June 3, 1952 C. R. RUSSELL 2,599,415

PUTTY REMOVING DEVICE

Filed Oct. 15, 1949

Fig. 1.

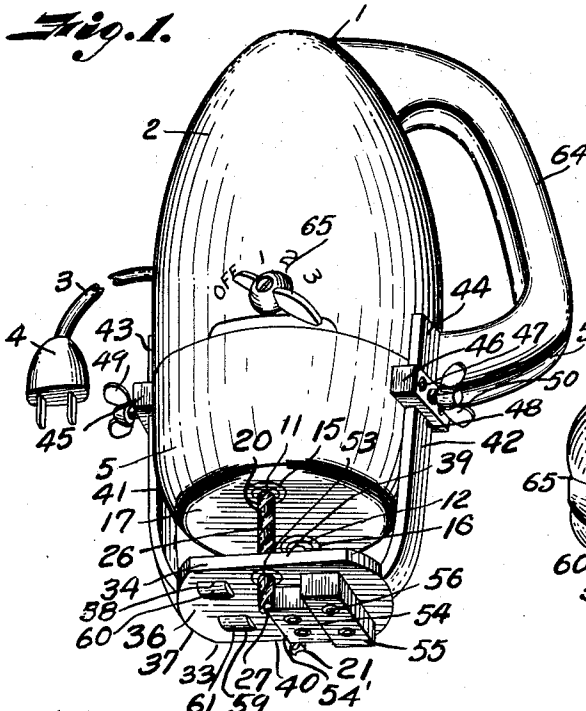


Fig. 2.

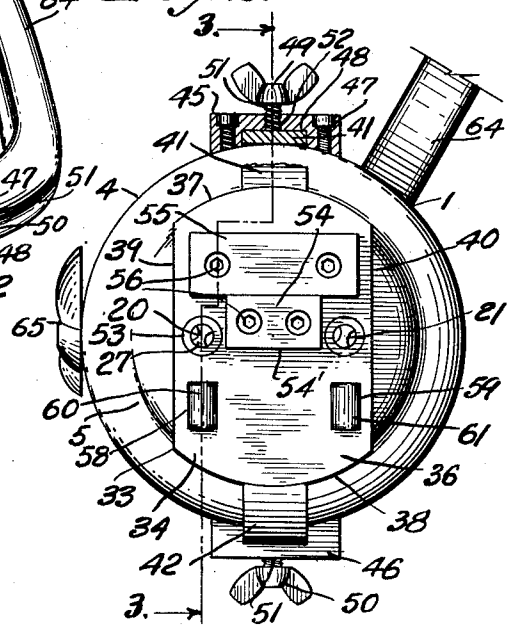


Fig. 3.

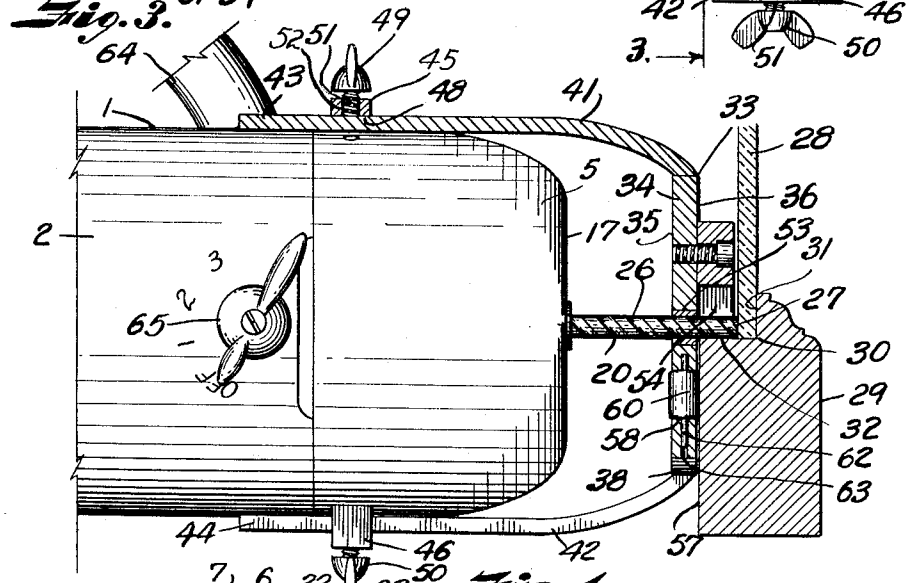
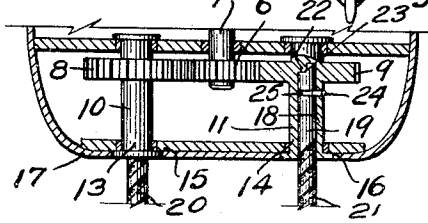


Fig. 4.



