Nov. 2, 1948. A. W. WILLIAMS 2,452,818

MACHINE FOR REMOVING PUTTY

Filed June 25, 1946

Fig. 1

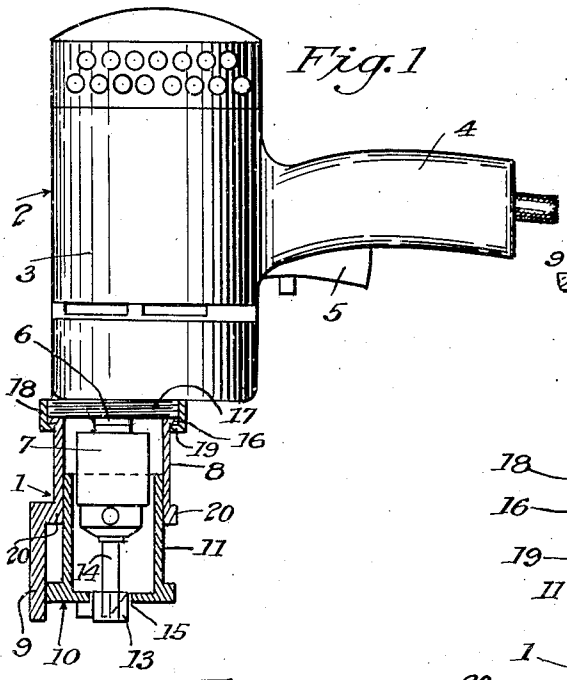


Fig. 3

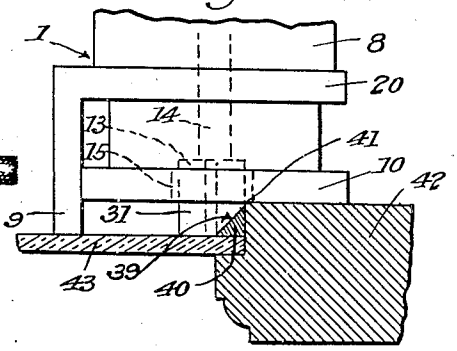


Fig. 2

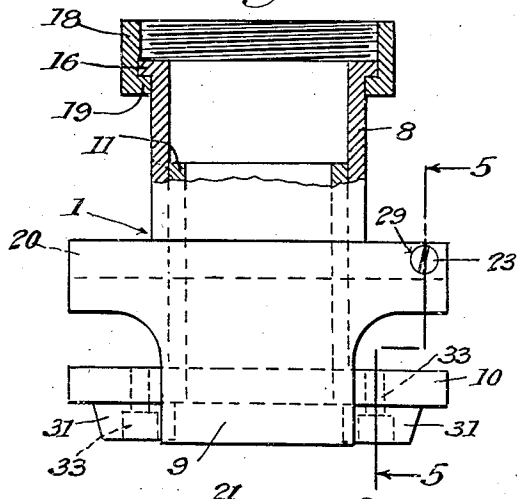


Fig. 4

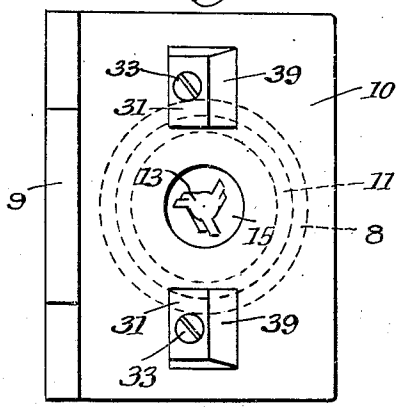


Fig. 5

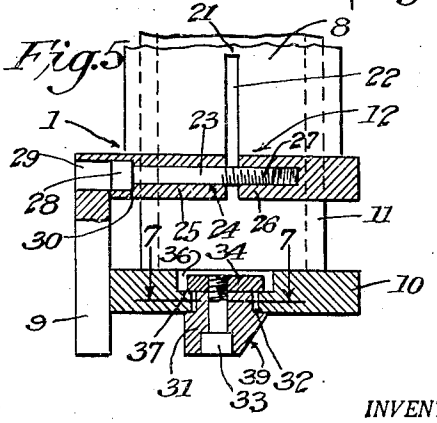


Fig. 6

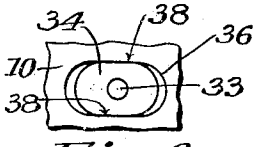
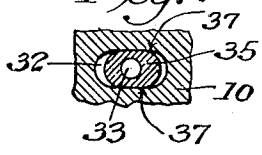


