

No. 656,843.

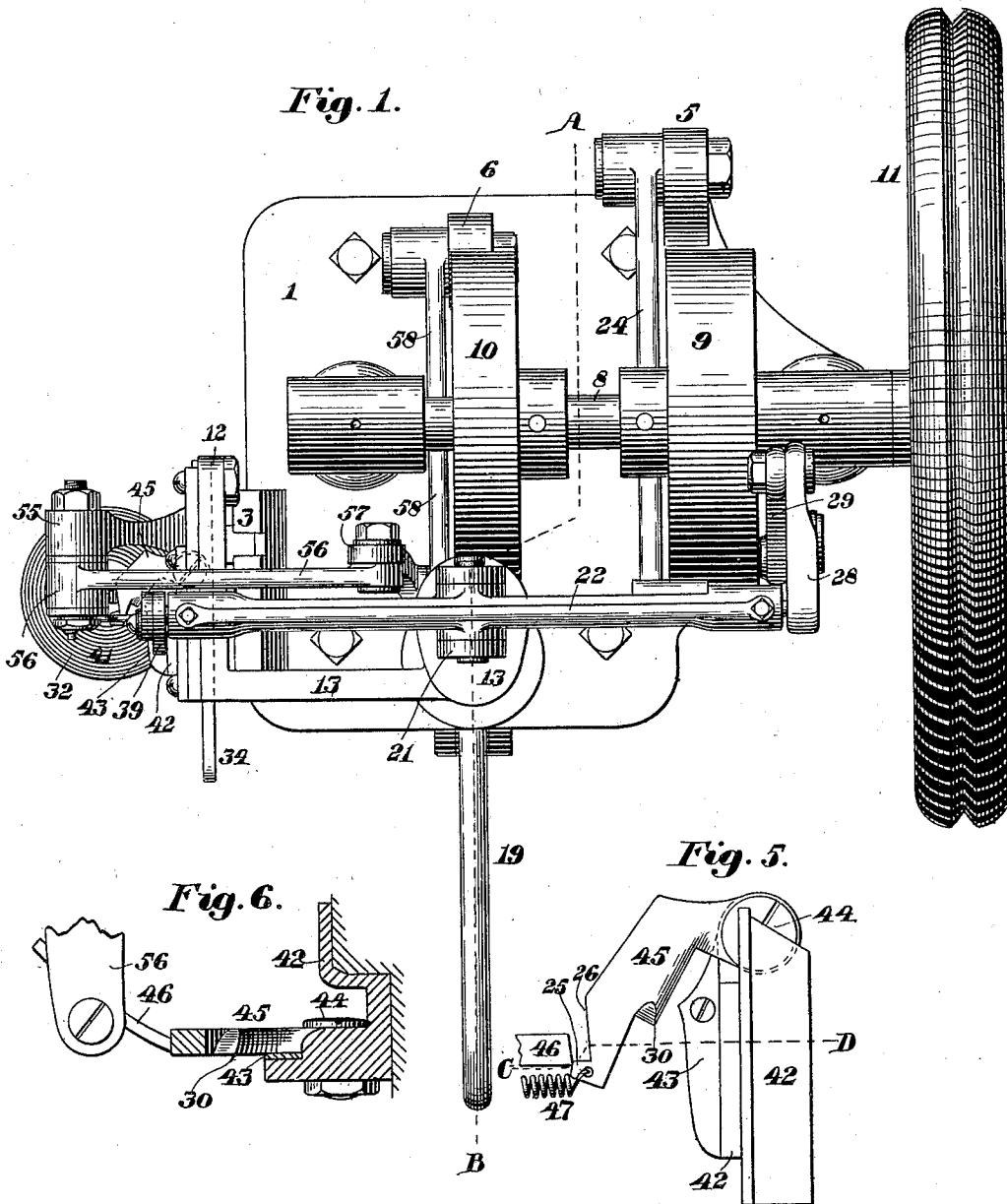
Patented Aug. 28, 1900.

A. E. JOHNSON.  
MACHINE FOR REINFORCING INSOLES.

(Application filed Dec. 2, 1899.)

(No Model.)

4 Sheets—Sheet 1.



**Witnesses:**  
*Walter C. Lombard.*  
*J. Houston Stevenson*

**Inventor:**  
*Albert E. Johnson,*  
*by N. G. Lombard*  
*Atty.*

No. 656,843.

Patented Aug. 28, 1900.

