Nov. 10, 1942. R. G. AMES 2,301,498

FINISHING TOOL

Filed March 3, 1941

Fig. 1.

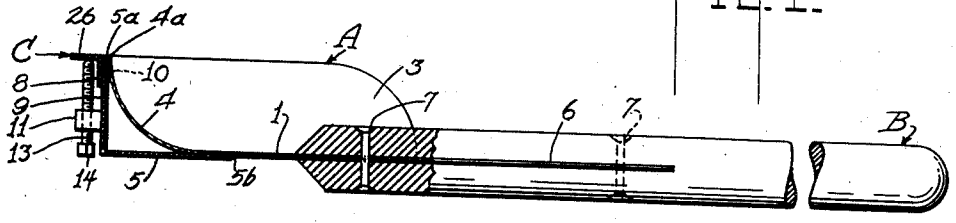


Fig. 2.

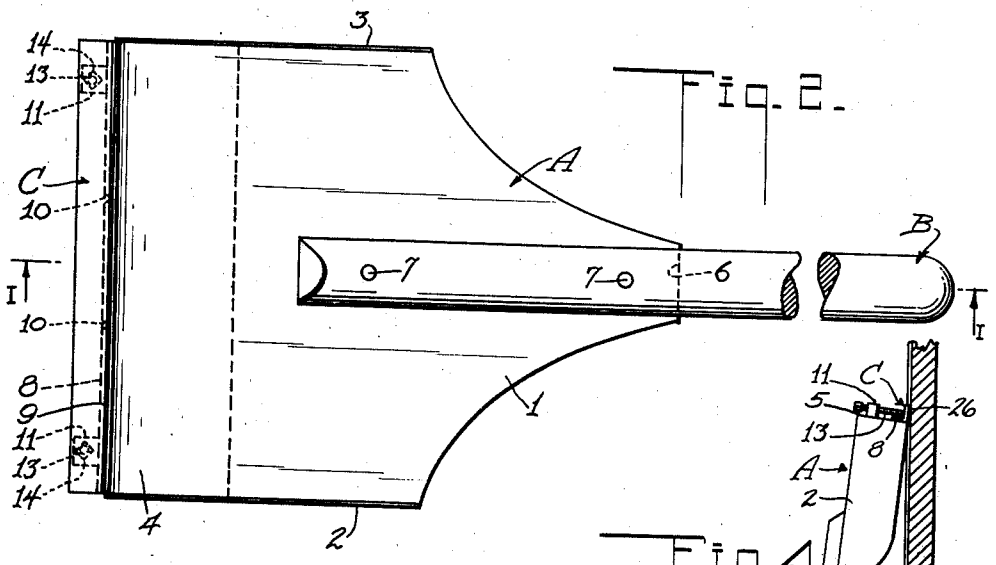
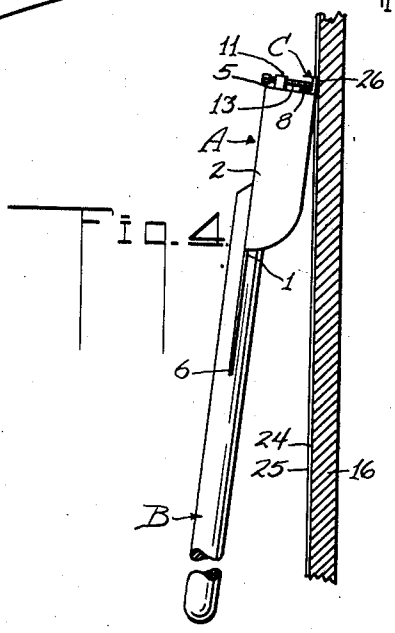


Fig. 4.



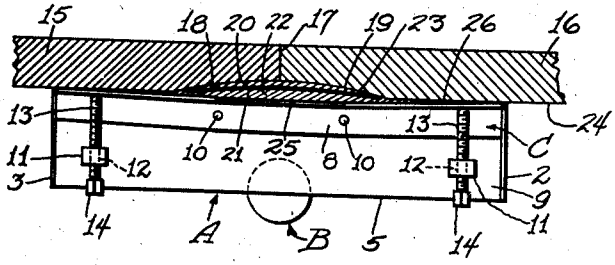


Fig. 3.

