

March 15, 1927.

J. W. COSGROVE

1,620,802

APPLYING APPARATUS

Filed May 13, 1925

2 Sheets-Sheet 1

Fig.1.

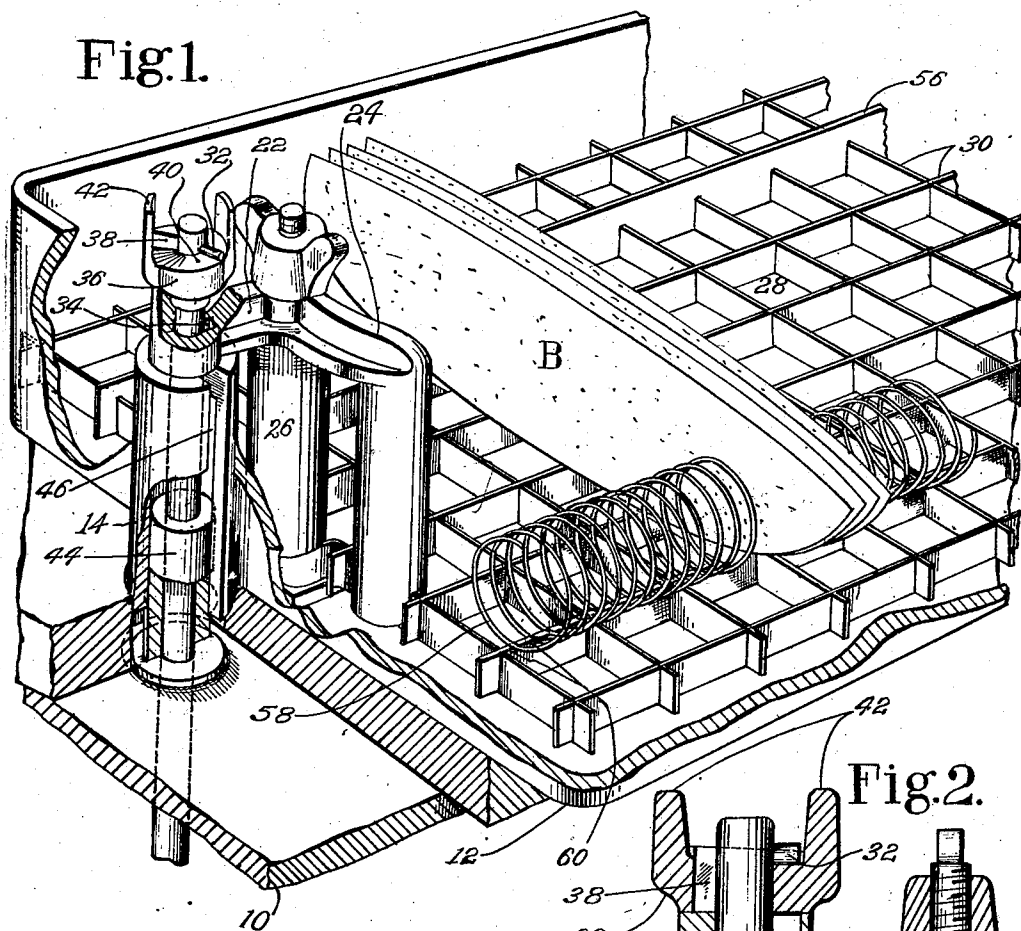


Fig.2.

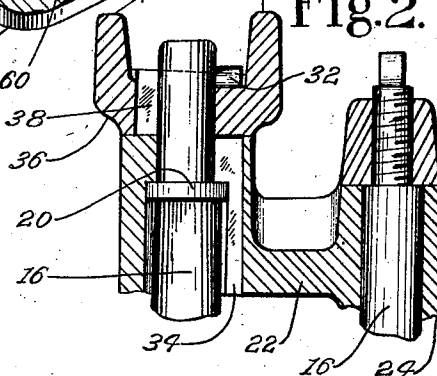
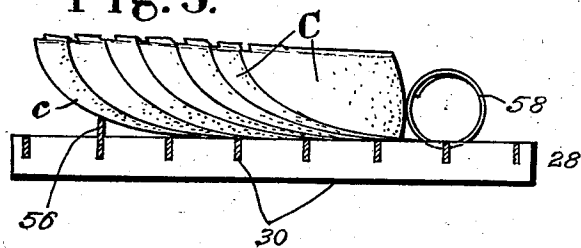


Fig.3.



