P. WEISS.

AUTOMATIC LINING CEMENTING MACHINE.

APPLICATION FILED OCT. 20, 1913.

1,196,914.

Patented Sept. 5, 1916.

2 SHEETS—SHEET 1.

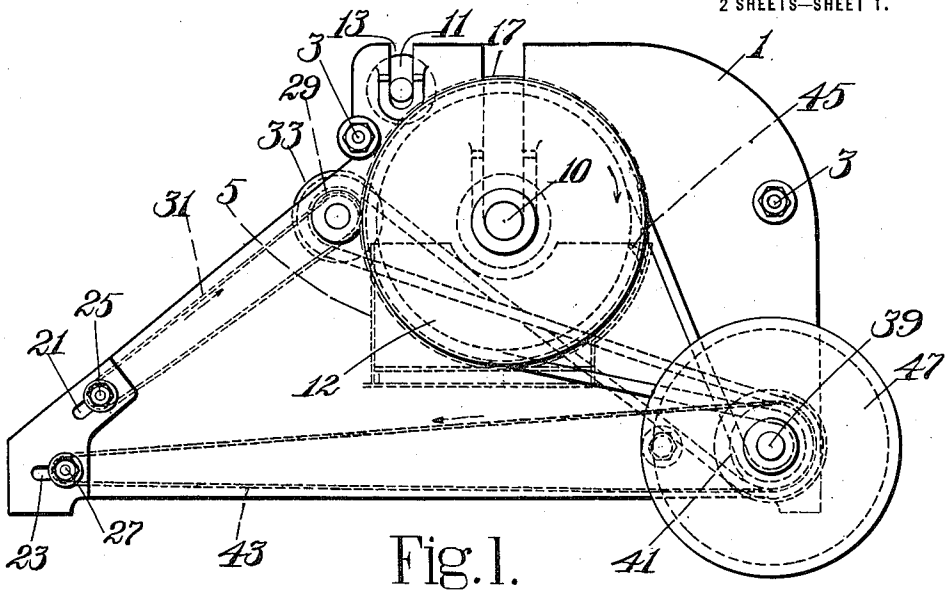


Fig. 1.

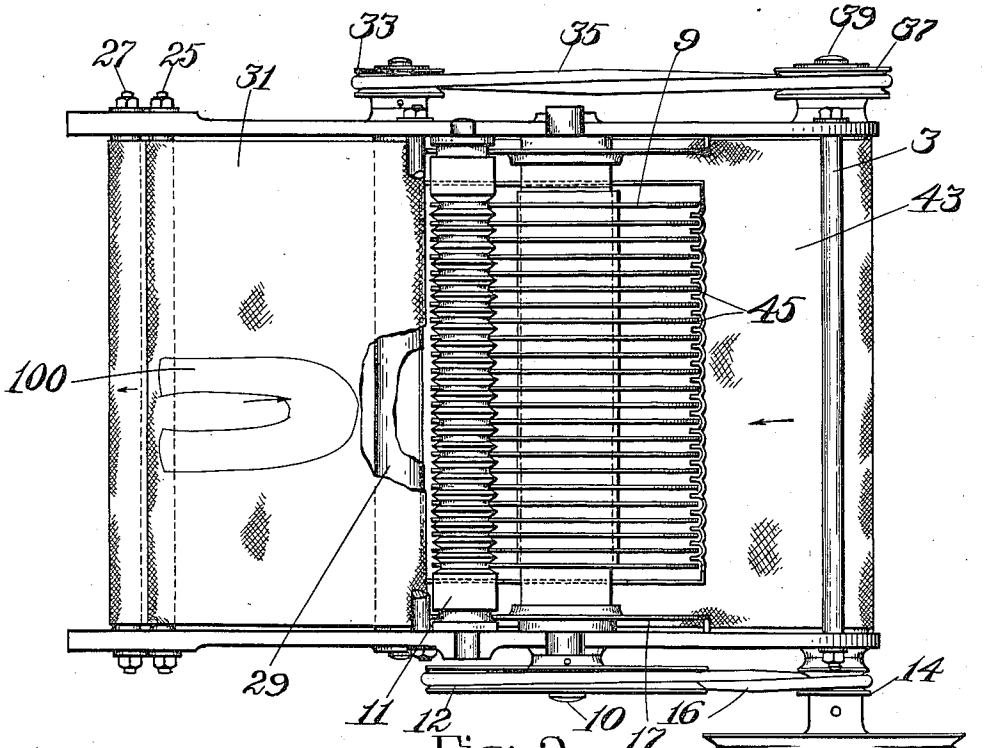


Fig. 2.