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Patented June 3, 1952

2,599,415

UNITED STATES PATENT OFFICE

2,599,415

PUTTY REMOVING DEVICE

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Application October 15, 1949, Serial No. 121,538

4 Claims. (Cl. 90—12)

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This invention relates to a device for removing putty or other caulking compounds from caulking grooves, for example, the putty or glazing compound used in sealing glass within a window sash.

This principal object of this invention is to provide a device of this character which is portable and easily manipulated to remove the putty or caulking compound from a sash in site.

Other objects of the invention are to provide a putty-removing device that is adjustable with respect to the depth and position of the groove relative to the face of the sash; to provide a putty-removing device with rotatable cutters associated with angularly arranged guides adapted to ride along the sash rails for supporting the cutters in operative position relatively to the glazing compound to be removed and without injury to the sash or glass retained therein; and to provide a putty-removing device with an adjustable head for carrying the guides for movement coaxially of the cutters.

In accomplishing these and other objects of the invention, I have provided improved structure, the preferred form of which is illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of a putty-removing device constructed in accordance with the present invention.

Fig. 2 is an end view particularly illustrating the relative position of the guides and cutters, one of the heads supporting arms and its bracket being shown in section.

Fig. 3 is a fragmentary side elevational view of device with a portion of the guide head shown in section, the section being taken on the line 3—3 of Fig. 2.

Fig. 4 is a detailed section through the gear housing of the device showing mounting of the cutters and drive gearing therefor.

Referring more in detail to the drawings:

1 designates a putty or caulking compound removing device constructed in accordance with the present invention and which includes a casing 2 containing a suitable electrical motor that is supplied with an electrical current through conductors 3 connected with a plug that is adapted to be engaged in any convenient wall socket. Attached to the motor casing 2 is a gear casing 5 enclosing a gear 6 mounted on shaft 7 of the motor and which meshes with driven gears 8 and 9 that are mounted on stub shafts 10 and 11 which are suitably journaled in the gear casing. The shafts 10 and 11 have ends 13 and 14 extending through openings 15 and 16 that are

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provided in the end wall 17 of the gear casing 5, as best shown in Figs. 1 and 4. The shafts 10 and 11 have bores 18 extending inwardly from the ends 13 and 14 of the shafts to receive shanks 19 of cutters 20 and 21. The shanks 19 may have shouldered ends 22 adapted to engage shoulders 23 in the inner ends of the bores 18 to provide a driving connection between the shafts and cutters. The shanks of the cutters are suitably retained in the bores by spring clips 24 that are carried by the shafts 10 and 11 and which are adapted to yieldingly engage within annular groves 25 that are formed in the shanks 10 and 11, as illustrated in Fig. 4.

The cutters project from the end wall 17 and have spiral cutting edges 26 terminating in flat ends 27 located in planes extending at right angles to the axis of the cutters and which are adapted to rotate in close proximity with a glass pane 28 contained within a window sash 29 while the spiral cutting edges 26 rotate in contact with putty used in glazing the glass within rabbet grooves 30 in the rails of the sash. Such grooves are usually of angular shape and have one side 31 for seating the glass and the other side 32 backing the putty applied within the angle formed by the adjacent face of the glass and the side 32 as in conventional practice.

In order to support the device with the cutters in proper relation to the glass and rails of the sash, a guide supporting head 33 is mounted for adjustable support on the casing 5, as now to be described. The head 33 includes a plate portion 34 having substantially flat inner and outer faces 35 and 36, diametrically opposed arcuate ends 37 and 38, and parallel sides 39 and 40, as best shown in Fig. 1. Curving outwardly from the arcuate ends 37 and 38 and extending laterally with respect to the plane of the inner face 35 are bar-like arms 41 and 42 having terminals 43 and 44 spaced apart to engage opposite diametrical sides of the casing 5 and which are slidably mounted in brackets 45 and 46 that are secured to the sides of the casing 5 by suitable fastening devices, such as Allen screws 47 or the like. The brackets 45 and 46 have notches 48 on the casing sides thereof to provide passageways for the terminal ends 43 and 44 of the arms, which are adjustably retained in fixed position therein by thumb screws 49 and 50, having threaded shanks 51 threadedly engaged in threaded openings 52 of the brackets to bear against the arms, as shown in Figs. 2 and 3.

In order to pass the plate portion of the head over the cutters, the plate portion is provided

with laterally spaced bearings 53 in which the cutters rotate, as shown in Fig. 3.

