July 30, 1957 J. GILYAN 2,800,672

TOOL FOR PLASTERING WITH MEANS FOR SELECTIVELY EXPOSING A PAIR OF WORK ENGAGING EDGES

Original Filed May 6, 1950

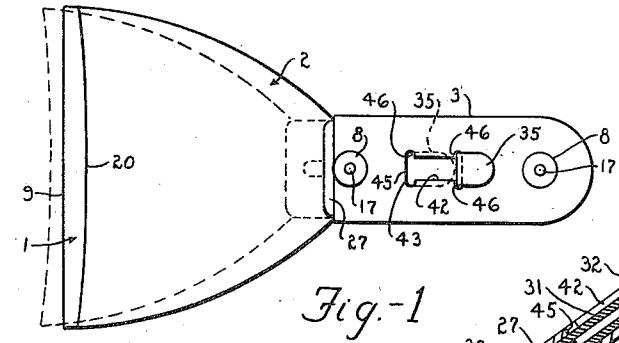


Fig.-1

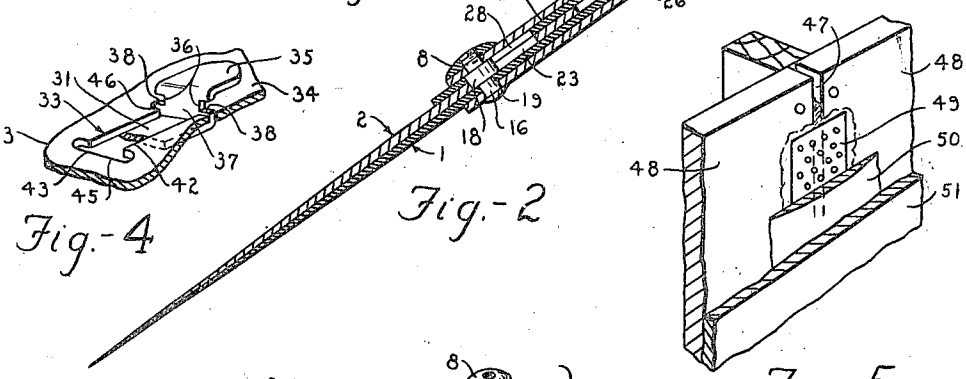


Fig.-2

Fig.-4

Fig.-5

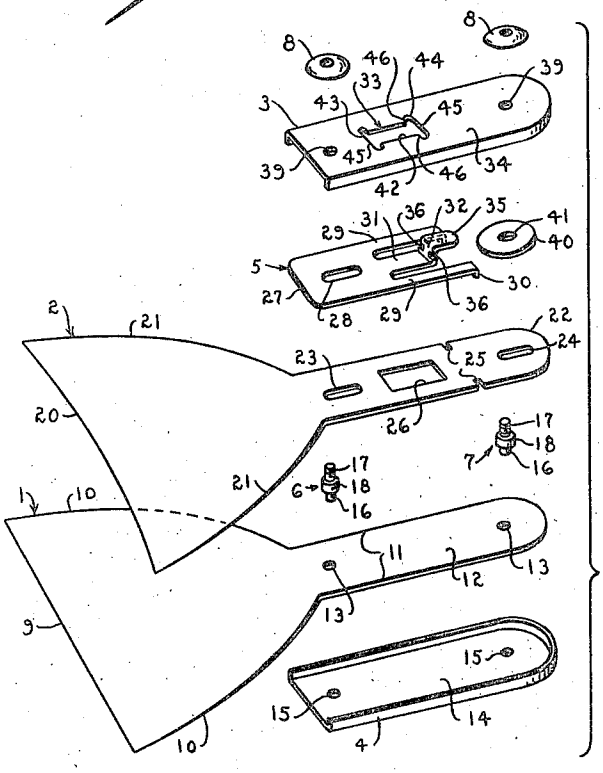


Fig.-3

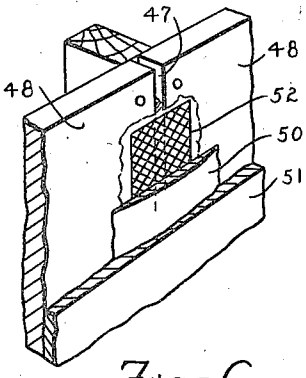


Fig.-6

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United States Patent Office 2,800,672 Patented July 30, 1957

2,800,672

TOOL FOR PLASTERING WITH MEANS FOR SELECTIVELY EXPOSING A PAIR OF WORK ENGAGING EDGES

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Continuation of application Serial No. 160,437, May 6, 1950. This application November 5, 1954, Serial No. 466,973

11 Claims. (Cl. 15—105)

This invention relates generally to tool construction and more particularly is directed to an improved combination tool which is adapted for a plurality of uses in connection with plastering and repairing cracks or fissures in walls.

