Nov. 3, 1970 R. G. LELAND 3,537,123

CLEANING DEVICE WITH INTERCHANGEABLE HEAD

Filed Aug. 16, 1968 2 Sheets-Sheet 1

FIG. 1.

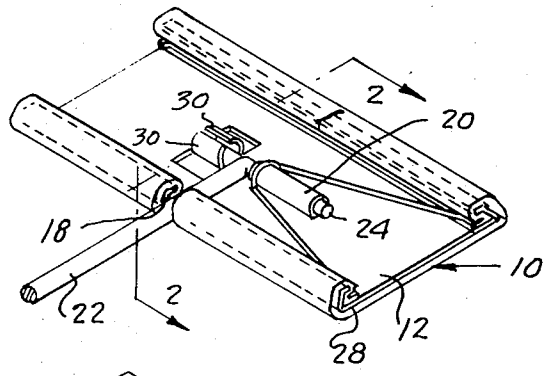


FIG. 2.

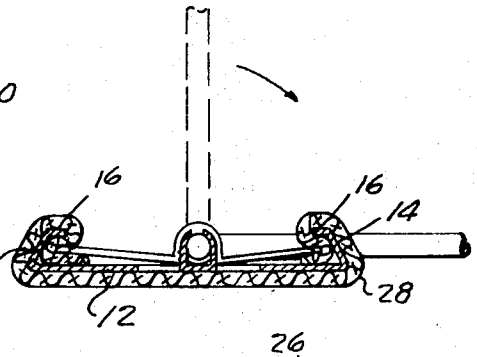


FIG. 3.

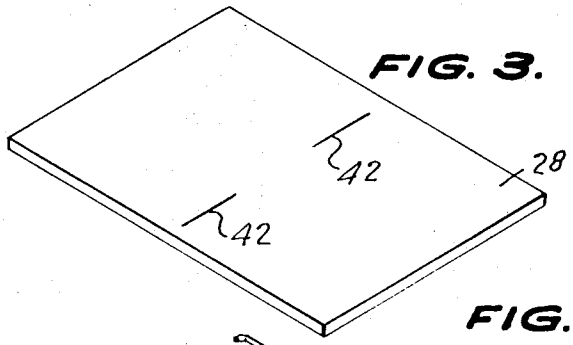
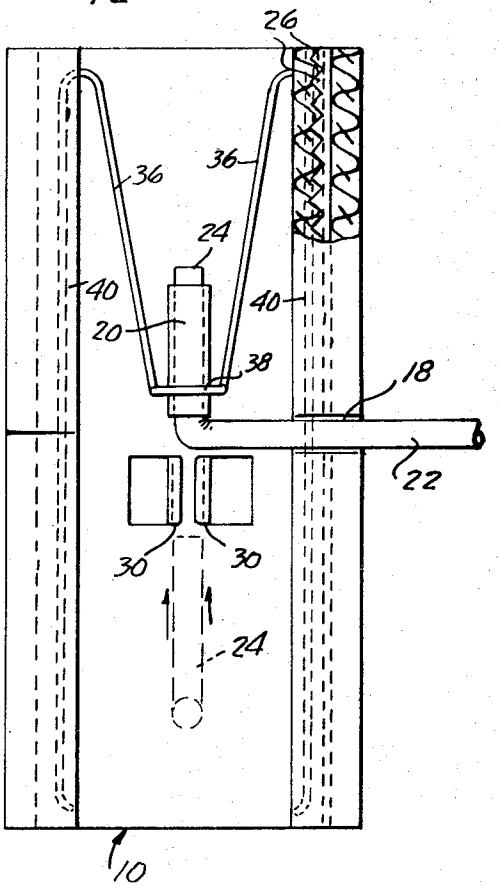


FIG. 5.



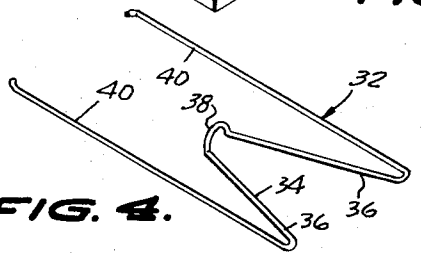


FIG. 4.