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2 Sheets-Sheet 2

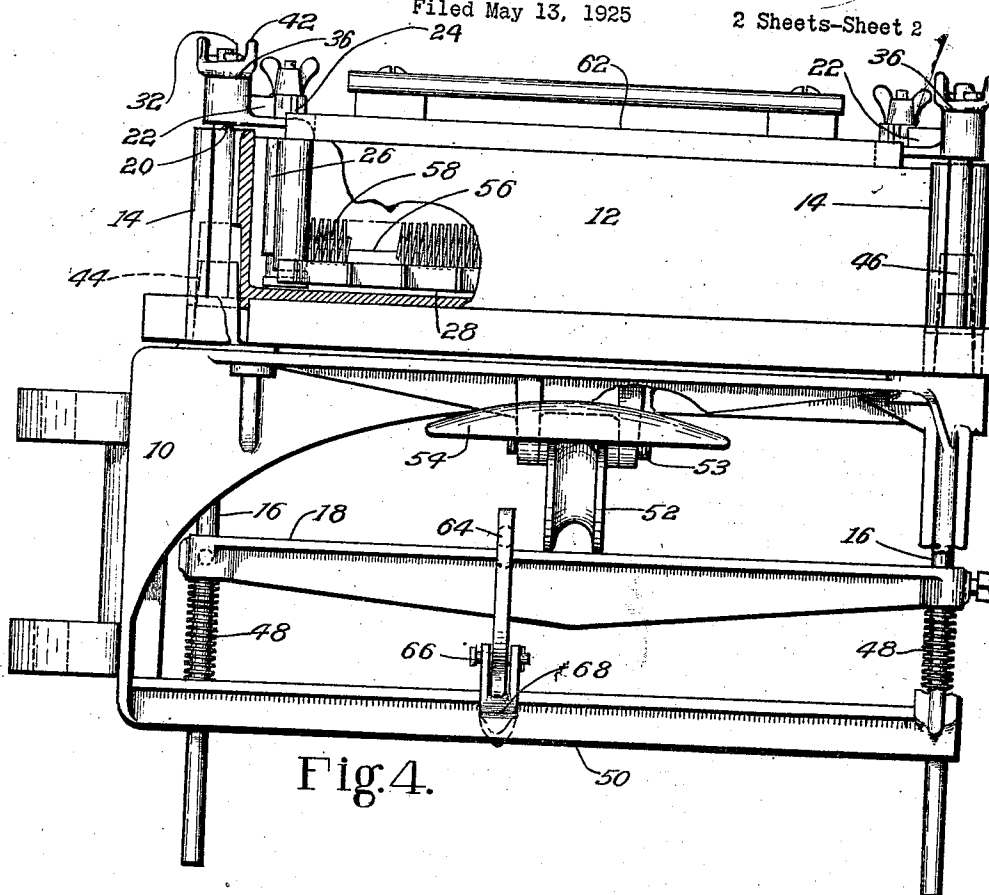


Fig. 4.

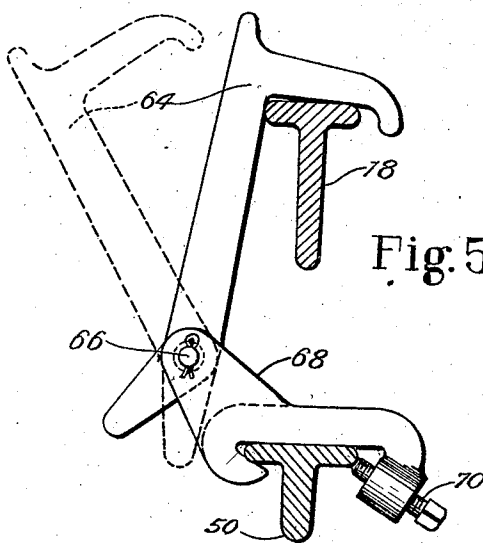


Fig. 5.

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UNITED STATES PATENT OFFICE.

JOHN W. COSGROVE, OF MEDFORD, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

APPLYING APPARATUS.

Application filed May 13, 1925. Serial No. 30,013.

My invention concerns apparatus for applying various substances to work-pieces, as those for coating shoe-counters with paste or other adhesive.

