May 11, 1937. F. F. PETROVSKY 2,080,334

CLEANING TOOL

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Fig. 1.

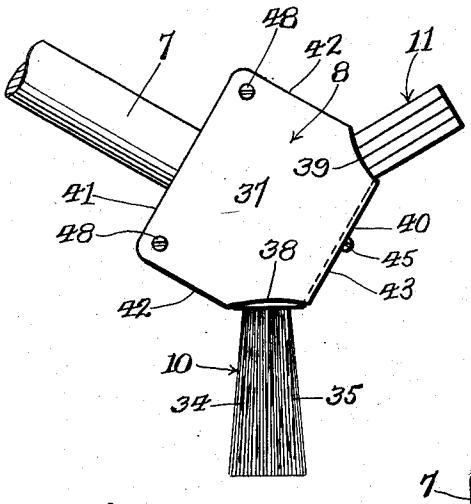


Fig. 2.

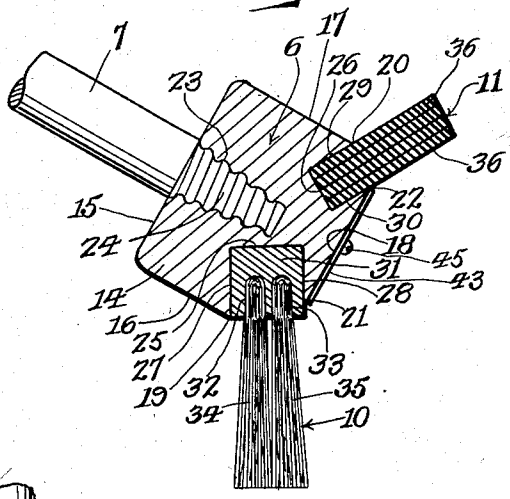


Fig. 3.

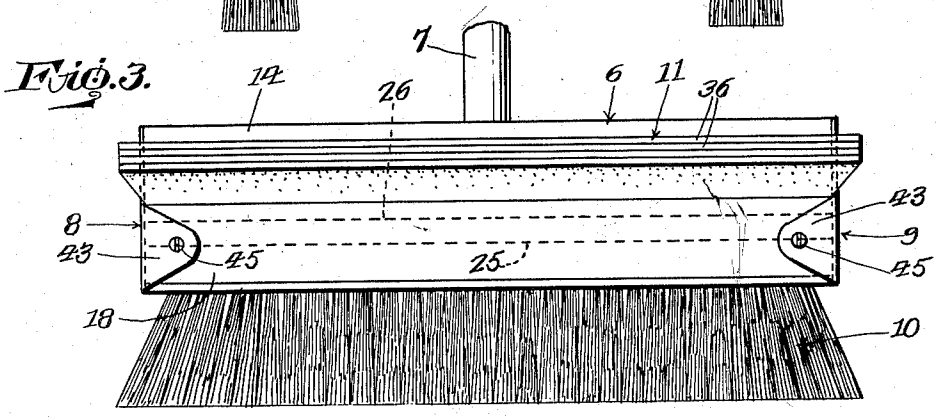


Fig. 5.

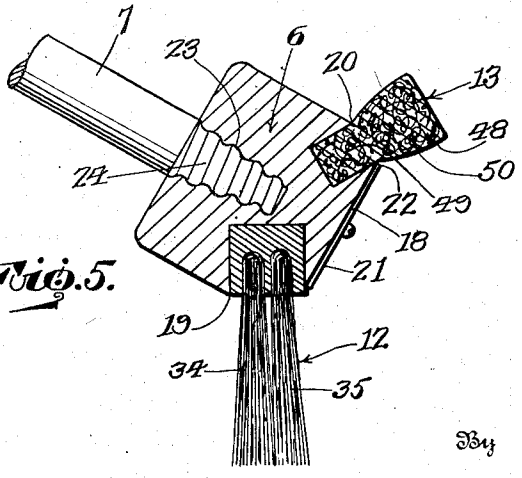
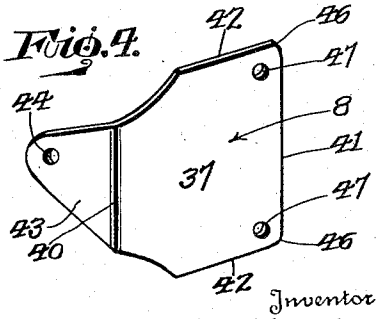


Fig. 4.