This application represents a continuation of my prior application, Serial No. 160,437, filed May 6, 1950, now abandoned.

When plaster board or other wallboard is nailed in place, spaces occur between the marginal edges of such boards. In order to obtain a flat and continuous surface for a wall it is, of course, essential that the spaces between the boards be completely filled and that the marginal edges of the boards be firmly bonded or united together.

The tool of the subject invention, among other things, is particularly designed and constructed to apply plaster in the spaces as well as over outer portions of the boards. More specifically in this respect, the tool is of such a character that it can be manipulated to cause plaster to flow in the spaces to bond the marginal edges of the boards and feather out over portions of the boards adjacent the spaces and thereby join these portions to reinforce the bonded edges to produce an integral and firm foundation. When plaster is applied in this manner, its outer surface will be slightly rounded or convex but this will be covered by the foundation coat or layer of plaster to provide a smooth continuous outer surface.

Another object of the invention is to apply a strip of material such as cloth or foraminated paper, or the equivalent, across the space or crack between boards whereby to further assist in reinforcing the bond or joint therebetween.

The tool embodying the subject invention includes a pair of blades, one of which is fixed to a handle and the other of which is longitudinally slidable relative to the handle and the fixed blade with means for actuating and securing the movable blade in operative and inoperative positions. The fixed blade is provided with a straight edge and the movable blade with an arcuate or concave edge. These blades are slidably engageable with one another and the blade having a straight edge may be used for one purpose and the blade having a curved edge for a different purpose to facilitate the application of plaster.

One particular object of the invention is to provide a novel tool in which the components thereof can be economically manufactured and readily assembled as well as disassembled for cleaning.

A further object of the invention is to provide a tool comprised of a minimum number of components or parts which are of sturdy design and construction and in which the actuating means above referred to for the movable blade is conveniently arranged for manipulation by the thumb or finger of the hand adapted to hold the tool.

An additional object of the invention is to provide a tool in which the actuating means serves to reinforce the movable blade when shifted to an extended position.

A significant object of the invention is to provide a unique method of applying plaster.

Other objects and advantages of the combination tool will appear after the description hereinafter set forth is considered in conjunction with the drawings annexed hereto.

Referring to the drawings wherein like parts or elements of the structure are designated by the same numerals:

Figure 1 is a top view of the combination tool described above;

Figure 2 is an enlarged longitudinal sectional view taken through the tool illustrated in Figure 1;

Figure 3 is an exploded view showing the various components of the tool in perspective;

Figure 4 is a perspective view of sections of the tool, particularly of a latch constituting a portion of the actuating means;

Figure 5 is a perspective view showing the manner in which the opposite marginal edges and adjacent outer portions of such boards are bonded together; and

Figure 6 is a perspective view showing a setup slightly different from the one depicted in Figure 5.

The tool illustrated in the drawings includes, among other things, a stationary or fixed blade, designated 1, and a blade 2 which is slidable longitudinally in respect to the blade 1. These blades are similar in size and shape and are associated with a handle comprised of a pair of complementary channel members 3 and 4 and an actuating member 5, all of which are preferably held assembled by a pair of bolts 6 and 7 and nuts 8.

The stationary or fixed blade 1 is substantially planar and includes a generally triangular portion defined by a relatively sharp straight work edge 9 and correspondingly outwardly curved side edges 10, the latter of which merge with longitudinally parallel marginal edges 11 of a generally rectangular tang or shank portion 12. The tang is of uniform thickness whereas the thickness of the triangular portion tapers more or less from the tang forwardly to the straight edge 9 to promote yieldability of the blade particularly adjacent such edge. It will be noted that the straight working edge is preferably located at right angles to the longitudinal axis of the blade 1. The tang 12 is provided with a pair of longitudinally spaced round apertures 13 and the base wall 14 of the channel member 4 with a pair of corresponding apertures 15. Each of the bolts 6 and 7 include a reduced cylindrical extremity 16, an externally threaded extremity 17, and an intermediate enlarged cylindrical portion 18. The reduced extremities 16 of these bolts are received in the aligned apertures 13 and 15 in the tang 12 and channel member 4, and are upset as indicated at 19 in Figure 2 to permanently secure the tang 12 in a rested position in the channel 4 with the tang in abutment with the enlarged cylindrical portions 18 of the bolts.

