W. B. WESCOTT.

APPARATUS FOR HEATING COATED FABRIC.

APPLICATION FILED JAN. 2, 1912.

**1,084,513.**

Patented Jan. 13, 1914

5 SHEETS—SHEET 1.

Fig. 1.

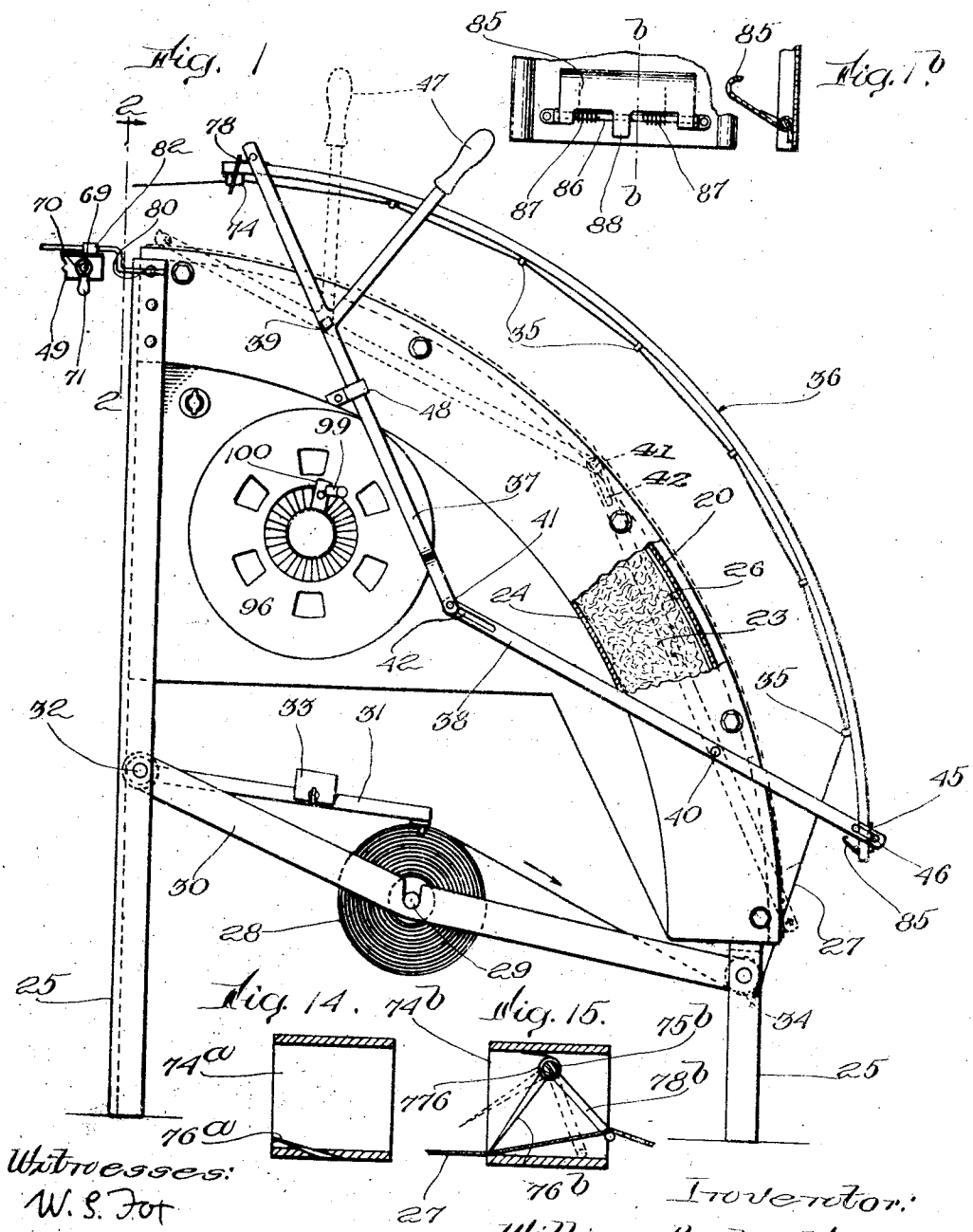



Fig. 1a.




Fig. 1b.

Fig. 14.




Fig. 15.




