Nov. 16, 1926. 1,606,866

G. M. BOREN

MOP CLEANER

Filed August 24, 1923

Fig. 5

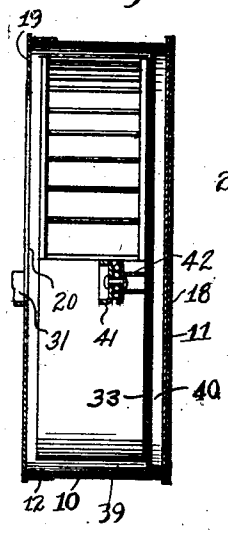


Fig. 1

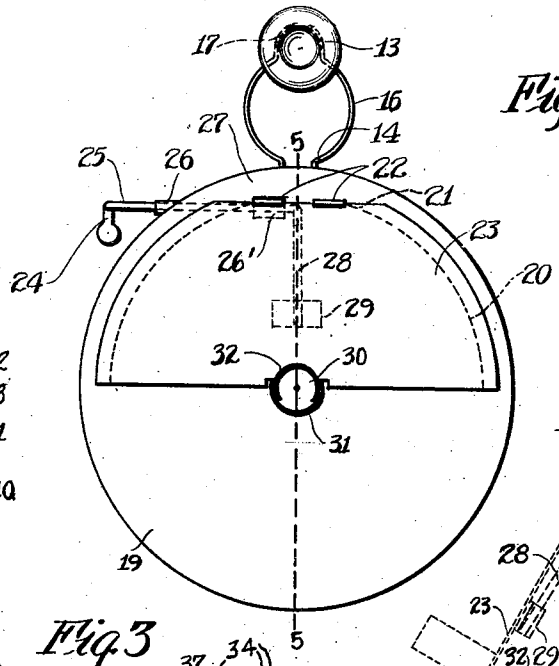


Fig. 2

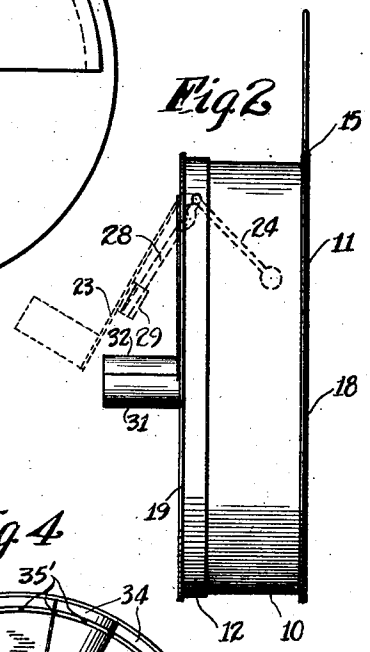


Fig. 3

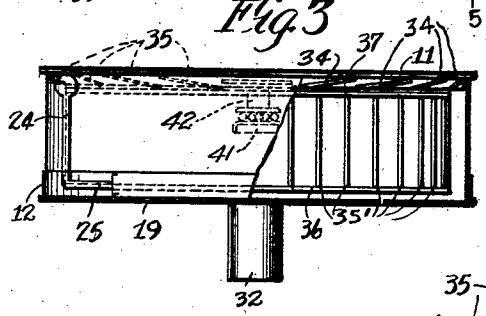


Fig. 4

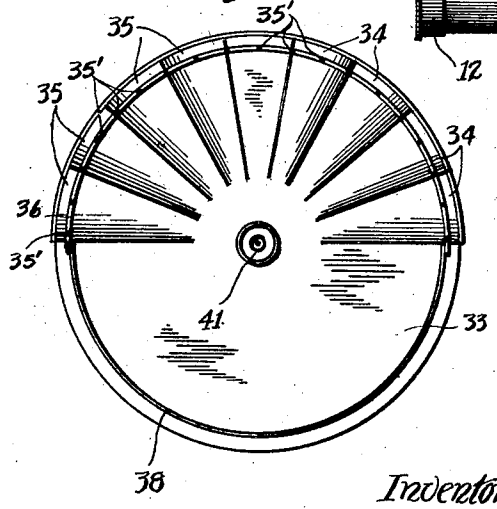
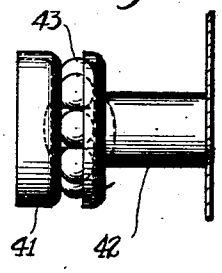


Fig. 6



Witness
J. L. Brown.