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Fig. 6.

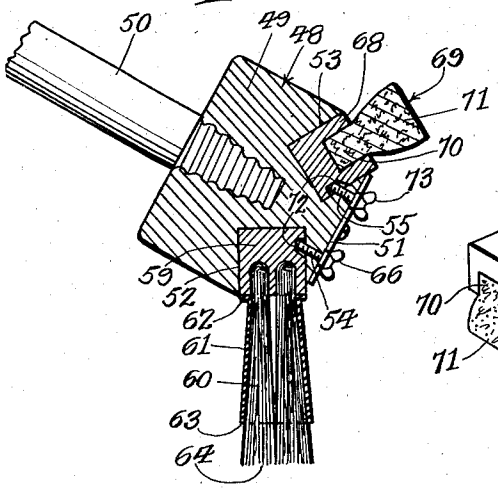


Fig. 8.

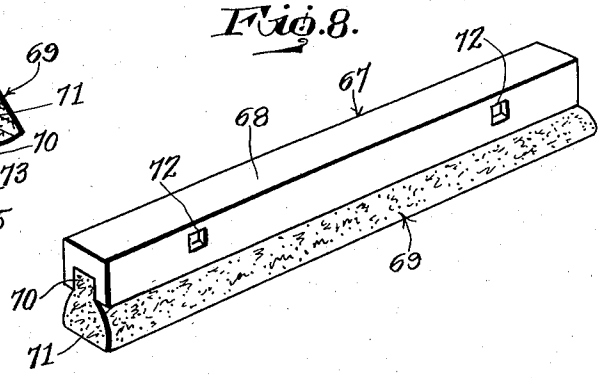


Fig. 7.

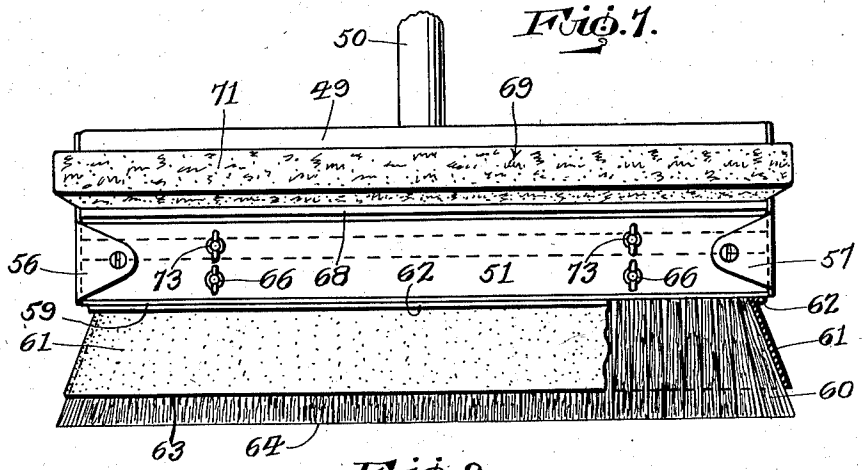
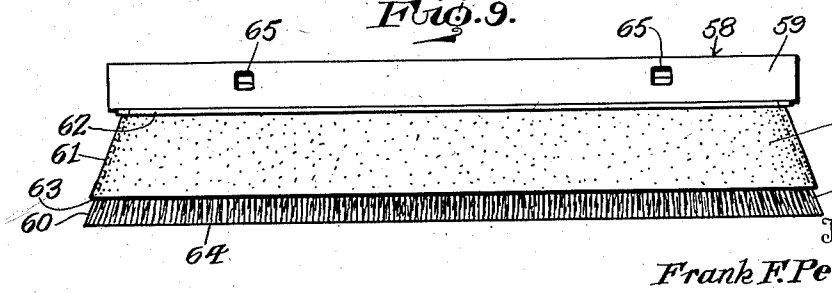


Fig. 9.



