

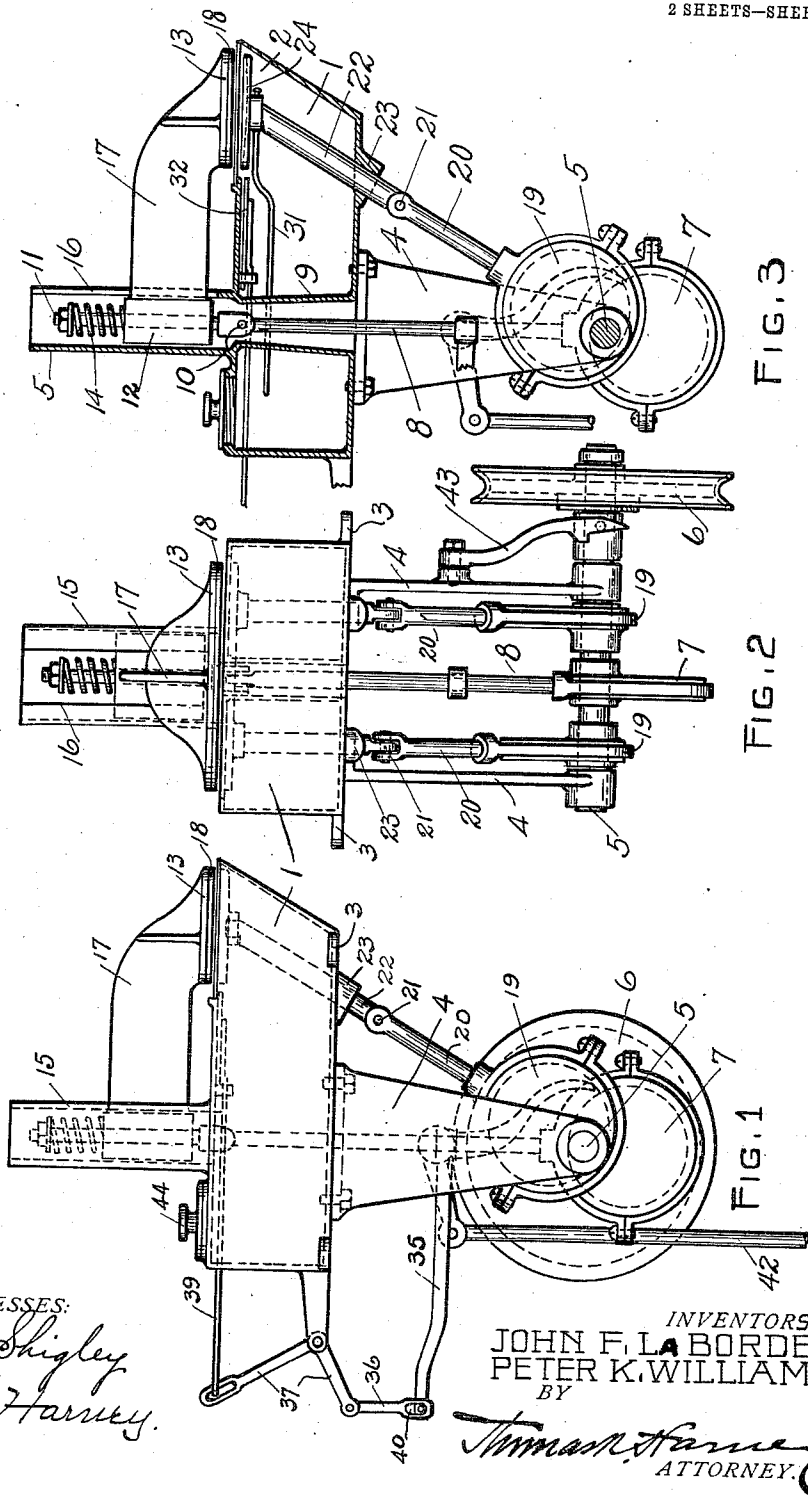
J. F. LA BORDE & P. K. WILLIAMS.
SHOE GUMMING MACHINE.

APPLICATION FILED APR. 8, 1911.

