Feb. 15, 1955 R. H. PETTY 2,701,986

GREENHOUSE SASH BAR CLEANER

Filed April 24, 1950 3 Sheets-Sheet 1

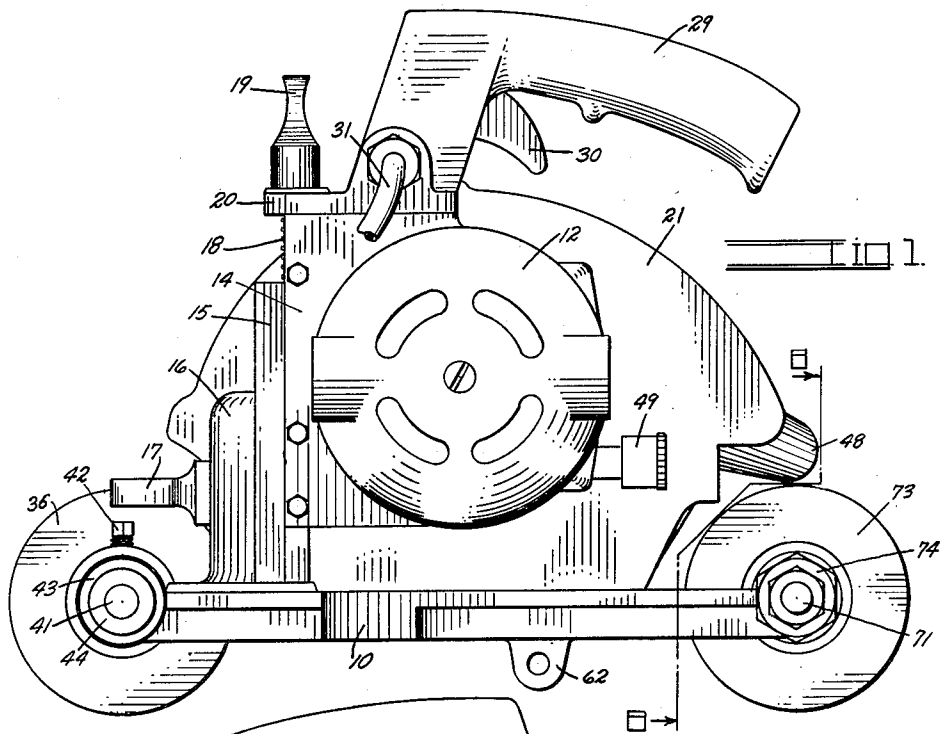


Fig. 1.

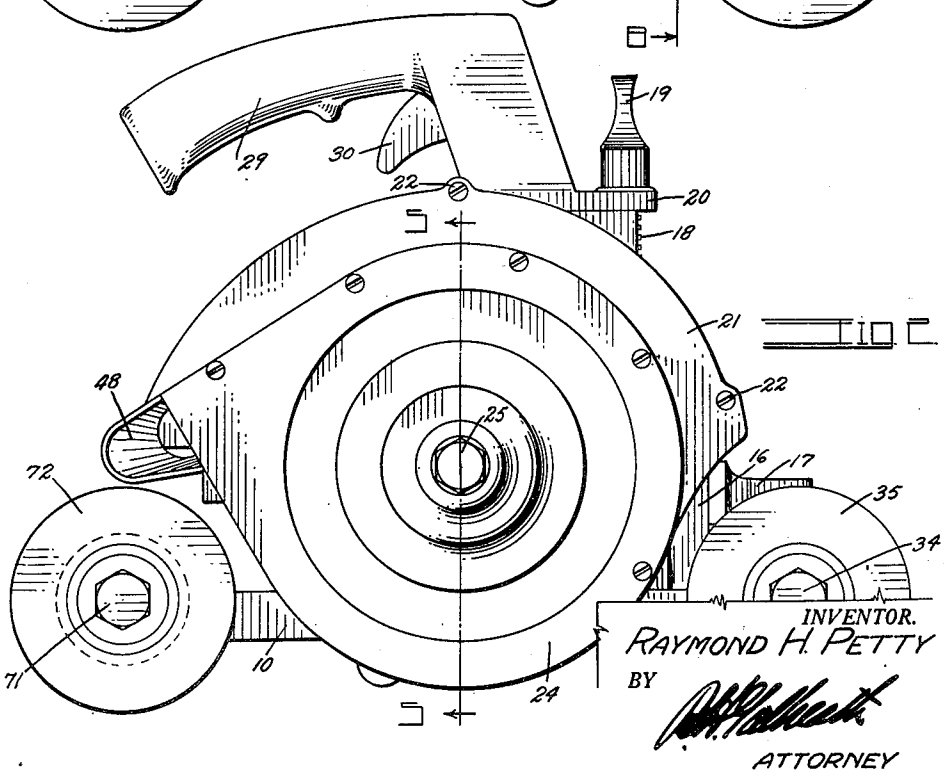


Fig. 2.