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2,080,334

CLEANING TOOL

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Application September 3, 1935, Serial No. 39,003

2 Claims. (Cl. 15—146)

This invention relates to a cleaning tool and has for its object to provide, in a manner as hereinafter set forth, a tool of the class referred to which is very effective for cleaning out corners; cleaning around radiators; for gathering trash and dust from a floor without raising the dust into the air; and capable of being satisfactorily used as a polisher or cleaner for polished or other floors, more especially upon polished floors, whether they have a high or low degree of polish.

A further object of the invention is to provide, in a manner as hereinafter set forth, a tool of the class referred to including a combined carrying and retaining means common to a pair of oppositely inclined cleaning elements.

A further object of the invention is to provide, in a manner as hereinafter set forth, a tool of the class referred to including a holder for cleaning elements and with the holder having means to provide for the interchanging of the cleaning elements.

A further object of the invention is to provide, in a manner as hereinafter set forth, a tool of the class referred to including a cleaning element of the brush type having means to prevent the scattering of dust and also to keep dust, threads and other particles from getting caught in the bristles of the brush.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a cleaning tool which is simple in its construction, strong, durable, compact, thoroughly efficient in its use, adjustable, readily assembled and comparatively inexpensive to manufacture.

With the foregoing and other objects which may hereinafter appear, this invention consists of the novel construction, combination and arrangement of parts as will be more specifically described and as are illustrated in the accompanying drawings wherein is shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figures 1, 2, and 3 are respectively an end view, a cross sectional view and a front elevation of the tool,

Figure 4 is a perspective view of the form of end retainer employed for the cleaning elements,

Figure 5 is a cross sectional view of a modified form,

Figure 6 is a cross sectional view of still another modified form,

Figure 7 is a side elevation, broken away, of the form shown in Figure 6, and

Figures 8 and 9 are perspective views of the cleaning elements of the form shown in Figure 6.

The tool, with reference to Figures 1 to 5, includes an elongated carrier or holder 6, a handle 7, a pair of oppositely disposed end retainers 8, 9 of like form and a pair of oppositely inclined cleaning elements extended from the forward or leading corners of the carrier 6.

In Figures 1, 2, and 3 the cleaning elements are designated 10, 11 and in Figure 5 are indicated at 12, 13. The difference between the form shown in Figures 1, 2, and 3 with respect to that shown in Figure 5 resides solely in the construction of one of the cleaning elements. Otherwise than that as stated the form shown in Figure 5 will be the same as that illustrated by Figures 1, 2, and 3.

The carrier or holder 6 is in the form of an elongated substantially solid block 14 of substantially rectangular parallelepiped contour. The block may be formed of any suitable material and preferably wood will be employed. The block 14 includes a rear flat upstanding rectangular follower face or side 15, a horizontally disposed lower flat rectangular follower face or side 16, a horizontally disposed upper flat rectangular follower face or side 17 and an upstanding flat rectangular leading face or side 18. The ends of the block are of substantially square contour. When the tool is used, the block is disposed in a manner whereby the faces 15 and 18 will extend at a forward inclination from bottom to top and the faces 16, 17 forwardly at a downward inclination from the face 15. The leading face 18 is of less length than that of the faces 15, 16, and 17. The side faces 16, 17 are of different lengths and of less length than that of the faces 15 and 18. The faces 16, 17 merge at their follower ends into the ends of face 15. The leading ends 19, 20 of faces 16, 17 respectively are spaced outwardly adjacent to the ends 21, 22 of the face 18. The ends 21, 22 are arranged inwardly with respect to the ends of face 15. The width of faces 15, 16, 17, and 18 correspond. The block 14 is formed centrally with a threaded socket 23 opening at the rear face 15 for the reception of the threaded end terminal portion 24 of the handle 7 whereby the latter and carrier 6 are secured together. The socket 23 is intersected by the transverse and longitudinal medians of the block 14.

