

1,010,594.

Fig. 1. Fig. 2. Fig. 3.

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GLUING APPARATUS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LUCIAN A. COWLES, a citizen of the United States, and resident of Campello, in the county of Plymouth and State of Massachusetts, have invented an Improvement in Gluing Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to apparatus for coating holes and apertures with glue preparatory to the insertion of pins to be held therein.

While applicable to general uses, the invention has been especially designed for properly and uniformly gluing the holes which receive the fixed dowel pin adjacent the forward end of shoe lasts; such pins being a feature of the usual form of block lasts and coöperative with a movable pin or fastener to hold the instep block in place on the last body. In the usual practice, these pins are smeared with glue and forced into the hole from the top of the last, but this is objectionable in that a large part of the glue is scraped off the pin, leaving it improperly coated, and such scraped-off portion is deposited on the top of the last around the hole, leaving an annular smear which must be cleaned off, thus involving further labor and waste and tending to glue the instep block fast. My invention obviates these objections by uniformly coating the hole with glue from the bottom of the last to a point close to the top of the hole and thereafter inserting the pin from the top, thus leaving the space around the hole at the top of the last quite clean, while providing an even coating to secure effective adhesion and emplacement of the pin in the last.

Referring to the accompanying drawings, wherein a preferred embodiment of the invention is illustrated, Figure 1 is a side elevation of the apparatus, certain parts being shown in section to better show details; Fig. 2 is an enlarged detail, broken away in section, of the glue-applying device proper; and Fig. 3 is a plan view of the glue-pot cover and rest plate for the last.

Upon any suitable support 1, a pedestal 2 is mounted, having in depending relation thereto a glue pot 3. This pot has a suitable cover 4 shown as pivoted at 5 and secured

in proper relative position, as by means of an apertured ear 6. This cover has a seat 7 formed thereon to receive the apertured last-supporting rest or plate 8, such seat being shown as centrally convexed at 9 so that the last, when placed thereon, may have a limited rocking movement to bring its aperture into alinement with the hole 10 through the cover and the plunger to be passed therethrough. A glue-applying slide 11 is vertically guided in the pot in alinement with the aperture 10 by means of spaced-apart guides 12 preferably fixed to the walls of the pot. This slide has offset operating rod 13 fixed thereto, said rod extending up through a guide hole 14 in the cover and having fitted thereto at its upper end a latch block 15 preferably adjustable along the end of said arm, by a set screw 16. The block 15 has laterally projecting handles 17 to enable it to be readily grasped to pull the glue-supplying slide upward so that its top will project the proper distance through the hole 10 and the apertured plate 8. When raised to such position, a latch end 18 of said block engages over a shoulder 19 on the pivoted catch 20 whereby the upper glue-supplying end of the slide 11 is held raised until the latch is tripped. To effect such tripping, a rounded end 21 of the catch 20 is in position to be engaged by an end of a sleeve 22 adjustable, as by a set screw 23, on an operating link 24, the latch-engaging end of said sleeve 22 being shown as a beveled projection 25.

Upon an upward projecting portion of the pedestal 2, an arm 26 is pivoted at 27 and has its forward operative end normally drawn upward by a spring 28 fixed to the pedestal at 29 and engaging a rearwardly projecting portion of said arm at 30. The arm 26 is actuated by the link 24 pivoted thereto at 31 and operated by a treadle 32, this typifying any convenient operating device. A rod or bar 33 is pivoted at 34, to the arm 26 and is guided through a sleeve 35 in a projection from the pedestal 2. The rod 33 has at its lower end a socket 36 to receive the pin 37 to be inserted in the last, said pin being put in place in said socket or holder when the rod 33 is in its upper position and lightly held in place by a small spring 38.

The top of the slide 11 has fitted thereover,—as shown, by threaded engagement,—a thimble or collar 39, thus forming a glue-

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holding cup. The thimble 39 has a number of spaced-apart slits 40 about its circumference. A plunger 41 is located within the thimble 39 and normally pressed partly outward therefrom by a light coil spring 42. This plunger 41 is of a size to displace a large part of the glue within the thimble 39 when forced downward, causing the same to be expelled through the several slits 40.