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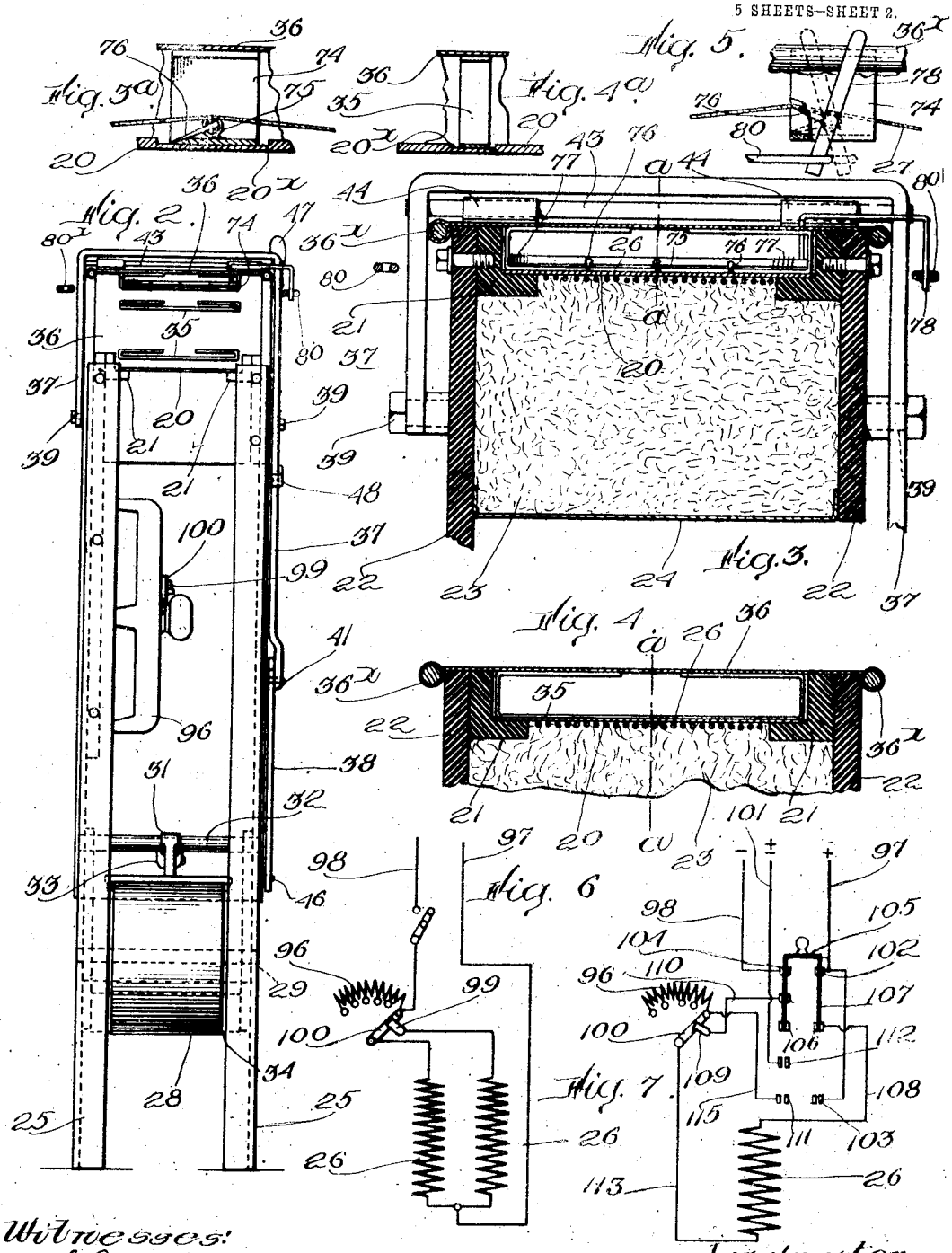
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5 SHEETS—SHEET 2.




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5 SHEETS—SHEET 3.

Fig. 9.

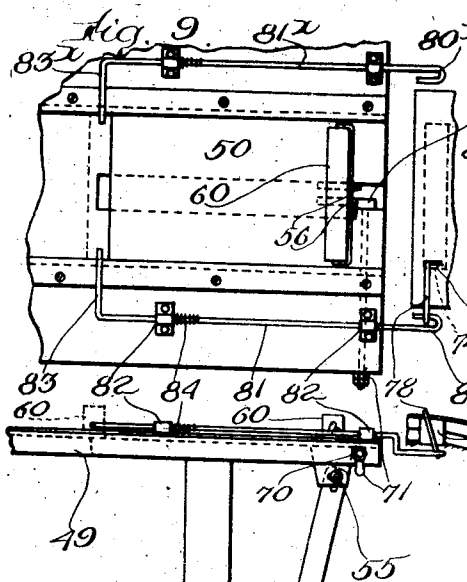



Fig. 11.

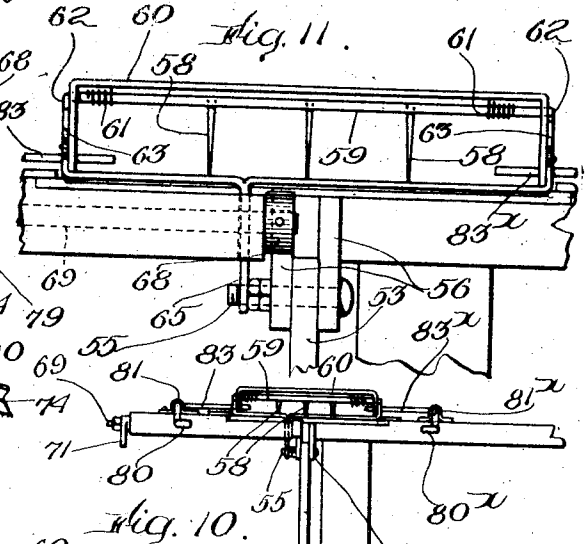



Fig. 8.

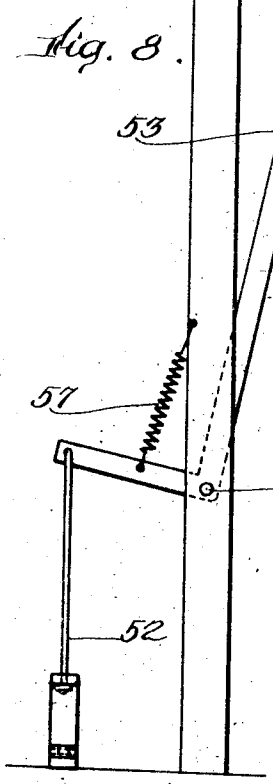



Fig. 10.

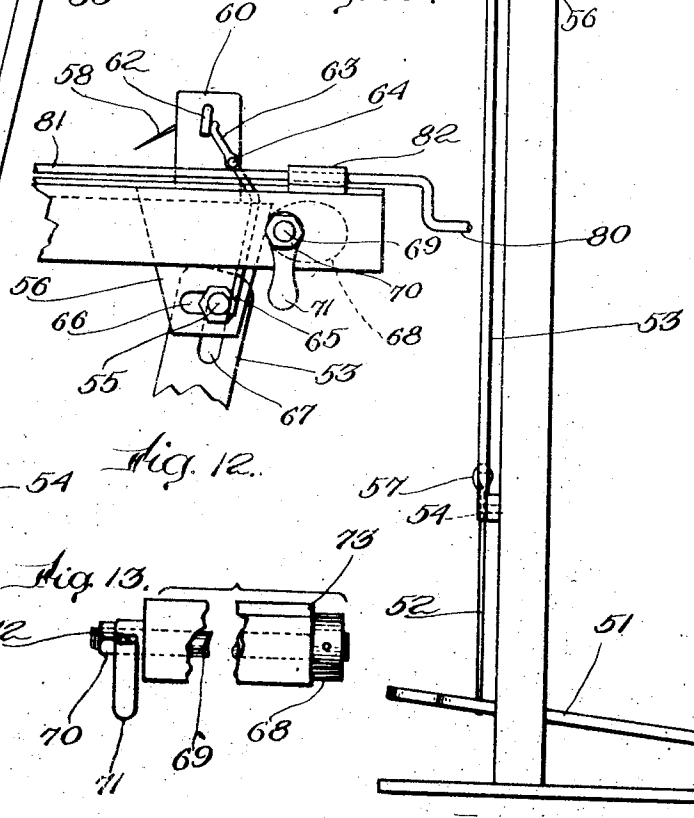



Fig. 12.