FIG. 11.

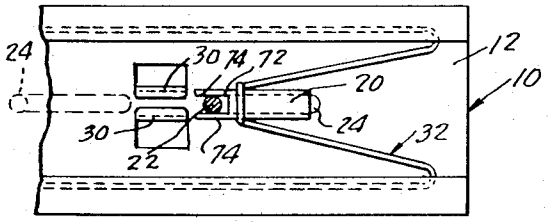
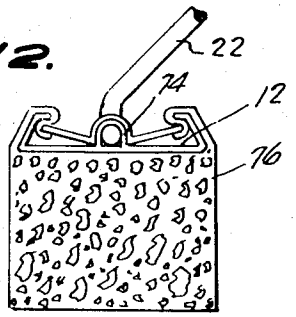


FIG. 12.



INVENTOR.
RAGNVALD G. LELAND,

BY

Berman, Davidson & Berman.
ATTORNEYS.

Nov. 3, 1970 R. G. LELAND 3,537,123

CLEANING DEVICE WITH INTERCHANGEABLE HEAD

Filed Aug. 16, 1968 2 Sheets-Sheet 2

FIG. 6.

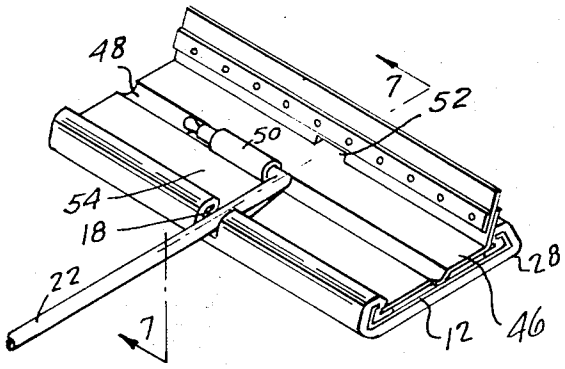
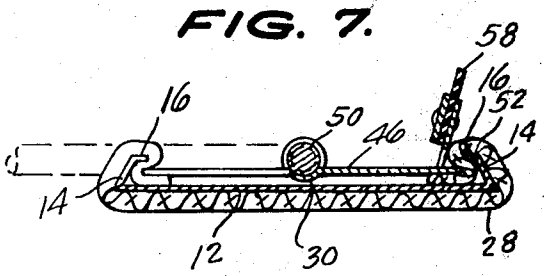


FIG. 7.



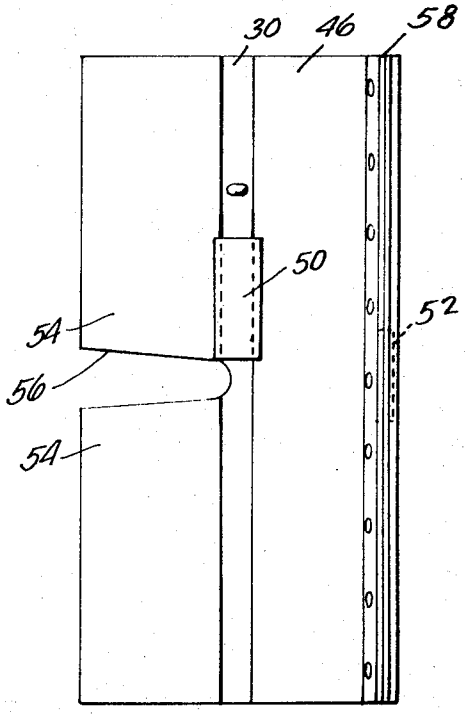


FIG. 8.

FIG. 9.

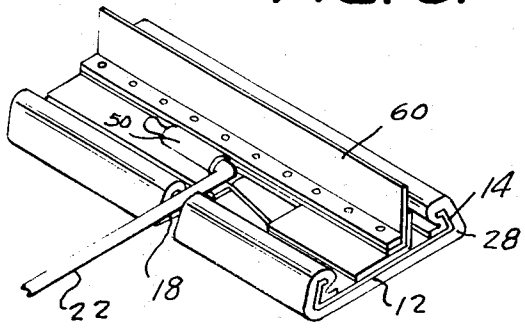
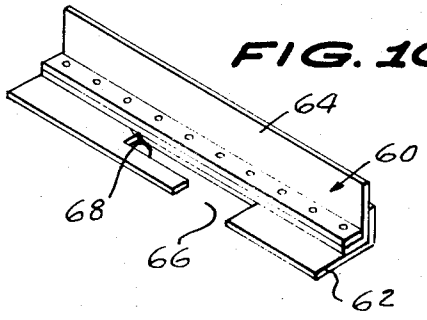


FIG. 10.



