

Jan. 4, 1966

J. H. LEMELSON

3,226,751

COMBINATIONAL SPONGE AND SCOURING DEVICE

Filed Feb. 8, 1963

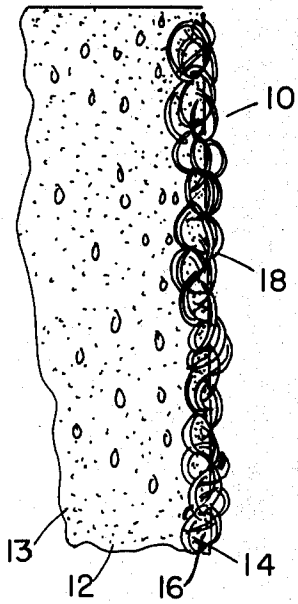


FIG. 1

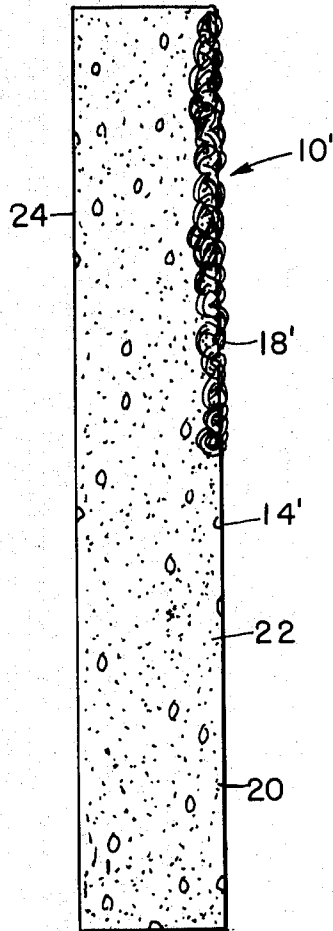


FIG. 2

INVENTOR.

Jerome H. Lemelson

1

3,226,751

COMBINATIONAL SPONGE AND SCOURING DEVICE

Jerome H. Lemelson, 85 Rector St., Metuchen, N.J.

Filed Feb. 8, 1963, Ser. No. 257,319

1 Claim. (Cl. 15-118)

This invention relates to a cleaning implement made of cellular plastic and is a continuation-in-part of my copending application Ser. No. 555,146, filed on December 23, 1955, for Panel Construction, now abandoned.

In the function of cleaning utensils such as pots and pans or articles containing greases and the like, it is necessary to abrade or scour as well as rinse the surface of said articles in order to effect proper cleaning. The use of a sponge and water may absorb or wipe up some of the grease but the conventional soft and flexible sponge or pad made of flexible cellular plastic tends to spread a good deal of the adhered substances rather than remove it. It is often necessary to combine the absorbing action of the sponge with an abrading action by utilizing a scraper pad of steel-wool or the like. However, the alternate use of two cleaning implements is time consuming and requires a considerable amount of additional effort and wasted movement in switching from one cleaning implement to the other.

Accordingly, it is a primary object of this invention to provide a new and improved cleaning device which is light in weight and easy to handle. Another object is to provide an improved cleaning device in the form of a sponge-like pad which may serve multiple cleaning functions which include the absorption of a cleaning liquid thereby, the dispensing of said cleaning liquid, the abrading of greases and grease-like coatings and the absorption of the grease and dirty solutions resulting from the prior mentioned functions.

Another object is to provide an improved cleaning device in the form of a cellular plastic sponge having a plurality of monofilament abrading elements integrally secured thereto whereby to provide the dual function of abrading or scouring surfaces to be cleaned and of wiping said surfaces with a liquid bearing medium.

With the above and such other objects in view, as may hereinafter more fully appear, the invention consists of the novel construction, combination and arrangement of parts, as will be hereinafter more fully described, and illustrated in the accompanying drawings, wherein is shown an embodiment of this 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 FIG. 1 is shown a portion of an improved cleaning implement 10 possessing both the characteristics of a sponge or cellular wiping element and those of an abrading material such as plastic or wire wool. The implement 10 comprises a soft and flexible cellular base portion 12 made of any suitable flexible expanded plastic such as plasticised vinyl, cellulose acetate or the like. The sponge portion 12 which comprises the major portion of the cleaning implement preferably contains a plurality of interconnected cells 13 of the same or different sizes capable of holding a quantity of cleaning fluid such as water to be dispensed against the surface to be cleaned by compression of the sponge.