The movable blade 2, as mentioned above, is similar to blade 1 and includes a triangular portion defined by a relatively sharp inwardly curved or arcuate edge 20 and correspondingly outwardly curved side edges 21, the latter merging with the longitudinal edges of the tang 22. The arcuate edge 20 is preferably disposed transverse to the longitudinal axis of the blade in substantially the same manner as the straight edge 9 of blade 1. The blades are superimposed one upon the other in a flat condition so that when they are assembled with the components of the handle as illustrated in Figure 1, the curved side edges of the triangular portions of the blades will substantially register or coincide.

The tang 22 of the blade 2 is provided with a pair of longitudinally spaced slots 23 and 24 which slidably receive the enlarged portions 18 of the bolts. The tang is also provided with a pair of notches 25 interrupting its marginal edges, and a relatively large rectangular clearance opening 26. The notches 25 are located directly

opposite one another and the opening 26 is arranged lengthwise in alignment with the slots 23 and 24 and between the forward slot 23 and the notches.

The means employed for actuating the movable blade embodies improved principles of design and construction and, among other things, includes an elongated generally rectangular flat member 27. The forward extremity of this member is provided with a longitudinal slot 28 similar to slot 23 and also slidably receives the enlarged portion 18 of bolt 6. Its rear extremity is formed to provide a pair of longitudinal leg portions 29 having portions 30 extending laterally therefrom into the notches 25 for locking the actuating member for movement with the movable blade 2. The actuating member 27 is also provided with a centrally disposed resilient or yieldable latch extending rearwardly in spaced apart parallel relation to the legs 29.

The latch, constituting an integral part of the actuating member, includes a longitudinal portion 31 disposed opposite the rectangular clearance opening 26 in tang 22 of the blade 2, an angular portion 32 projecting through a generally I-shaped opening 33 in the base wall 34 of the channel handle member 3, and a finger portion 35 extending rearwardly from the angular portion in spaced parallel relationship to the outer surface of channel member 3. The edges of angular portion 32 are provided with oppositely disposed corresponding notches 36. The location and width of these notches are predetermined. More specifically in this respect, the lower portion 37 of the angular portion 32 between the upper surface of the longitudinal portion 31 and the lower margins 38 of the notches is preferably substantially equal to or slightly less than the thickness of the base wall 34 of member 3 and the width of the notches is slightly greater than the thickness of the base wall 34, the purpose of which will be described more in detail subsequently.

The channel member 3 is of the same size and shape as member 4 and the actuating member 27 nests therein. The base wall 34 of the channel member is provided with a pair of apertures 39 which receive the threaded extremities 27 of the bolts and the nuts 8 carried by the bolts serve to hold the blade 2, actuating member 27 and member 3 detachably assembled with respect to blade 1 and member 4. With this arrangement the tangs of the blade are well supported and concealed from view. A spacer washer 40 is interposed between the base wall 34 of member 3 and tang 22 of blade 2 to maintain the wall and blade in a predetermined spaced parallel relationship to permit longitudinal movement of blade 2 without binding. The washer is provided with an aperture 41 which receives the enlarged portion 18 of bolt 7.

The generally I-shaped opening 33 provided in the base wall 34 of channel member 3 includes a longitudinal clearance slot or passage 42 and a pair of transverse slots 43 and 44 which intersect the ends of the slot 42. Each of these transverse slots includes a marginal edge 45 and a pair of marginal edges 46, the latter being parallel to edge 45. The foremost transverse slot 43 serves to receive the portion 37 of the latch to lock the movable blade 2 in an extended position so that its arcuate edge 20 is disposed in advance of the straight edge 9 of the stationary blade as shown by the dotted lines in Figure 1 and the rearmost slot 44 is adapted to receive the latch to lock the movable blade in the retracted position illustrated by the full lines in Figures 1 and 2.

