

Oct. 2, 1956

L. O. PEGUERO
DUST MOP CLEANING DEVICE

2,764,776

Filed March 3, 1952

2 Sheets-Sheet 1

Fig. 2

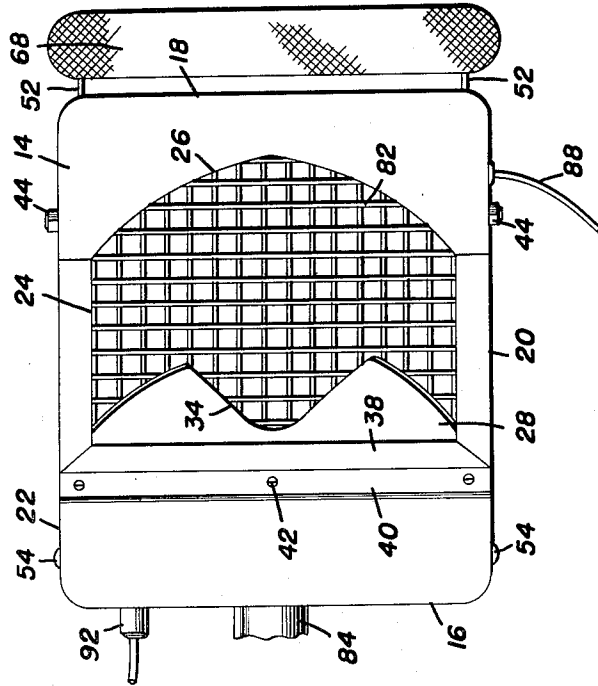
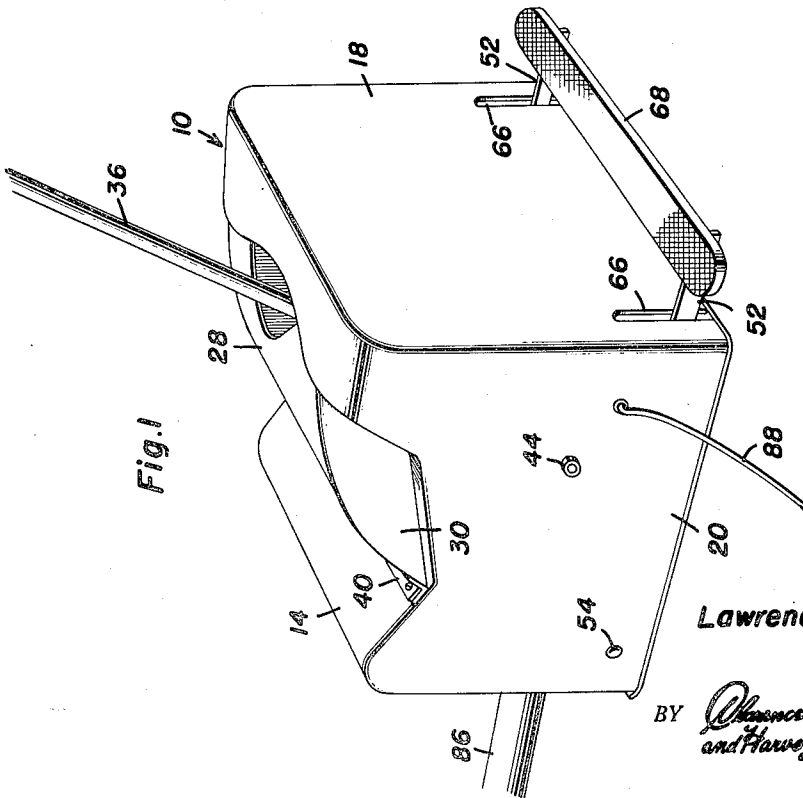