In use, the operator, places a last in position on the plate or rest 8 and then grasping the handle 17, raises the slide 11 until the latch end 18 slips over the shoulder 19, thus positioning and holding the glue cup formed by the thimble 39 full of glue such a distance above the top of the apertured plate 8 that the thimble top of the slide 11 extends nearly to, *e. g.* within one-eighth inch of, the top of the pin receiving hole 43 of said last. The exact extent which the glue-bearing end of the slide 11 projects through the plate 8 to attain this result may be determined with nicety by adjustment of the rod 13 through the block 15, and the parts may then be rendered secure by the set screw 16. The sleeve 22 having been previously adjustably clamped by the screw 23 on the rod 24 at such a height that the pivoted latch 20 will be tripped by the projection 25 upon the downward movement of the parts at about the time the pin 37 will engage the headed top of the plunger 41 is then lowered and as the pin 37 so engages the top of the plunger 41, said plunger is forced downwardly into the thimble 39, thus expelling the glue uniformly through the several slits 40 against the sides of the hole 43, of the last, thereby providing just the right amount of glue for evenly and effectively coating with glue, the pin receiving hole and the descending pin and this without any objectionable smearing of the last-top around the hole. This cup and plunger device with the plunger arranged to be operated by the insertion of the pin provides means for effecting the lateral spreading of a precise and definite quantity of glue over a definite length of the walls of the last hole,—this because the movement of the plunger is a positive one and its displacement in the cup as it is forced downward, is always exactly the same so that with the cup and plunger properly proportioned and selected with regard to the size of any particular last hole, the area over which the glue is spread can be closely regulated. This forcible projection of the glue by a definite movement of the displacing plunger is an important improvement, since without such plunger the amount of glue which would run out of the cup through its apertures would be wholly uncertain, depending upon the temperature and thickness of the glue and upon the time that the applicator was left in the last hole, all of which uncertain

elements are wholly eliminated in the present device. There is thus provided a simple, efficient apparatus for the purpose in question which can be rapidly manipulated with precision and without any waste of labor or material.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A glue applicator adapted to enter a pin hole in a last and formed to substantially fit such hole, said applicator having lateral outlet slots for distributing the glue about the walls of such hole, the slots being of a length to extend most of the way through such hole but terminating short of the ends thereof, and means for positively forcing a definite quantity of glue from said applicator through said slots to spread over the walls of the hole without smearing the last about either end of the hole.

2. The combination with a glue applicator adapted to enter a hole in a last and having means for causing a definite quantity of glue to be applied to a definite length of the walls of the hole, of means for inserting a pin into the glue containing hole, said means being arranged in alinement with and opposite said glue applicator.

3. The combination with a rest for a last and a glue applicator adapted to enter a hole in a last and having means for causing the glue to be applied to a definite length of the walls of the hole, as the last is positioned on said rest, of means for inserting a pin into the glue containing hole a predetermined distance, said means being arranged in alinement with and opposite said glue applicator.

4. The combination with a glue applicator arranged to enter a pin hole in a last from the bottom thereof, and having means for effecting a controlled application of glue to a definite length of the walls of the hole stopping short of the top, of means for inserting a pin from the top of the last into said glue containing hole, said glue applicator being arranged for operation by contact with said pin.

5. A gluing apparatus, comprising a glue supply, a support for a last, means for transferring a determinate quantity of glue to a hole in said last, means for applying a pin to such hole, and means coöperative therewith for applying the glue to the walls of said hole.

6. A gluing apparatus, comprising a glue supply, a support for a last, means for moving a quantity of glue into a hole in the last, and means for discharging the glue about the walls of the last hole operable by a pressing engagement of said discharging means with an obstacle in the hole, said glue-moving and glue-discharging means being insertible in the last hole.

7. A gluing apparatus, comprising a glue supply, a support for a last, means for projecting a quantity of glue into a hole in the last, means for inserting a pin in said hole, and means operable by engagement with the pin so inserted for spreading the glue around the hole.

8. A gluing apparatus, comprising a glue supply, a support for a last, means for moving up and holding a quantity of glue from beneath, to project above said support enough to extend substantially through the pin hole of the last on said support without reaching the top thereof, and means movable with said glue-moving means into the last hole, arranged for operation by pressure from a member movable endwise relative thereto for discharging the glue about the walls of the last hole for a definite length thereof.

9. A gluing apparatus, comprising a glue supply, a support for a last, means for moving glue into a hole of said last, said means comprising a cup with a series of lateral openings and a plunger operable therein, said cup and plunger being adapted to enter the hole of the last, and means for engaging the outer end of said plunger to expel the glue from the lateral openings of the cup upon a determinate area of said hole.

10. A gluing apparatus, comprising a glue supply, a support for a last, means for projecting glue a determinate distance into a hole of said last, said means comprising a movable cup, a plunger in said cup, and means for inserting a pin in said hole, said plunger arranged to be engageable by said pin.

11. A gluing apparatus, comprising a glue supply, a support for a last, means for projecting a quantity of glue a definite and variable distance through said support, a movable last-pin applier, and means co-operative therewith for tripping said glue-projecting means at a determinate time relative to the last-pin applying movement.

12. A gluing apparatus, comprising a glue supply, a support for a last, a carrier for glue, and means for holding the same a definite distance above said last support to project partly through a hole in a last resting on said support, and means for inserting a pin in such hole of the last from the other side of the last, said carrier having a device for spreading the glue operable by engagement of said pin therewith.

13. A gluing apparatus, comprising a support for a last, a glue applier, and means for holding said glue applier to project above the last support a definite distance sufficient to extend partly through a last hole, said applier being formed to fit the last hole and having a series of slots about its periphery extending substantially the length thereof, and said glue applier having means for positively forcing the glue outward through said slots to cover a definite length of the walls of the last hole.

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

LUCIAN A. COWLES.

Witnesses:

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