The block 14 is formed with a pair of oppositely disposed diagonally extending grooves 25,

26 opening at their ends at the leading corners of block 14. The groove 25 is of greater depth and width than groove 26. The side walls 27, 28 of groove 25 merge into the leading end 19 of face 16 and into the lower end 21 of the face 18 respectively. The side walls 29, 30 of groove 26 merge into the leading end 20 of face 17 and into the upper end 22 of the face 18 respectively.

With reference to Figures 1, 2, and 3, the carrier 6 is shown as having extending into the grooves 25, 26 thereof cleaning elements 10, 11 respectively. The element 10 is of the brush type and includes a head 31 corresponding in length to that of groove 25. The head 31 is provided preferably with a pair of spaced parallel channels 32, 33 opening at the sides thereof. Anchored in and extending from the grooves 32, 33 are the rows 34, 35 respectively of tufts of bristles arranged in a manner to form a flared brushing means. The head 31 is secured, by any suitable cementitious material, in groove 25, completely fills the latter, is flush with the end 19 of face 16 and extends beyond the end 21 of face 18. The element 11 is of the squeegee type and is formed of a series of flared laminations 36 of rubber. The element 11 is secured, by any suitable cementitious material, in and completely fills the groove 26, as well as extends outwardly from the latter. The elements 10, 11 are disposed at opposite inclinations with respect to each other and diagonally relative to carrier 6.

The retainers 8, 9 are of like construction and each is connected to an end and the leading face of the carrier. The retainers 8, 9 act to protect the ends of and prevent the cleaning elements, which are mounted in and extended from the carrier or holder 6 from shifting lengthwise of the latter. Each retainer includes a plate 37 having oppositely curved inclined forward or leading corners 38, 39 and a forward or leading end 40 of less length than its rear or follower end 41. The corner 38 is of greater length than corner 39 and has its ends aligning with the end 19 of face 16 and the end 21 of face 19 of carrier 6. The ends of corner 39 align with the end 20 of face 17 and the end 22 of face 18 of carrier 6. The sides 42 of plate 37 are flush with the faces 16 and 17 of carrier 6. The end 41 of plate 37 is flush with the face 15 of carrier 6. The plate 37, at its forward or leading end, is formed with a tapered inwardly extending apertured ear 43 positioned against the face 18 of carrier 6. The aperture in ear 43 is indicated at 44 and through which extends a holdfast means 45 for detachably anchoring the ear 43 to carrier 6. The ear 43 is disposed at right angles to the forward or leading end of plate 37. The latter, in proximity to its rear or follower corners 46, is formed with openings 47 for the passage of holdfast means 48 for detachably anchoring the plate 37 to an end of the carrier 6.

With reference to the modified form in Figure 5 the cleaning element 12 is of the same form as element 10. The cleaning element 13 is a polisher and of the squeegee type. The element 13 consists of a strip of felt 48 which is to be of the same contour as that of element 11. The element 13 includes a contracted inner portion 49 completely filling groove 26 and a non-contracted outer portion 50. Otherwise than that as stated the form of tool shown in Figure 5 would be the same as that shown in Figures 1 to 4.

The inclined corners 38, 39 of the plates 37 prevent the extending of the plates to overlap the bristles at the ends of the rows outwardly adjacent to head 31, as well as preventing the extending of the plates 37 to overlap the ends of elements 11, 13 outwardly adjacent the carrier 6 whereby lateral end movement of the brushes and elements 11, 13 will not be retarded when the tool is active.

