March 29, 1960 W. J. COOKE 2,930,290

PUTTY REMOVING MEANS

Filed March 5, 1956

FIG. 2.

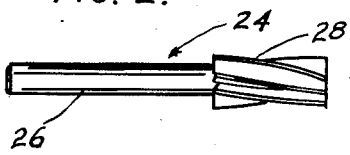


FIG. 6.

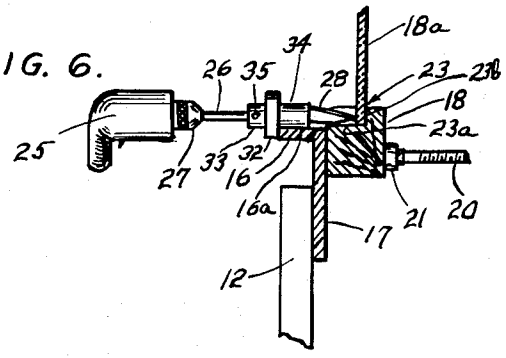


FIG. 3.

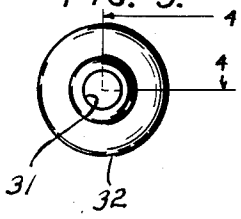


FIG. 4.

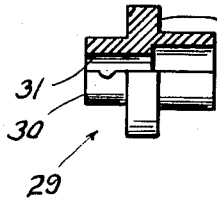


FIG. 5.

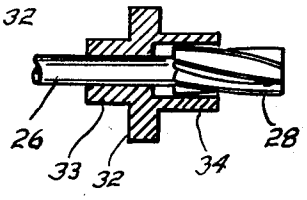
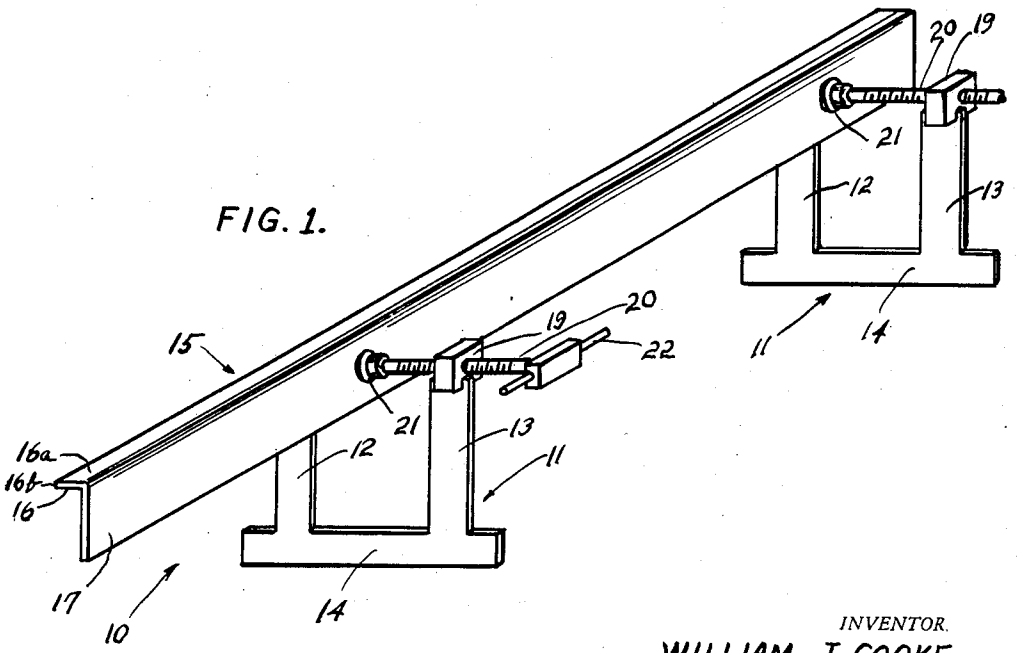


FIG. 1.



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PUTTY REMOVING MEANS

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4 Claims. (Cl. 90—12)

This invention relates to an apparatus for removing putty or other similar sealing compound from the rabbet of a window sash or the like, and more particularly to a device for effecting the removal of old and stale putty in a simple, efficient and rapid manner without resulting injury or damage to the window sash or the like.

