

G. GODDU.
WELT ATTACHING APPARATUS.
APPLICATION FILED JAN. 29, 1912.

1,048,149.

Patented Dec. 24, 1912.

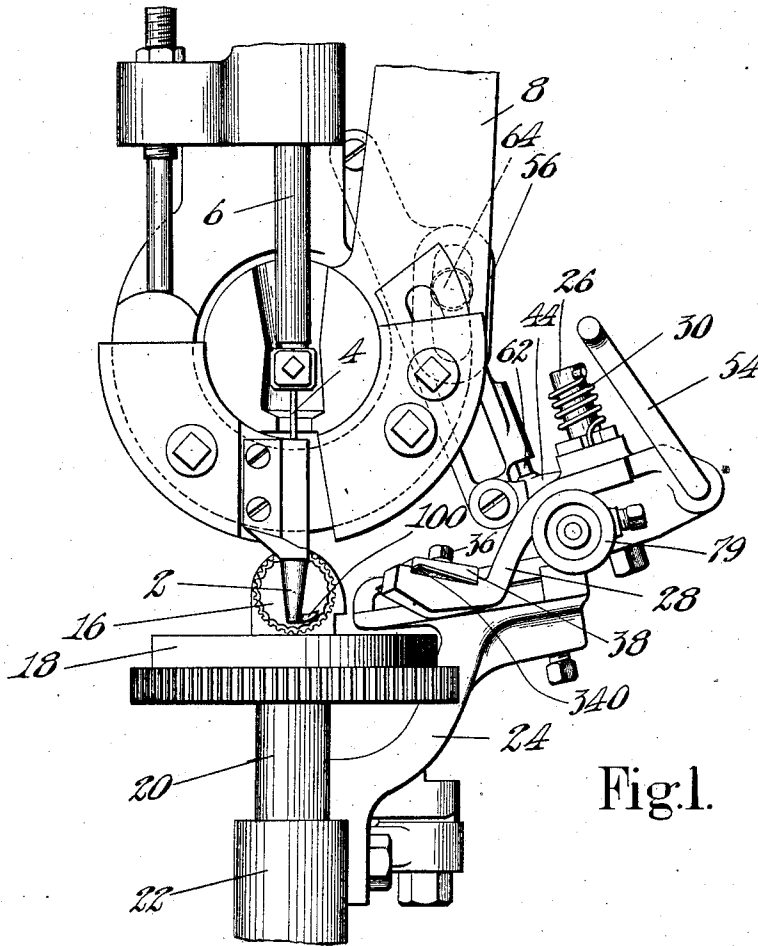


Fig. 1.

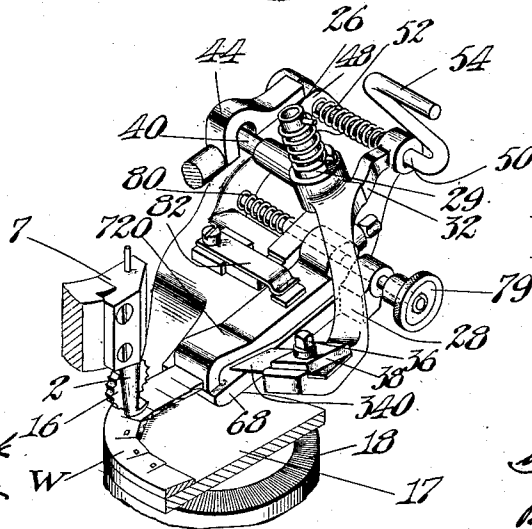


Fig. 2.

WITNESSES.

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WELT-ATTACHING APPARATUS.

1,048,149.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed January 29, 1912. Serial No. 674,015.

To all whom it may concern:

Be it known that I, GEORGE GODDU, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Welt-Attaching 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 machines for attaching welts, rands and similar strips of material to stock in the manufacture of boots and shoes and is herein shown as embodied in a machine for securing successive portions of the strip by separate metallic fastenings inserted at successive operations.

Although the invention is essentially an improvement in an organized machine for attaching welts to stock and its general object is to improve such machines with respect to convenience of operation and also to improve the product of the machines, it will be understood that in its broader aspects the invention is not restricted to a particular type of fastening inserting machine nor to a particular mode of securing the strip to the stock. For convenience, the term "welt" will be used to designate any strip upon which the machine is adapted to operate.

