

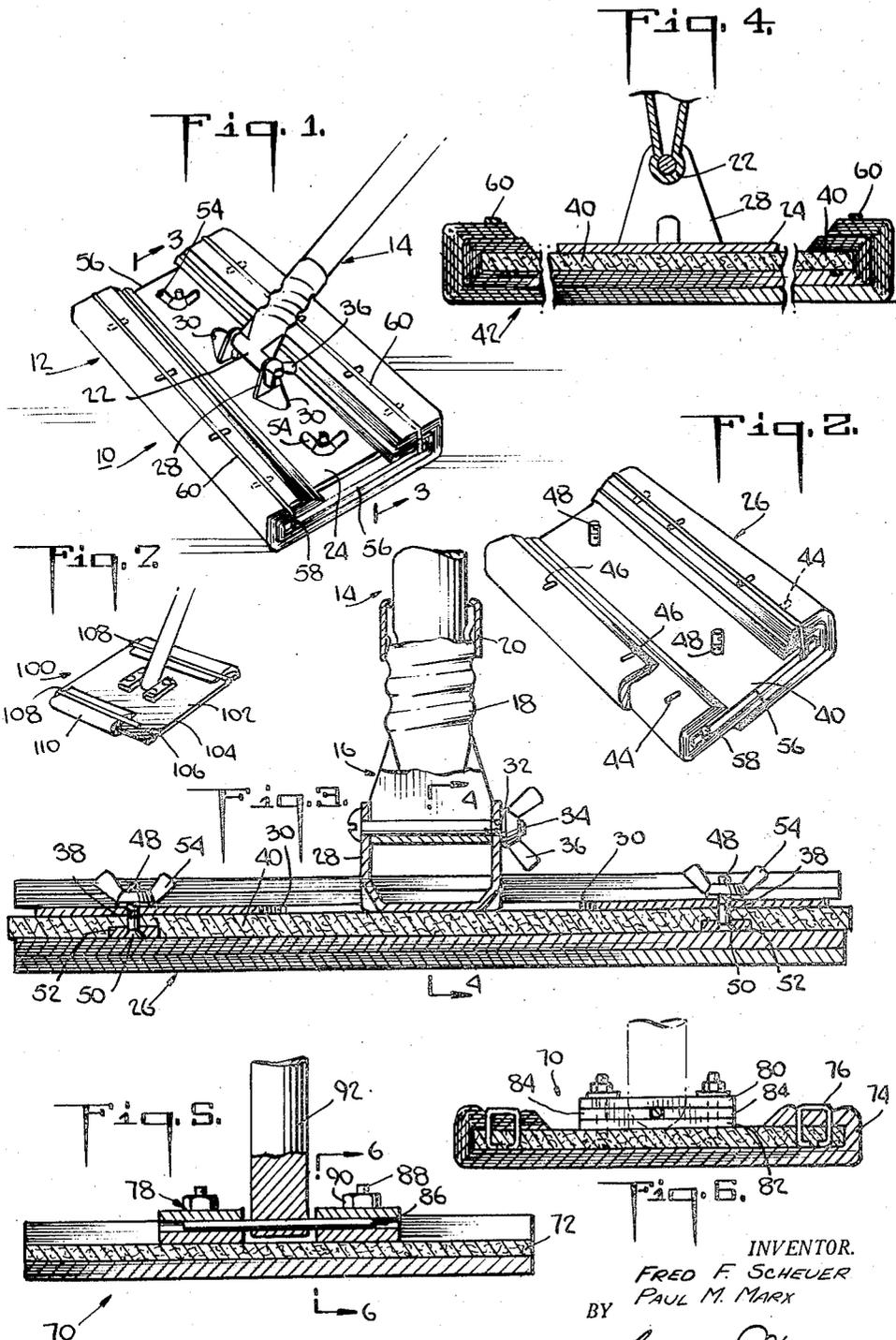
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DUSTING DEVICE WITH DISPOSABLE REPLACEABLE SOFT PAPER LAMINAE

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DUSTING DEVICE WITH DISPOSABLE REPLACEABLE SOFT PAPER LAMINAE

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1 Claim. (Cl. 15—231)

This invention relates to a dusting device with disposable replaceable soft paper laminae.

The present invention is an improvement over the stringless dust mop disclosed in our copending application, Serial No. 467,834, for United States Letters Patent, filed November 9, 1954, now abandoned. Mops of the character therein described which comprise soft tearable paper laminae that are firmly held in place for work-a-day use, and can be readily stripped off as they are dirtied, are rapidly replacing old conventional dusting devices such as string and sponge mops, brooms and brushes. Nevertheless the specific construction therein described, although highly practical and efficient and commercially accepted, has a certain drawback, viz, even its comparatively simple construction entails a substantial manufacturing cost so that the consequently somewhat high retail price hinders unrestrained public adoption of the new dusting device.

Accordingly it is a principal object to provide a dusting device of the character described having a greatly simplified construction which lends itself to low cost mass production without detracting from the essential desirable characteristics of the present day dusting device.