Heretofore, the usual manner for removing old and stale putty from a window sash or the like was generally accomplished by a manual scraping operation with the aid of a simple hand held scraper. Not only was this manner of removing putty a time consuming and tedious labor, but there was ever present the danger of the scraper slipping, digging or gouging into the rabbet causing injury or damage to the sash. To overcome the obvious disadvantages of manually scraping old putty from a sash, efforts have been made to mechanically perform the operation. However, the mechanical aids heretofore developed took the form of highly specialized tools which were relatively expensive, complex and difficult to operate. Furthermore, these prior mechanical aids did not obviate the danger of damaging the sash as caused by digging or gouging of the tool therein which remained inherent in a putty removal operation. As a result the tendency was to resort to the less expensive manual method.

An object of this invention is to provide a means whereby old and stale putty is quickly, accurately and positively removed from a rabbet without the danger of injuring or otherwise damaging the sash.

Another object of this invention is to provide for an apparatus for positively securing a window sash in a definite manner and having means whereby a cutting tool engaging the rabbet of a window sash or the like is guided in a determined manner to remove all the putty therefrom accurately, quickly and inexpensively without any danger of digging, gouging or otherwise damaging the window sash.

Another object of this invention is to provide means whereby the cutting tool is adapted to accommodate rabbets of varying widths so that the tool is capable of removing all the putty therefrom in a single pass as it traverses a guided cutting stroke.

The objects of this invention are accomplished by a support having a guide rail and clamping means for securing a window sash in a predeterminate position opposite the guide rail. A cutting tool adapted to be rotated by a suitable power means and guided along the rail to traverse a cutting stroke is utilized to mill or cut away the old putty from the rabbet. To facilitate guiding of the tool along the rail and also to accommodate the cutting tool to rabbets of different widths, an adaptor connected for axial adjustment along the shank of the tool is utilized; the adaptor being maintained in rolling contact with the guide rail and functions as a guide for the tool as it traverses the cutting stroke. According to this invention a portion of the adaptor shields a part of the tool's cutting edges. By axially sliding the adaptor along the shank of the tool, the width or amount of operative cutting edge

in engagement with the rabbet can be controlled. To limit lateral thrust of the tool relative to the sash as the tool traverses the cutting stroke, a projecting annular flange is provided to engage the edge portion of the rail.

A feature of this invention resides in the provision of a guide rail for guiding a cutting tool as it traverses a cutting stroke whereby the danger of enlarging, injuring or otherwise damaging the rabbet of a window sash is substantially lessened.

Another feature of this invention resides in the provision of utilizing a cutting tool of an end mill type which is adapted to be rotated by any suitable power drill or other rotating power means.

Another feature of this invention resides in the provision of an adaptor axially adjusted on the shank of the cutting tool so that the effective cutting width of the cutting tool can be varied to accommodate rabbets having varying dimensions of width.

Other features and advantages will be apparent when considered with the specification and drawings in which:

Figure 1 is a fragmentary perspective view of the novel support means for supporting a window sash, according to this invention.

Figure 2 is a detail side view of the cutting tool.

Figure 3 is a detail end view of the adaptor for use on said tool.

Figure 4 is a side view of the adaptor partially shown in section taken along line 4—4 of Figure 3.

Figure 5 is a sectional view of the adaptor as connected to the tool.

Figure 6 is a sectional side view illustrating the sash in position relative to the support and the cutting tool in operative position for removing putty from a sash.

Referring to Figures 1 and 6 there is shown a novel supporting means 10 for facilitating the removal of putty from a window sash or the like in a quick, efficient and inexpensive manner.

As illustrated the supporting means 10 comprises a pair of spaced base members 11 preferably U-shaped, each having a pair of upwardly extending leg portions 12 and 13 and a connecting base portion 14. Disposed between the base members 11 and rigidly connected to the rear legs 12 thereof by any suitable means such as welding or the like is a connecting member which is adapted to form a guide rail 15 as will be hereinafter described. As illustrated, the rail 15 consists of an angled member having a laterally extending, rearwardly turned, horizontal flange 16 and a depending leg portion 17, the depending leg being connected to the rear leg 12 of the base members 11.