INVENTOR.
RAYMOND H. PETTY
BY
ATTORNEY

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GREENHOUSE SASH BAR CLEANER

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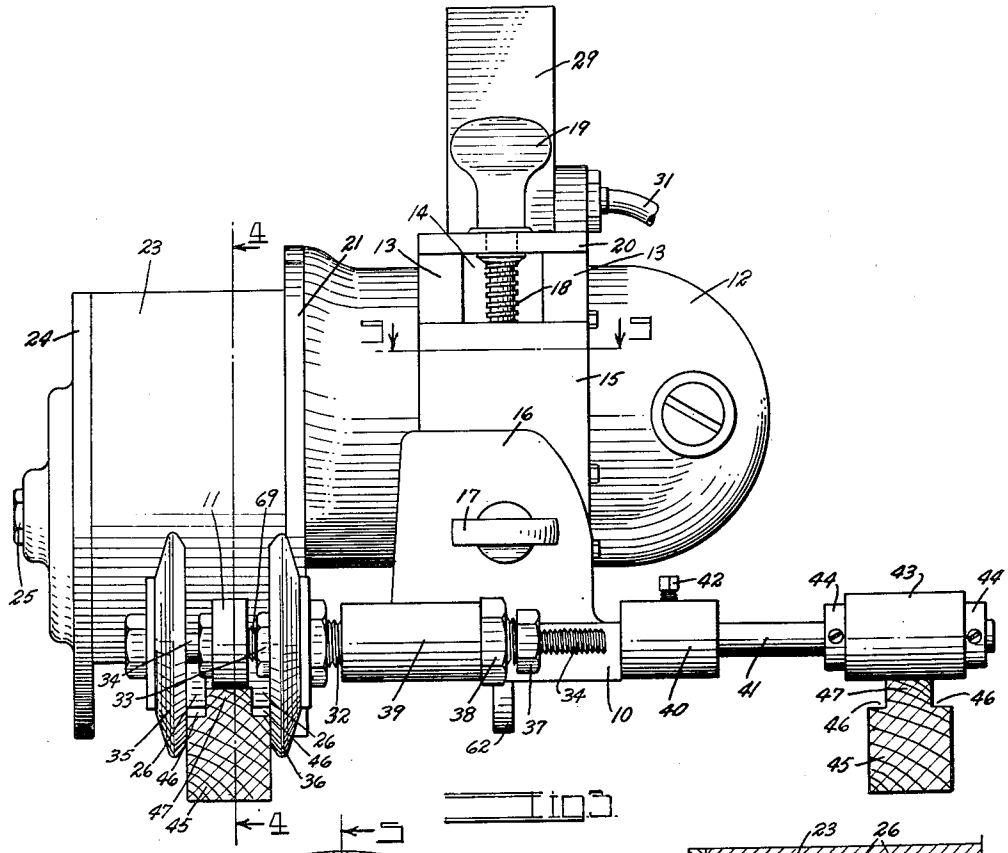