Fig. 13.




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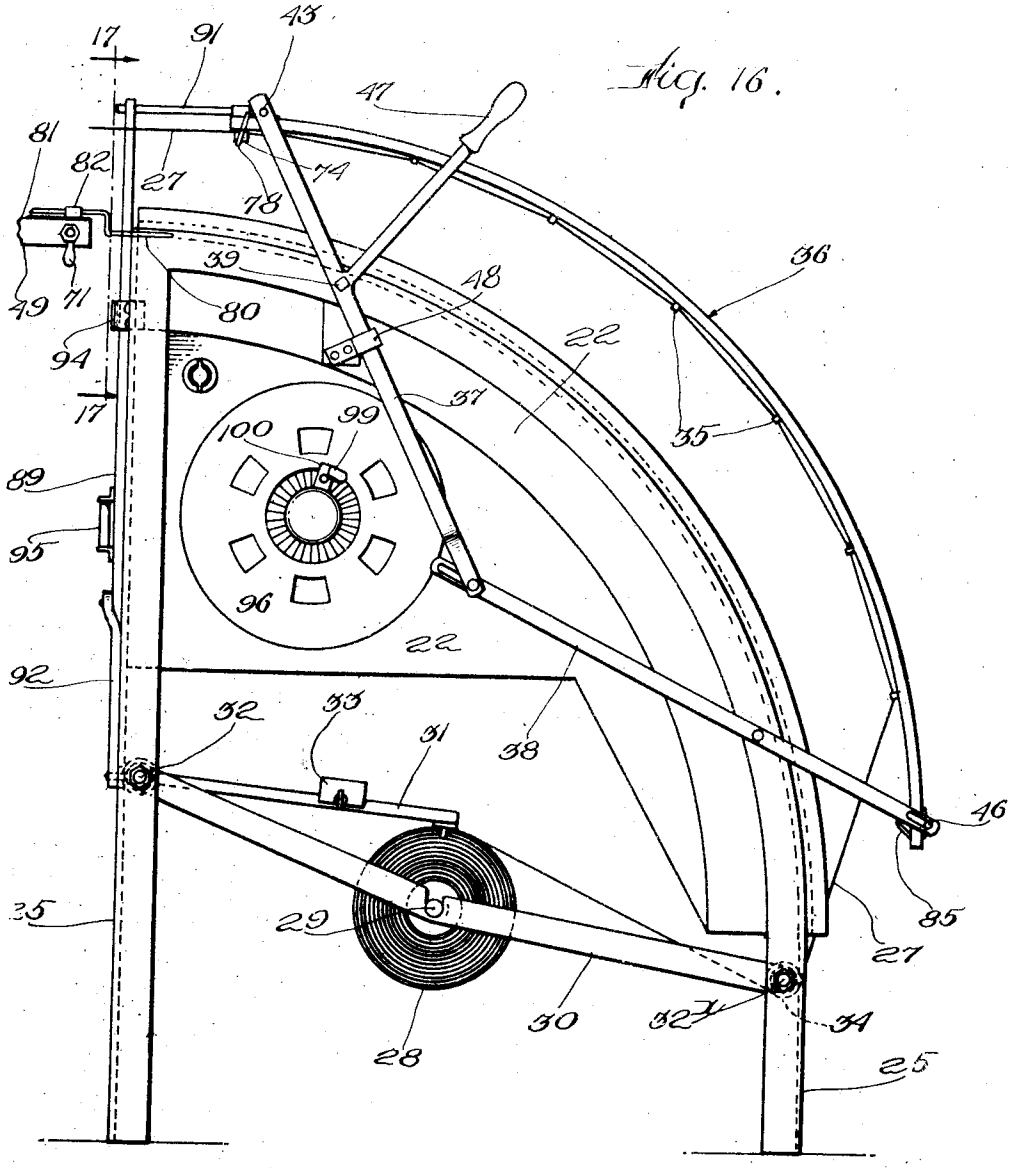
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5 SHEETS—SHEET 4.

Fig. 16.




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5 SHEETS—SHEET 5.