A. E. JOHNSON.  
MACHINE FOR REINFORCING INSOLES.

(Application filed Dec. 2, 1899.)

(No Model.)

4 Sheets—Sheet 2.

Fig. 2.

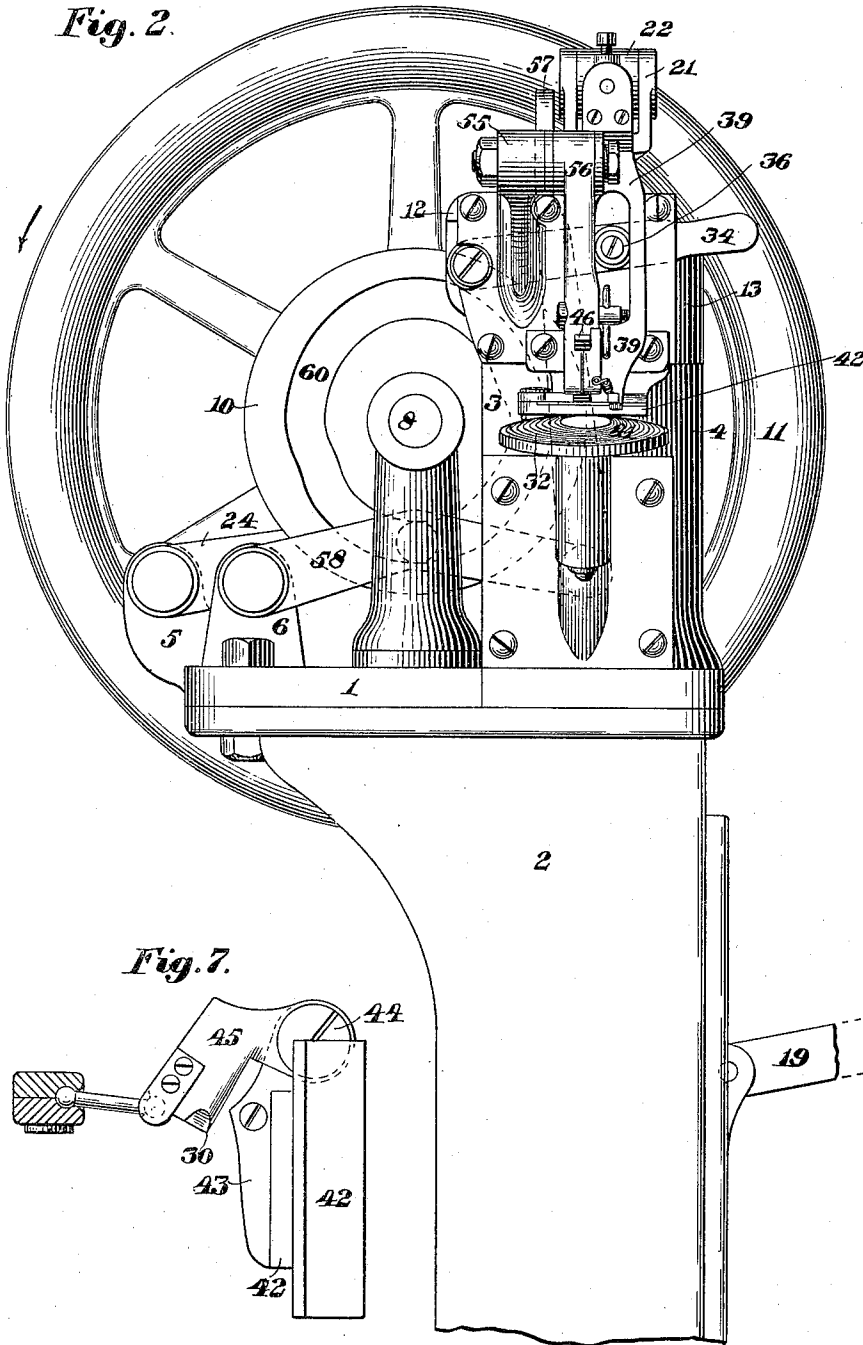
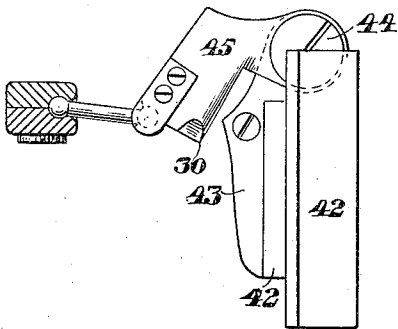


Fig. 7.