Fig. 7



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MACHINE FOR REMOVING PUTTY

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5 Claims. (Cl. 90—12)

1

This invention is a machine for removing hard putty from window glass, and the general object of the invention is to provide a power-driven putty-removing machine, by means of which the surface putty may be rapidly cut and removed from wooden window frames.

A more particular object is to provide a putty-removing machine of the character stated, which may be conveniently held in one hand and easily operated and guided by the operator, and which is simple in construction and highly efficient in operation.

A further object is to provide an attachment which may be readily attached to a conventional motor-driven hand drill and operated by said drill for cutting and removing hard putty from window frames.

Other objects and advantages will appear hereinafter.

The invention is illustrated in the annexed drawing which forms a part of this specification and in which:

Fig. 1 is a longitudinal section of my invention as applied to a conventional motor-driven hand drill.

Fig. 2 is a front view of my invention, partly broken away to show certain features of construction.

Fig. 3 is a fragmentary side elevation of my invention shown applied to a glass window in the act of cutting and removing the hard putty from an edge of the frame of said window.

Fig. 4 is a forward end view of my invention.

Fig. 5 is a fragmentary longitudinal section of my invention taken on line 5—5 of Fig. 2, showing certain details of construction.

Fig. 6 is a fragmentary plan of the inner side of the cutter guide head showing the means for adjustably securing one of the frame edge guides on said guide head.

Fig. 7 is a detail sectional view taken on line 7—7 of Fig. 5.

Referring more particularly to the drawing, in which the same parts are designated by the same reference numerals in all of the figures, my invention is illustrated in the form of a putty-removing attachment, designated generally 1, which is detachably mounted on the forward end of a conventional electric motor driven drill, designated 2, said drill being constructed with a motor casing 3, a handle 4 extending from one side of said casing, a motor switch 5 on the under side of said handle, a motor shaft 6 extending, from the electric motor (not shown) in said motor casing 3, through the forward end of said

2

casing, and a chuck 7 secured on the outer end of said motor shaft 6.

The attachment 1 includes a cylindrical base sleeve 8, a glass engaging guide 9, a cutter guide head 10 formed with an inwardly extending sleeve 11 telescoping within the outer end of said base sleeve, a clamp 12 for clamping said guide-head sleeve in adjusted positions in said base sleeve, and a rotary cutter 13 detachably held by its shank 14 in the drill chuck 7 and extending outwardly through said sleeve 11 and an opening 15 in said guide head 10 beyond said head.

The inner end of the base sleeve 8 is formed with an external annular flange 16 and said end of said sleeve is detachably and turnably coupled to a threaded boss 17 on the forward end of the drill casing 3 by means of a threaded sleeve coupling 18 formed at its outer end with an internal annular flange 19, which coupling is threaded on said threaded boss 17, with its internal flange 19 engaging said external flange 16 on said base sleeve 8, and clamping the inner end of said base sleeve against the outer end of said boss 17, whereby my invention is detachably secured, as an attachment, to the drill 2, with its base sleeve 8 surrounding the drill chuck 7.

The base sleeve 8 is formed at its outer end with an external annular flange 20, and the glass-engaging guide 9 is formed integral with said flange 20 and extends forwardly therefrom at the front side of said base sleeve 8 adjacent the front edge of the cutter guide head 10 for engaging the glass of the window.