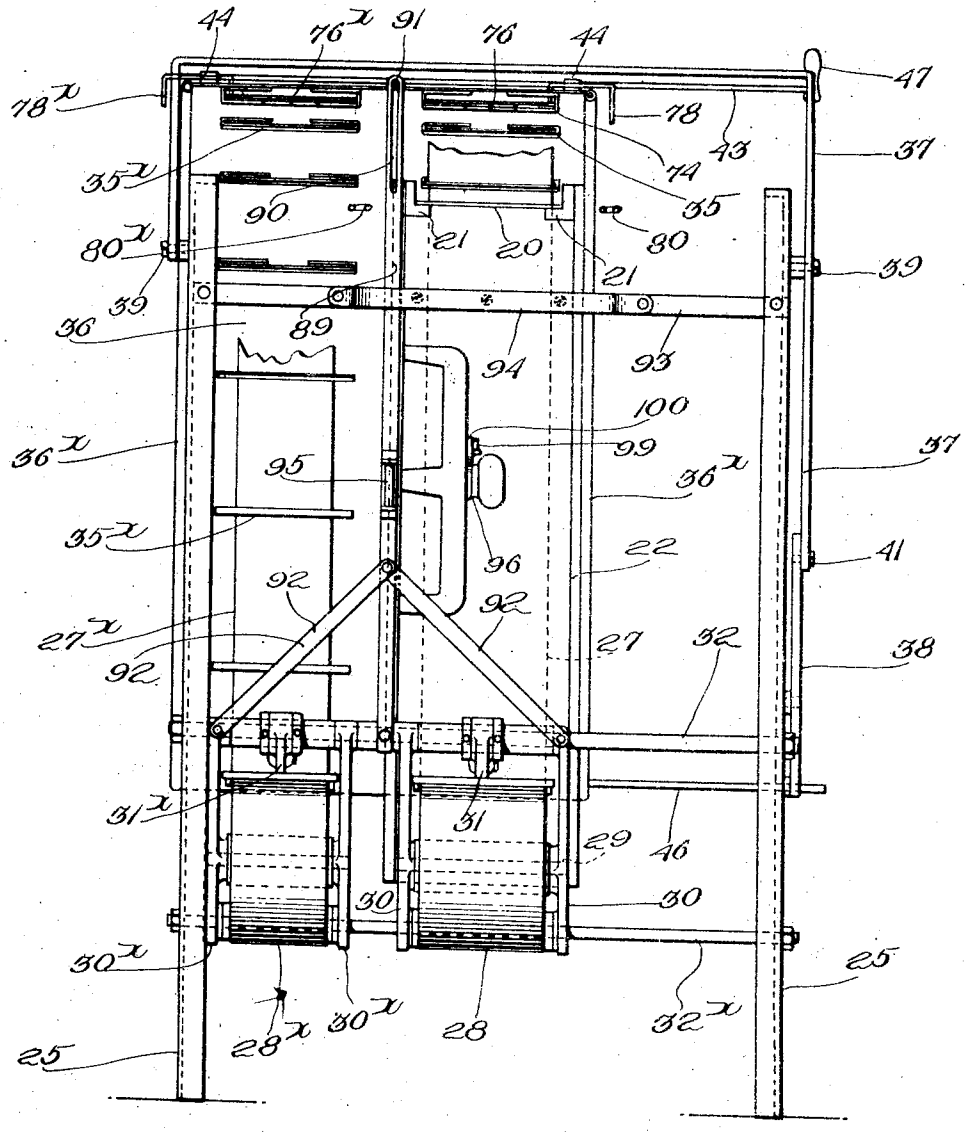



Fig. 17.

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# UNITED STATES PATENT OFFICE.

WILLIAM BURTON WESCOTT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO WALPOLE SHOE SUPPLY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

## APPARATUS FOR HEATING COATED FABRIC.

1,084,513. Specification of Letters Patent. Patented Jan. 13, 1914.

Application filed January 2, 1912. Serial No. 668,077.

*To all whom it may concern:*

Be it known that I, WILLIAM BURTON WESCOTT, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Heating Coated Fabric, of which the following is a specification.

This invention relates to apparatus for treating coated fabric which is used to reinforce insoles of the gem type. The fabric used for this purpose is coated on one side with a suitable preparation of material which may be rendered sticky by heat. It is the general practice to coat a sheet or strip of fabric on one side and to roll the fabric after the coating has dried and transport it in rolls.

The apparatus to which the present invention relates comprises means for supporting a roll of coated fabric, means for drawing out the fabric from the roll, a heating element whereby the coating material is rendered sticky, and means for holding the fabric against the heating element with suitable tension or for supporting it out of contact with the heating element.

Numerous other features of the invention are hereinafter described and claimed and are illustrated upon the accompanying drawings.

On the drawings: Figure 1 represents a side elevation, partly broken away, of the heating apparatus designed for a single strip of coated material. Fig. 1ª represents an elevation of a device for excluding cold air from the heating space. Fig. 1ᵇ represents a vertical section through said device on line *b*—*b* of Fig. 1ª. Fig. 2 represents an elevation of the heating apparatus as indicated by line 2—2 of Fig. 1. Fig. 3 represents a vertical section, on a larger scale, through the heating element and through a tension device for holding the coated fabric. Fig. 3ª represents a vertical section through the tension device included in Fig. 3. The plane of the section is indicated in Fig. 3 by line *a*—*a*. Fig. 4 represents a cross section through the heating element and through one of a series of crossbars adapted to support the coated fabric. Fig. 4ª represents a cross section indicated by line *a*—*a* in Fig. 4. Fig. 5 represents a side elevation, partly broken away, of the tension device included in Fig. 3. Fig. 6 represents a diagram of electric wiring for the heating element. Fig. 7 represents a diagram of another arrangement of wiring for the heating element. Fig. 8 represents a side elevation of manually operative means for feeding the coated material through the heating apparatus. Fig. 9 represents a top plan view of said feeding mechanism. Fig. 10 represents an end elevation of the feeding mechanism. Fig. 11 represents an end elevation, on a larger scale, of a portion of the feeding mechanism. Fig. 12 represents a side elevation of the mechanism included in Fig. 11. Fig. 13 represents an elevation, partly broken away, of a feed-regulating device. Fig. 14 (Sheet 1) represents a sectional view of a modified form of tension device. Fig. 15 represents a section of another modified form of tension device. These two forms are adapted to serve in place of that shown by Figs. 3 and 3ª. Fig. 16 represents a side elevation of a heating apparatus adapted to accommodate two strips of coated material. Fig. 17 represents an elevation indicated in Fig. 16 by line 17—17.

The same reference characters indicate the same parts wherever they occur.

The apparatus shown by Figs. 16 and 17 may be disregarded until hereinafter expressly mentioned.