The operation of the tool will now be described. When the movable blade 2 is in the retracted position the lower portion 37 of the angular portion 32 of the latch is caught between the marginal edges defining the transverse slot 44. To shift the blade forwardly as indicated above it is merely necessary to press down on the finger portion 35 of the latch until the rear end of the longitudinal portion 31 engages the blade 1. This will cause the lower portion 37 to leave the slot 44 and position such portion in the clearance opening 26 and also cause the notches 36 in the angular portion to take a position so that when the actuating member 27 and blade 2 are moved forwardly as a unit by pushing against the finger portion 35, the notches will slidably receive the marginal edge portions defining the longitudinal slot 42. When the portion 37 engages the marginal edge 45 of the foremost slot 43 and pressure is removed from the finger portion 35 the portion 37 will automatically move or snap outwardly into the slot 43 to lock the blade and actuating member in the extended position. It will be noted that a portion of the actuating member 27 normally projects in advance of the junction area between the tang 22 and the triangular blade portion of the blade 2 and forwardly of the handle to lend support to the blade as shown in Figure 1. When the blade is extended, the actuating member will of course be carried so that a considerable portion thereof will be disposed in advance of the handle and thereby afford greater support for the blade. It is obvious that by a reverse procedure the blade 2 can be readily shifted to a retracted position.

The tool may be used wherever found applicable, but is preferably adapted for use as indicated above. More particularly in this respect, the fixed blade 1 can ordinarily be put to more uses than blade 2 due to its straight edge 9. For example, in addition to being employed generally as a scraper, it can be used to force plaster in a crack 47 between the sheets of plaster board 48 and distribute a relatively thin layer on the face of the boards adjacent their marginal edges, after which a strip of foraminated paper 49 may be pressed in place on the wet plaster by the blade and across the crack in overlapping relationship with the boards as illustrated in Figure 5. The movable blade can then be extended and the tool turned so that it may be used in applying plaster over the strip and plaster previously applied in the cracks and on the boards. Since the strip is foraminated, portions of the plaster will ooze through the holes therein and form a good bond with the underlying areas of plaster and board. When plaster is applied with this blade the outer surface of the plaster will be generally convex or curved as indicated at 50. As clearly shown, a coat or layer of plaster 51 will cover the outer surfaces af the boards and the plaster previously applied to provide a further bond or tie between the boards.

In Figure 5 of the drawing there is shown a strip of cloth fabric 52 which may be substituted for the paper strip 49.

Attention is directed to the fact that when the blade 2 is employed, the tool may be tilted as desired to secure varying thicknesses of plaster over a reinforcing strip and adjacent areas of the boards. For example, the thickness of the plastic will be less when the angle formed by the blade with reference to the outer planar surfaces of the boards is less than when held at a greater angle. This blade also has the advantage of providing means whereby the width of the plaster applied may be varied. This can be readily accomplished by holding the tool so that its longitudinal axis is disposed at an angle with reference to a longitudinal crack between the boards. With this unique setup the thickness and width of the plaster being applied can be varied at will to meet different conditions existing in wall structure. It is, of course, obvious that the tool can be manipulated to spread a relatively thin and wide layer of plaster or other bonding agent over the strip and crack so that it will merge with the outer surface of the boards to present a substantially flat continuous surface suitable for wallpaper or paint in lieu of the layer of plaster 51. This flat cooperative relationship between the blades provides a setup whereby one blade supports the other. In other words, if the straight edge on the fixed blade is exposed for use the movable blade supports the fixed blade substantially throughout its entire length and vice-versa. The exposed edge of one blade, of course, protects and shields the edge of the other blade. Also, if

found desirable, the strip of reinforcing material can be omitted.

While the foregoing description has been given in detail, it is not the intention to thereby restrict the scope of the invention beyond that defined by the appended claims since the inventive principles thereof are capable of assuming other physical embodiments than those hereinbefore described.

I claim:

1. A tool comprising an elongated handle, a first flat thin member having a tang anchored to the handle and a generally triangular blade portion provided with a straight edge disposed substantially transverse to the longitudinal axis of the handle, a second similar flat thin member superimposed on the first member and having a tang slidably supported on the handle and provided with an edge disposed similar to the straight edge, and a manual actuating member connected to the handle and to the second member for movement with the latter in a manner whereby the second member may be reciprocated to locate its edge forwardly or rearwardly of the edge of the first member.

2. A tool comprising an elongated handle, a pair of superimposed substantially flat thin blades, manual actuating means carried by the handle and movable with one of the blades for moving it longitudinally of the handle, said movable blade having an inwardly curved edge disposed substantially transverse to the longitudinal axis of the handle, and the other blade being fixed and having a straight edge disposed similar to the curved edge, said actuating means being actuable to reciprocate the movable blade so that its curved edge can be disposed forwardly or rearwardly of the straight edge of the fixed blade.