It is another object to provide a dusting device of the character described having a simplified arrangement for expediting replacement of the laminae so as to make this operation easy for even the most unhandy of housewives.

It is another object to provide a dusting device of the character described whose construction is such that the soft laminae can be replaced by a disposable unit which prior to attachment is firm and flat so that it can be stored and handled readily.

It is another object to provide a dusting device of the character described wherein the soft laminae are so secured that, after use, they can be replaced by other soft laminae without replacement of any other parts of the device.

It is another object to provide a dusting device of the character described wherein conventional facial tissues can be employed to replace dirtied soft laminae and can even, if desired, constitute the soft laminae of the device as initially sold or be secured to such a device after sale without soft laminae.

It is another object to provide a dusting device of the character described the construction of which involves a minimum of metal forming operations.

Other objects in part will be obvious and in part will be pointed out hereinafter.

Our invention accordingly consists in the features of construction, combinations of elements and arrangements of parts which will be exemplified in the dusting devices hereinafter described and of which the scope of application will be indicated in the appended claim.

In the accompanying drawings in which are shown various possible embodiments,

Fig. 1 is a perspective view of a dusting device constructed in accordance with our present invention;

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Fig. 2 is a perspective view of a replacement unit for the device of Fig. 1;

Fig. 3 is an enlarged sectional view taken substantially along the line 3—3 of Fig. 1;

Fig. 4 is a sectional view taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a view similar to Fig. 3 of a dusting device embodying a modified form;

Fig. 6 is a sectional view taken substantially along the line 6—6 of Fig. 5; and

Fig. 7 is a partly broken away perspective view of a dusting device embodying another modified form.

Referring now in detail to the drawings, and more particularly to Figs. 1—4, the reference numeral 10 denotes a dusting device embodying the improved construction which constitutes the subject matter of our present invention.

Said device comprises a dusting head 12 and a handle 14 suitably detachably interconnected, as through the medium of a conventional sheet metal socket 16. The socket is provided with a female threaded portion 18 including two halves held together by a ferrule 20. The lower ends of said halves are joined by a retroverted bend 22 that constitutes a horizontal bearing. The bottom of the handles is formed with the usual male thread for mating cooperation with the socket.

The dusting head 12 includes a stiff flat elongated narrow rectangular body plate 24 which is a permanent part of the device and, in the form now being described, acts as a support to which a replaceable dusting unit 26 is detachably secured. Said plate is made from a suitable self-form-maintaining sheet material such, for example, as sheet metal, wood, plastic, papier-mache, or cardboard, sheet metal preferably being employed.

To connect the plate to the socket we provide a pair of upstanding ears 28 which, conveniently, when the plate is fabricated from sheet metal, can be struck up from the material of the plate itself, leaving openings 30. The ears are located on the longitudinal axis of the plate, extending perpendicularly thereto and thereby being arranged to be in parallel planes. Said ears are pierced in registry to form apertures 32 which receive a bolt 34 that is journaled in the bearing 22 so that the handle is rotatably secured to the dusting head. The bolt is fastened in place, as by a butterfly nut 36. The plate further is provided with a pair of holes 38 that desirably lie near the longitudinal axis of the plate and aid, as soon will be seen, in detachably attaching the unit 26 to the plate.

Said unit 26 comprises a stiff flat elongated rectangular broad backing plate 40 which is considerably wider than the body plate 24 and is slightly longer, particularly if the body plate is fashioned from sheet metal. Since the backing plate will not be subjected to the long hard wear of the body plate and does not have imposed thereon a bending stress transmitted by friction through the bearing 22, said backing plate can be made from a less rugged and less expensive material than the body plate, i. e. a non-metallic material such as cardboard, although we do not preclude the use of other materials such as plastic, wood or papier-mache. It is to be noted, moreover, that the backing plate preferably is made from a material which, although self-form-maintaining, is softer than sheet metal so that if it strikes a finished surface it will not mar the same. It is for this reason that, if the body plate is of sheet metal, the backing plate protrudes beyond the ends thereof and prevents the body plate from scratching or denting furniture or painted surfaces.

The unit 26 further comprises laminae 42 of soft tearable cleaning material such as soft paper, like that from which facial tissues are made. The laminae, as a group, extend across and cover the entire undersurface

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of the backing plate, are folded around the lateral edges of said plate and have parallel marginal edge portions overlying the top surface of the marginal lateral edge zones of the backing plate.

Means, such for example as staples, permanently secure, subject to tearing off of successive individual laminae, the marginal edge portions only of the laminae to the backing panel, leaving the portions of the laminae beneath the backing panel free thereof. More particularly if, as shown, a large number of laminae are provided, we may divide the laminae into two or more groups all with their edges in registration. Staples 44 are driven into the laminae in a direction perpendicular to that of the parallel edges of the laminae to secure the innermost group of laminae to the backing plate and staples 46 similarly secure the outermost group of laminae to the backing plate, the latter staples 46 also passing through the inner group of laminae. This arrangement prevents the innermost laminae from becoming loose on the backing plate after a large number of the outer laminae have been stripped off and the grip of the staples 46 thereby loosened. It should be mentioned that the tips of the staples do not penetrate any portions of the laminae beneath the bottom of the backing panel and so will never be in a position to harm polished surfaces or impede removal of dirtied laminae.

