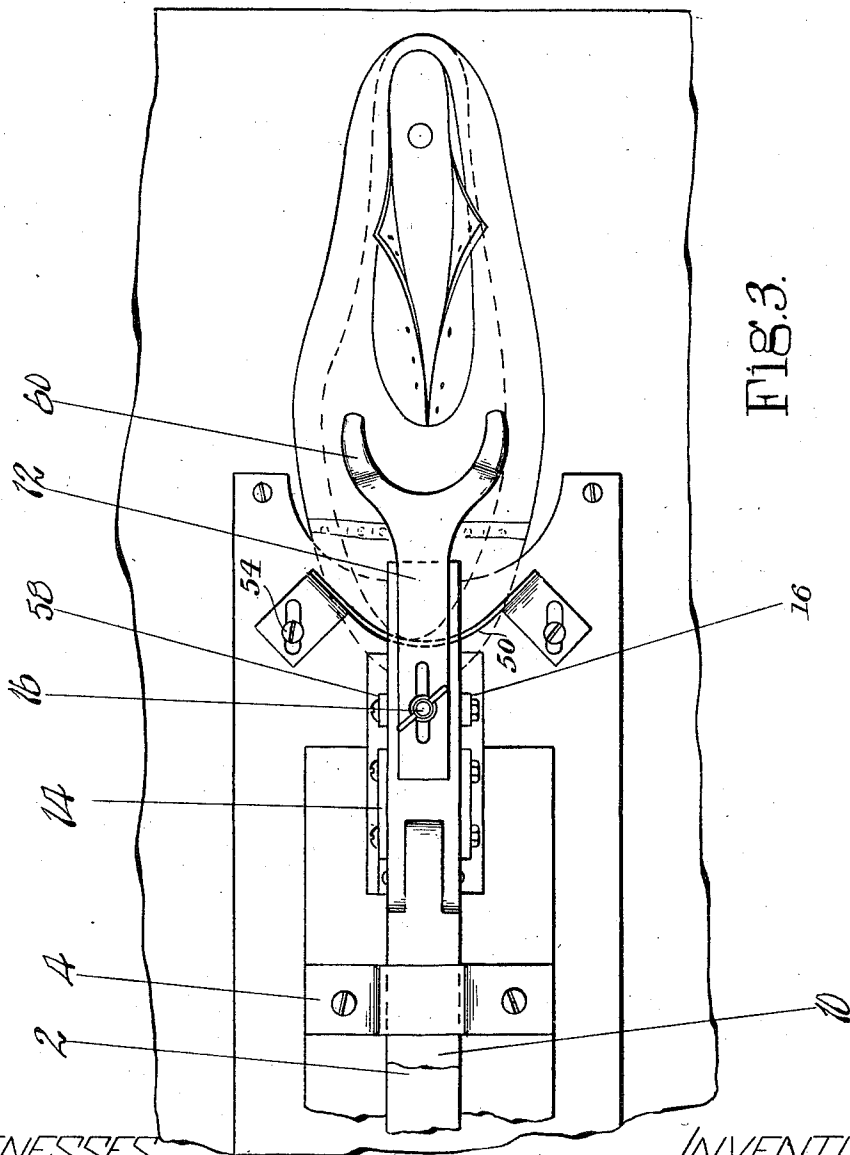


G. J. GORSUCH.  
VAMP PULLING APPARATUS.  
APPLICATION FILED NOV. 1, 1910.

1,030,579.

Patented June 25, 1912.

2 SHEETS—SHEET 2.



WITNESSES.

Elizabeth C. Coups  
M. R. Heistermann

INVENTOR.

George J. Gorsuch  
By his Attorney,  
Nelson M. Howard

# UNITED STATES PATENT OFFICE.

GEORGE J. GORSUCH, OF ROCHESTER, NEW YORK, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## VAMP-PULLING APPARATUS.

1,030,579.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed November 1, 1910. Serial No. 590,130.