Referring to Figs. 1 and 2, a curved heating surface is indicated at 20. This surface is afforded by the outer side of a sheet of metal whose side edges are supported by curved angle strips 21. (See Figs. 2, 3 and 4). The strips 21 are secured to the inner sides of segmental strips 22 which form the side walls of a chamber for containing insulating material 23. The curved inner wall of the chamber is indicated at 24. These elements are supported by legs indicated at 25. The plate 20 extends through an arc of approximately ninety degrees and it is interiorly heated by electric conductors 26. The conductors 26 are contained in the chamber formed by the members 20, 21, 22 and 24, and they are held against the inner side of the plate 20 by the insulating material 23. The material 23 has insulating properties, both with regard to the conduction of heat and with regard to the conduction of an electric current. A mixture of magnesia 30% and asbestos 20% is suit-

able for this purpose. The only escape for heat from the plate 20 is from its outer side, and upon this side the coated material is held with tension when it is desired to soften the coating thereon. Each conductor 26 is covered with suitable insulating material. The angle strips 21, and likewise the flat walls 22, are composed of insulating material adapted to prevent the escape of heat. A strip of coated material is indicated at 27. This material is drawn from a roll 28 so that it may pass longitudinally along the plate 20, with its coated side away from the plate. The roll is supported by a rod 29 whose ends bear upon supporting bars 30. An arm 31 pivotally mounted upon a rod 32 is arranged to rest upon the roll 28 to retard the unwinding of the coated material and to coöperate with means hereinafter described to maintain a suitable degree of tension. An adjustable weight 33 is mounted upon the tension arm.

The coated material 27 passes under an idle roll 34 under the lower end of the plate 20 and is threaded through a series of straps or crossbars 35. These crossbars are secured to a segmental cover 36 which is mounted so as to be movable toward and from the heating plate 20. The cover 36, as shown by Figs. 1 and 2, is removed from the heating apparatus; but as shown by Figs. 3 and 4, it is closed upon the heating apparatus in such manner as to prevent any undue escape of heat.

The mechanism, shown by Fig. 1, for lifting and supporting the cover 36 comprises levers 37 and 38. The lever 37 is pivotally mounted at 39, and the lever 38 is pivotally mounted at 40. These two levers are connected by a pin-and-slot connection, one of the levers having a pin 41 and the other having a slot 42 whereby they are caused to move in unison. The lever 37 extends over the top of the cover 36, as shown by Figs. 2 and 3, and is pivotally connected to the cover by a rod 43 whose ends extend into the opposite portions of the lever. The rod is connected to the cover by clips 44. The lever 38 is connected to the lower end of the cover by a pin-and-slot connection, a slot 45 being formed in the lever to receive a pin 46 affixed to the cover. The lever 37 is provided with a handle 47 whereby it may be moved to lift the cover or place it upon the heating apparatus. Fig. 1 includes dotted lines which represent the positions of the levers and cover when the latter is upon the heating apparatus. A spring clip 48 affixed to one of the walls 22 is adapted to be engaged by the lever 37 and to hold the cover away from the heating apparatus, as shown.

A feed table 49 is disposed in the horizontal plane of the upper end of the heating plate 20, and is in position to receive the strip 27 as the latter is drawn horizontally. This feed table is provided with means for engaging the strip to draw it from the heating apparatus to the feed table, so that it may be cut off in suitable lengths after it has passed through the heating apparatus. The feeding mechanism comprises a feed slide 50, a manually operative treadle or other lever 51 for reciprocating the slide, and means on the slide for engaging and pulling the strip. The treadle 51 is connected by a rod 52 to one arm of a bell crank 53. The bell crank is pivoted at 54 to one of the legs of the table 49. The upper end of the bell crank is connected by a stud 55 to ears 56 affixed to the under side of the slide 50. A spring 57 connected to the bell crank normally moves the slide toward the heating apparatus and raises the treadle.

The strip-engaging means comprises a plurality of sharp pointed members 58 which are affixed to a rock shaft 59. The rock shaft is mounted in an open frame 60 through which the strip is threaded. This frame is affixed to the slide 50 so as to be moved toward and from the heating apparatus. One or more springs 61 coiled about the rock shaft 59 normally press the pointed members 58 into engagement with the strip, thereby compressing the strip against the bottom of the frame 60. When the feed slide is moved forward to draw the strip, the pointed members 58 enter the strip sufficiently to take a firm hold thereon and consequently draw the strip through the heating apparatus.

The feed points 58 are provided with means for automatically lifting them out of contact with the strip when they are moved in the reverse direction, so as to avoid scraping the sticky substance from the upper surface of the strip. This means for lifting the points is shown best by Figs. 11 and 12. The ends of the rock shaft 59 are bent downwardly outside the frame 60 to provide fingers, indicated at 62. A rocker having two branches 63 is pivotally connected to the frame 60 by pins 64. Each branch of the rocker is arranged to engage one of the fingers 62 and to rock the feed points upwardly to the position shown by Fig. 12. The rocker has an arm 65 which is arranged to be engaged by the stud 55 which connects the bell crank 53 with the feed slide. As shown by Fig. 12, the ears 56 are provided with horizontal slots 66 for the reception of the stud 55, whereby a limited amount of movement of the stud is lost without effecting movement of the feed slide. The bell crank is provided with a radial slot 67 through which the stud 55 extends. This slot provides for angular changes of the bell crank without binding any of the parts.

When the bell crank is moved back by the spring 57 after a feeding movement, the stud 55 moves through the slot 66 and en-

gages the arm 65 with the result of lifting the feed points before imparting reverse movement to the slide. When the treadle is depressed to impart feeding movement, the arm 65 is released by the stud 55 so that the spring 61 may act to press the feed points into operative engagement with the strip.

An adjustable abutment 68 is provided for varying the initial position of the feed slide, to the end that the length of feeding movement may be varied. This abutment is eccentrically affixed to a stem 69 which is adapted to turn in a bearing in the feed table. The abutment 68 is arranged, as shown by Figs. 11 and 12, to be engaged by one of the ears 56. The outer end of the stem is threaded and is provided with a clamping nut 70. A handle 71 is loosely mounted upon the stem between the nut and an adjacent face of the table. The handle is connected to the stem by a pin-and-slot connection 72, so that it will be adapted to turn the stem and at the same time be adapted to slide longitudinally of the stem and be clamped against the face of the table when the nut is set up tightly. In this way the abutment 68 may be tightly clamped against a face 73 of the table.