With reference to Figures 6 to 9, the tool 48 includes a carrier or holder 49 and a handle 50. The carrier 49 is of the same form as the carrier 6, with the exception that it is formed with two pairs of spaced threaded openings extending inwardly from its leading face 51 to the grooves 52, 53 which receive the cleaning elements. The openings of one pair are designated 54 and communicate with the groove 52. The openings of the other pair are indicated at 55 and communicate with groove 53. The openings 54 align with the openings 55. The grooves 52, 53 are of like width and depth and are arranged in the carrier 49 in the same manner as the grooves 19, 20 are arranged in the carrier 6. Otherwise than that as stated the carrier 49 and handle 50 will correspond to that of carrier 6 and handle 7. In the tool shown in Figures 6 to 9 retainers 56, 57, corresponding in form and arrangement to the retainers 8, 9, are employed.

The tool 48 includes a cleaning element 58 of the brush type formed of a head 59, a body of bristles 60 and a resilient apron 61 encompassing the body of bristles. The apron 61, at its inner end 62, is anchored to the outer face of head 59 and has its outer edge 63 positioned in proximity to the outer end 64 of the bristles 60. The apron 61 is preferably formed from a sheet of rubber. The head 59, at one side, is formed with a pair of spaced aligning cavities 65. The head 59 is arranged in the groove 52 in the same manner as the head 31 is arranged in groove 19. When head 59 is positioned in groove 52, the cavities 65 align with the openings 54. The element 58 is detachably secured in groove 52 by a pair of binding screws 66 which extend through the openings 54 and bind against the walls of the cavities 65. The apron 61 acts to prevent the scattering of the dust or dirt and further acts to keep dust or dirt, threads and other particles from getting caught in the bristles.

The tool 48 also includes a cleaning element 67 functioning as a polisher and is of the squeegee type and includes a head 68 and a strip of felt 69 formed of a contracted inner portion 70 and a non-contracted outer portion 71. The portion 71 is arranged within and secured to head 68. The latter has one side formed with a pair of spaced aligning cavities 72. The head 68 is positioned in groove 53, and when so positioned the cavities 72 align with the openings 55. The element 67 is detachably secured in groove 53 by a pair of binding screws 73 extending through openings 55 and bind against the walls of cavities 72.

The heads 59, 68 of elements 58, 67 respectively are of the same size whereby provision is had for the interchanging or selective positioning of the elements 58, 67 relative to the grooves 52, 53.

The bristles 60 may be anchored to head 59 in any suitable manner, but preferably head 59 will be formed with a pair of parallel channels 74. The tufts of bristles are anchored in the channels whereby they are arranged in parallel rows. The head 68 is formed with a groove 75 to receive and contract a part of the strip of felt 69.

What I claim is:

1. In a portable cleaning tool, a carrier in the

form of a block of substantially rectangular parallelepiped contour, formed with a follower face, a leading face, a pair of end faces and a pair of side faces, said block being provided with a pair of oppositely extending inclined grooves for receiving cleaning units, the mouth of one groove opening at one of said side faces and at the top of said leading face, the mouth of the other of said grooves opening at the other of said side faces and at the bottom of said leading face, the ends of each of said grooves opening at said end faces, and pairs of clamping means adjustably connected to the block for anchoring said units to the carrier.

2. In a portable cleaning tool, a cleaning unit carrier having a threaded socket adapted to connect a handle thereto, a handle and a cleaning unit, said carrier being in the form of a block of substantially rectangular parallelepiped contour having a leading face, a pair of side faces, a pair of end faces, a follower face, and a leading corner, and said block being formed with a groove for receiving a cleaning unit in extended relation with respect to said leading face, said groove being inclined with respect to said leading face and opening at said end faces and having its mouth at said leading corner.

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