Fig. 1



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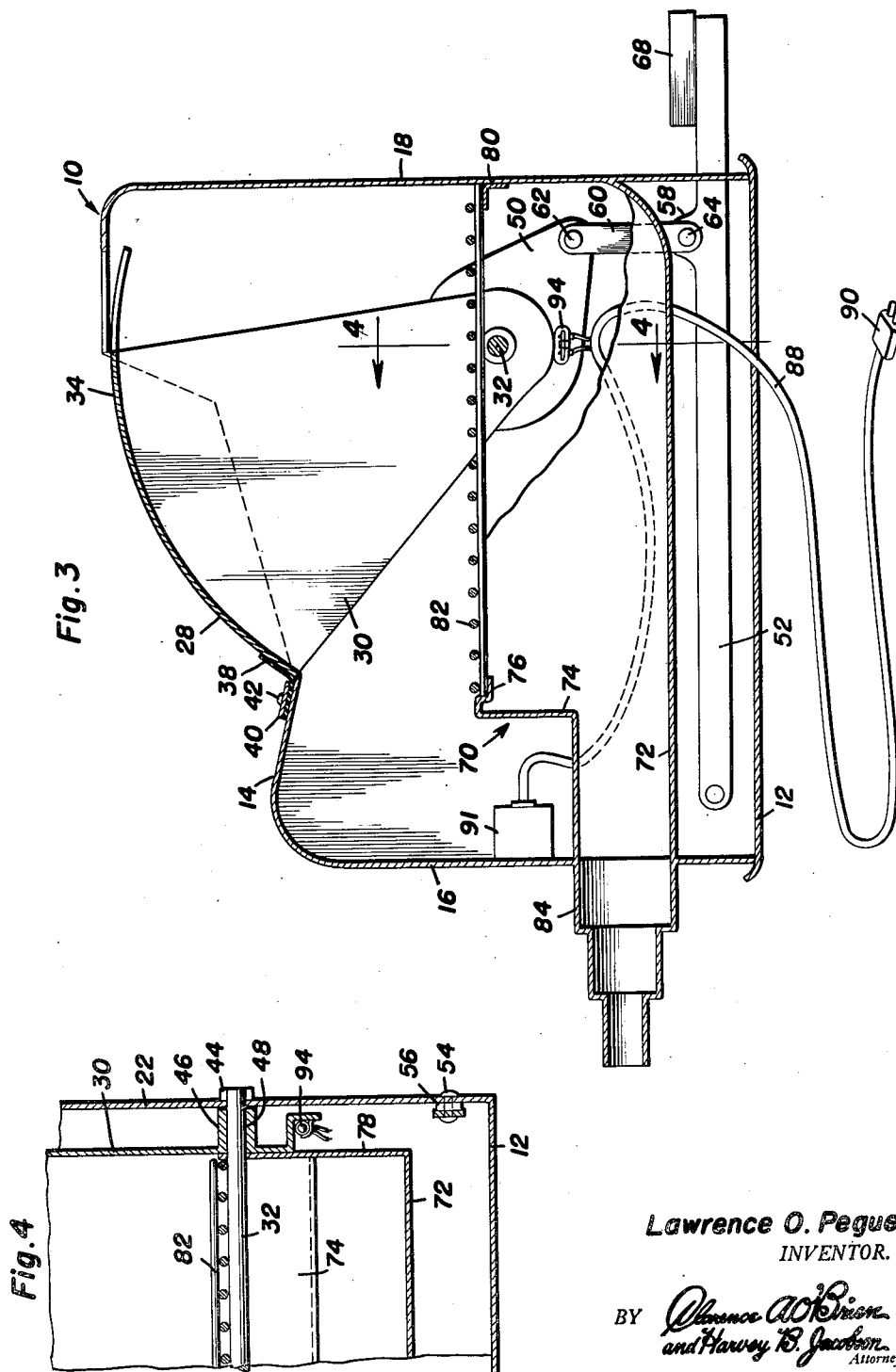
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DUST MOP CLEANING DEVICE

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2 Claims. (Cl. 15—310)

This invention relates in general to a mop duster, and more specifically to a device for attachment to a vacuum cleaner whereby a dust mop may be efficiently cleaned.

The conventional dust mop, while proving to be an efficient device for cleaning bare floors, linoleum rugs, etc. is often discarded by the average housekeeper due to the fact that she finds it is difficult to clean. It has been found that the best way to remove dust and lint from a dust mop is to vigorously shake the dust mop. However, it is necessary to shake the dust mop out doors whereby the dust and lint is deposited in the yard or street adjacent the house, thereby presenting an unsanitary condition. While attempts have been made to clean dust mops with a conventional vacuum cleaner, this method has proved to be ineffective in that suction alone will not remove the lint and dust from a dust mop.

The primary object of this invention is to provide an improved device for cleaning dust mops wherein a dust mop may be vigorously shaken and at the same time having suction applied thereto for removing the dust and lint therefrom.

Another object of this invention is to provide an improved device for cleaning dust mops, said device including a housing in which the dust mop may be placed, said housing having an opening for the dust mop handle whereby the dust mop may be vigorously shaken while within the housing.

Another object of this invention is to provide a housing for a dust mop cleaning device, said housing having a pivoting door which is so constructed that it is normally in an open position, said door being provided with actuating means for holding same in a closed position while the dust mop is being cleaned.