5 Counters are commonly of two distinct types, termed, respectively, "molded" and "flat." The first substantially corresponds in form to the counter-portion of a finished shoe, being folded from leather or a leather substitute. The second has plane faces, with only the periphery shaped, it being in other respects formed in the assembling operation. To efficiently coat counters for assembling with shoe-uppers, a number may be placed together upon a support, and all immersed simultaneously in an adhesive to receive their coating in the manner described in the application filed September 22, 1923, in the names of Harold L. Sawyer and
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reduced ends projecting from the next of the series, to tilt down upon its curved edge. Such action would cause this end counter not to be coated over the desired areas. That is, the pasted portion would approach too close to the flange at the forward extremity, and be too far removed from it at the rear. This, as an object of my invention, I overcome by providing the support or grid with work-engaging portions rising at opposite sides to different distances above its surface. One of these engaging portions may be furnished by the holder for the flat pieces, it also serving to locate the series of molded counters upon the grid, while the other is of less height and situated at the opposite side of the support from the holder. This latter portion serves as a rest upon which the points of the end counters of the series may lie to prevent tilting. The lower engaging portion may be furnished by a bar included in the grid or support, and which has its upper edge above its companions. This in no way interferes with the use of the apparatus for operating upon flat counters.

In apparatus of the character previously described, it is customary to cover the receptacle while the apparatus is temporarily out of use, as at night, to prevent evaporation from the paste and the gathering of dirt. As the work-support is commonly maintained normally elevated, as by springs, so that it is above the coating substance at the top of the receptacle, it may interfere with the application of the cover. This is especially true in connection with the holder for flat work of the present invention, since this holder projects considerably above the upper face of the support. A further object of the invention is to avoid any tendency to such interference, this being accomplished by associating with the support means for latching it temporarily in its depressed position against the influence of the springs or other raising means. The latching means, which may consist of a hook pivoted upon the frame, preferably engages the carrier upon which the work-support is mounted, and from which it receives its movement into and out of the adhesive.

In adhesive-applying apparatus of the character to which my improvements relate,

In accordance with the method of Sawyer and Rightmire, molded counters are placed upon the coating support nested with one another, but somewhat drawn apart to give the coating substance freer access to the surfaces. When thus arranged, there is a tendency for the terminal counter, the spaced

it is important that the work-supporting grid shall be readily removable from its carrier to permit the cleaning of said grid and of the receptacle. The means which has heretofore been employed to attach the grid to the carrier has, so far as I am aware, consisted of nuts engaging threaded ends of carrier-rods. These nuts become locked in place by the accumulated dried adhesive so that it is difficult to free the grid. At best, their removal is wasteful of time. An additional object of my invention is to so secure the grid to the carrier that it may be taken off and resorted easily and quickly.

For this purpose, I utilize a carrier having a projection, and a grid-retaining member provided with an opening through which passes a portion of the carrier and its projection, and with an inclined surface for contact with said projection. Such an arrangement permits the grid to be freed, or secured by rotation of the retaining member through less than a single turn, combined with a slight movement of translation.

For the purpose of illustrating the invention, a single embodiment thereof appears in the accompanying drawings. In these, Fig. 1 is a perspective view of the upper portion of a counter-pasting apparatus with parts broken away;

Fig. 2 is a vertical sectional detail illustrating means for securing the grid upon its carrier;

Fig. 3 is a similar view showing the manner in which a series of molded counters is supported upon the grid;

Fig. 4 is a broken front elevation of the apparatus; and

Fig. 5 is a vertical sectional detail illustrating the latching device for the grid.