Inventor
Gustav M. Boren
By Sprinkle & Smith
Attys.

Patented Nov. 16, 1926. 1,606,866

UNITED STATES PATENT OFFICE.

GUSTAV M. BOREN, OF CHICAGO, ILLINOIS.

MOP CLEANER.

Application filed August 24, 1923. Serial No. 659,042.

This invention relates to a cleaning device and more particularly to a device for extracting dust and dirt from dry or oil mops and the like.

One of the objects of the present invention is to provide a cleaner simple and compact in construction and efficient in operation.

A further object of the invention is to provide a novel construction of a cleaner by means of which the dust and dirt is extracted from the mop by revolving the mop within the cleaner.

A further object of the invention is to provide a construction by means of which the revolving of the mop within the device creates a suction and thereby assists in extracting the dust and dirt from the mop.

A still further object of the invention is to provide a means for supporting the mop centrally and to permit its easy rotation within the cleaner.

A further object of the invention is to provide a mop cleaner which can be carried from room to room and adapted to be readily attached to and detached from the knob of any door.

A still further object of the invention is to provide means within the cleaner which will aggressively comb out the dust and dirt from the mop as the mop is revolved within the cleaner.

These and other objects are obtained by a construction and an arrangement of the various parts in the manner hereinafter described and particularly pointed out in the appended claims.

Referring to the drawings, Fig. 1 is a front elevation of my improved mop cleaner showing the same mounted on a door knob.

Fig. 2 is a side elevational view of Fig. 1 showing the door of the cleaner in dotted line swung outwardly from the receptacle or body of the cleaner.

Fig. 3 is a top plan view partly in section showing the arrangement of the cleaning blades and cross bars for aggressively cleaning the mop.

Fig. 4 is a face view showing the cleaning blades and cross bar construction which is removable as a single unit from the receptacle or cleaner proper.

Fig. 5 is a cross sectional view of the mop cleaner taken on the lines 5—5 in Fig. 1 with certain portions of the cleaner shown in the figure left off for the purpose of clearness, and

Fig. 6 is an enlarged detail view of the revolving socket for centrally supporting and maintaining the mop within the cleaner.

In carrying out my invention I have provided a very efficient and compact form of a mop cleaner which can be readily carried from room to room and is adapted to be attached to and detached from the knob of any door. This improved mop cleaner I have shown for the purpose of illustration comprising a cylindrical receptacle 10 preferably made of comparatively light sheet metal having a back wall 11 and a cover 12. The cover 12 is so formed as to telescopically engage the cylindrical portion of the receptacle 11 in such a manner as to be frictionally secured thereto.

In order to detachably secure the cleaner to a knob 13 of any door I have provided a loop 14 secured adjacent the back wall 11 as shown at 15. The loop 14 is provided with a relatively enlarged portion 16 so as to fit over the knob 13 and a relatively small looped portion 17 so as to engage the reduced portion of the knob between the knob proper and the door. In order to prevent the back wall of the cleaner from scratching the polished frame-work of the door, I have provided a felt pad as shown at 18 so as to form a cushion between the back wall 11 of the mop cleaner and the woodwork. The cover 12 is provided with a face member 19 having substantially a semi-circular aperture 20 therein. Pivoted to one edge 21 adjacent the semi-circular aperture 20 of the face member 19 by means of hinges 22 is a door or gate 23. The door or gate is adapted to be actuated about its hinges 22 by means of a crank handle 24 which has a transversely extending shaft 25 journalled in a tubular bearing 26 having one end extending through the telescoping portion of the cover 12 and the other end thereof secured by a bracket 26′ to a stationary portion 27 of the cover. The cylindrical side of the receptacle may be slotted to accommodate the shaft 25 and its tubular bearing 26 or the shaft 25 may be positioned to contact with the front upper edge of the cylindrical side 10. Formed as an integral part of the shaft 25 and positioned on the end opposite the crank 24 is a second crank 28. The crank 28 is positioned substantially at right angles to the crank 24 and is adapted