WITNESSES.
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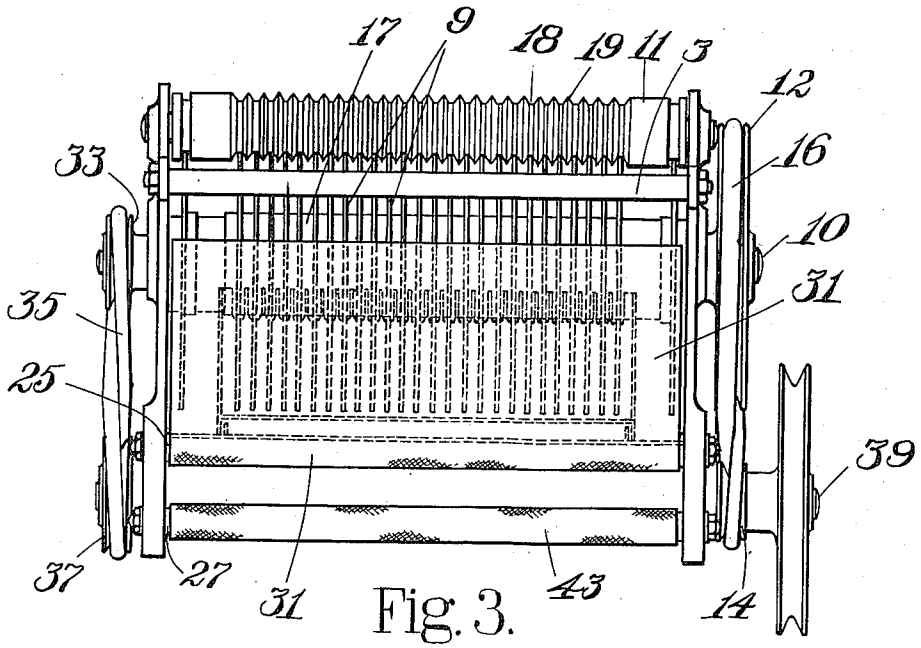


Fig. 3.

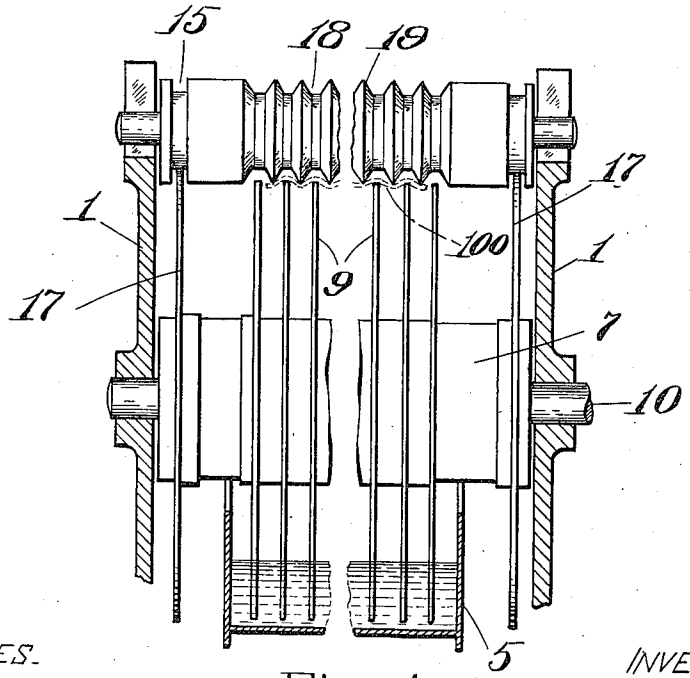


Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

PAUL WEISS, OF PIRMASENS, BAVARIA, GERMANY, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

AUTOMATIC LINING-CEMENTING MACHINE.

1,196,914. Specification of Letters Patent. Patented Sept. 5, 1916.

Application filed October 20, 1913. Serial No. 796,276.

To all whom it may concern:

Be it known that I, PAUL WEISS, a subject of the Emperor of Germany, residing at Pirmasens, Bavaria, Germany, have invented certain Improvements in Automatic Lining-Cementing Machines, 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 a machine for applying a sticky substance such as cement to sheet material and is herein illustrated as embodied in a machine for applying cement to a piece of lining or doubling material which is afterward to be attached to a part, such for example as a vamp, of a shoe upper.

The lining or doubling, referred to above, is not the true lining of the upper but is placed between the true lining and the upper so as to "plump" the leather and give it the feel of a heavier piece. The material of which such lining or doubling is made usually has a nap or furry surface, and it is desirable first that the cement be applied as far as possible to this nap only and not to the body of the material, and second that the cement be applied in a quantity just sufficient to attach the nap to the leather, since any excess will later cause objectionable stiffening to appear.

To this end one feature of the invention comprises a cement applying member having a plurality of cement carrying disks, a presser member having grooves to receive the edges of said disks, and means for rotating said disks whereby a piece of material presented to said members will have applied to one surface thereof, stripes of cement. The edge of each disk is spaced from the bottom and side of the corresponding groove in the presser so that at no time is there any liability of getting cement upon said presser; and at the same time the material when fed between said presser and disks is properly cemented.