Witnesses:

Walter E. Lombard  
Johnston Stinson

Inventor:

Albert E. Johnson,  
by N. C. Lombard  
Atty.

No. 656,843.

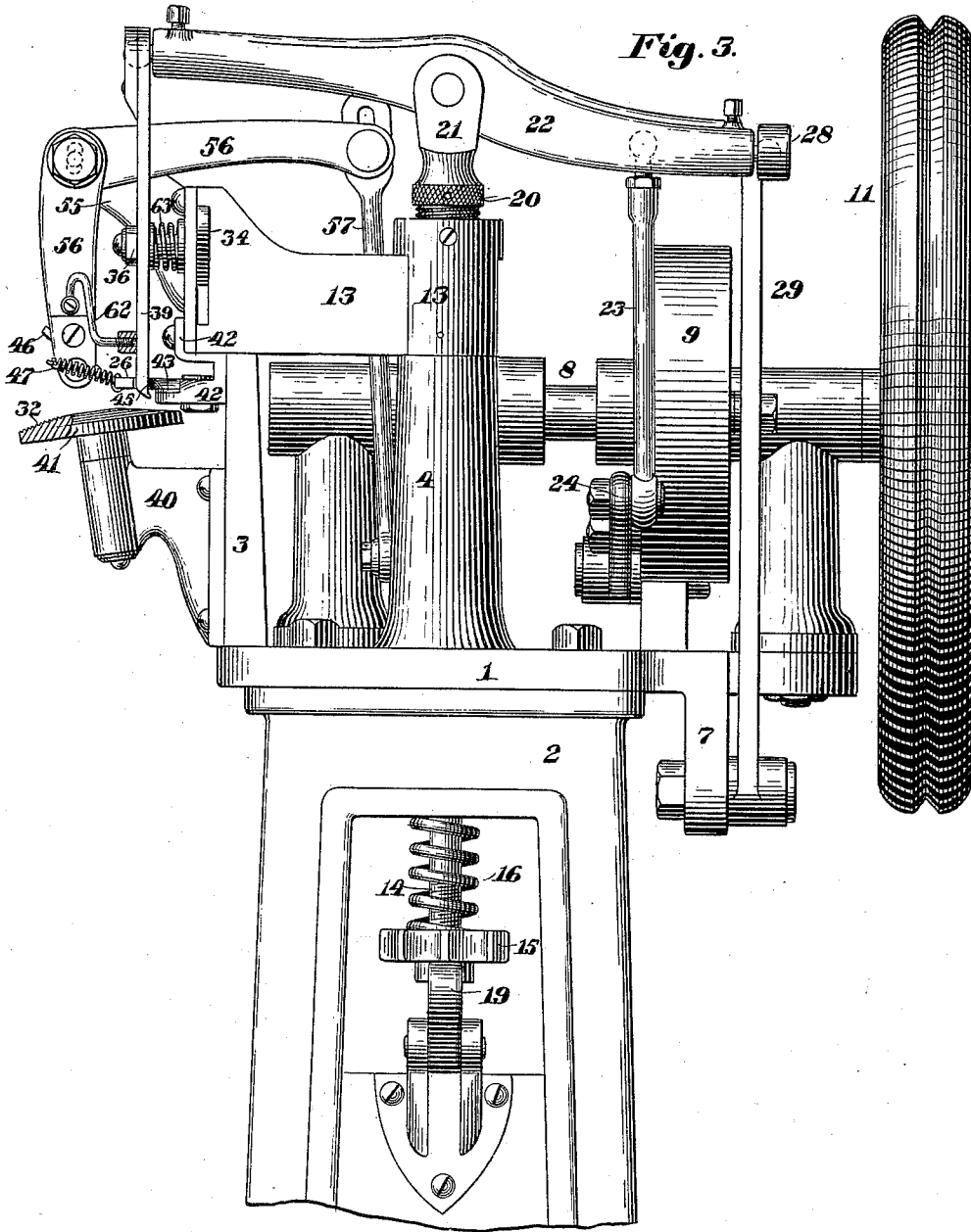
Patented Aug. 28, 1900.

A. E. JOHNSON.  
MACHINE FOR REINFORCING INSOLES.

(Application filed Dec. 2, 1899.)

(No Model.)