*To all whom it may concern:*

Be it known that I, GEORGE J. GORSUCH, a subject of the Emperor of Germany, residing at 7 Seager street, city of Rochester, county of Monroe, and State of New York, have invented certain Improvements in Vamp-Pulling Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to vamp pulling machines and the machine herein to be described as exemplifying this invention is designed primarily for stretching the vamp of an assembled shoe preparatory to the presentation of the shoe to a pulling-over machine of the type shown in United States Letters Patent No. 663,777. It is found that many vamps can with advantage be stretched lengthwise immediately prior to being subjected to the pulling-over operation, and it is the practice of some of the best pulling-over machine operators so to stretch the upper after taking the shoe up for presentation to the machine. In some instances hand pincers are used by which the upper is seized at the toe end and pulled over the toe of the last. In other instances the operator grasps the forepart of the vamp at the tip line with his hand and with this grip he stretches or sets the vamp forwardly and down the instep slant of the last and then, while holding the upper so pulled and positioned or gripped by his fingers against the instep or ball of the last as best he can, he presents the shoe to the upper seizing jaws of the pulling-over machine.

A particular object of this invention is to provide an apparatus for use in effecting the operation just described and which shall be more powerful and more effective than the operator's hands.

An important feature of this invention consists in a rest against which the toe end of a last may be abutted and a pair of pincers arranged relatively thereto to seize the upper and pull it toward and over the toe. Either the pincers or the toe rest may be actuated in the direction to stretch

the upper and preferably the pull on the upper will be a substantially straight forward pull from the heel in about the plane of the top of the forepart of the last. Preferably and in accordance with a further feature of the invention the abutment and the manually operated pincers will be arranged for the pincers to seize the vamp at a substantial distance back from the toe end and it may be at or back of the tip seam. Advantageously the pincer jaws will be long so that they will take in their throat the tip portion of the upper and preferably they will be wide so that the lines of strain will extend from either side thereof backwardly along the sides of the vamp as distinguished from narrow jaws which would concentrate the pull in the middle portion of the vamp.

Another very important feature of this invention is found in the provision of means to rest upon the upper that is being pulled and move with the pincers while they are stretching the vamp. This means may have a rubbing action over the stretching upper and in the illustrated apparatus it has a useful function in bending the upper out of the straight line and down into the curve at the base of the instep. As herein shown this means is a plate carried by one of the pincer jaws and extending forwardly therefrom to engage the upper in advance of the gripped area. The plate has an adjustable connection with the jaw and a forked front end with a member to engage the vamp at each side of the shoe. These fork members may be bent down in conformity with the general shape of the last. This upper engaging plate, in the illustrated apparatus, coöperates with the pincers in preparing the upper for presentation to the pulling-over machine by bending the vamp down toward the face of the last. When the shoe is in this condition with the upper pulled forwardly on the last the operator seizes the shoe in his hand, gripping the upper to the last with his fingers and thumb and, after releasing the pincers, he turns the shoe sole uppermost and presents the shoe to the grippers of the pulling-over machine as in Fig. 79 of the patent mentioned.

These and other features of this invention, including numerous details of construction and combinations of parts, will appear in connection with the following description of the illustrated apparatus and will then be pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation; Fig. 2 is a detail plan; and Fig. 3 is a plan view.

The apparatus is shown as a bench machine worked by a treadle. The lower pincer jaw 2 is a bar sliding under guides 4 which are bolted through the spacing plate 6 to the table 5. Through the guides 4 also slides the bar 10 to the front end of which is pivotally connected the long jaw 12. The ribbed gripping faces of the jaws are carefully formed to avoid marking the upper. The jaw 12 is also connected by parallel inclined links 14 with the jaw 2 and from jaw 12 depend links 16 having pin and slot connections 18 with the jaw 2 and a pivotal connection with the eccentric head of a closing lever 20. Turning movement of the head of this lever toward the right in Fig. 1 draws downwardly on the jaw 12 to close it on stock which may have been interposed between the jaws. This downward pull on jaw 12 also acts through the links 14 to cause that jaw to close with a movement toward the right or toward the body of the shoe.