INVENTOR.
RAGNVALD G. LELAND,

BY

Berman, Davidson & Berman.
ATTORNEYS.

United States Patent Office 3,537,123 Patented Nov. 3, 1970

3,537,123

CLEANING DEVICE WITH INTERCHANGEABLE HEAD

Ragnvald G. Leland, 2334 W. 241st St., Lomita, Calif. 90717

Filed Aug. 16, 1968, Ser. No. 753,246
Int. Cl. A47l *13/256, 13/257, 1/08*
U.S. Cl. 15—244 4 Claims

ABSTRACT OF THE DISCLOSURE

A cleaning device having an interchangeable head comprising handle means and pad means and means for detachably connecting a pad to the pad means, including holding member for holding a pad attached to the pad means until the holding member is released so as to release the pad from the pad means, and further including squeegee means.

The present invention relates to a cleaning device having an interchangeable head and more particularly to a device such as a wax pad applicator.

It is an object of the present invention to provide a simple and sturdily constructed wax pad having a pad means and a handle means disposable or interchangeable pad means for attachment to the pad means and holding means to maintain the disposable pad secured to the pad means until it is desired to remove the pad therefrom for cleansing or replacement by another pad.

Another object of the present invention is to provide a cleaning device having a plate means and biasing means for detachably connecting to the plate means a cleansing member or a pad member.

It is yet another object of the present invention to provide a cleaning device with a plate means for window cleaning or waxing and the like in which a disposable member can be readily attached to the pad means which normally holds the cleansing member by a resilient biasing means.

Yet another object of the present invention is to provide a cleaning device such as a wax pad applicator and the like with handle means and means for preventing inadvertent detachment of the handle means from the pad means.

A still further object of the present invention is to provide a cleaning device having an interchangeable head member or cleansing member which can be readily attached to or detached from the plate means which carries the head member and which can further be provided with squeegee means that can be readily attached or detached from the pad means that carries the cleansing member.

Various other objects and advantages of the present invention will be readily apparent from the following detailed description when considered in connection with the accompanying drawings forming a part thereof, and in which:

FIG. 1 is a perspective view of a cleaning device embodying the present invention;

FIG. 2 is a section taken along the lines 2—2 of FIG. 1;

FIG. 3 is a perspective detailed view illustrating a disposable or detachable cleaning head or member that is attached to the plate means of the device;

FIG. 4 is a perspective view of the biasing means embodied in the present invention for holding the cleansing member secured to the pad means or plates means of the device;

FIG. 5 is a plan view of the cleaning device embodying the present invention;

FIG. 6 is a perspective view of a modification of the invention shown in FIGS. 1 to 5;

FIG. 7 is a section taken along the lines 7—7 of FIG. 6;

FIG. 8 is a top plan view of the embodiment of the invention shown in FIG. 7;

FIG. 9 is a perspective view similar to FIG. 6, but illustrating a squeegee member embodied in the present invention attached to the cleaning device;

FIG. 10 is a perspective detailed view of the squeegee member shown in FIG. 9;

FIG. 11 is a plan view of another embodiment of the invention, similar to that shown in FIGS. 1 to 5; and

FIG. 12 is a side view of the invention shown in FIG. 11.

Referring to the drawings, the reference numeral **10** generally designates the cleaning device of the present invention and is provided with a substantially flat rectangular plate member **12** having its opposite longitudinal sides **14** bent upwardly and inwardly so that the upper in-turned rims **16** face each other, as best seen in FIG. 2. It will be noted that the longitudinal sides **14** are of the same configuration, but disposed in opposite directions, or facing each other.

One of the longtiudinal sides **14** is provided with a slot **18** in the central portion thereof, as best seen in FIG. 1.