The external flange 20 on the forward outer end of the base sleeve 8, and the forward outer end portion 21 of said sleeve are split at one side thereof by a slot 22 extending longitudinally of said sleeve from the forward outer end thereof to provide for contraction and expansion of said end portion of said sleeve which forms a part of the clamp 12. Said clamp includes said split flange 20 and forward outer end portion 21 of said base sleeve 8, and an Allen set screw 23. Said set screw 23 is fitted in a bore 24 in the flange 20 of the base sleeve 8, which bore extends through the front part 25 of said split flange 20, and into the rear part 26 of said flange at the rear side of said slot 22. The set screw 23 extends rearwardly into said bore 24 across said slot 22, with the inner end portion 27 of said screw threaded in the inner end portion of said bore in said rear part 26 of said split flange 20, and the head 28 on the outer end of said screw fitted in the outer end portion 29 of said bore 24, which end portion of said bore is en-

larged to receive said screw head 28, there being an annular shoulder 30 formed at the juncture of the inner end of said enlarged end portion 29 of the bore 24 and the remaining rear portion of said bore, which shoulder 30 is engaged by said head 26 of the set screw 23 while the inner threaded end portion 27 of said screw engages the inner threaded end portion of said bore 24 whereby the parts 25 and 26 of the base sleeve 8 and the adjoining parts of said base sleeve opposite the slot 22 are drawn toward each other and the outer end portion of said sleeve 8 is contracted around the rear inner end portion of the cutter head sleeve 11, thus clamping said cutter sleeve in said base sleeve with the cutter head 10 adjusted with relation to the cutter 13.

The cutter guide head 10 on the outer end of the sleeve 11 may be of rectangular form with the cutter opening 15 in the center thereof. A pair of frame-edge guides 31 are detachably and adjustably mounted on the outer face of the cutter guide head 10 in a pair of transverse slots 32, respectively, at opposite sides of the cutter opening 15, in said guide head, in parallel relation to the base-sleeve glass guide 9, by means of Allen set screws 33 and nuts 34. Each of the frame-edge guides 31 is formed on its inner side with a shank 35 which extends inwardly into one of the slots 32 in the cutter guide head 10, and an Allen set screw 33 extends inwardly through the frame-edge guide 31 and its said shank 35 into a countersink 36 of the slot 32 in the inner side of the cutter guide head 10, with the inner end of the set screw 33 threaded into an elongated nut 34 fitted in said countersink, which set screw draws said nut against the bottom wall 37 of the countersink 36 and draws the frame-edge guide 31 against the outer face of the cutter guide head 10 for detachably securing the frame-edge guide 31 in position on the outer side of said cutter guide head. The slots 32 in the cutter guide head 10 are slightly longer than the thickness of the shanks 35 of the frame-edge guides 31, and the countersinks 36 of said slots are slightly longer than the elongated nuts 34 to permit movement upon loosening the set screws 33, of said shanks and said nuts in said slots and said countersinks, respectively, transversely of the cutter guide head 10, for adjustment of the frame edge guides 31 transversely of said cutter head guide and with relation to the rear side of the rotary cutter 13, for determining the cutting depth of the rotary cutter 13 in cutting the putty from the edges of a window frame. The side edges of the edge guide shanks 35 fit the side edges of the slots 32 closely, as indicated at 37, and the side edges of the nuts 34 fit the side edges of the countersinks 36 closely, as indicated at 38 to prevent turning of frame-edge guides 31 and the nuts 34, respectively, with relation to the guide head 10. The rear edges 39 of the frame-edge guides 31 are inclined forwardly and outwardly to pass over the inclined outer side of the putty 40 along the inner edges 41 of a window frame 42 and to engage said window frame edges for guiding the rotary cutter along said edges to cut the putty away from the same, in the manner hereinafter more fully described.

The operation of my invention is as follows:

The cutter guide head 10 being secured in its adjusted position by the clamp 12, and the window frame edge guides 31 being secured in their adjusted positions by the set screws 33 and 34, the operator upon grasping the handle 4 of the motor drill 2 holds said drill and my putty removing attachment 1 in position with the outer end of the