The jaw closing lever 20 has connection with a fork 22 having outturned ends 23 and this fork embraces the bifurcated arms of a rod 25. These arms have inturned ends 26 and each fork and arm which are in sliding engagement with one another is encircled by a compression spring 28 which provides a yielding element permitting variations in the thickness of stock with a jaw closing mechanism which has a constant stroke. The rod 25 is connected to a rocker 30 which is pivotally suspended from the table 5 and is pressed by a spring 32 forwardly into a recess in a cam disk 35, which is mounted to rotate in hangers 36 depending from the table. This cam disk is connected by a lever 40 with a treadle rod 42 and treadle 45, being fulcrumed on a strut or brace 44 one end of which is pivoted to the hangers at 46 and the other is pivoted to the lever at 48. Depression of the treadle causes the strut 44 to turn about pivot 46 and causes the lever to fulcrum on pivot pin 48 and also to pull forwardly on cam disk 35 and force the rocker 30 backwardly to close the pincers on the work. A return spring 49 assists in reversely moving the parts when the treadle is released as does also the spring 32 and the jaw opening spring 11, and a jaw advancing spring 3 that is in the rear end of the bar 2.

The pull on the jaw closing lever 20 is in the direction to move the jaws longitudi-

nally to stretch the upper over a last the toe end of which is rested against the concave faced abutment 50 that is fastened to the table for adjustment lengthwise of the machine. The cam disk has, however, a second recess into which projects a stud 52 from pincer bar 2 into position to be picked up by the cam disk in the last part of its oscillation and effect more positive movement of the jaws to stretch the upper. The long pincer jaws receive the tip of the shoe in their throat and seize the vamp at about the tip seam or it may be farther back according to the adjustment of the abutment 50 which is held in place by screw 54 and slot connections with the table 5 that also serves as the bottom rest or sustainer for the last.

Affixed to the upper jaw 12 by a screw 58 and slot connection is the plate 60 which is curved downwardly and is forked to engage the upper in advance of the jaws and press it toward the face of the last and into the curve or depression between the base of the instep and the toe. This plate is actuated by the jaw 12 and moves with it with a slight rubbing action over the upper. The plate may be resilient and may or may not press the upper against and clamp it upon the last at the ends of the fork.

In the use of the apparatus the operator places an assembled shoe as shown in Fig. 1 and depresses the treadle to pull or stretch the upper the amount required for the particular shoe in order to prepare it for the pulling-over operation. As the jaws are closed the plate 60 is brought down upon the upper, having been first adjusted lengthwise for the length of the shoe, if required, to press the latter down toward and, it may be, against the top face of the last. The plate moves in contact with the upper as the jaws are retracted for stretching the upper. Before releasing the treadle he seizes the shoe with his right hand, gripping the forepart of the vamp to the last and then permits the pincers to open. With the shoe so held he lifts it and presents it to the pulling-over machine adjacent to which this upper pulling apparatus will be stationed for this use. This presentation of the shoe is the normal one for inserting the upper into the gripper jaws of the pulling-over machine which is then started to seize the upper and stretch it, particularly about the forepart of the last.

The formation of the plate 60 has the advantage that it enables the operator to engage the vamp on the top of the last with his thumb or forefinger in the fork, as may be seen from Fig. 3, to clamp the vamp to the last before releasing the pincers and thus prevent the vamp from sliding up the instep incline again. The plate 60 is so related to the toothed face of the upper jaw

12 that the plate guides the upper into the pincer jaws and tends to prevent the upper from catching upon the teeth, as may be seen in Fig. 1.

5 Having explained the nature of this invention, I claim as new and desire to secure by Letters Patent of the United States:—

1. A machine of the class described having, in combination, a table to receive and sustain a shoe sole face downward in a single vertical position during operation thereon, an abutment for the toe of the last shaped to center the last laterally, a pair of pincers extending forwardly over the abutment and over the toe of the last and having one jaw reaching inside the upper to seize the vamp back of the tip seam, and means to actuate said pincers to seize and pull the vamp lengthwise.

2. A machine of the class described having, in combination, a table to receive and sustain a shoe sole face downward, a toe end abutment shaped to center the last laterally, a pair of pincers arranged to extend over said abutment and substantially parallel with the last bottom into position to grip the toe portion of the upper, and manually operated means for actuating said pincers to stretch the vamp lengthwise.