1,019,494.

Patented Mar. 5, 1912.

2 SHEETS—SHEET 1.



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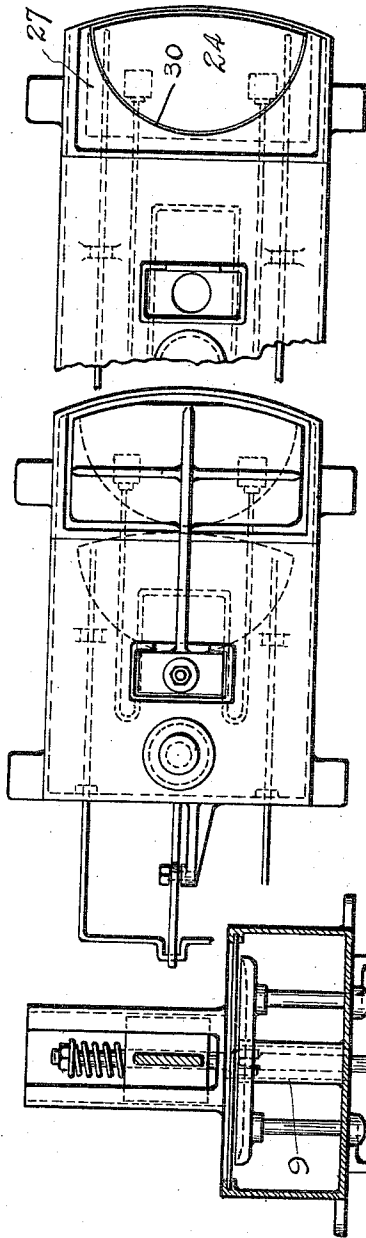


FIG. 4

FIG. 5

FIG. 6

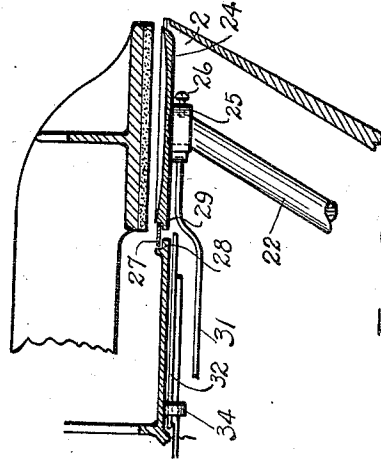


FIG. 8

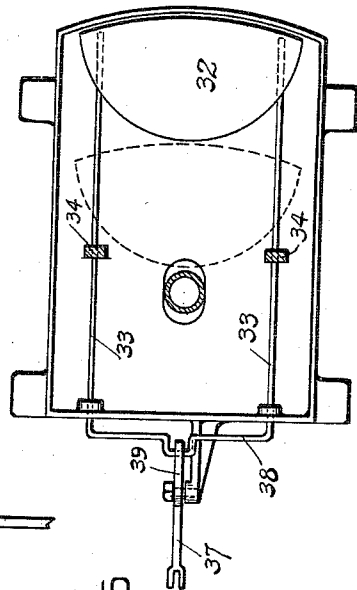


FIG. 7

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UNITED STATES PATENT OFFICE.

JOHN F. LA BORDE AND PETER K. WILLIAMS, OF COLUMBUS, OHIO.

SHOE-GUMMING MACHINE.

1,019,494.

Specification of Letters Patent.

Patented Mar. 5, 1912.

Application filed April 8, 1911. Serial No. 619,897.

To all whom it may concern:

Be it known that we, JOHN F. LA BORDE and PETER K. WILLIAMS, citizens of the United States, residing at 396 Linwood avenue and 592 South Mohawk street, respectively, Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Shoe-Gumming Machines, of which the following is a specification.

The invention relates to improvements in shoe gumming machines, and is designed for the purpose of improving the construction and operation of box toe gumming machines. The object of the invention is the provision of a machine for applying a coating of gum, cement, or similar adhesive material, to either side of box toes or to any part of the toe of the upper.

The invention consists in certain novel features of construction and combinations and arrangements of parts as illustrated in the accompanying drawings, and referred to and claimed in the following specification.