Another object of this invention is to provide an improved dust mop cleaning device which includes a closed housing having a fitting thereon for attachment to a vacuum cleaner whereby the dust mop may be vigorously shaken in order to remove dust and lint therefrom and at the same time the dust and lint is drawn into the vacuum cleaner.

Another object of this invention is to provide an improved dust mop cleaning device which is completely enclosed within a compact housing, said cleaning device being of such size and shape whereby it may be easily stored.

A further object of this invention is to provide an improved dust mop cleaning device which includes a housing having a pivoting door thereon which normally remains in an open position, said door having actuating means for retaining same in a closed position while the dust mop is being cleaned, said housing being also adapted to be attached to a vacuum cleaner and having an electrical circuit for attachment in series with the motor of the vacuum cleaner, said electrical circuit including a switch which is actuated by the door closing means so that the electrical circuit is completed only when the door of the housing is in a closed position.

With these objects definitely in view, this invention

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resides in certain novel features of construction, combination and arrangement of elements and portions as will be hereinafter described in detail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a rear perspective view of the dust mop cleaning device which is the subject of this invention, said device being illustrated as having a dust mop mounted therein and its door in its closed position;

Figure 2 is an enlarged top plan view of the dust mop cleaning device of Figure 1, the door being illustrated in an open position, and the electrical plug of a vacuum cleaner is connected to the dust mop cleaning device;

Figure 3 is an enlarged longitudinal vertical central sectional view through the dust mop cleaning device of Figure 1 and shows the internal construction thereof, a portion of a dust-receiving conduit being broken away and shown in section in order to clearly illustrate the construction of the door actuating means; and

Figure 4 is a partial transverse vertical sectional view taken substantially upon the plane indicated by the section line 4—4 of Figure 3 and showing the construction of the means for pivotally mounting the door on a transverse shaft carried by the housing of the dust mop cleaning device.

Similar characters of reference designate similar or identical elements and portions throughout the specification and throughout the different views of the drawings.

Referring now to the drawings in detail, it will be seen that the dust mop cleaning device, which is the subject of this invention, includes a housing referred to in general by the reference numeral 10. The housing 10 includes a bottom wall 12, a top wall 14, a front wall 16, a rear wall 18, and side walls 20 and 22. It will be noted that the various walls of the housing 10 are joined together by smooth curved corners.

Referring now to Figures 2 and 3 in particular, it will be seen that the front wall 16 is of a lesser height than the rear wall 18 so that the top wall 14 slopes gradually upwardly from front to rear. However, it will be further noted that the top wall 14 is provided with a recessed central portion which is open to provide a mophead receiving opening 24. The mophead receiving opening 24 is generally rectangular, although the edge thereof adjacent the rear wall 18 is rounded to form a generally triangular rear portion 26. The mophead receiving opening 24 may be closed by a door 28 carried by the housing 10. The door 28 has a substantially triangular supporting member secured to the inner side thereof along each of its side edges, the triangular shaped supporting member 30 being pivotally mounted for rotation about a shaft 32 extending transversely of the housing 10 and secured to the side walls 20 and 22. The front and side edges of the door 28 are straight and the rear edge thereof is curved to generally conform to the rear edge of the mophead receiving opening 24. The central portion of the rear edge of the door 28 is provided with a generally triangular notch 34 which in combination with the generally triangular rear portion of the mophead receiving opening 24 forms a generally diamond shaped opening through which is passed the handle of a dust mop.

Referring now to Figure 1 in particular, it is seen that the dust mop handle is referred to by the reference numeral 36 and extends through the diamond shaped opening formed by the notch 34 and the generally triangular portion 26 of the dust mop opening 24. It will also be noted that the door 28 is curved longitudinally of the housing 10 and that the supporting members 30 have their upper portions extending above the top wall 14 of the housing 10 when the door 28 is in its closed position.

Referring now to Figures 3 and 4 in particular, it will

be seen that the front edge of the door 28 is sealed with respect to the front portion of the top wall 14 by a generally L-shaped flexible sealing strip 38 which has one flange overlying the portion of the top wall 14 adjacent the front edge of the mophead receiving opening 24 and secured thereto by a plate 40 which is in turn secured to the front portion of the top wall 14 by fasteners 42. The flexible strip also has a substantially vertical flange overlying the door 28 and in tight engagement therewith.

The shaft 32 on which the door 28 is pivotally mounted extends through the side walls 20 and 22 and is secured thereto by nuts 44 threadedly engaged on their ends. As is best illustrated in Figure 4, the support members 30 are provided with outwardly directed bosses 46 having bores 48 therein to which the shaft 32 passes. It is readily seen that due to the size of the bosses 46 and their close proximity to the side walls 20 and 22 the door 28 is rigidly supported with respect to the housing 10.