to slidingly engage a bracket 29 secured centrally to the inner side of the door 23.

From the above construction it will be seen that as the crank or handle 24 is oscillated about its pivot in the tubular bearing 26, the door 23 is also oscillated about its pivot 22. The stationary face member 19 and the door 23 is provided centrally thereof with an aperture 30. Secured to the face member 19 adjacent the aperture 30 is a semi-circular tubular member 31 which extends at right angles with respect to the plane of the face member 19 and is secured thereto preferably by being soldered. Secured to the door member 23 adjacent the aperture 30 and co-operating with the semi-circular member 31 of the face member 19 is a similar semi-circular tubular member 32. The semi-circular member 32 of the door member 23 is adapted to fit within the semi-circular tubular member 31 of the member 19 in such a manner as to form substantially a single tubular member when the door member is swung down to its normally closed position or the position shown in Fig. 1 and in the full line position in Fig. 2. In connection with my improved mop cleaner I have provided a novel construction for aggressively extracting or combing out the dust and dirt from the mop as the mop is revolved within the receptacle. This mechanism comprises a complete removable frame-work or structure shown in Fig. 4 and consists of a disc-like member 33 having a plurality of radially disposed cleaning blades 34 and 35 formed integrally with the disc-member 33. The cleaning blades 34 and 35 are preferably made in the disc-member 33 by making radial slits in the disc-member from the periphery of the member to a point adjacent the center thereof and as shown in Fig. 4. The cleaning blades indicated at 34 and occupying substantially one-fourth of the disc-member 33 are disposed or inclined at an angle in a direction opposite to the angular position of the fan blades 35, as clearly shown in Fig. 3, the object of this arrangement being to permit either set of cleaning blades, that is, the cleaning blades 34 or 35 to aggressively comb the strands of the mop regardless of the direction in which it is rotated. In this connection it will also be noted that as the mop is revolved within the cleaner adjacent these angularly disposed cleaning blades a current of air will be set up creating a suction in the direction the mop is rotated and thereby assist in extracting the dust from the mop and drawing the dust behind these blades causing the same to drop in behind the disc 33 and settle between this disc and the back wall 11 of the receptacle. The whirling of the mop within the receptacle causes the air to whirl therein and sets up an appreciable suction in a direction toward the bottom of the receptacle causing a withdrawal of the dust from the mop.

In order to further assist in extracting the dust and dirt from the mop as it is revolved within the receptacle I have provided a plurality of cross bars or rods 35′ positioned adjacent the outer periphery of the fan blades and extending substantially around one-half of the periphery of the disc-like member 33. These cross bars 35′ are arranged at spaced intervals and held rigidly in their respective positions by semi-circular bands 36 and 37. The bands 36 and 37 have their ends secured to a semi-circular wall 38 which in turn is secured in any well known manner adjacent the outer periphery of the disc 33. The wall 38 is positioned at right angles with respect to the plane of the disc-like member 33 and is spaced from the outer periphery thereof so as to provide a chamber 39 between the wall 38 and the wall of the receptacle 10 for the accumulation of dust and dirt extracted from the mop. It will also be noted that there is a chamber, as indicated at 40, between the disc 33 and the bottom 11 of the receptacle. This is also for the accumulated dust and dirt extracted from the mop. In order to centrally support and to facilitate the rotation of the mop within the receptacle, I have provided a socket 41 upon which the center of the mop may be mounted, pivotally secured to a post 42 by means of a ball race 43. The post 42 is secured by any well known means to the center of the disc-like member 33, but preferably by being soldered thereto.