In the drawings we have illustrated one example of the physical embodiment of our invention, constructed according to the best mode we have so far devised for the practical application of the principles thereof.

Figure 1 is a side elevation of so much of a machine and its connections, as is necessary to illustrate the invention. Fig. 2 is a front elevation of the machine. Fig. 3 is a view similar to Fig. 1 with parts shown in section. Fig. 4 is a plan view of part of the machine with upper hammer or pressing member omitted to disclose the die and lower, gumming, member. Fig. 5 is a plan view showing parts omitted in Fig. 4. Fig. 6 is a sectional end elevation. Fig. 7 is a sectional plan view showing automatic shutter and operating connections. Fig. 8 is an enlarged longitudinal vertical section, showing position of automatic shutter under top covering, and the parts in position they occupy while applying the adhesive to the material.

Before specifically describing the machine, a general outline of the machine and its operation may be desirable in order that a clear understanding of the invention will result.

A reservoir containing an adhesive material is employed, and a gum carrier is in-

closed by and movable in the reservoir. A hammer or presser member is adapted to co-act with the gum carrier, and these elements are actuated by suitable mechanism, as eccentrics. In coating the "work," it is fed to position to be compressed between the gum carrier and the presser.

Referring to the drawings the numeral 1 designates a reservoir. This is a metallic box provided with an opening 2 in its top near the front and formed with ears 3 as a means for attachment or support. Depending from the reservoir are a pair of brackets 4, 4, in which is journaled the actuating shaft 5, which may be rotated by means of the pulley 6, suitably driven.

Journaled upon the shaft 5 directly below the reservoir is the central eccentric 7 with its rod 8 projecting upwardly through the reservoir, and inclosed therein by the jacket or casing 9. The eccentric rod 9 is pivoted at 10 to the bar 11 which passes through the head 12 of the hammer 13, a spring 14 located above the head acting as a cushion to the strokes of the hammer. The hammer is guided in its vertical movement in the extension 15, which is slotted at 16 to accommodate the web 17 of the hammer. As clearly seen in the several figures, the hammer or presser plate is located directly over the opening 2 in the top of the reservoir 1, and the under face of the hammer or plate is provided with a cushion 18.

The gum carrier or lower member of the coating device is actuated, preferably by the pair of eccentrics 19 on shaft 5. Each eccentric is provided with its rod 20, pivoted at 21 to a carrier arm 22. These arms pass through bearings 23 at the underside of the reservoir, on an incline, and at their upper ends support the gum carrier 24. The gum carrier 24 is a metallic plate, formed at its underside with hollow bosses 25 for the reception of the arms 22, and set screws 26 secure these parts together.

The upper face of the carrier is dished, as clearly shown in Fig. 8, so that a quantity of the gum may be retained upon the face of the plate. A support 27, the outline of which is clearly seen in Fig. 4, is supported upon flanges 28 and 29 formed respectively upon the top wall of the reservoir and the gum carrier plate. This support may be varied in shape to suit different requirements, and partly closes the opening

2 in the reservoir 1. The support is cut away at its front on the curved line 30, thus leaving an opening through which the gum carrier may protrude when in pressing position. To prevent the gum or cement in the reservoir becoming "thick" we attach a mixer to the bosses on the carrier plate, and the passage of this wire frame 31 through the gum keeps the gum in perfect working condition.

To prevent evaporation of the gumming material, and to exclude dust or other deleterious substances, from the reservoir while the opening 2 is uncovered, we utilize an automatically operated shutter 32. This shutter is a plate conforming to the shape of the opening formed by the supports 27 and is located directly beneath and parallel with the upper wall of the reservoir. Two supporting arms 33 project rearwardly from the shutter, and are supported and guided in the bosses 34, 34, at the underside of the reservoir cover. The shutter is actuated from the eccentric rod 8 through the medium of the lever arm 35 which is connected by link 36 to the pivoted lever 37, one end of said lever being connected to the cross arm 38 by means of the link 39. In order to permit the gum carrier to lower, or move downwardly before the shutter begins to close the opening 2, the joint or connection between the lever arm 35 and its link, is formed with an elongated slot 40. The actuating mechanism for the shutter is of course timed with relation to the movement of the rod 8 to keep the opening 2 closed in the absence of the gum carrier, and is then pulled away just before the gum carrier reaches its highest position. The eccentrics are driven by the pulley 6, and the usual foot treadle mechanism 42 is adapted to move the clutch lever 43 for throwing the eccentrics into and out of action.