4 Sheets—Sheet 3.



Witnesses:  
Walter C. Lombard.  
J. Houston Stevenson

Inventor:  
Albert E. Johnson,  
by N. P. Lombard  
Atty.

No. 656,843.

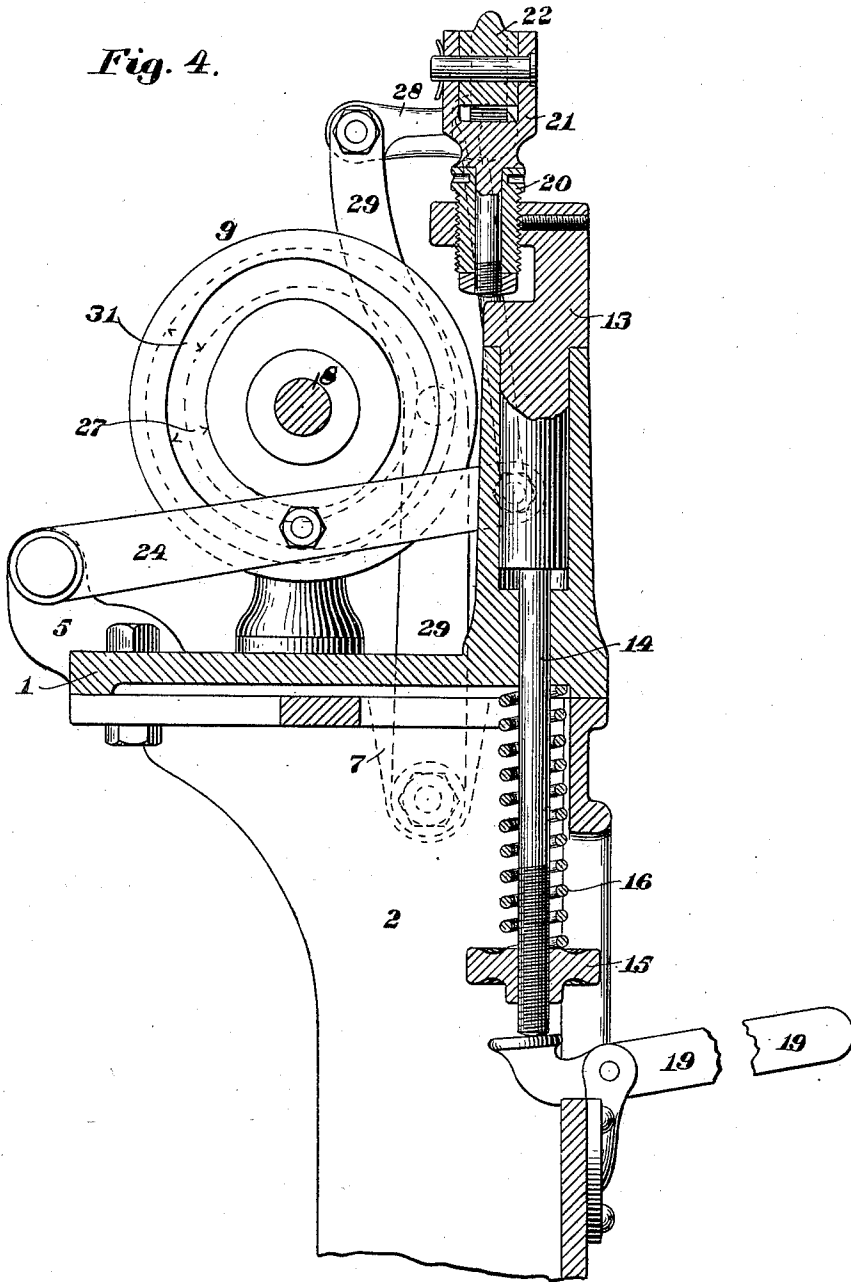
Patented Aug. 28, 1900.

A. E. JOHNSON.  
MACHINE FOR REINFORCING INSOLES.

(Application filed Dec. 2, 1899.)

(No Model.)

4 Sheets—Sheet 4.



*Witnesses:*  
*Walter Lombard*  
*Johnston Stevenson*

*Inventor:*  
*Albert E. Johnson,*  
*by N. C. Lombard*  
*Atty.*

# UNITED STATES PATENT OFFICE.

ALBERT E. JOHNSON, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO THE ECONOMY MACHINE COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

## MACHINE FOR REINFORCING INSOLES.

SPECIFICATION forming part of Letters Patent No. 656,843, dated August 28, 1900.