Fig. 3

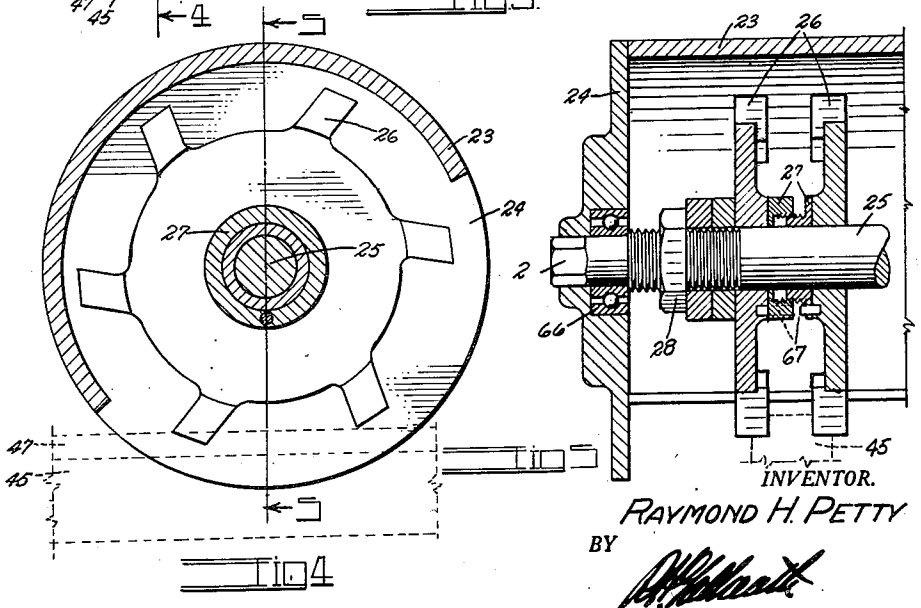


Fig. 4

INVENTOR.
RAYMOND H. PETTY
BY
ATTORNEY

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GREENHOUSE SASH BAR CLEANER

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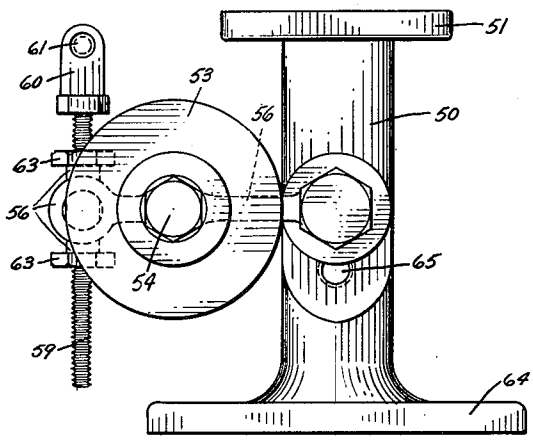


Fig. 6.

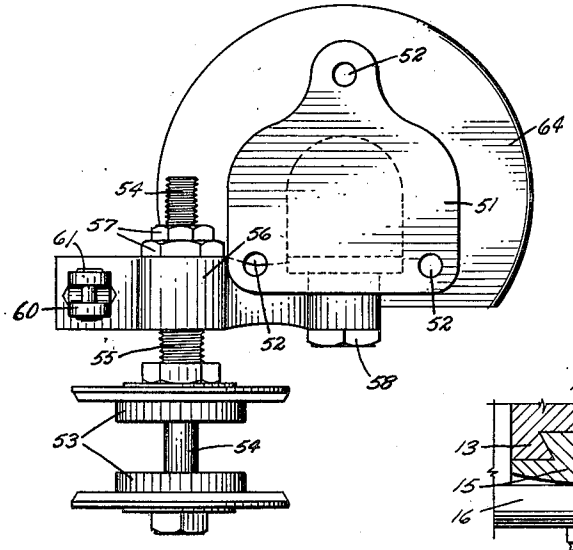


Fig. 7.

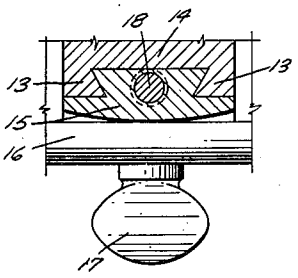


Fig. 3

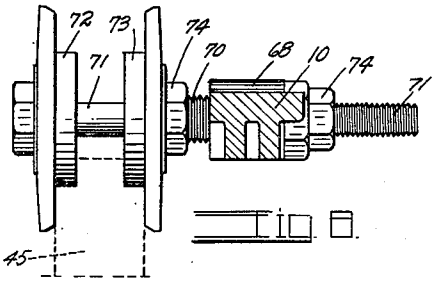


Fig. 8.

INVENTOR.
RAYMOND H. PETTY
BY
ATTORNEY

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2,701,986

GREENHOUSE SASH BAR CLEANER

Raymond H. Petty, Englewood, Colo.

Application April 24, 1950, Serial No. 157,710

1 Claim. (Cl. 90—12)

This invention relates to a device for cleaning and removing hardened putty from sash bars for the replacement of glass therein and is more particularly designed for use on greenhouse sash bars.