In attaching a welt it is usually desirable that the welt conform to the contour of the part of the shoe to which it is attached, particularly when the welt is attached to a sole for the purpose of thickening the edge of the sole. Owing to the relatively great width of the welt when compared with its thickness, difficulty has been experienced in bending the welt edgewise to make it conform to the curvature of the sharply curved parts of the shoe, particularly at the toe. In my prior Patents Nos. 896,293, granted August 18, 1908 and 970,702, granted Sept. 20, 1910, I have disclosed welt attaching means comprising means which may be actuated at the will of the operator to slit those portions of the welt which it is desired to bend to the curvature of the sharply curved parts of the shoe. These slits are formed in one edge of the welt, preferably, of course, in the edge which is to be upon the inside of a curve, and are preferably inclined so that the parts will pass one another readily as the welt is curved.

Although the welt attaching machines shown in my prior patents have facilitated the attachment of a welt to the sharply curved portions of a shoe and have consequently improved shoes upon which they are used both in appearance and wearing qualities, difficulty has been experienced in obtaining the best results owing to the organization of the machines. This difficulty has arisen from the fact that the slits in the welt are so inclined that as the slitted welt passes to the attaching mechanism the overhanging portion is attached to the sole first, whereby the succeeding tongue, as the welt is curved, must be tucked under the said overhanging portion. This sometimes results in undesirable puckers in the regions of the slits.

A particular object of the present invention is to improve the organization of the machine in this respect and so to construct and arrange the slitting mechanism with respect to the attaching mechanism that the overhanging portion formed by the slit will extend in the direction of the feed of the work, whereby this overhanging portion, as the welt is curved, will ride up over the preceding attached portion, thus leaving the finished work substantially smooth.

Other objects and features of the invention will be apparent when the following description and claims are considered in connection with the accompanying drawings, in which,—

Figure 1 is a front elevation of a portion of a machine for attaching welts having embodied therein the improvements of this invention; and Fig. 2 is a perspective detail illustrating particularly the construction of the slitting mechanism and the mode of operation of the machine.

The welt attaching machine in which the invention is embodied is substantially of well-known construction, the fastening forming and inserting mechanism being shown more fully in United States Letters Patent to Louis Goddu, No. 490,625, dated Jan. 24, 1893, and the work support and feeding table being shown more fully in United States Letters Patent to L. A. Casgrain, No. 611,405, dated Sept. 27, 1898. For a complete description of these parts reference may be had to the said Letters Patent.

For the purposes of this description it is sufficient to indicate that the driver 4 oper-

ates in the nose 2 and is carried by a driver bar 6. The stationary cutter is indicated at 7 and the movable cutter is carried by a lever 8. The feed wheel 16 operates upon the work 17 carried upon the feed table 18, the feed table 18 being supported by the rod 20 vertically movable in a guide 22. These parts, with the exception of the nose 2, are of substantially the same construction as the corresponding parts of the Letters Patent above referred to.

The welt slitting mechanism is carried by a bracket 24 bolted to the machine frame. Pivoted upon a stud 26 which is attached to the bracket is a knife carrying lever 28, the hub of said lever being confined between the bracket and a washer 29 upon the stud 26. A spring 30 engaging at one end a pin on the stud 26 and at its other end entering a hole in the hub of the lever 28 holds said lever yieldingly in such position that a shoulder on said lever abuts against a stop 32 formed upon the bracket. The slitting knife 340 is adjustably confined in a groove in the lower end of the lever 28 by means of a set screw 36 and a clamp plate 38. The arm of the lever in which the groove is formed is so bent that the knife is inclined to the plane of the welt with the end of its cutting edge which is nearer the attaching mechanism higher than the end which is remote therefrom. The knife is adapted to slit the welt from the edge inward and the slits are formed in the manner shown in Fig. 2 so that the lips of the slit override the preceding attached tongues.