The tension exerted upon the strip by the feed points acting in conjunction with the friction drag of the arm 31 draws the strip 27 tightly against the heating plate 20, assuming, of course, that the cover 36 is in the position represented in Figs. 3 and 4. It is desirable to maintain this tension of the strip when the feeding points are moved in the reverse direction and while they are stationary, in order that the strip may be held against the heating plate with sufficient tension to conduct the heat to the coating material upon its outer surface. For this reason the cover 36 is provided with means adapted to engage the strip to maintain the tension created by the feed joints.

Referring to Figs. 1, 3 and 3ª, an open rectangular frame 74 is secured to the under side of the cover near the delivery end thereof. The strip is threaded through this frame and passes over a rock shaft 75 whose ends are journaled in the frame. The rock shaft is provided with sharp pointed members 76 which are adapted to be moved to and from engagement with the under side of the strip and to prevent retrograde movement of the strip when they are engaged. One or more springs 77 coiled about the rock shaft normally press the points downwardly or away from the strip. A lever 78 is affixed to the rock shaft and extends upwardly through a slot 79 (Fig. 9) in the frame and cover, and is bent laterally and downwardly, as shown best by Figs. 3 and 5. The free end of the lever is adapted to be engaged by a hook 80 at one end of a rod 81 which is movable longitudinally. The rod is adapted to be operated by the feed slide when the latter is advanced to its foremost position, for the purpose of lifting the retaining points 76 into engagement with the strip. The rod 81 is mounted in bearings 82 on the feed table, and its forward end is bent inwardly as indicated at 83 (Figs. 9 and 10) in position to be engaged by the frame 60. A spring 84 attached to the rod 81 and abutting against one of the bearings 82 normally moves the rod in a direction opposite to the direction of feed. When the frame 60 strikes the end 83, the hook 80 acts upon the lever 78 to lift the points 76. As soon as the tension on the strip is relieved by the feed points the strip settles back upon the retaining points, which are thereafter held up by the strip. The retaining points remain in operative engagement with the strip until the strip is once more fed forward, whereupon they are automatically depressed by the springs 77.

The connection afforded by the hook 80 and lever 78 is such as to enable the cover 36 to move away from the heating apparatus and to move back again without injuring any part of the apparatus. The retaining points remain in the strip without in any way depending upon the hook 80 for holding them against the strip, and they are consequently adapted to maintain the tension of the strip when the cover 36 is lifted. When the cover is again placed upon the heating apparatus, the lever 78 moves back into operative relation with the hook 80 so that it will be in position to be operated by the hook when the rod 81 is again drawn forward.

Figs. 14 and 15 illustrate retaining points which may be employed in substitution for the points 76. Referring first to Fig. 14, the retaining points, one of which is indicated at 76ª, are affixed in a frame 74ª in such manner as to engage the under or uncoated side of the strip. Retaining points affixed in this manner are adapted to maintain the tension of the strip equally as well as the movable points 76, but they would be quickly worn away by the friction of the strip. A comparison of the points 76 and 76ª will show that while the latter are always in position to be engaged by the strip, the former are moved out of engagement with the strip at the beginning of each feeding movement and are automatically thrown into engagement with the strip at the end of each feeding movement and are therefore not subjected to the wear which would otherwise soon destroy their usefulness.

In the form shown by Fig. 15, the retaining points, one of which is indicated at 76ᵇ, are affixed to a rock shaft 75ᵇ and the rock shaft is mounted in a frame 74ᵇ in such manner that the points will engage the upper or

coated side of the strip. A spring $77^b$ coiled about the rock shaft normally throws the points into engagement with the strip. A loop $78^b$ affixed to the rock shaft has a portion which extends under the strip of fabric and whose function is to lift the points out of engagement with the strip when the strip is fed. The operation of this device is as follows: When the strip is drawn forward, the tension is sufficient to depress the loop $78^b$ and thus raise the points against the tension of the spring $77^b$. As soon as the tension of the strip is slackened by the feeding means, the spring $76^b$ acts to throw the retaining points into engagement with the strip. At the same time the loop $78^b$ is moved and thus takes up whatever slack may exist in the strip 27 by reason of reverse movement of the feeding means. It will be observed that the retaining points in this form coöperate with a portion of the frame $74^b$, whereas in the two forms previously described the pressure of the strip 27 against the retaining points is due wholly to the weight of the strip.

The lower end of the cover 36 is provided with a device which is adapted to engage the coated strip 27 at a point where the coating has not been softened. This device presses against the strip on the plate 20 and prevents a draft of cold air passing over that portion of the strip which is upon the plate. The details of construction of this additional tension device are shown best by Figs. $1^a$ and $1^b$ (Sheet 1). A plate 85 is connected to the inner side of the cover in the manner of a hinge, being pivotally mounted upon a pin or rod 86 which is carried by the cover. Springs 87 coiled about the rod act upon the plate 85 to normally swing its free edge away from the cover to the position shown by Fig. $1^b$ and also by Fig. 1. An extension 88 formed on the plate is adapted to engage the cover to limit the movement of the plate to the position shown. When the cover is closed upon the heating apparatus, the plate 85 closes the space bounded by the strip, the cover, and the side members 21.