The dished gumming plate and support are preferably made to conform in shape and size, and are made in interchangeable pairs to adapt the machine for various forms, sizes or styles of shoes.

In operation, the "work" is fed to the machine by hand and placed upon the die, covering the opening 2 in the reservoir. The clutch is thrown into engagement by foot power, and the movement of the eccentric withdraws the shutter from closed position. The respective eccentrics cause the hammer or presser to descend, and the gum carrier plate to ascend through the gumming material. The dished plate carries a quantity of material up under the "work," and the descending presser bears down upon the "work" which is now resting upon the gum carrier plate. The "work" or toe is thus gummed on the underside. The cushion 18 on the presser forces the toe down into the dished plate causing it to receive a

greater quantity of gum at its approximate center for purposes well known in the art.

The "work" referred to as the box toe, it should be understood, is a piece of stiffening material, composed of either leather, cork, rubber, cloth, or felt, and forms one part of probably four or five thicknesses of material constituting the made up toe.

In actual practice one side of a piece of material as above set forth, may be gummed on one side, then by laying this gummed piece upon another part, a lining material for instance, with the gummed surface in contact, the exterior face of the lining may be coated. The operation of gumming the exterior of the lining piece at the same time cements the gummed material to the lining. The operation may be repeated by laying on additional layers to the desired number, and the several layers, after being gummed or cemented together, make the completed box toe or upper.

We have not illustrated the gumming material in the reservoir, but it will be understood of course that a sufficient supply may be kept therein to the proper depth and replenished when necessary through the plugged opening 44.

From the above description taken in connection with the drawings it is evident that we have provided an efficient, and positively acting machine for accomplishing the purposes of a device of this character.

While we have illustrated one complete form of the invention, it will be understood that we may vary the machine within the scope of the following claims.

What we claim and desire to secure by Letters Patent is:—

1. The combination in a machine as described comprising a reservoir having an opening therein, of a carrier plate bodily movable through the reservoir to close said opening, a complementary open work supporting plate over the reservoir opening, and a presser member, with actuating means whereby the presser member and plate are brought into operative relation with the work support.

2. The combination with a reservoir having an opening and a work support formed with a complementary opening, of a presser member, a carrier bodily movable through the reservoir to the opening therein and formed with a dished face, and actuating means whereby the presser member and carrier are brought into operative relation with the work support.

3. The combination in a machine as described comprising a reservoir having an opening therein, of a carrier plate bodily movable through the reservoir to close said opening, a complementary open work supporting plate over the reservoir opening, a driving shaft, eccentric connections from

said shaft for moving the presser member, and eccentric connections for operating the carrier plate.

4. The combination in a machine as described comprising a reservoir having an opening therein, of a carrier plate bodily movable through the reservoir to close said opening, a complementary open work supporting plate over the reservoir opening, a presser member and actuating means therefor, a shutter, and means connected to and actuated by said presser actuating means for causing the shutter to close the reservoir opening during the reverse stroke of the presser member and carrier.

5. The combination with a reservoir having an opening therein and a presser member, of a carrier bodily movable through the reservoir to close said opening, an open work supporting plate above the reservoir opening, an open wire frame connected to said carrier for mixing the contents of the

reservoir, means for actuating the presser member, and means for actuating the carrier.

6. The combination with a presser member, and a reservoir having an opening therein, of a bodily movable gum carrier, an open work support, an open wire frame carried by the carrier, actuating means for the carrier, actuating means for the presser member, a shutter, and means connected to and actuated by said last mentioned means for causing the shutter to close the reservoir opening during the reverse stroke of the presser member and carrier.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN F. LA BORDE.
PETER K. WILLIAMS.

Witnesses:

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