As has been stated, only a small quantity of cement should be applied; and, in order to facilitate such application, another feature of the invention consists of a comparatively light presser in the form of a roll mounted so as to be capable of bodily movement toward and from the disks. This construction insures that the pressure upon the material shall be light so as to apply the cement to the nap only.

Heretofore machines used for applying cement to linings have commonly comprised a slowly revolving drum, the lower portion of which dips into a cement receptacle while the upper part extends above a bench or a table. With such a machine the operator first lays the lining upon the drum and then strips it off and places it upon the piece of leather.

In order to simplify the cementing operation another feature of the present invention consists of a rotatory cement applying member, a presser between which and the cement applying member the material to be cemented is passed, means for presenting a piece of material to said members and means for returning the cemented piece back into position to be removed readily by the operator. Any suitable means may be made use of, and in the illustrative machine two endless belts are provided, one belt carrying the material to the upper part of the cement applying disks and the other receiving the cemented material and carrying it back, cemented side up, to the front of the machine.

These and other features of the invention including certain details of construction, and combinations of parts, will be described in connection with an illustrative machine and pointed out in the appended claim.

Referring now to the accompanying drawings,—Figure 1 is a side elevation of a machine in which the present invention is embodied; Fig. 2 is a plan of the machine; Fig. 3 is a front elevation; Fig. 4 is a detailed section showing more particularly the relation between the cement applying member and the presser.

The frame of the machine comprises two plates 1, held together by stay rods 3, and supporting a cement receptacle 5. Journaled in the plates 1 and dipping into the cement is a cement applying member comprising a hub 7, to which are fast a plurality of disks 9. The shaft 10 carries a pulley 12 around which, and around a pulley 14 on the driving shaft 39, passes a belt 16.

Above the cement applying member is a presser roll 11 formed with a plurality of grooves 18 to receive the edges of the disks 9, said roll being made of wood, and having journals loosely mounted in slots 13 in the plates 1. Near its outer edges this roll

is provided with grooves 15, the bases of which contact with driving disks 17 which are fast to the hub 7 so that the presser roll is driven frictionally from the cement applying member. The relation between the friction driving disks 17 and the cement applying disks 9 is such that the latter disks extend part way into the grooves 18 of the presser roll, but not to the bottoms of said grooves, and that the tapering ridges 19 of the presser roll extend into the spaces between the disks 9. The disks and ridges are thus so spaced with respect to each other that no cement can reach the presser roll whether or not a piece of material is being cemented although the disks 9 carry at all times at their outer edges a coating of cement. The material to be cemented (indicated at 100 in Figs. 2 and 4) passes between the disks and presser roll during the operation of the machine and is thereby striped on its under side with a small amount of cement.

In order to feed the material into position to be cemented, and to return the cemented material into position to be removed readily from the machine, the following conveying mechanism is provided. Adjustably mounted in two pairs of slots in the plates 1, one of each pair of which is shown at 21 and 23 are two rods 25 and 27, said rods being held in adjusted position by nuts as shown. Around the rod 25 and around a felt covered roll 29 rotatably mounted in the plates 1 passes a belt 31, said belt being driven in the direction indicated by the arrows by means of a pulley 33 fast to the shaft of the roll 29, a belt 35, and a pulley 37 fast to the driving shaft 39. When a piece of material is placed upon this belt it is carried up until the forward edge comes in contact with the disks 9 whereupon, by reason of the cement upon these disks, the piece of material sticks to them and is carried between the disks and the presser roll 11. Fast to the driving shaft 39 is a felt covered roll 41, around which and around the rod 27 passes a second endless belt 43, said belt traveling in the direction indicated by arrows and serving to deliver the cemented material back to the front of the machine. In order to remove the cemented piece of material from the disks 9 strippers 45, which are attached to the rear wall of the cement receptacle 5, extend between said disks.

Power having been applied to the pulley 47, the operation of the machine is as follows: The operator stands at the front of the machine and places the pieces of lining one by one upon the belt 31 in the position indicated in Fig. 2. The piece of material is automatically carried between the disks 9 and the presser roll 11 in the manner indicated in Fig. 4, and is presently stripped from the disks by strippers 45. In the further advance of the piece, as the free end contacts with the traveling belt 43, said belt carries said end to the left as viewed in Fig. 1, thereby completing the turning over of the piece and subsequently carrying the piece, cemented side up, to the front of the machine where it can readily be seized by the operator.

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

A machine for cementing lining material for boots and shoes having, in combination, a cement applying member comprising a hub and a plurality of thin disks mounted thereon in spaced relation, a receptacle for cement into which the lower portions of said disks dip, a bodily movable presser roll having grooves arranged to receive the edges of said disks, a conveyer at the front of the machine having an upwardly inclined operative run adapted to present the forward edge of the lining material to the upper portion of said disks, and a second conveyer located beneath said receptacle and arranged to deliver the cemented material to a point just below the lower portion of said first named conveyer.

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

PAUL WEISS.

Witnesses:
WALLACE ELLISON,
JAKOB TRIEM.