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FINISHING TOOL

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Application March 3, 1941, Serial No. 381,495

6 Claims. (Cl. 72—136)

The present invention relates to improvements in a finishing tool, and it consists of the combinations, constructions and arrangements hereinafter described and claimed.

An object of my invention is to provide a finishing tool which is designed to be used in connection with the pressure plastic applicator disclosed in my copending application, Serial No. 343,826, filed July 3, 1940.

In the application I set forth a device for applying a mastic or "mud" to the joint between adjacent pieces of wall board. The portions of the wall board adjacent to the joint are provided with shallow recesses on their inner surfaces for receiving the mastic or adhesive plastic, and the two recesses form a trough or groove in which a layer of mastic is applied. This first layer of mastic does not completely fill the groove. A tape is applied over the layer and then a second layer of mastic is laid on the tape. Sufficient mastic is applied to form a slight crown on the outer surface of the second layer. The edges of the second layer extend beyond the sides of the groove and are feathered so as to gradually merge into the exterior surface of the wall board. The purpose of providing a slight crown to the second layer of mastic is to compensate for any shrinkage which occurs during the drying of the mastic. At present, it has been found necessary to sandpaper the crown after the adhesive plastic has set in order to provide a smooth surface and to bring this surface substantially into alignment with the surface of the wall board. The sandpapering of the mastic is laborious and requires considerable time.

The principal object of the present invention is to provide a finishing tool which will do away with the sandpapering operation. The tool is provided with a finishing blade that is flexed to form a slight concavity. When the finishing blade is moved over the second layer of mastic before the mastic has set, it will form a smooth surface with a slight crown that will compensate for shrinkage. Any excess mastic material in the second layer will be removed by the tool during the smoothing operation, and the shape of the tool is such that this material will adhere to the tool surface and be retained thereby without dropping to the floor. The finishing tool will greatly speed up the finishing of the mastic that covers the joints since the tool is used while the mastic is in a plastic condition and the step of sandpapering is entirely eliminated.

The tool is especially designed to be used on vertical or horizontal wall board points. The tool has a receptacle that cooperates with the finishing blade for receiving any excess mastic, and this receptacle has side members for retaining the mastic when the tool is used for finishing horizontal joints. The tool is simple in construction and is durable and efficient for the purpose intended.

Other objects and advantages will appear in the following specification, and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawing forming a part of this application, in which:

Figure 1 is a longitudinal section taken substantially along the line I—I of Figure 2;

Figure 2 is a plan view of the device;

Figure 3 is a front elevation showing the tool in use; and

Figure 4 is a side elevation of the tool shown on a reduced scale and illustrates the step of smoothing the surface of the second mastic layer.

While I have shown only the preferred form of my invention, it should be understood that various changes or modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

In carrying out my invention, I provide a finishing tool which has a bottomless receptacle indicated generally at A, a handle B secured to the receptacle, and a flexible finishing blade C carried by one wall of the receptacle. Figures 1 and 2 illustrate the receptacle A as having a top **1**, side walls **2** and **3**, a curved rear wall **4**, and an open front. A reinforcing angle iron **5** protects the curved rear wall **4** and has its edge **5***a* spot-welded to the edge **4***a* of the wall **4**, and its edge **5***b* spot-welded to the top **1**.

The handle B is bifurcated at **6** to receive a portion of the receptacle top that is disposed adjacent to the open front. Rivets **7** or other suitable fastening means are used for securing the handle to the receptacle. The handle may be of any length desired, and I have found that one about twenty inches long is sufficient. The handle C extends from the open front of the receptacle and lies at right angles to the length of the blade C. The receptacle is preferably seven inches wide, and the side walls **2** and **3** are five inches long, although I do not wish to be confined to these exact measurements.

The finishing blade C is in the shape of an angle iron and the web **8** of the blade is permanently secured to the wall **9** of the angle iron **5** by rivets **10** or other suitable fastening means. It

will be noted from Figure 3 that the rivets are placed near the center of the wall 9 and this will permit the outer ends of the finishing blade C to be slightly flexed. In a blade that is seven inches long, it is only necessary to flex the ends sufficient to cause the blade to have a concavity approximately one sixty-fourth of an inch deep. It is possible to flex the blade C to this extent even though the blade is in the form of an angle. The blade C is coextensive with the rear wall 4 and its function is to scrape excess plastic material into the receptacle A.