glass-engaging guide 9 against the surface of the glass 43 in the window frame 42 and the rear side of the rotary cutter 13 against the putty 40 at one edge of the window frame 42. The operator then closes the switch 5 with his forefinger and the cutter 13 is rotated by the electric motor in the drill 2, whereupon the operator, holding the drill handle 4, moves the drill and my attachment 1 toward the window frame 42 until the rotary cutter 13 cuts away a portion of the putty 40 at said edge 41 of the window frame 42 and the rear side of said rotary cutter is positioned adjacent the inner side edge 41 of one side of the window frame 42 by the engagement of the inclined edges 39 of the frame-edge guides 31 with said frame edge 41 and the inclined face of the putty 40, as illustrated in Fig. 2 of the drawing. The operator, holding the drill handle 4, then moves the drill 2 and my attachment 1 along said edge 41 of the window frame and the rotary cutter 13 cuts the putty 40 away from said edge of the window frame until the foremost frame-engaging guide 31 reaches a corner of the window frame, leaving a short length of putty against said edge 41 between the cutter and said corner. The operator then turns my putty-removing attachment 1 and the drill 2 with relation to each other to a suitable position and applies my attachment, as above described, to the adjoining putty edge of the window frame leading from said corner, with the cutter 13 a short distance in advance of said corner, and cuts the putty away from said edge as above described until the next corner of the window frame is reached. My invention is then applied successively to the remaining putty edges of the window frame and the putty is cut away from said edges as above described, leaving short lengths of putty in the edges of the window frame at the corners of said frame, which putty is removed from said edges at said corners by a knife.

By means of my invention the putty may be removed rapidly and cleanly from the edges of a window frame, thus saving time and labor and reducing the cost of removing said putty.

My invention is adjustable to cut the putty from the shallowest to the deepest rabbets in stock window frames, by loosening the clamp 12 and moving the cutter guide head sleeve 11 inwardly and outwardly with relation to the base sleeve 8 to the proper vertical adjustment and then tightening said clamp 12.

My invention may be operated without the use of the glass guide 9 by means of the frame edge guides 31 engaging the frame edge 41 and the cutter guide head 10 engaging the outer side of the window frame 42.

I claim:

1. A machine for removing putty from the edges of the frame of a glass window, a cutter, a guide for engaging the face of the glass of said window, a pair of frame-edge guides for engaging a puttied edge of said window, and means for operating said cutter for cutting away the putty from said edge as said cutter is guided by said guides along said puttied edge.

2. A machine of the character as disclosed including a motor casing, a motor in said casing, a handle on said casing, a base sleeve turnably mounted on said casing, a guide on said base sleeve for engaging the glass of glass window, a cutter guide head formed with a shank sleeve telescoped into the outer end of said base sleeve, a cutter extended through said cutter guide head and its sleeve, and driven by said motor, a pair of frame-edge guides mounted on said cutter guide

head for engaging a puttied edge of the frame of said window, and a clamp for clamping said cutter guide head sleeve in said base sleeve with said cutter guide head in adjusted position with relation to said cutter and said base sleeve glass guide, for enabling said frame-edge guides, together with said glass guide, to guide said cutter along said puttied edge, whereby the putty is cut away from said edge by said cutter.

3. The combination of a motor driven tool formed with a casing, a motor in said casing, a handle on said casing, a motor controlling switch projecting from said handle, the shaft of said motor extending through one end of said casing, a chuck on the outer end of said motor shaft, and a threaded boss on said end of said casing through which boss said motor shaft extends, of a putty removing attachment including a base sleeve, a coupling threaded on said boss and turnably coupling the inner end of said base sleeve to said boss, a glass guide on said base sleeve for engaging the glass of a glass window, a cutter secured in said chuck, a cutter-guide head formed with a shank sleeve telescoped into the outer end of said base sleeve, through which shank sleeve and said cutter guide head extends said cutter, a pair of frame-edge guides mounted on said cutter-guide head for engaging a puttied edge of the frame of said window, and a clamp for clamping said shank sleeve in said base sleeve with said cutter guide head in adjusted position with relation to said

cutter and said glass guide, for enabling said frame-edge guides, together with said glass guide, to guide said cutter along said puttied edge, whereby the putty is cut away from said edge by said cutter.

4. A machine for removing putty from the edges of the frame of a glass window, as characterized by claim 1, in which the guiding edges of said frame-edge guides are inclined to pass over the inclined outer surface of the putty in said frame edges.

5. A machine for removing putty from the edges of the frame of a glass window as characterized by claim 1 in which the frame-edge guides are adjustable with relation to the cutter toward or away from the puttied edges of the glass window.

ALAN W. WILLIAMS.

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