The welt supporting table 68 of the welt guiding portion of the slitting mechanism is provided with a groove to receive the knife 340 whereby the knife will slit the welt so that the slits will extend through it from top to bottom. A clamping member 720 pressed down by a spring 82 clamps the welt for the slitting operation, this member being so shaped at its forward end that the forwardly projecting lips of the slits will travel freely under it. To prevent these projecting lips from catching against the nose 2 of the fastening inserting mechanism, the nose is provided with a lip laying projection 100. The other arm of the lever 28 has a bearing stud 40 arranged to be received in a slot in a link 44 by which the lever is oscillated about the stud 26. The link 44 may be lifted out of operative relation to the stud 40 by a lifting arm 48 attached to a rock-shaft 50 having an operating handle 54, the rock-shaft 50 being pressed into engagement with one of its bearings by a spring 52. At its other end the link 44 is pivotally connected to the lower end of a lever 56, the lever 56 being pivotally connected at its upper end to the machine frame. A spring-pressed plunger 62 mounted in a socket in the lower end of the lever 56 bears upon the link 44 and tends

to press it into engagement with the lifting arm 48. A stud 64 upon the cutter carrying lever 8 is confined in a slot 66 in the lever 56 and serves to transmit the motion of the cutter carrying lever to the lever 56.

The operation of the machine may be briefly described as follows: The stock 17, to which the welt W is to be attached, is laid upon the table 18 and the welt, which has been previously threaded through the guiding portion of the slitting mechanism, is placed upon the stock with its outer edge lying beneath the feed wheel 16. If the welt is to be attached first to a straight portion of the stock the crank 54 is moved to the right in Fig. 1 so that the lifting arm 48 raises the slot in the link 44 above the stop 40 and holds it in this position. As the curved portion of the stock approaches the inserting mechanism, the operator will move the crank 54 to the left when he sees that the portion of the welt which is to be attached to this curved portion of the stock is lying in position to be operated upon by the slitting knife and the link 44 will be pressed downward by the spring plunger 62, thus causing the slot in the link to drop over the stop 40. When the parts are in this position the oscillations of the cutter carrying lever 8 will be transmitted to the knife lever 28 through the connecting lever 56. The knife 340 will thus be oscillated with each fastening forming operation and the welt will be provided with a slit for each fastening inserted. The distance apart of the slits will obviously be the same as the distance apart of the fastenings so that each tongue will be provided with an attaching fastening. As the welt passes to the inserting mechanism a fastening will be driven through each tongue and as the work is turned to cause the welt to conform to the curvature of the edge of the work and to bring the edge into proper position beneath the inserting mechanism, the forwardly projecting lip upon the succeeding tongue will ride over the preceding attached tongue. The width of the welt therefore which must be bent laterally against the internal tension of the welt material will be comparatively small. The appearance of the attached welt is shown especially in Fig. 2 of the drawings. When the straight portion of the stock again approaches the inserting mechanism the operator will swing the crank 54 back toward the right in Fig. 1 and the slitting mechanism will be thrown out of operation again.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. In a machine of the class described, the combination with means for attaching a welt to stock, of means under the control of the operator for forming inclined slits in the inner margin of said welt, said slitting

means being so constructed and so arranged with respect to the attaching means that it operates at the will of the operator to form slits in the inner margin of the welt so inclined that in securing the welt to the stock by successive operations each slit portion will, before being secured, override the portion immediately in front of it that has already been attached to the stock.

2. In a machine of the class described, the combination with means for attaching a welt to stock, of controllable slitting means constructed to operate in such manner and so arranged with respect to the attaching means that it will form in the inner margin of the welt at points determined by the operator slits so inclined that the upper lips of the slits will overlap the adjacent tongues in the direction of the feed movement of the welt, and means for laying the lips flush with the surface of the welt as the welt passes to the attaching mechanism.

3. A machine of the class described having fastening inserting mechanism, feed

mechanism and welt slitting mechanism, in combination with an actuator moving continuously in a given path, and means for shifting said path to bring said actuator into operative relation to said slitting mechanism.

4. A machine of the class described having fastening inserting mechanism including an oscillating member, feed mechanism and normally inoperative welt slitting mechanism in combination with an actuator connected with said oscillating member and moved thereby in a given path, and means for shifting said path to bring said actuator into operative relation to said slitting mechanism.

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

GEORGE GODDU.

Witnesses:

BENJ. B. BLANCHARD,
NORMAN C. HUSSEY.

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