2

By itself, the sponge material is incapable of cleaning many types of grime, grease and other forms of dirt due to its inability to scour or abraid said material. Accordingly, disposed within a layer 16 and protruding from at least one surface 14 of the base member 12 are a multitude of scouring elements 18 which are shown as curled wire-like metal or plastic elements each of which is at least partially imbedded within the cellular plastic layer 16 of the sponge base 12. Accordingly the walls of the cells of the layer 16 serve to mechanically retain the filament elements 18 in place and normally prevent their removal when the surface of the cleaning implement is manually brought to bear against a surface to be cleaned or abraded thereby.

The cleaning implement 10 thus serves a number of important functions which would ordinarily require two cleaning implements such as the conventional cellular sponge and wire or plastic wool scouring pads. While the abrasive filaments 18 are brought to bear and moved across the surface to be scoured thereby, the cellular plastic base member 12 is normally compressed to provide the necessary force to effect such scouring action and accordingly is forced to release a quantity of the cleaning liquid retained within the cells 13 thereof. Accordingly, sufficient cleaning liquid is provided during the scouring action to further dissolve and release partially scoured dirt and to wash it away from the surface engaged by the scouring elements 18. Thus, a new and improved cooperative cleaning action is effected.

The scouring elements 18 may be provided in a number of forms. In their simplest form, they may comprise a plurality of short straight mono-filaments or wires of plastic such as rigid vinyl, linear polyethylene or polypropylene. They may also comprise short, curled mono-filaments or wires of metal. In another form, the layer defining the scouring elements 18 may comprise interconnected or loosely held curled or otherwise shaped strips or filaments of plastic of the type described or curled wires of non-rusting metal such as copper, stainless steel, etc. These elements may also extend deeper into the body of the cellular plastic base 12 or completely through and through said base.

In FIG. 2 is shown the preferred form of the invention in which a layer or array 18' of the scouring elements 18 of FIG. 1 is provided along a portion of the layer immediately adjacent one surface of a slab-like cleaning implement 10' which comprises a base 20 made of flexible cellular plastic material. Accordingly, the lower portion 22 of 20 has its surface 14' void of scouring elements so that, a wiping action may be accomplished immediately following the scouring action in a single pass of the cleaning elements across the surface for removing or wiping the dirt or grease scoured by the portion 18' of the cleaning implement.

I claim:

A cleaning and scouring device comprising in combination:

- (a) a flexible cellular plastic body in the shape of a pad and having a substantially flat face, said cellular plastic body being capable of retaining and releasing liquid from its surface,
- (b) a plurality of plastic filaments shaped as curl formations and randomly arrayed and partially covering a first portion of said flat face of said pad,

| | | | | |
|--|----------|-----------|---------|-------------------------|
| | 3 | | | 4 |
| (c) portions of said plastic filaments being embedded in the cells of said cellular body and | | 2,087,875 | 7/1937 | Judd. |
| | | 2,113,452 | 4/1938 | Long. |
| (d) the remainder of said substantially flat face being free of said filaments to provide both wiping and abrading actions when said face is urged across a surface of work to be cleaned thereby. | | 2,339,547 | 1/1944 | Carter ----- 15—244.1 X |
| | | 2,768,091 | 10/1956 | Cubberley ----- 264—45 |
| | 5 | 2,804,728 | 9/1957 | Politzer et al. |

References Cited by the Examiner

UNITED STATES PATENTS

1,966,101 7/1934 Miller.
2,026,638 1/1936 Kingman.

FOREIGN PATENTS

526,921 3/1954 Belgium.

10 DANIEL BLUM, *Primary Examiner*.
CHARLES A. WILLMUTH, *Examiner*.