The backing panel 40 has mounted thereon a pair of threaded studs 48, the heads 50 whereof are countersunk in metal washers 52 imbedded in the underside of the backing panel. The shanks of the studs project upwardly and are oriented, spaced and dimensioned to extend through the holes 38. Butterfly nuts 54 screwed on the studs detachably secure the unit 26 to the body plate. It can be seen (Fig. 4) that the inturned side edges of the laminae leave ample clearance to permit free and easy coupling of the unit and the body plate.

It will be appreciated that when in the use of the device the outermost lamina is to be removed, it simply is stripped off by tearing it away from the staples 46 or 44 to expose the next clean lamina, an operation that will be readily understood and performable by a housewife with no mechanical skill.

Pursuant to a further feature the backing panel is provided on both end edges 56 thereof with indentations, such for instance as notches 58, near the lateral edges of said panel for locating elastic loops 60, i. e. rubber bands. One reach of each band lies beneath the backing panel (see Fig. 4) in contact therewith and the other reach above said panel. Said other reach may be in contact with the backing panel or, optionally, may overlie the inturned marginal edge portions of the laminae, as shown in the drawings, to aid the staples in holding said portions down flat against the top of the panel. The principal function of the elastic loops comes into play after all the laminae have been stripped off. Then, either for emergency use if no replacement unit 26 is at hand, or for regular use thereafter, the housewife may employ conventional facial tissues in place of the soft laminae which originally were supplied with the now expended unit, holding said tissues against the backing panel with the elastic loops. The tissues are installed by slipping first one set of edges thereof and then the other under the reaches of the loops stretched across the top of the backing panel.

In Figs. 5 and 6 we have illustrated a dusting device 70 embodying a modified form. Said device includes a cardboard body panel 72 across the undersurface of which laminae 74 of soft tearable facial tissue paper extend. Said laminae are folded around an opposite pair of parallel edges of the panel and have their opposite parallel marginal edge portions overlying the marginal lateral edge zones of the panel to which they are secured by staples 76 in a manner similar to that outlined with respect to the first-described form. The panel

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72 has a set of cardboard bearings 78 mounted on its back. Each such bearing includes an upper cardboard strip 80, a lower cardboard strip 82 and a pair of intermediate cardboard strips 84. The upper and lower strips are of the same size and shape and have their edges registered. The intermediate strips are of the same width as the upper and lower strips but each is slightly less than half the length of an upper or lower strip. The intermediate strips are positioned with their outer end edges in registry with the end edges of the upper and lower strips (see Fig. 6) thus leaving their inner edges spaced apart to form a gap which, in conjunction with the overlying and underlying portions of the upper and lower strips, define a bearing in which an end of a pin 86 (see Fig. 5) is journaled. The strips are secured in the position just described by bolts 88 having their heads imbedded in the underside of the panel and their shanks extending through registered apertures in the strips. The tips of the bolts receive nuts 90 that clamp the strips to the panel. The pin 86 extends transversely through and is secured, as by a drive fit, near the lower end of a handle 92 which thus is pivotally connected to the panel.

In Fig. 7 another dusting device 100 is illustrated. This device is the same as the dusting device 70 except for the manner in which the soft laminae are held in place. Said device 100 has a cardboard body panel 102 in whose opposite end edges 104 notches 106 are formed near the side edges of the panel. Said notches locate rubber bands 108 that hold soft paper laminae 110 to the panel in the manner described in connection with the emergency replacement laminae for the dusting device 10. In the case of the dusting device 100, however, the soft laminae are initially held in place only by the rubber bands, it being understood that the dusting device 100 may be marketed without soft laminae which will be mounted by the purchaser after sale.

It thus will be seen that we have provided dusting devices which achieve the several objects and are well adapted to meet the conditions of practical use.

As various possible embodiments might be made and as various changes might be made in the embodiments above set forth, it is to be understood that all matter hereinabove described and shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

In a dusting device comprising a stiff non-metallic flat plate, a handle, means pivotally securing the handle to the plate, said plate having opposite parallel edges, and a plurality of soft laminae of the facial tissue type with two registered sets of opposite parallel edges, said laminae extending across the undersurface of said plate, being folded around the edges of said plate and having said opposite edges of said laminae overlying the top surface of the plate, the improvement comprising at least two groups of said laminae in overlying relation, elongated staples securing the folded portions of each of said groups, said staples being disposed near said opposite edges of said laminae, thereby leaving said edges entirely exposed, said staples also being positioned in a direction perpendicular to the direction of said laminae edges, the staples for the lowermost laminae group being driven into said plate, and the staples of the overlying laminae group being driven into said lowermost laminae group.

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