Application filed December 2, 1899. Serial No. 738,963. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT E. JOHNSON, of Brockton, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Machines for Reinforcing Insoles, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to machines for reinforcing insoles, and is an improvement upon the invention shown and described in Letters Patent No. 641,863, issued to the Economy Machine Company as my assignee January 23, 1900; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings is a plan of a machine embodying my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a front elevation. Fig. 4 is a vertical section on line A B on Fig. 1. Fig. 5 is a plan of trimming-cutters drawn to an enlarged scale. Fig. 6 is a vertical section on line C D on Fig. 5; and Fig. 7 is a sectional plan of the trimming mechanism, illustrating a slight modification of the means for operating the shear-blade.

In the drawings, 1 is the base of the head of the machine, secured to the column 2 and having formed in one piece therewith the plate 3, the cylindrical hub 4, and the ears 5, 6, and 7.

A driving-shaft 8, mounted in suitable bearings, has secured thereon the cam-disks 9 and 10 and the operating-wheel 11.

The vertically-movable bracket comprising the parts 12, 13, and 14, the spring 16, adjusting-nut 15, the lever 19, the bushing 20, the forked stud 21, lever 22, link 23, lever 24, the cam-path 27, link 28, lever 29, cam-path 31, the lever 34, the fulcrum-pin 36, the slotted feed-plate 39, the stand 55, the elbow-lever 56, the link 57, the lever 58, and the cam-path 60 are all constructed, arranged, and operate as shown and described in said before-cited application, except that the cam-paths 60 and 27 are changed.

The work-support 41 is arranged as in said

prior application, but has formed in its upper face a series of concentric annular grooves 32, as shown in Figs. 1, 2, and 3, to prevent the slipping inward of the sole when the fabric is forced into the angle of the sole.

Instead of the soft-metal plate 48 and the chisel-like cutter 61 of said prior application I secure to the bracket 13 the stand 42, to the lower portion of which is secured in a fixed position a steel blade 43 and has pivoted thereto at 44 the shear-blade 45, formed as shown in Fig. 5, which when moved about its pivot cooperates with the blade 43 to sever a section of that portion of the reinforcing material which projects above the upper edge of the channel-lip after said material has been forced into the angle between said lip and channel and pressed into firm contact with the inner surface of said lip by the downward and inward movement of the lower end of the presser and feed plate 39. The blade 45 is moved inward by the contact therewith of the arm 46, secured to and movable with the lower end of the pendent arm of the lever 56, and outward by the spring 47, or said blade may be vibrated positively by the action of the cam-path 60 by connecting said blade to said lever 56 by means of a link having ball-and-socket or other universal joint connections thereto, as shown in Fig. 7.

The operation of my invention is as follows: The leather insole, cut to the desired outline shape, channeled, and having its channel-lip turned upward and a reinforcing-sheet of textile fabric firmly cemented to the central portion of said sole, is placed in position upon the work-supporting disk 41 with its edge against the edge of the lower portion of the stand 42, which serves as a gage to determine the position of the sole, and with the upturned lip and the outer portion of the reinforcing fabric projecting upward between the presser-plate and the shear-blade 45 on one side and the edge of the stand 42 and the fixed blade 43 on the other side, the outer end of the lever 19 being depressed by the operator to enable the work to be placed in position and then released. Motion being imparted to the wheel 11 in the direction indicated by the arrow on Fig. 2, the first operation is to move the presser-plate 39 down-

ward upon the textile fabric and press it into close contact with the inclined bottom of the channel through the action of the cam-path 27 upon the lever 24, and then the cam-path 60, acting upon the lever 58, causes the lower end of the pendent arm of the lever 56 to be moved slightly inward, the lever end of the presser-plate 39 being moved correspondingly inward by the action thereon of the spring-rod 63, and the shear-blade 45 is moved inward until the lug or projection 25 on the movable end of said blade is moved out of the path of the push-bar 46 and the end of said bar 46 is in contact, or nearly so, with the edge 26 of said blade 45, when said inward movement of the presser-plate 39 is arrested, the sole being prevented from moving inward with said presser-plate by the roughened surface of the work-support. The lower end of the presser feed-plate 39 is then moved toward the left of Fig. 2 to feed the work by the action of the cam-path 31 upon the lever 29. When the movement of the plate 39 in that direction is completed and the upturned lip and fabric is fed into the space between the blades 43 and 45 in advance of the front end of the cutting portion of said blade at 30, the inward movement of the plate 39 is completed, and that portion of the upturned fabric which is at that time between the blades 43 and 45 in advance of the point 30 is severed by the inward movement of the shear-blade 45, the channel-lip and the upturned portion of the fabric being clamped between said plate 39 and the edge of the stand 42 and blade 43. Then by the combined actions of the cam-paths 27 and 60 upon the levers 24 and 58, respectively, and their connecting devices the presser feed-plate 39 is raised and moved outward, and then by the action of the cam-path 31 upon the lever 29 said plate is moved toward the right of Fig. 2 to the point of beginning.