The apparatus described up to this point is designed for a single strip of coated material. In practice, the inner soles vary in width to a degree which makes it desirable to use broader strips for the broader insoles and narrower strips for the narrower insoles, with a view to minimizing the waste of coated material. For this reason it is practicable to employ a heating apparatus having a single heated element such as the curved plate 20 in connection with the feeding means described, and to provide means for passing strips 27 of coated material of different widths over the heated element. Figs. 16 and 17 illustrate the heated element mounted in a frame which is equipped with means for holding a plurality of strips 27 of different widths, which holding means is adapted to be shifted laterally to place the desired strip of coated material in coöperative relation with the heated element and feeding means. Referring to Fig. 17, the provisions for this purpose are designed to accommodate two strips of coated material, which strips are indicated respectively at 27 and $27^x$. The rolls from which the strips are drawn are indicated at 28 and $28^x$. Each roll is provided with an independent tension arm for retarding the feeding movement, these arms being indicated at 31 and $31^x$. The bars 30 which support the roll 28, and the bars $30^x$ which support the roll $28^x$, are mounted upon rods 32 and $32^x$ which extend transversely of the direction of feed. These rods are parts of a frame of suitable width for permitting the lateral shifting of the rolls. The heated element, namely, the curved plate 20, is disposed midway between the sides of the frame, and the wider strip 27 is in coöperative relation with the heated element. The various devices for feeding the strip, for guiding the strip, and for maintaining the tension of the strip, are the same as those previously described. The cover for the heated element is also the same, and similar mechanism is provided for lifting and supporting the cover. The cover in this instance is of sufficient width to embrace both strips of coated material, the exact width of the cover being shown in Fig. 17, by the side flanges $36^x$ which are adapted to lie outside the vertical walls 22, 22 of the casing in which the heating element is contained. The cover is provided with two sets of guiding devices, such as those described, for guiding the strips and for supporting them when the cover is lifted. The additional guiding devices for the strip $27^x$ are indicated at $35^x$, and the additional retaining points for the strip are indicated at $76^x$.

The cover 36, being provided with sliding connections supported by the lifting levers, is adapted to be shifted laterally when it is raised from the heated element. As shown by Fig. 17, the clips or strips 44 which are secured to the cover surround the transverse rod 43 which is supported by the operating lever. The members 44 are free to slide upon the rod. The lower end of the cover is adapted to slide in like manner upon the rod 46.

The arms 30 and $30^x$ which support the rolls of coated material are connected by suitable connections with the cover 36 so that they and the cover may be shifted simultaneously to place the desired strip of coated material in operative position. These connections, which are shown best by Fig. 17, include a vertical bar 89, the lower end of which is connected to the hub of one of the arms 30, and the upper end of which is

connected by a pin-and-slot connection with the cover 36. In the form illustrated, the bar 89 is formed with a vertical slot 90, and the cover is provided with a horizontal pin 91 which extends through the slot and is adapted to maintain operative connection between the bar and the cover, whether the cover be lifted or lowered upon the heating element. Strips or bars 92 connect the bar 89 with the outer arms 30 and 30ˣ to press the bar 89 and prevent it from tipping laterally, so that the cover 36 and supporting means for the rolls 28 and 28ˣ will move in unison. The bar 89 is held in upright position between a transverse connecting bar 93 of the framework and a strap 94 secured to the bar 93. The bar 89 is provided with a handle 95 by which the laterally movable elements may be shifted.

The only rearrangement of the apparatus required to place the unused strip in operative position is to detach the strip which is not desired from the feeding means prior to shifting the strips, and to insert the desired strip through the feeding frame 60 after the strips have been shifted.

Duplicate connections are provided for operating the two tension-retaining devices. As shown by Figs. 9 and 10, a rod 81ˣ similar to the rod 81 is mounted upon the feed table 49. These two rods are disposed on opposite sides of the feeding slide. The rod 81ˣ has a hook 80ˣ similar to the hook 80, and a lateral extension 83ˣ similar to the txtension 83 and adapted to be engaged in the same manner by the feeding frame 60. The rod 81 is adapted to be used when one strip is in operative position, and the rod 81ˣ is adapted to be used when the other strip is in operative position. The points 76ˣ which engage the strip 27ˣ are adapted to be operated in the manner explained in conjunction with the points 76. The operating lever for the points 76ˣ is indicated at 78ˣ in Fig. 17. When the strips are shifted to place the strip 27ˣ in operative position, the operating lever 78ˣ is shifted so as to stand in coöperative relation with the hook 80ˣ, while at the same time the lever 78 associated with the strip 27 is removed from coöperative relation with the hook 80.

The supporting frame for the heating element is provided with a rheostat which is illustrated conventionally and indicated at 96. The rheostat is provided for controlling the current by which the heating coil 26 is heated. Fig. 6 represents a diagram of one arrangement of wiring for the heating coil. In this form the coil is divided into two sections, both of which may be used when the current is not directed through the rheostat, and one of which is cut out when the current is directed through the rheostat. By means of this arrangement the maximum current may be used to raise the temperature of the heated element to the desired point without liability of burning out the rheostat, after which the temperature of the heated element may be maintained by one of the sections of the heating coil by placing the controlling handle of the rheostat at the desired position. The main feed wires are indicated at 97 and 98. The wire 97 is connected directly to the two branches of the heating coil. The opposite terminals of the two branches are connected respectively to a stationary contact 99 and to the controller 100 of the rheostat. When the controller 100 is in position to form a short circuit with the feed wire 98 independently of the resistance coil of the rheostat, it engages the contact 99 and thus closes the circuit through both branches of the heating coil; but when the controller is moved to include any part of the resistance coil of the rheostat, it is disengaged from the contact 99, thus cutting out one section of the heating coil.

The controller 100, according to the arrangement shown by Fig. 7, is adapted to conduct a current of relatively high voltage to the heating coil when the resistance coil of the rheostat is cut out, and to reduce the voltage through the line when any part of the rheostat is included. The main feed wires in this figure are indicated at 97 and 98. A common return is indicated at 101. The wire 97 is connected to two switch contacts indicated at 102 and 103. The wire 98 is connected to a switch contact 104. A switch 105 pivoted to members 106 is adapted to form connection between the members 102 and 106 on the one side, and between the members 104 and 107 on the other side. One member 106 is connected by a conductor 108 with one terminal of the heating coil 26. The other terminal of the heating coil is connected by a wire 113 with the base of the controller 100. A stationary contact 109 which is adapted to be engaged by the controller 100 is connected by a wire 110 with the member 107. When the controller is in the position shown by Fig. 7, the circuit may be traced as follows: feed wire 97, contact 102, switch 105, contact 106, wire 108, heating coil 26, wire 113, controller 100, contact 109, wire 110, contact 107, switch 105, contact 104, feed wire 98. Current does not pass through the resistance coil of the rheostat when traversing the circuit just described, but when the controller 100 is moved to include any part of the rheostat resistance, the circuit is severed as far as the wire 110 is concerned. Under the conditions just named, the circuit would be entirely broken without shifting the switch 105 into engagement with the contacts 103, 111 and 112. By shifting the switch into the latter contacts, the members 102, 104 and 107 would be disengaged and the wire 110 would be

cut out without moving the controller 100 from the position shown. Assuming that the switch 105 is reversed while the controller 100 is left in the position shown, the circuit would be as follows: wire 97, contact 103, switch 105, contact 106, wire 108, heating coil 26, wire 113, controller 100, wire 115, contact 111, switch 105, contact 112, return wire 101. Without changing the position of the switch from that last explained, any desired amount of resistance may be included by shifting the controller 100, and this would not produce any change other than the inclusion or exclusion of more or less resistance in the rheostat.