In order that a window sash 18 may be positively secured to the support 10, there is connected to each of the upwardly extending front legs 13 a threaded bearing 19 for receiving a screw 20 having connected to the inner end thereof a clamping or swivel pad 21 which is adapted to engage the window sash 18 to maintain the same against the guide rail 15. Suitable handle means 22 are provided on the other end of the screw to facilitate turning of the same. As shown in Figure 6, it will be noted that the sash 18 is secured against the guide rail 15 so that the rabbet or groove 23 of the sash is facing or engaging the depending portion 17 of the rail 15 with the bottom 23a of the rabbet slightly raised above the flange 16 of the rail, see Figure 6.

With the window sash 18 supported in position adjacent the guide rail, the operation of removing the putty can be started. According to this invention the putty is removed by milling or cutting the putty from the rabbet or groove 23. This is accomplished by a cutting tool 24 which is adapted to be powered by any suitable power means, as for example the standard ¼" power drill 25 or the like. As illustrated in Figure 2 the tool

24 consists of a shank 26 adapted to be held in the chuck 27 of a power drill or the like and has on the outer end thereof a plurality of longitudinally extending, spiral cutting edges 28, the length of the cutting edges being of substantial length and preferably about one third the overall length of the tool. To remove the putty, the cutting edges 28 of the tool are positioned at approximately right angle to the groove or the rabbet 23 and is moved longitudinally along the rabbet to cut or mill the putty therefrom.

To prevent any possibility of having the tool 24 digging or gouging into the frame or sash 18 along the rabbet, thereby damaging or enlarging the rabbet, the tool is guided along the rail in a determinate manner. According to this invention an adaptor 29 for the tool is utilized to facilitate the guidance of the tool. As shown in Figure 4 the adaptor includes a sleeve 30 having a bore 31 extending therethrough and a laterally extending annular flange or collar 32 intermediate the ends thereof, the flange or collar dividing the sleeve to form a mounting portion 33 and a bearing portion 34.

As shown in Figures 5 and 6 the adaptor is slidably connected to the shank of the tool, and is axially adjusted therealong, a set screw 35 extending radially inwardly of the mounting portion 33 secures the adaptor to the shank at the adjusted position. The bore in the bearing portion 34 is counterbored to accommodate or shield a portion of the tool's cutting edges, the latter being spaced from the interior of the bore. With this construction, it will be noted that the adaptor 29 can be adjusted axially of the tool to vary the amount of effective cutting width or area of the tool. Since the width of the rabbet 23 of various window sashes vary, depending upon the particular construction of the different types of window sashes or the like, the adjustment of the adaptor axially of the tool renders the novel tool arrangement described suitable for any sash, within a given range, regardless of the rabbet width dimensions. Thus for removing putty from a sash having relatively wide rabbet, the adaptor 29 is moved to the left, as viewed in Figures 5 and 6 to expose more or a sufficient amount of cutting edges 28 so that the putty can be completely removed from the rabbet 23 in a single pass. For a narrow rabbet, the adaptor is moved to the right to shield a greater portion of the cutting edges, rendering the shield portion ineffective as a cutter.

Referring to Figure 6, with the adaptor properly adjusted on the tool to accommodate the particular window sash 18, the tool 24 and adaptor 29 are moved into engagement with the guide rail 15 so that the end of the tool engages the glass 18*a* or rearward most portion 23*b* of the rabbet while the bearing portion 34 of the adaptor is in rolling engagement with the flat 16*a* of the flange. Because of the thickness of the sleeve 30, it will be noted that the bottom 23*a* of the rabbet 23 is positioned slightly above the flat 16*a* of the flange so that the cutting edges of the tool lie in the plane of the bottom surface of the rabbet. Thus, by simply guiding the tool 24 along the guide rail, the tool traverses a cutting stroke which completely removes the putty from the sash in a single stroke. In order to limit the lateral thrust acting on the tool as it is guided along the rail, the flange or collar 32 engages the edge 16*b* portion of the rail.

It will be noted that with the adaptor fixed to the tool, the adaptor will rotate therewith. Consequently, the bearing portion 34 of the adaptor integrally connected with the mounting portion 33 and in engagement with the flange 16 will roll thereon as the tool rotates. As a result the tool 24, which rotates to perform the cutting operation, causes the adaptor 29 to roll along the guide so that little if any effort is required by the operator to move the tool along the rail. A slight lateral thrust to maintain the tool 24 in engagement with the rabbet is all that is required to guide the tool as it is effortlessly moved longitudinally along the rail, removing the putting as it goes.