The means for flexing the ends of the blade C comprises bosses 11 permanently secured to the wall 9 and spaced a slight distance from the ends of the wall. The bosses are provided with internally threaded bores 12 and receive screws 13 that have noncircular heads 14. The screws may be adjusted by means of a wrench or other tool for flexing the blade C to the desired extent. Figure 3 shows the tool at half size and the flexing of the blade C is exaggerated in order to clearly illustrate the curvature in the blade.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

In Figure 3, two wall boards 15 and 16 are shown abutting each other to form a joint 17. The portions of the wall boards 15 and 16 disposed adjacent to the joint have their front surfaces hollowed out as at 18 and 19. The two hollowed portions form a groove or a trough and a layer of mastic 20 is placed in the trough by the pressure plastic applicator or pressure pot, disclosed in my copending application. The layer 20 is covered by a tape 21. A second layer of mastic 22 is then applied over the tape also by means of the pressure plastic applicator. The second mastic layer extends beyond the sides of the grooves 23 and tapers so as to gradually merge into the surface 24 of the wall board. The second mastic layer has a crown 25 formed thereon as illustrated in Figures 3 and 4.

Before the second mastic layer has set, the finishing tool is used for smoothing the surface of the mastic crown and for removing any excess material. Before the finishing tool is used, the screws 13 are adjusted for flexing the finishing blade C to the desired extent. The tool is then used in the manner illustrated in Figure 4 and is moved along the mastic. The curved blade C has its end corners contacting the wall surface 24 and its midportion contacting the mastic to smooth the crown 25 to such a degree as to eliminate any need of sandpapering. The blade will remove any excess material and this will be conveyed into the receptacle A, the material adhering to the curved surface 4. A simple movement of the tool over the second layer of mastic will smooth it and at the same time remove excess material. The amount of material removed is relatively slight and the adhesive quality of the material will cause it to cling to the curved portion 4 of the receptacle and to slide along this portion and onto the bottom 1 without dropping out of the receptacle.

I have shown the sides of the angle iron 5 as extending at right angles to each other and have further illustrated the web 26 of the blade C as extending parallel with the axis of the handle B. It is obvious that the walls of the angle iron 5 may form a slightly obtuse angle rather than a right angle, and if this is done, the web 26 will extend at a slight angle to the handle axis. A change of the device in this manner will permit the operator to hold the handle B at a greater angle with respect to the wall surface 24 and therefore farther away from the surface.

I claim:

1. A finishing tool for smoothing the crown of a mastic layer and for removing excess material, and comprising a receptacle having a rear wall, a finishing blade coextensive with the length of the receptacle wall and arranged adjacent to an edge of the wall for guiding excess mastic into the receptacle, and means carried by the receptacle for flexing the ends of the blade independently of the wall for forming a slight concave arc to the blade.

2. A finishing tool having a receptacle, a handle for supporting the receptacle, and a finishing blade carried by the receptacle and having a slight concave arc therein, said blade being placed adjacent to one edge of the receptacle so as to guide any excess material into it as the blade is moved over a layer of plastic material, the curvature of the blade providing a slight crown to the mastic.

3. A finishing tool having a receptacle with two side walls, a curved end wall bounded by the sides, and an open end, a handle secured to the open end of the receptacle, and a finishing blade extending along the edge of the curved end wall and having a slight concave arc therein whose axis extends at right angles to the curved wall axis, whereby any plastic material scraped off by the blade will be fed into the receptacle.

4. A finishing tool having a slightly concave finishing blade, a receptacle supporting the blade and having an edge extending along the length of the blade, whereby the receptacle will receive any material scraped off by the blade, and a handle for supporting the receptacle, the axis of the handle paralleling the axis of the curved blade.

5. A finishing tool having a slightly concave finishing blade, a receptacle supporting the blade and designed to receive any material scraped off by the blade, a handle for supporting the receptacle, and means carried by the receptacle for varying the concavity of the blade while keeping the blade axis substantially parallel to the handle axis.

6. A finishing tool for smoothing the crown of a mastic layer and for removing excess material, said tool having a bottomless receptacle with a rear wall, a blade coextensive with the rear wall and so placed as to guide any excess material into the receptacle as the blade is moved over the layer of mastic, adjusting means carried by the rear wall and flexing the blade ends independently of the rear wall for forming a slight concave arc to the blade, the curvature of the blade providing a slight crown to the mastic, and a handle for the receptacle extending away from the blade and being positioned at right angles thereto.

ROBERT G. AMES.