In the operation of the above described device, it will be understood that the receptacle is placed on or attached to the knob 13 of any door by engaging the loop 14 in position as shown in Fig. 1 and that the handle or crank 24 is actuated to open the door or gate 23 and the mop is placed through the semi-circular opening 20 in the cover 12 with the handle thereof resting in the semi-circular tubular member 31 of the face member 19, and when the strands are within the receptacle the cover is actuated to its closed position, in which position the semi-circular tubular member 32 of the door 23, together with the semi-circular member 31 of the face member 19 completely encases or forms a tubular bearing for the handle of the mop and the central portion of the mop is seated in the socket 41 of the disc-like member 33 and that when the mop is rotated in one direction or the other the strands of the mop are combed by the edges of the blades 34, if the mop is rotated in a clock-wise direction, or is aggressively engaged by the edges of the blades 35 if the mop is rotated in the counter-clock-wise direction. The revolving of the mop in either direction, it will be un-

derstood, creates a current of air which is deflected by these blades and thereby sets up a suction, drawing the dust and dirt out of the mop and deflecting it to the rear of the blades into the chamber 40 provided for the collection of the dust and dirt extracted. As the mop is rotated in the socket 41 and in the tubular bearing formed by the semi-circular member 31 and 32 of the face member 19 and door 23, respectively, the outer ends of the strands of the mop strike against the cross bars 35′ causing the dust and dirt to be beaten from the mop and thereby further assisting in cleansing the mop as it is revolved.

From the above description, it will be seen that I have provided a novel, efficient and compact form of mop cleaner and one which can be readily moved from room to room and attached to the knob of any door with great facility.

While in the above specification I have described one embodiment which my invention may assume in practice, it will be understood that the same is capable of modification and that modification may be employed without departing from the spirit and scope of my invention as expressed in the following claims.

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

1. A device for cleaning mops and the like comprising a receptacle, cleaning blades mounted within said receptacle for cleaning the mop, and means engageable with the bottom of said mop for rotatably supporting said mop in a relatively fixed position with respect to said cleaning blades.

2. A device for cleaning mops and the like comprising a receptacle, a plurality of oppositely inclined cleaning blades mounted within said receptacle for cleaning the mop, and a rotatable socket for receiving said mop for supporting the same in a relatively fixed position with respect to said cleaning blades.

3. A device for cleaning mops and the like, comprising a receptacle, and a plurality of oppositely inclined cleaning blades mounted in said receptacle for cleaning the bottom portion of said mops, and cross bars arranged transversely to the planes of said cleaning blades and mounted within said receptacle for engaging side portions of said mops for cleaning the same.

4. A device for cleaning mops and the like, comprising a receptacle having a removable cover therefor, a hinged door carried by said cover, semi-circular tubular members carried by said door and cover for guiding and supporting the handle of the mops, and a removable structure mounted in said receptacle having a plurality of different mop cleaning elements for cleaning the mop.

5. A device for cleaning mops and the like, comprising a receptacle having a removable cover therefor, a hinged door carried by said cover, semi-circular tubular members carried by said door and by said cover for forming a support for the handle of the mop, cleaning elements mounted in said receptacle and means carried by said receptacle for rotatably supporting said mop within said receptacle.

6. A device for cleaning mops and the like, comprising a receptacle, mop cleansing elements mounted within said receptacle including a semi-circular plate having a plurality of cleaning blades formed integrally therewith, and a chamber formed between said semi-circular plate and the bottom of said receptacle for accumulating the dust and dirt extracted from the mop.

In testimony whereof I have signed my name to this specification on this 13th day of August A. D. 1923.

GUSTAV M. BOREN.