3. A tool comprising an elongated handle, a pair of superimposed thin flat scrapers carried by the handle, one of the scrapers having a straight edge disposed substantially at right angles to the longitudinal axis of the handle, the other scraper having an edge similarly disposed, and manual means connected to the handle and movable with said other scraper whereby such scraper can be moved longitudinally with respect to the handle and locked in an extended position to locate its edge in advance of the straight edge or in a retracted position to place its edge rearwardly of said straight edge.

4. A tool comprising a handle constructed of a pair of channel members secured together to provide an open-ended housing, a first blade member having a tang fixed in the housing and a blade portion extending from the housing provided with a straight edge, a second blade member superimposed on the first member having a tang slidably supported in the housing and a blade portion provided with a curved edge, and an actuating member keyed to the second member and having a portion adapted to be engaged by the hand for actuating said second member.

5. A tool comprising an elongated handle, a pair of superimposed flat thin scrapers carried by the handle having edges of different shape disposed substantially transverse to the longitudinal axis of the handle, one of said scrapers being movable longitudinally with respect to the other, spaced abutment means on the handle, and a member connected to the handle and interlocked with the movable scraper in a manner whereby the movable scraper can be moved with the member so that the latter will engage either abutment means to locate the edge of the movable scraper on either side of the edge of the other scraper.

6. A tool comprising an elongated handle, a pair of superimposed flat thin scrapers carried by the handle having edges of different shape disposed substantially transverse to the longitudinal axis of the handle, one of said scrapers being movable longitudinally with respect to the other, abutment means on the handle, a member connected to the handle and interlocked with the movable scraper and cooperable with the abutment means in a manner whereby the movable scraper can be moved with the member and locked in either of two positions to locate its edge on either side of the edge of the other scraper, and spacer means disposed in the handle for preventing binding action on the movable scraper when actuated.

7. A tool comprising an elongated handle, a pair of superimposed scrapers carried by the handle having edges of different shape disposed substantially transverse to the longitudinal axis of the handle, one of said scrapers being movable longitudinally with respect to the other, and an actuating member connected to the handle and keyed for movement with the movable scraper for moving it to an extended position so that its edge can be located forwardly of the edge of the other scraper, said actuating member being of a length to project a greater distance beyond the forward end of the handle when the scraper is extended than when the movable scraper is in any other position.

8. A tool comprising an elongated handle comprising a pair of similar channels, a first member having a tang nested in one of the channels, a pair of bolts having reduced extremities extending through said tang and said one channel and upset for permanently securing the member to said one channel, said member having a generally triangular flexible blade portion provided with a straight edge disposed substantially transverse to the longitudinal axis of the handle, a second member superimposed on the first member and having a similar flexible blade portion provided with a curved edge, said second member being provided with a pair of slots, an opening and a pair of notches, said bolts also having enlarged portions and threaded extremities, said enlarged portions extending into the slots of said second member to permit it to slide longitudinally with respect to the first member, an actuating member nesting in the other channel and superimposed on said second member, said actuating member having a slot therein and also having portions disposed in the notches in the second member for keying the actuating member thereto, the enlarged portion on one bolt extending through the slot in the actuating member, the threaded extremities of said bolts extending through the said other channel and having nuts for detachably securing the second member, actuating member and said other channel to the first member and said one channel, said other channel having a pair of apertures joined together by a slot, said actuating member also having a resilient portion capable of being manually depressed into the opening in the second member, and means on said resilient portion for disposition in either of said apertures to lock the second member and actuating member in either of two positions so that the edge on said second member can be located on either side of the edge of said first member.

9. A tool comprising a first flat thin member having a tang and a generally triangular blade portion provided with a straight edge disposed substantially transverse to the longitudinal axis of the tang, a second similar flat thin member having a tang and provided with an edge different from the straight edge but similarly disposed, side plates overlying the tangs of the members, and means for holding the plates and flat members assembled in superimposed relationship whereby one member can be moved longitudinally with respect to the other.

10. A tool of the character defined in claim 9, in which the thickness of each of the triangular portions of the blades is gradually tapered from the tang to the edge.

11. A device of the kind described comprising a pair of superimposed flat thin blade members, a pair of handle members overlying the blade members, one of the blade members being provided with a hole and the other blade member with a slot, means extending through the handle members, including the hole and the slot for holding the members assembled so that one blade member is fixed and the other is movable, one of the handle members being

provided with a slot, and an actuating element connected to the movable blade and disposed between the movable blade member and the handle member having the slot therein, said actuating element having a manually engageable part extending through the slot in the handle member for actuating the movable blade member.

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