The central midportion of the plate member **12** is provided with a sleeve or cylindrical open end tube **20** for receiving a handle **22** therein.

The handle means **22** is provided with a short cylindrical or bar section **24** that is disposed at right angles with the main portion of the handle and this short portion **24** is the portion that extends into the sleeve or tube **20**.

The in-turned rims **16** are provided with a plurality of serrations or teeth **26**, as best seen in FIG. 5, for gripping a pad or disposable sheet of cleansing or wiping material **28**.

The plate member **12** is further provided with a pair of spaced semi-circular wing members **30**, which wing members are spaced in alignment with the sleeve **20** and spaced apart therefrom, as best seen in FIG. 1.

The cleaning device is further provided with a biasing member in the form of a spring **32**. The wire spring **32** has a in-turned section **34** comprising two legs **36** which converge toward each other and which have a semi-circular ring or loop **38** connecting the inner ends of the legs. The legs **36** have their outer ends bent back so as to form two elongated parallel legs **40**. The spring wire member **32**, as best seen in FIG. 1, is adapted to have its loop portion **38** disposed over the sleeve **20** and its legs **40** adapted to be disposed within the confines of the sides **14** of the plate member **12** and below the rims **16**, as best illustrated in FIG. 2, in order to properly secure a sheet **28** of material to the plate for use in waxing a floor or cleaning a window or for whatever use may be desired in connection with the cleaning device of the present invention. In operation, the handle **22** is first attached to the plate member **12** by pushing the short section **24** between the semi-circular wing members **30**, best shown in dotted lines in FIG. 5, so as to spread the wing portions **30** apart. Thereafter the section **24** is inserted all the way through the sleeve **20** and the wing members **30** prevent the handle **22** from becoming inadvertently detached from the plate member **12**. Thereafter, the sheet of material, which may be used for a waxing pad or a cleansing pad, and which sheet of material may be made of any desired material, such as a cloth, or a paper material, is then detachably connected to the plate member **12** by inserting its opposite ends under the rims **16** so they are gripped by the teeth **26**.

It will be noted that the sheet of material **28** is provided with slits **42** therein which has one of the slits **42** in alignment with the slot **18** when the sheet of material has been attached to the plate member so that the slit

42 will coincide with the slot 18 and permit the handle to be easily passed through the slot 18.

After the sheet of material 28 has been disposed in a position with its opposite edges tucked under the rim 16, the spring member 32 is then positioned over the plate member 12 so that its loop 38 will rest on the outer surface of the sleeve 20 and its resilient legs 40 will be clamped against the opposite edges of the sheet of material 28 and securely hold the sheet of material 28 in its proper position on the plate member 12, as best illustrated in FIG. 2.

Referring to the embodiment of the invention illustrated in FIGS. 6 to 10, this modification is substantially the same as that described in connection with the embodiment of the invention illustrated in FIGS. 1 to 5 except that the cleaning device is provided with a different type of holding member 46, instead of the spring biasing holding member 32 in the other embodiment.

In this embodiment of the invention, the holding member 46 comprises a substantially flat resilient plate member with a central semi-circular groove or detent 48 extending the full length of the rectangular plate 46 and the handle sleeve holding member 50 is secured in this groove 48.

In securing a sheet of material 28 to the plate member 12 forming the pad means of this embodiment of the invention, the holding member 46, after the sheet 28 has been placed or wrapped around the plate member 12, as described in connection with FIG. 1, is pressed against the upper surface of the plate member 12. The plate member 46 is provided with a catch 52 which will go under one of the rims 16 and sides 14 of the plate member 12. To release the plate holding member 46 from the plate member 12, it is only necessary to press the holding member 46 at the portion 54 which is adjacent the slotted portion 56 in the plate 46, as best seen in FIG. 8.

It will also be noted that this embodiment of the invention may be provided with an upstanding squeegee 58, if desired, which may be suitably secured to the holding plate member 46 by any suitable and well known means.

Referring to FIGS. 9 and 10, it will be noted that the squeegee illustrated therein comprises a substantially horizontal portion 62 and an upright portion 64 suitably riveted to the horizontal portion 62. In this embodiment of the invention, the horizontal portion 62 is provided with a large transverse slot 66 which is adjacent a longitudinal narrow slot 68.