Mounted on the outer face 36 of the plate portion of the head and extending between the cutters is a guide block 54 having a guide face 54' located in a plane tangent to circumferential faces of the cutters as shown in Fig. 3, and which is located at right angles to the outer face 36 of the plate portion of the head so as to engage the face 32 of the rabbet grooves of the sash rails and to support spiral cutting edges of the cutters in position to cut out the putty, but to retain them out of cutting engagement with the sash rails, as later described.

The block 54 may be backed by a similar block 55 that is secured to the plate portion of the head by fastening devices 56 and which is of longer length to overlap the ends of the guide block and form a protection for the cutters. The plate portion of the head is adapted to move along the outer face 57 of the sash rails so as to retain the end faces 27 of the cutters in close proximity to the glass and to facilitate movement therealong. The plate portion has spaced substantially rectangularly shaped openings 58 and 59 which are shown in Fig. 2 as being in substantial registry with the cutters for mounting guide rollers 60 and 61. The guide rollers are adapted to rotate on pins 62 that are extended through openings 63 formed in the plate portion at substantially right angles to the face 54' of the guide block 54 whereby the rollers are adapted to rotate on the face of the sash, while the face 54' of the guide block is moved along the face 32 of the rabbet grooves.

To facilitate support of the device in the hands of the operator, the motor casing tube may be provided with a handle 64 by which the device is supported in straightway position with respect to the side faces 32 of the rabbet grooves when the guide block 54 is moved therealong.

While the gears 6, 8 and 9 may be of suitable diameter to give the proper speed with respect to the motor, the speed of the motor may be varied by means of a rheostat 65, as represented by the switch lever positioned on the outer side of the motor casing, as shown in Figs. 1 and 3.

In using the device, the head 33 is adjusted to project the cutters 20 and 21 in accordance with the depth of the grooves in a sash. This is effected by loosening the thumb screws 49 and 50 and sliding the arms 41 and 42 within the brackets 45 and 46 until the cutters project from the face 36, a distance equal to the depth of the putty groove. Then when the rollers 60 and 61 roll upon the face 57, the end faces of the cutters just clear the glass 28. The device is held in the hand by means of the handle 64 and the guide block 54 is placed against the putty. With the motor in operation, the cutters eat into the putty until the face 54' of the guide block engages the face 32 of the putty groove. The device is then moved along the rails of the sash in either direction so that the spiral cutting edges of the cutters remove the putty along the length of the sash rails and mullions. The cutters also remove the glazier's points and leave the grooves clean and free of the old putty. The glass may then be reglazed with new putty, as in the usual process of glazing.

From the foregoing, it is obvious that I have provided a device which is adapted to quickly

and cleanly remove old and broken putty from window sash without danger of breaking the glass. It is also obvious that the cutters are adapted to any depth of putty groove within the capacities thereof merely by adjusting the guide head.

What I claim and desire to secure by Letters Patent is:

1. A device of the character described including a motor casing, a motor in the casing, spaced cutters rotatble in the casing, a driving connection between the motor and cutters, a guide head adjustably supported on the motor casing to control the cutting depth of the cutters, and a guide block on the guide head intermediate the cutters to cooperate with said head in supporting the cutters within the putty groove of a window sash.

2. A device of the character described including a motor casing, a motor in the casing, spaced cutters rotatable in the casing, a driving connection between the motor and cutters, a guide head adjustably supported on the motor casing to control the cutting depth of the cutters, a guide block on the guide head intermediate the cutters to cooperate with said head in supporting the cutters within the putty groove of a window sash, and rollers on said head to facilitate movement along the sash.

3. A device of the character described including a motor casing, a motor in the casing, spaced cutters rotatable in the casing, a driving connection between the motor and cutters, a gauge plate having openings for passing the cutters to control the cutting depth thereof, arms on the gauge plate, brackets slidably mounting the arms on the motor, and thumb screws carried by the brackets and engaging the arms to retain the gauge plate in a fixed position relatively to ends of the cutters, and a guide block on the gauge plate and positioned between the cutters to control cutting action of the cutters within the putty groove of a window sash.

4. A device of the character described including a motor casing, a motor in the casing, spaced cutters rotatable in the casing, a driving connection between the motor and cutters, a gauge plate having openings for passing the cutters to control the cutting depth thereof, arms on the gauge plate, brackets slidably mounting the arms on the motor, and thumb screws carried by the brackets and engaging the arms to retain the gauge plate in a fixed position relatively to ends of the cutters, a guide block on the gauge plate and positioned between the cutters to control cutting action of the cutters within the putty groove of a window sash, and rollers carried by said plate to provide a rolling support therefor along said sash.

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