I claim—

1. In a machine for reinforcing insoles the combination of a work-support; a gage to locate the sole upon said support, means for pressing the reinforcing material into firm contact with the bottom of the channel and the inner surface of the channel-lip and into the acute angle of said channel; a fixed cutting-blade 43; the pivoted cutter-blade 45; and means for imparting to said pivoted blade an intermittent vibratory motion with a period of rest after each vibration.

2. In a machine for reinforcing insoles the combination of a work-support; a work-locating gage; a vertically-reciprocating and laterally-vibrating presser-plate constructed and arranged to press the reinforcing material into firm contact with the bottom of the channel and with the inner surface of the channel-lip; a fixed shear-blade; a pivoted shear-blade constructed and arranged to cooperate with said fixed blade to sever a section of the reinforcing material at each vibration of said pivoted blade; a cam; a lever

operated by said cam; and means connecting said lever and pivoted blade whereby an intermittent vibration is imparted to said pivoted blade with a period of rest after each vibration.

3. In a machine for applying a reinforcing textile fabric to a channeled insole, the combination of a work-support; a gage arranged above the upper surface of said work-support; a vertically-reciprocating and laterally-vibrating presser-plate provided at its lower end with an acute-angled inwardly-projecting lug constructed and arranged to fit the inclined bottom and acute angle of said channel; means for imparting to said presser-plate a vertically-reciprocating and laterally-vibrating movement in one direction to feed the work; means for vibrating said presser-plate in a plane at right angles to the line of feed of the material to press the reinforcing material into the acute angle of the channel and cause it to adhere to the inner surface of the channel-lip; a fixed cutting-blade; a pivoted and vibratory cutting-blade constructed and arranged to cooperate with said fixed cutter; the lever 56; the push-bar 46 carried by said lever 56 and engaging said pivoted blade; the spring 47; the cam-path 60; and means intervening between said cam and lever whereby an intermittent vibration is imparted to said pivoted cutter-blade with a period of rest after each vibration.

4. In a machine for applying a reinforcing material to a channeled insole, the combination of a work-support; a vertically-reciprocating and laterally-vibrating presser feed-plate; a fixed shear cutting-blade; a pivoted vibrating shear-blade cooperating with said fixed blade; means for imparting to said presser feed-plate an intermittent vertical reciprocation with a period of rest after each downward movement; means for intermittently moving said pivoted shear-blade, and the lower end of said presser feed-plate inward, or toward said fixed blade, in two steps, with a standstill between said two steps; and means for laterally vibrating said presser-plate to feed the work between the two steps of the inward movement of said pivoted blade and presser feed-plate.

5. In a machine for applying a reinforcing fabric to insoles, the combination of a work-support; a vertically-reciprocating and laterally-vibrating presser feed-plate; a fixed shear cutting-blade; the pivoted shear-blade 45 provided with the lug 25 and edge surface 26; the lever 56; the push-bar 46 carried by said lever and arranged to act upon said shear-blade 45; the spring-rod 62 also carried by said lever 56 and arranged to act upon said presser feed-plate; means for intermittently moving said lever 56 about its axis in one direction in two steps, with a standstill after each of said steps, and a movement in the opposite direction in a single step; and mechanism for imparting to said presser feed-plate an intermittent vertical reciprocation, with

a period of rest after each downward movement; and means for imparting to said feed-plate a lateral movement to feed the work between the two steps of the first movement  
5 of said lever 56.

In testimony whereof I have signed my name to this specification, in the presence of

two subscribing witnesses, on this 18th day of November, A. D. 1899.

ALBERT E. JOHNSON.

Witnesses:

N. C. LOMBARD,  
JAMES A. WOODBURY.