A frame 10, adapted to be mounted upon a bench or upon the column of a machine with which the coating apparatus is to be used, has associated with it a receptacle, in the form of a generally rectangular pan 12, to receive the paste or other adhesive which is to be applied. Arranged to slide vertically in aligned openings in the frame and passing through openings in extensions 14, 14 at opposite ends of the pan, are carrier-rods 16, 16 connected near the lower portion of the frame by a cross-bar 18. Somewhat below the top of each rod is formed an annular shoulder 20, upon which rests one of the arms 22 of a yoke 24, to the depending portions 26 of which is secured a grid 28 of the same peripheral contour as the pan, and made up of series of bars 30 intersecting each other at right angles. This grid, when employed for the coating of counters, acts as a support to carry the work into and out of the adhesive in the receptacle, but may also be utilized as a more temporary support or applying member, upon which the work-pieces are laid to receive their coating by impression rather than immersion. To fix the grid in place upon the carrier-rods, each of said rods is provided with a lateral projection 32, just below its upper extremity. A slot 34 in the arm 22 provides for the removal of the grid, this slot passing over the projection. Between the shoulder 20 and the projection 32, and surrounding each rod 16, is a nut or retaining member 36, in which is a slot 38 to allow for the passage of the member by the pin 32. Extending from the slot 38 along the upper face of each nut is a cam-incline 40. When a member 36 is placed over the rod, and rotated by ears 42 in a clockwise direction, as the apparatus is viewed in Fig. 1 of the drawings, the pressure of the projection upon the surface 40 cams down the retaining member upon the arm 22, locking the grid firmly in place upon the carrier-structure. To accomplish this, rotation through less than 180 degrees is required, and an organization is furnished which will not become clogged by dried paste. After removal of the grid, the pan may also be taken from the frame for cleaning, and for this purpose it is only necessary to raise said pan above two cylindrical bosses 44 projecting upwardly from the frame 10 and which enter the openings in the extensions 14, through which pass the rods 16. When the bottom of the pan is above the tops of the bosses, it may be moved laterally, slots 46 in the sides of the pan-extensions permitting the passage of the carrier-rods.

Normally, the grid is held with its upper face near the top of the pan, convenient for the application of the work-pieces by the operator, by springs 48, 48, (Fig. 4) which surround the rods 16 between the carrier-bar 18 and a bottom-bar 50 of the frame. The grid may be lowered, for its immersion with the work in the paste contained in the pan, by a lever 52 fulcrumed at 53 upon the frame, and resting at its under side against the carrier-bar 18. This depression of the grid is effected through pressure by the operator upon a pad 54 at the forward extremity of the lever.

In coating molded counters C, or those which, in manufacture, have been shaped to conform to the heel-portion of a shoe, a suitable number of these are taken by the operator nested in a series (as they are commonly received from the maker), drawn out to separate the rear portions from one another, and laid upon the surface of the grid, as is illustrated in Fig. 3 of the drawings. The curved outer extremity *c* of the terminal counter does not receive the support that do its companions, so there is a tendency for it to tilt forward, the outer ends sinking below the level in which lie the same portions of the associated counters. When thus related, this displaced counter would be coated

too deeply at the depressed portions, and not sufficiently at the rear portion. To prevent this and maintain the entire series in substantially the same relation, a bar near one side of the grid, which comes beneath the portion *c* of the last counter, extends at 56 above the other bars, affording a support for the counters above it, and holding these at the same angle as the others of the series.

10 When the desired number of the groups of nested counters have been laid across the grid, the operator, by exerting pressure upon the pad 54, carries the grid into the paste in the receptacle to an extent sufficient to

15 coat all the counters to the proper distance from their flanges.

In coating flat counters or unformed blanks, such as appear at B in Fig. 1, it is desired, as in the manner just described, to

20 coat only that portion of the body which is upmost when assembled in a shoe. For this purpose, it is necessary that they be held on edge, they not being self-supporting in this relation. Along the side of the

25 grid opposite the raised bar 56, and near the edge, is a holder, preferably furnished by a clip 58 formed as a continuous helix. This is conveniently retained in place by setting the lower edges of its convolutions

30 in slots 60 formed in one of the bars 30, and upsetting the sides of the slot so they press firmly against the helix. The counters B are placed between the convolutions, which not only hold them upright, but spaced from

35 one another, so that the paste will be admitted between them. The coating operation is performed in the same manner as with the molded counters. It is to be observed that the clip 58 serves both as a

40 holder for the flat counters B and as a gage or positioning device, which, when the series of molded counters extended to the customary amount are placed against it, locates the ends *c* of the counters at the opposite

45 extremities of the series in proper relation to the bar 56 of the grid, so that these end counters will be held against displacement.

To enable the pan to be closed when the apparatus is not in use, to avoid the evaporation of the paste and the entrance of foreign matter, the grid is lowered by the lever 52, this carrying the clip 58 below the top of the pan and leaving the upper edges of the side walls of the pan free to receive a cover

55 62 (Fig. 4). In this position, the grid is secured by a hook-shaped latch 64 pivoted at 66 upon a base 68. This base may be of such form that it partially embraces the frame-bar 50, to which it is secured by a

60 screw 70 threaded through the base and contacting at its inner end with the bar. The engaging extremity of the latch 64 passes over the carrier-bar 18, as is well shown in Fig. 5. When it is again desired to use the

65 apparatus, the carrier and grid are freed by

throwing back the latch from the bar 18; it thereupon assuming the position indicated in dotted lines in Fig. 5.