This squeegee is attached to the plate 12 by sliding the squeegee 60 onto the plate 12 so that the sleeve 50 is positioned within the narrow slot 68.

Thus, this embodiment of the invention provides a detachable squeegee 60 and the positioning of the squeegee 60 over the sleeve 50 prevents the handle 22 from inadvertently becoming detached from its plate member 12 which forms the pad means for attachment of the sheet of material thereto.

Referring to the embodiment of the invention shown in FIGS. 11 and 12, this is substantially as that described in connection with FIGS. 1 to 5, except that the plate member 12 has the wing members 30 spaced much closer to the sleeve or tube 24. The sleeve or tube 24 is provided at its end adjacent the wings 30 with a slot 72 cut out of the end of the sleeve or tube 20. The slot 72 is formed between two upstanding portions 74 of the sleeve 20 which are substantially U-shaped in configuration when viewed from the end and with respect to the surface of the plate member 12.

When the section 24 of the handle, as shown in dotted lines in FIG. 11, is disposed between the wing members 30 and fed or inserted into the sleeve 20, the upright portion of the handle 22 will be positioned between the portions 74. The portions 74 will prevent the handle from pivoting and thus will refrain the handle from pivoting and will maintain it in a substantially upright position, as best seen in FIG. 12.

It will be noted that this embodiment of the invention is provided with a substantially deep sponge layer of material 76 for cleaning purposes or the like.

When the deep or heavy sponge is utilized on the device, or a deep broom section is used for pushing dirt on streets or the like, this type of construction would pivot or roll unless the structure set forth in FIGS. 11 and 12 is utilized to prevent the handle from pivoting. The structure of the sleeve with the cut-out therein will hold the handle in the correct angle for this type of a heavy padding member under the plate member 12.

Thus, from the foregoing description of the present invention, it is apparent that the cleaning device of the present invention provides a compact and simple structure which has biasing means in the form of a wire spring or a plate means for securely connecting a disposable or removable pad member to the head or the pad means of a cleaning device.

Inasmuch as various changes may be made in the relative arrangement and location of the parts of the invention, it is not meant to limit the scope of the invention, except by the appended claims.

What is claimed is:

1. A cleaning device comprising a flat plate with opposite side edges upturned in diagonal upward portions extending toward each other and terminating in horizontal rims facing each other, one of said side edges having a slot in its central portion, said plate being provided with a sleeve secured to its upper surface, a flexible piece of cleaning material detachably secured to said flat plate and having slits therein disposed in alignment with said slot, resilient holding means operatively connected to said plate releasably securing said flexible piece of material thereto, and handle means pivotally connected to said flat plate, said handle means being a rod with a short section extending into said sleeve, and spaced resilient wings provided on said plate in alignment with said sleeve and spaced therefrom to prevent said short section of the handle rod from inadvertently coming out of said sleeve.

2. The device of claim 1 wherein said holding means is a wire spring member with a loop fitting over said sleeve and inner legs converging toward said loop and outer parallel legs biased toward said diagonal side portions.

3. The device of claim 1 wherein slot means are cut out of one end of said sleeve forming upstanding portions, and said handle rod is disposed between said upstanding portions to prevent the handle rod from pivoting.

4. The device of claim 3 wherein said cleaning material is a piece of sponge having substantial depth.

References Cited

UNITED STATES PATENTS

Re. 20,657	2/1938	Glover	15—231
672,584	4/1901	Anderson	15—232
1,297,076	3/1919	Brandenburg.	
1,897,726	2/1933	Hillyard	15—231 XR
2,011,974	8/1935	Johnson	15—231
2,029,426	2/1936	Kingdon	15—231
2,262,334	11/1941	Rugaard	15—231 XR
2,279,559	4/1942	Darling	15—231
2,560,008	7/1951	Steward	15—231
2,809,476	10/1957	Bourdunis	51—387 XR
3,395,415	8/1968	Leland	15—231 XR

FOREIGN PATENTS

360,301	11/1931	Great Britain.
133,424	8/1929	Switzerland.

DANIEL BLUM, Primary Examiner

U.S. Cl. X.R.

15—121, 144, 232