The principal object of the invention is to provide a highly efficient motor driven device which can be run along the sash bars while the latter are in place and which will rapidly and efficiently remove the hardened putty and other debris from the glass grooves in the sash bars without damage to the bars or adjacent glass panes.

Another object of the invention is to so construct the device that it can be used either as a portable machine to clean the sash bars in place and as a stationary machine for preparing the sash bars before they are put in place.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description.

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a left side view of the improved sash bar cleaning tool;

Fig. 2 is a right side view thereof;

Fig. 3 is a front end view illustrating the improved sash bar cleaning tool in place on a typical sash;

Fig. 4 is a detail section taken on the line 4—4, Fig. 3;

Fig. 5 is a similar section taken on the line 5—5, Fig. 4;

Fig. 6 illustrates a pedestal upon which the improved tool may be mounted for stationary use;

Fig. 7 is a plan view of the pedestal of Fig. 6;

Fig. 8 is a detail section taken on the line 8—8, Fig. 1; and

Fig. 9 is a similar section taken on the line 9—9, Fig. 3.

The improved tool is driven from an electric motor 12 carried on a supporting carriage 10. The motor 12 is provided with a base block 14 formed thereon and projecting toward one end of the carriage 10. Two dovetailed vertical tracks 13 are formed on the face of the base block 14. The tracks 13 are vertically movable upon opposite sides of a dove-tailed supporting post 15. The post 15 is removably secured, by means of a clamp screw 17 to an upstanding bracket 16 formed on one end of the carriage 10.

The base block 14 is supported on the post 15 by means of a jack screw 18 which terminates in a head 19. The jack screw is rotatably mounted in a handle base 20 secured on the motor 12. Thus, it can be seen that rotation of the head 19 will elevate or lower the motor 12 with relation to the carriage 10.

The face of the motor 12 carries a face plate 21 secured thereto by means of suitable attachment screws 22. The face plate supports a blade housing 23 the outer face of which is closed by means of an end plate 24. The motor is lubricated from a suitable grease fitting 49 or in any other desired manner. The shaft of the motor, indicated at 25, is journalled in the end plate 24 in a suitable bearing 66 and carries two spaced-apart toothed cutters 26. The cutters 26 are held in any desired spaced relation by means of a threaded, two-part expanding sleeve 27 and are clamped on the shaft 25 of the motor by means of a terminal nut 28. The two parts of the sleeve 27 are locked to the two cutters 26, respectively, by means of screws or pins 67.

A handle 29 arises and projects sidewardly from the handle base 20. A switch trigger 30 is placed below the handle 29 to provide "pistol grip" for controlling the motor 12. Current is fed to the motor through a suitable conductor 31.

A bearing sleeve 39 is formed on one extremity of the carriage 10 and a similar bearing sleeve 68 is formed on the other extremity thereof. The bearing sleeves are positioned adjacent one side of the carriage. An outer threaded shaft 32 is threaded into the sleeve 39, an inner threaded shaft 69 is threaded into the shaft 32, and an inner solid shaft 34 is threaded through the inner shaft 69. The inner solid shaft 34 supports an outer guide disc 35. The outer threaded shaft supports an inner guide disc 36 and the inner threaded shaft supports a supporting roller 11. The inner solid shaft 34 can be locked in any desired position by means of a first lock nut 37, the inner threaded shaft 69 can be blocked in the outer shaft 32 by means of a second lock nut 33 and the outer threaded shaft 32 can be locked in any desired position by means of a third lock nut 38. Thence, it can be seen that the roller 11 can be adjusted to align with the space between the cutters 26, and the two guide discs 35 and 36 can be independently adjusted to any desired spacing from the supporting roller 11.

An outer shaft 70 is threaded through the bearing sleeve 68 and an inner solid shaft 71 is threaded through the outer shaft 70. The shaft 71 carries an outer flanged roller 72 and the shaft 70 carries an inner flanged roller 73. The position and spacing of the rollers 72 and 73 can be adjusted by rotating their respective shafts and the latter can be locked in their adjusted positions by means of lock nuts 74.

A third cylindrical sleeve 40 is formed on the carriage 10 on the side opposite the sleeves 39 and 68 and in alignment with the sleeve 39. The third sleeve adjustably supports a roller rod 41 which may be locked in any desired position in the sleeve by means of a suitable set screw 42. The rod 41 supports an elongated supporting roller 43 between two set collars 44.