The method or operation for removing old and stale putty from a window sash or the like according to this invention is to position the window sash adjacent to a guide means or rail with the rabbet facing the rail. With the sash in position, a rotating cutting tool having an adaptor for adjusting the tool to the rabbet is positioned in rolling engagement with the rabbet, so that upon the actuation of the rotating tool, the adaptor being in rolling contact with the rail guides the tool along the rail to traverse a cutting stroke as the tool is rotated to cut away the putty.

From the foregoing, it will be apparent that according to this invention the putty is removed quickly, efficiently and completely in a single pass of the tool. The device is relatively simple in structure and positive in operation. The cutting tool is adapted to be powered by any suitable rotating power means and is provided with an adaptor to adjust the cutter to window sashes having the rabbet of different width dimensions. Further the adaptor facilitates the guidance of the tool.

Although the invention herein has been described in detail, it will be understood that the description thereof is intended to be illustrative rather than restrictive, as many structural details are susceptible to modification and change without departing from the spirit and scope of this invention.

I claim:

1. A device for removing putty or other caulking compound from a window sash or the like comprising a support including a guide rail and clamping means for positively securing the rabbet side of a window sash in predeterminate position opposite said guide rail, a cutting tool including a shank having spiral cutting edges adjacent an end thereof, said shank being adapted to be driven by a rotating power means with said cutting edges engaging the rabbet, and an adaptor mounted on the shank of said cutting tool and rotatable therewith, said adaptor being in rolling contact with said guide rail for guiding said tool therealong to traverse a cutting stroke along the rabbet of said sash to remove the putty therefrom accurately and rapidly as the tool is rotated without the danger of digging, enlarging or otherwise damaging said rabbet, said adaptor includes a sleeve having a mounting portion for connecting the same on said shank to rotate therewith and a bearing portion in rolling engagement with said guide rail to facilitate guiding the tool therealong.

2. The invention as defined in claim 1 wherein said adaptor includes a laterally extending flange portion intermediate the ends of said sleeve and adjacent said bearing portion to co-operate therewith for guiding said tool along the rail, said flange being adapted to engage the edge portion of the rail to limit the lateral thrust of the cutting tool relative to said sash as the tool traverses the cutting stroke along the rabbet.

3. The invention as defined in claim 1 wherein said sleeve is slidably mounted on said shank for axial adjustment thereon, said bearing portion being adapted to cover a portion of said spiral cutting edges, said axial adjustment of the sleeve relative to the shank varying the amount of cutting edge adapted to be covered by said bearing portion so that the exposed cutting edge of said tool can be varied whereby the cutting edges are rendered readily adaptable for accommodating sashes having rabbets of varying transverse widths.

4. A device for removing putty or other caulking compound from a window sash or the like comprising a support including a rail having an outwardly turned flange and means for positively securing the rabbet side of a window sash in predeterminate position adjacent said rail, a tool including a shank having spiral cutting edges adjacent an end thereof, said shank being adapted to be driven by a rotating power means with the cutting

edges engaging said rabbet, and an adaptor including a sleeve having a mounting portion, an intermediate collar and an integrally formed bearing portion, said mounting portion having means to connect said sleeve for axial adjustment on the shank of said tool and said bearing portion forming a shield for a portion of said cutting edge to render said shielded portion ineffective as a cutting edge; the width of said cutting edges being adjusted to accommodate the traverse dimension of a particular rabbet by axially adjusting said sleeve relative to said cutting end of the shank, said bearing portion being in rolling contact with the flange of said guide rail for guiding said tool therealong to traverse a cutting stroke along the rabbet of said sash to remove the putty therefrom accurately and rapidly without the danger of digging, enlarging or otherwise damaging said rabbet, said collar being in abutting relationship with the edge of said guide rail flange to co-operate with said bearing

portion for guiding the tool whereby said collar engaging said flange limits the lateral thrust of the tool relative to the sash as said tool traverses a cutting stroke along the rabbet.

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