Referring now to Figure 3 in particular, it will be seen that the center of gravity of the door 28 remains offset forwardly of the shaft 32 in all positions whereby it is urged to a normally open position. Integral with and extending horizontally from the support members 30 when the door is in its open position are a pair of lever arms 50. Pivotally secured to each of the side walls 20 and 22 adjacent the lower forward ends is an actuating lever 52. As is best illustrated in Figure 4, the end of the actuating lever 52 is secured to its associated side wall by a rivet 54 and spaced from said side wall by a spacer 56 mounted on the rivet 54.

Each of the actuating levers 52 is provided intermediate its ends and in alignment with the end of its associated lever arm 50 with an upstanding projection 58. Extending between the end of the lever arm and the upstanding projection 58 is a link 60 which is pivotally secured at its upper end to the lever arm 50 by a pivot pin 62 and at its lower end to the projection 58 by a pivot pin 64.

As is best illustrated in Figure 1, the rear wall 18 of the housing 10 is provided with a pair of vertically extending slots 66 in the lower portion thereof adjacent the side edges. Extending through the vertically extending slots 66 are the rear ends of the actuating levers 52. Extending between and secured to the upper edges of the rear ends of the actuating levers 52 is a foot engageable pedal 68 for actuating the actuating levers 52. In view of the foregoing, it is readily apparent that when the pedal 68 is pressed downwardly, the actuating levers 52 have their rear ends moved downwardly with the result that the links 60 are also moved downwardly. Downward movement of the links 60 results in clockwise rotation of the lever arms 50, as viewed in Figure 3, with the resultant clockwise rotation of the door 28 to a closed position. When pressure is released from the pedal 68, the door 28 resumes its normal open position due to the offsetting of its center of gravity.

Referring now to Figure 3 in particular, it will be seen that the housing 10 is provided with a dust and lint receiving section chamber 70 which underlies the mophead receiving opening 24. The dust receiving chamber 70 includes a bottom wall 72 which is secured at its front end to the front wall 16 and has a curved rear portion which is secured to the rear wall 18. The dust receiving chamber 70 also has a partial upper wall 74 which has a front horizontal portion secured to the front wall 16. The rear of the partial top wall 74 extends vertically upwardly and then horizontally to form a lip 76. The dust receiving chamber 70 also includes side walls 78 which are secured to the bottom wall 72 and the partial top wall 74, and extend between the front and rear walls of the housing 10. The rear wall 18 is provided with an angle bracket 80 having a horizontal flange in substantially the same horizontal plane as the lip portion 76 of the top wall 74. It will be noted that since the top wall 74 is only a partial top wall that the dust receiving chamber 70 has an opening in its upper wall. The open-

ing in the upper wall is closed by a grating 82 which rests upon the lip portion 76 and the horizontal flange of the angle shaped bracket 80.

In order that lint and dust may be removed from the dust and lint receiving chamber 74 and also to facilitate the removal of same from the dust mop inserted within the cleaning device, the front wall 16 of the housing 10 is provided with a fitting 84 to which may be attached a hose from a conventional vacuum cleaner. It will be noted that the fitting 84 is stepped to provide a plurality of diameters whereby hoses of different sizes may be secured thereto. Furthermore, it should be noted that the fitting 84 is hollow and communicates with the dust and lint receiving chamber 70 whereby suction may be applied thereto by a hose connected to the fitting 84. A hose from a vacuum cleaner is clearly illustrated in Figure 1 and is referred to by the reference numeral 86.

In order that a vacuum cleaner (not shown) need not operate except when the device is actually cleaning a dust mop, the cleaning device is provided with an electrical circuit adapted to be connected in series with the motor of the vacuum cleaner. The electrical circuit includes an electrical cord 88 having a plug 90 on one end thereof for insertion in a wall plug of a house. The other end of the electrical cord 88 is provided with a receptacle 91 which is in alignment with an opening (not shown) in the front wall 16 whereby the plug of a vacuum cleaner may be plugged therein. The plug of the vacuum cleaner is illustrated in Figure 2 and referred to by the reference numeral 92.

Referring now to Figures 3 and 4 in particular, it will be seen that the lever arm 50 adjacent the side wall 22 is provided with an electrical switch in the form of a conventional mercury switch 94. The mercury switch 94 is connected in series with one of the leads of the electrical cord 80 whereby the lead circuit between the plug 90 and the receptacle 91 may be opened and closed.