3. A machine of the class described having, in combination, a table to receive and sustain a shoe right side up, an abutment for the toe end of the last, a pincer to seize the upper, and means for manually actuating the pincer and the abutment relatively to pull the vamp lengthwise and hold it under tension, said parts being arranged to permit the operator to grip the vamp to the last with his hand to hold it under tension while the pincers are released and he transfers the shoe to a pulling over machine.

4. A machine for preliminarily stretching the vamp of an assembled shoe preparatory to presentation of the shoe to a pulling over machine having, in combination, a support for the shoe right side up, a toe abutment, a pincer, and means for manually actuating the pincer and the abutment lengthwise of the shoe to stretch the vamp, said parts being arranged to permit the workman to seize the shoe with one hand and present it therewith to the pulling over machine while retaining the vamp pulled forwardly by such seizure.

5. A machine for preliminarily stretching the vamp of an assembled shoe preparatory to presentation of the shoe to a pulling over machine having, in combination, a support for the shoe right side up having provision for holding the shoe against lengthwise movement, and a manually operated pincer arranged to seize the vamp back of the tip seam and pull it forwardly on the last, said support and pincers being arranged to permit the operator to seize the shoe and with

his thumb and fingers retain the vamp in its forwardly pulled condition while inverting the shoe and presenting the edges thereof to the toe and side grippers of a pulling over machine.

6. A machine for preliminarily stretching the vamp of an assembled shoe preparatory to presentation of the shoe to a pulling over machine having, in combination, a fixed shoe abutment, a gripper, a treadle to close the gripper to seize the upper and to move it away from the abutment to stretch the upper and means to support the shoe in position for the operator to see the top face of the shoe and watch the stretching, said parts being arranged to permit the operator to seize the shoe with a forefinger clamping the stretched vamp upon the top face of the last and in this condition transfer the shoe to the pulling over machine.

7. An upper pulling machine having, in combination, toe pincers to seize an upper, means to actuate the pincers to pull the upper lengthwise, and means movable with the outer jaw of the pincers and forked to engage the upper on the top of the last in the line of pulling strain and moving in time relation to the pulling movement of the pincers to assist in stretching the upper down into the hollow of the last back of the toe.

8. An upper pulling machine having, in combination, pincers to seize an upper, means to actuate the pincers to pull the upper, and a device carried by one jaw of the pincers and arranged to engage the upper beyond the jaw end and move with the jaw during the pulling movement.

9. An upper pulling machine having, in combination, pincers to seize an upper, means to actuate the pincers to pull the upper, and an upper rubbing device carried by the outer pincer jaw in position to engage the upper beyond the jaw end and moving with the pincers in their upper pulling movements.

10. An upper pulling machine having, in combination, pincers to seize an upper, means to actuate the pincers to pull the upper, a device arranged relatively to the pincers and the last to bend the upper out of a straight line and hold the upper yieldingly toward the last adjacent to the end of the jaws and to move with said jaws in their upper pulling movements.

11. An upper pulling machine having, in combination, pincers to seize an upper at the toe of a shoe and a forked plate to hold the upper down in the hollow of the last over the ball while the upper is being pulled lengthwise of the shoe.

12. An upper pulling machine having, in combination, pincers located in about the plane of the top face of the toe of an upright last to seize an upper at the toe of a

shoe and means for actuating the pincers lengthwise of the last to pull the upper, and a device arranged to hold the upper down in the hollow between a high toe and the in-  
 5 step of a last while the upper is being so pulled.

13. An upper pulling machine having, in combination, means to support a shoe with its sole face downward, a pincer to seize the  
 10 upper, guiding and actuating means by which the pincer is moved lengthwise of the last to pull the upper, and means to engage the upper and hold it down toward the last back of the pincers and arranged to move  
 15 with the pincers lengthwise of the last in their pulling movement.

14. An upper pulling machine having, in combination, means to support a shoe with its sole face downward, a pincer to seize the  
 20 upper, means to actuate the pincer to pull the upper lengthwise of the last, and a forked plate attached to the outer pincer jaw and arranged to hold the upper down toward the body of the last at either side of  
 25 the median line of the shoe while it is being pulled.