I claim:

1. In an apparatus of the character described, a member having a convex surface, means for heating said member, means for holding a flexible strip against said surface, and means for moving said strip bodily out of contact with said surface.

2. In an apparatus of the character described, an exteriorly curved surface, a heating element on the inner side thereof, means for holding a flexible strip with tension against said surface, and means for lifting and supporting said strip out of contact with said surface.

3. In an apparatus of the character described, an exteriorly curved surface, a heating element on the inner side thereof, means for holding a flexible strip with tension against said surface, a cover curved to fit over said surface, and means secured to said cover for lifting said strip out of contact with said surface.

4. In an apparatus of the character described, an exteriorly curved surface, a heating element on the inner side thereof, means for holding a flexible strip with tension against said surface, a cover curved to fit over said surface, and a series of crossbars affixed to said cover and disposed between said surface and the flexible strip, said surface having depressions to receive said crossbars.

5. In an apparatus of the character described, an exteriorly curved surface, a heating element on the inner side thereof, means for holding a flexible strip with tension against said surface, a cover curved to fit over said surface, means for lifting and supporting said cover away from said surface, and means secured to said cover for lifting and supporting said strip.

6. In an apparatus of the character described, a heated element, feeding means for drawing a strip over said heated element, holding means adapted to engage said strip between said heated element and said feeding means to prevent reverse movement of the strip, and means adapted to be operated by said feeding means to cause said holding means to operatively engage the strip.

7. In an apparatus of the character described, a heated element, feeding means for drawing a strip over said heated element, pointed members adapted to enter said strip between said heated element and said feeding means to prevent reverse movement of the strip, and means adapted to be operated by said feeding means for moving said pointed members into operative engagement with the strip.

8. In an apparatus for operating upon a strip one side of which is coated and the other uncoated, means for feeding the strip, a heated element having a surface arranged to be engaged by the uncoated surface of said strip, holding means adapted to engage the uncoated surface of said strip between said surface and the feeding means to prevent reverse movement of the strip, and means adapted to be operated by said feeding means for causing said holding means to operatively engage the strip.

9. In an apparatus of the character described, a heater, feeding means for moving a strip over the heater, a cover for the heater, said strip being movable between the heater and the cover, means secured to the cover for lifting the strip away from the heater, means for lifting the cover away from the heater, holding means on said cover for engaging the strip to prevent reverse movement of the strip, and means adapted to be operated by said feeding means for causing said holding means to operatively engage the strip.

10. In an apparatus of the character described, a heated element having a convex surface, a cover therefor, side flanges for closing the space between said surface and cover, means for drawing a strip between said surface and cover and between said flanges, means for lifting and supporting said cover, and means secured to said cover for lifting the strip away from said surface.

11. In an apparatus of the character described, a heated element having a work-engaging surface, a retractable cover for said surface, the cover extending laterally beyond the side edges of said surface, means on said cover for guiding a strip moved longitudinally upon said surface, said means being adapted to lift and support the strip, and similar means secured to the cover for guiding and supporting another strip at one side of said surface, said cover being laterally movable for shifting one strip from, and another strip to, coöperative relation with said surface.

12. In an apparatus of the character described, a heated element having a work-engaging surface, a retractable cover for said surface, the cover extending laterally beyond the side edges of said surface, means on said cover for guiding a strip moved longitudinally upon said surface, said means

being adapted to lift and support the strip, similar means secured to the cover for guiding and supporting another strip at one side of said surface, said cover being laterally movable for shifting one strip from, and another strip to, coöperative relation with said surface, laterally movable means for supporting rolls of material of which said strips are composed, and means connecting said cover and said roll-supporting means for shifting said supporting means with the cover.

13. In an apparatus of the character described, a heated element having a convex surface, a cover curved to fit over said surface, said cover extending laterally beyond the side edges of said surface, means for supporting rolled strips side by side, means secured to said cover for guiding one of the strips longitudinally upon said surface, means secured to the cover for guiding another strip at one side of said surface, said guiding means being adapted to support the strips, said cover being movable laterally for shifting one strip away from, and another strip to, coöperative relation with said surface, and means connecting said cover and roll-supporting means for shifting the rolls laterally.

14. In an apparatus of the character described, means for supporting two rolled strips of flexible material side by side, feeding means adapted to draw one of the strips from its roll, said supporting means being laterally movable to permit one strip to move from, and the other strip into, alinement with said feeding means, a heated element having a curved strip-engaging surface in line with said feeding means between the same and the roll-supporting means, a cover curved to fit over said surface and being so wide as to cover both strips, means secured to the cover for supporting the strip which is out of line with said surface and feeding means, like means secured to the cover for guiding the strip which is on said surface, said cover being laterally movable for shifting one strip from, and the other strip to, coöperative relation with said surface and feeding means, connections between said cover and roll-supporting means for shifting the latter, detents mounted on said cover for engaging the strips between said surface and the feeding means for preventing reverse movement of the strips, and connections adapted to be actuated by said feeding means for moving one of said detents in operative engagement with its strip, said detents being movable to and from coöperative relation with said connections when the strips are shifted.

In testimony whereof I have affixed my signature, in presence of two witnesses.

WILLIAM BURTON WESCOTT.

Witnesses:
WALTER P. ABELL,
P. W. PEZZETTI.