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

1. An applying apparatus comprising a receptacle, a work-support movable in the receptacle, said support being provided near one side with a holder for substantially flat

75 work-pieces, a greater portion of the support being free to receive curved work-pieces.

2. An applying apparatus comprising a receptacle, a grid movable in the receptacle, and a work-engaging helix secured to the

80 grid at one side only thereof.

3. A counter-pasting apparatus comprising a receptacle, a grid movable into and out of paste contained in the receptacle, and a clip situated near one side of the grid and

85 provided with a series of spaced members arranged to receive flat counters between adjacent members, the greater portion of the grid-surface being free to receive molded

90 counters.

4. An applying apparatus comprising a receptacle, and a work-support movable in the receptacle, said support having a generally flat work-supporting surface and work-engaging projections situated at opposite

95 sides rising different distances above the general work-supporting surface.

5. An applying apparatus comprising a receptacle, and a work-support movable in the receptacle, said support having work-engaging portions situated at opposite sides and rising different distances above the

100 general work-supporting surface, one of said engaging portions being in the form of a holder provided with spaced members.

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6. An applying apparatus comprising a receptacle, and a work-support movable in the receptacle and having work-engaging portions situated at opposite sides, one of said engaging portions being in the form of

110 a holder provided with spaced members and the other engaging portion being of less height than its companion.

7. An applying apparatus comprising a receptacle, a work-support movable in the

115 receptacle and including bars extending across the support, a bar at one side of the support having its upper edge above its companions, and a work-holder extending across the support at the side opposite the elevated

120 bar.

8. A counter-pasting apparatus comprising a receptacle, a grid movable into and out of paste contained in the receptacle and including bars extending across the grid, a bar at

125 one side of the grid having its upper edge above its companions, and a helical clip attached to a bar at the side of the grid opposite the elevated bar.

9. An applying apparatus comprising a

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receptacle, a work-support movable therein, means for holding the support normally raised in the receptacle, and means arranged to temporarily latch the support in the receptacle against the influence of the raising means.

10. An applying apparatus comprising a frame, a receptacle mounted thereon, a carrier movable upon the frame, a grid mounted upon the carrier, a spring acting upon the carrier to elevate the grid in the receptacle, and means engaging the carrier to resist the force of the spring.

11. An applying apparatus comprising a receptacle, a work-support movable therein, a work-holder fixed upon the support, means for holding the support normally raised in the receptacle with the holder above the top of said receptacle, and means arranged to temporarily retain the support depressed with the holder below the top of the receptacle.

12. The combination with a receptacle, of rods reciprocating adjacent thereto, a grid situated in the receptacle and mounted upon the rods, a member joining the rods, springs acting upon the member to elevate the grid, and a latch arranged to engage the member.

13. In a counter-pasting apparatus, a frame, a paste-receptacle supported thereon, rods movable in the frame adjacent the receptacle, a grid situated in the receptacle and mounted upon the rods, a clip extending across the upper face of the grid, a bar join-

ing the rods, springs interposed between the frame and bar, and a hook pivoted upon the frame for engagement with the bar.

14. In an adhesive-applying apparatus, an adhesive-receptacle, a carrier movable adjacent thereto and having a projection, a grid mounted upon the carrier, and a retaining member having an opening to receive a portion of the carrier and its projection and provided with an inclined surface for contact with the projection.

15. In a pasting apparatus, a paste-receptacle, a carrier movable adjacent thereto and having a projection, a grid mounted upon the carrier, and a retaining member having an opening and a slot communicating therewith, the opening and slot respectively receiving the rod and projection, there being an incline upon the retaining member for engagement with the projection.

16. The combination with a frame, of a receptacle supported thereon, a rod movable in the frame and having a shoulder, a projection spaced from the shoulder, a grid situated in the receptacle and resting upon the shoulder below the projection, and a retaining member arranged to turn about the rod and provided with a cam-surface contacting with the projection and arranged in its rotation to clamp the grid against the shoulder.

In testimony whereof I have signed my name to this specification.

JOHN W. COSGROVE.