15. A vamp pulling machine, having in combination means to support a shoe with its sole face downward, a pincer to seize the  
 30 vamp, means to actuate the pincer to pull the vamp lengthwise of the last, and means to engage the vamp and hold it down toward the last back of the pincers and arranged to move with the pincers in their  
 35 pulling movement.

16. A vamp pulling machine, having in combination, means to support a shoe with its sole face downward, a pincer to seize the  
 40 vamp, means to actuate the pincers to pull the vamp lengthwise of the last, and a forked plate attached to the outer pincer jaw and arranged to hold the vamp down toward the body of the last at either side of  
 45 the median line of the shoe while it is being pulled.

17. A vamp pulling machine, having in combination, means to support a shoe with its sole face downward, a pincer to seize the vamp, means to actuate the pincers to  
 50 pull the vamp lengthwise of the last, and means movable with the pincer pulling movement and constructed and arranged to engage the vamp at opposite sides of the ball and press it downwardly against the last  
 55 during the pulling movement.

18. A vamp pulling machine, having in combination, vamp pulling pincers and the forked plate 60 movable therewith and shaped to press the vamp toward the last  
 60 on the two sides of the shoe, substantially as described.

19. A machine of the class described having, in combination, pincer jaws one of which has an extension beyond its gripping

face and means to fix said extension in dif- 65  
 ferent positions of adjustment.

20. A machine of the class described having, in combination, a fixed pincer jaw, a movable jaw, an inclined link connecting said jaws, a second link pivoted to one jaw, 70  
 and a cam pivoted on the latter link and operating against the other jaw to close them and cause the inclined link to advance the movable jaw while closing it.

21. A machine of the class described hav- 75  
 ing, in combination, the pincer jaws 2 and 12, the inclined links 14 connecting said jaws, the links 16 pivoted to jaw 12 and having a sliding connection with jaw 2 and the cam lever 20 fulcrumed between the link 80  
 16 to engage jaw 2 for drawing the jaws together by means of the links 18 and forcing the jaw 12 forwardly by the action of links 14.

22. A machine of the class described hav- 85  
 ing, in combination, pincer jaws, a closing cam lever and means for operating said lever including the rocker 30, the cooperating cam disk 35, and the treadle and connections for actuating the cam disk. 90

23. A machine of the class describe hav-  
 ing, in combination, pincer jaws, a closing cam lever and means for operating said lever including the rocker 30, the cooperating cam disk 35, the lever 40 connected to the 95  
 cam disk, the pivoted strut bar on which the lever 40 is fulcrumed and the treadle connections for actuating said lever.

24. A machine of the class described having, in combination, pincer jaws, a closing 100  
 device arranged to draw the jaws rearwardly after closing them, means including the cam disk 35 for actuating the closing device and a lost motion connection from the jaws to said cam disk to effect final 105  
 drawing of the jaws rearwardly.

25. A machine of the class described having, in combination, pincer jaws, a closing device arranged to draw the jaws rearwardly after closing them, means having yielding 110  
 connections with the closing device for actuating it and having other connections to the jaws for finally moving them in the direction to stretch the upper.

26. An upper pulling machine having, in 115  
 combination, a last abutment, pincer jaws and operating means for yieldingly actuating the jaws to stretch the upper, said machine having provision for effecting a final unyielding upper stretching movement. 120

27. An upper pulling machine having, in combination, a last abutment, pincer jaws and operating means having a limited stroke and having a yielding connection with the jaws to stretch the upper and a relatively 125  
 unyielding connection becoming effective near the end of the stroke to produce a final positive pull on the upper.

28. An upper pulling machine having, in combination, cooperating jaws arranged to receive the upper of a shoe presented to them and operating mechanism for the jaws, 5 one of the jaws having a toothed gripping face and a smooth extension in approximately the plane of said gripping face arranged to guide the upper into the jaws.

In testimony whereof I have signed my name to this specification in the presence of 10 two subscribing witnesses.

GEORGE J. GORSUCH.

Witnesses:

THOMAS PIERCE,

CHARLES G. KINGSLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."