In a conventional mercury switch, such as the mercury switch 94, a circuit is made or broken by merely tilting the mercury switch whereby mercury contained therein will float to or away from a contact. Since the mercury switch 94 is mounted on the lever arm 50 adjacent the side wall 22, it is obvious that the mercury switch 94 is tilted when the door 28 is opened and closed. The mercury switch 94 is mounted with respect to the lever arm 50 so that the circuit between the plug 90 and the receptacle 91 is closed only when the door 28 is in its closed position.

Referring now to Figure 3 in particular, it will be seen that the front and rear edges of the bottom wall 12 extend beyond the front and rear walls of the housing 10. These projecting edges are turned outwardly in a smooth curve so as to generally form a runner construction whereby the entire cleaning device may be easily slid along a floor.

When it is desired to clean a dust mop, a hose 86 of a vacuum cleaner is connected to the fitting 84 and the plug 92 of the vacuum cleaner is plugged into the receptacle 91. The head of the dust mop is then inserted within the dust mop opening 24 of the housing 10 and allowed to rest upon the grating 82. The door 28 is then closed by depressing the pedal 68 and the dust mop is shaken vigorously as well as being pounded against the grating 82 by one holding onto the dust mop handle 36. It will be understood that the pedal 68 will remain depressed at all times during the cleaning operation so as to keep the door 28 in a closed position and retain the dust and lint being removed from the dust mop within the housing 10. Since the mercury switch 94 is actuated by the closing of the door 28, it is obvious that the vacuum cleaner (not shown) is applying a suction to the dust and lint receiving chamber 70 and thereby drawing the dust and lint from both the chamber and the mophead of the dust mop through the grating 82. When it is desired to remove the dust mop from the cleaning device, the pedal

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68 is released whereby it assumes its operative position and the door 28 opens. The opening of the door 28 tilts the mercury switch 94 and breaks the circuit to the vacuum cleaner, thereby shutting off the motor thereof.

The operation of this device will be understood from the foregoing description of the details thereof, taken in connection with the above recited objects and drawings. Further description would therefore appear to be unnecessary.

Minor modifications of the device, varying in minor details from the embodiment of the device illustrated and described here, may be resorted to without departure from the spirit and scope of this invention, as defined in the appended claims.

Having described the invention, what is claimed as new is:

1. A dust mop cleaning device comprising a housing, a movable door mounted on said housing, said door being mounted to swing about a horizontal axis and including support members secured to the inner surfaces thereof and being journaled on a shaft carried by said housing, the center of gravity of said door being offset from said shaft in all positions so that said door will be normally retained in an open position by gravitational forces, means for moving said door to and holding said door in a closed position, a suction chamber in said housing communicative with the interior of said housing, said housing being provided with a fitting communicative with said suction chamber for attachment to a vacuum cleaner whereby a vacuum cleaner may be used to produce a vacuum in said suction chamber, means establishing an electrical circuit carried by said housing adapted to be connected in series with a vacuum cleaner motor, said electrical circuit including a switch actuated by said door moving means, said door moving means including an actuating lever pivotally carried by said housing, a lever arm carried by said door, linkage connecting said lever arm to said actuating lever, said switch being carried by said lever arm and actuated in response to pivoting thereof by movement of said door to a closed position, said door having a recess cooperating with said housing to define a mop handle accommodating opening when said door is in a closed position.

2. A dust mop cleaning device comprising a housing, a movable door mounted on said housing, said door being mounted to swing about a horizontal axis and includ-

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ing support members secured to the inner surfaces thereof and being journaled on a shaft carried by said housing, the center of gravity of said door being offset from said shaft in all positions so that said door will be normally retained in an open position by gravitational forces, means for moving said door to and holding said door in a closed position, a suction chamber in said housing communicative with the interior of said housing, said housing being provided with a fitting communicative with said suction chamber for attachment to a vacuum cleaner, a dust mop supporting grating separating said suction chamber from the remainder of said housing, whereby a vacuum cleaner may be used to produce a vacuum in said suction chamber, means establishing an electrical circuit carried by said housing adapted to be connected in series with a vacuum cleaner motor, said electrical circuit including a switch actuated by said door moving means, said door moving means including an actuating lever pivotally carried by said housing, a lever arm carried by said door, linkage connecting said lever arm to said actuating lever, said switch being carried by said lever arm and actuated in response to pivoting thereof by movement of said door to a closed position, said door having a recess cooperating with said housing to define a mop handle accommodating opening when said door is in a closed position.

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