In the drawing, typical greenhouse sash bars are illustrated at 45. These sash bars have two glass grooves 46 separated by a raised mullion strip 47. To use the improved sash bar device, the two cutters 26 are adjusted to place them on opposite sides of the mullion strip 47 and in the grooves 46. The supporting roller 11 is adjusted to ride along the mullion strips 47 and the two side guide discs 35 and 36 are adjusted to travel along the opposite sides of the sash bar 45. The flanged rollers 72 and 73 are adjusted to travel in the grooves of the sash bar after the latter have been cleaned by the cutters 26 as shown in Fig. 6. The rod 41 is adjusted to place the roller 43 on the next adjacent sash bar 45.

The motor is now started and the device is rolled along the sash bars with the cutters 26 rapidly rotating to clean out any hardened putty or other debris from the glass grooves 46. The loosened putty is blown into the housing 23 and thence to one side of the tool through a discharge hook 48. It can be seen that the device will be accurately guided and supported as it travels along the sash bars 45 so as to clean the latter perfectly without damage to the bars.

For use as a stationary tool for cleaning sash bars before they are placed in position, a pedestal 50 is employed, having an upper platform 51 to which the carriage 10 may be bolted through suitable bolt holes 52. The sash bar is supported beneath the cutters 26 by means of two flanged supporting rollers 53. The outer supporting roller 53 is mounted on a roller shaft 54 and the inner supporting roller 53 is mounted on a threaded bearing sleeve 55 which supports the shaft 54. The bearing sleeve 55 is threaded into a supporting bracket 56 and the shaft 54 is threaded into the sleeve 55. The shaft 54 and the sleeve 55 can be locked at any desired positions by means of suitable lock nuts 57.

The supporting bracket 56 is hingedly mounted at one extremity on a hinge screw 58 on the side of the pedestal 50. It is supported at the other extremity from a threaded hanger rod 59 extending from a hanger yoke 60. The yoke 60 is mounted on a hinge pin 61

designed to extend through an ear **62** formed on the bottom of the carriage **10**. The height of the rollers **53** can be adjusted by means of adjusting nuts **63** which are threaded onto the rod **59** above and below the bracket **56**.

It can be seen that if the device is mounted on the pedestal **50**, the sash bars **45** can be fed onto the rollers **53** so that they will pass beneath the cutters **26**, guided by the guide discs **35** and **36** and the flanged rollers **72** and **73**. The pedestal **50** is provided with a suitable base flange **64** by means of which it may be secured on a supporting work bench. The side of the pedestal is provided with a plurality of threaded sockets **65** for receiving the screw **58** to enable the latter to be selectively positioned to accommodate sash bars of differing thickness.

While a specific form of the improvement has been described and illustrated herein, it is to be understood that the same may be varied, within the scope of the appended claim, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

A sash bar cleaning device comprising a carriage, sleeves at the opposite ends of said carriage extending transversely of one side portion of the carriage, an outer externally threaded tubular shaft passing through each of said sleeves, each shaft projecting from the respective sleeve through which it passes and outwardly from the said side of the carriage, a nut screwed upon said shaft and engaging one of the sleeves and securing the shaft in an adjusted position in its sleeve, a guide disk upon said shaft shiftable along the same, nuts mounted on said shaft and engaging the opposite sides of said disk and securing the disk in an adjusted position upon the shaft, an inner threaded shaft passing through the outer

shaft and protruding from the opposite ends thereof, a guide disk carried by one end of the inner threaded shaft and spaced outwardly from the first mentioned guide disk, a nut mounted on the inner threaded shaft and engaging the opposite end of the outer shaft from the disk carried thereby and securing the inner threaded shaft in an adjusted position, with the disks spaced from each other, a supporting roller rotatably carried by the outer shaft and disposed between the guide disks, another sleeve mounted on one end of the carriage disposed at the opposite side of the carriage from the first mentioned sleeves, a rod carried by the last mentioned sleeve and disposed in axial alignment with said inner shaft, a supporting roller upon the rod shiftable along the same to adjusted positions, a motor carried by said carriage, a casing for the motor and open at its bottom, a shaft extending from the motor shaft into the casing, and cutters carried by the motor shaft within the casing and shiftable along the motor shaft to adjusted positions in spaced relation to each other.

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