

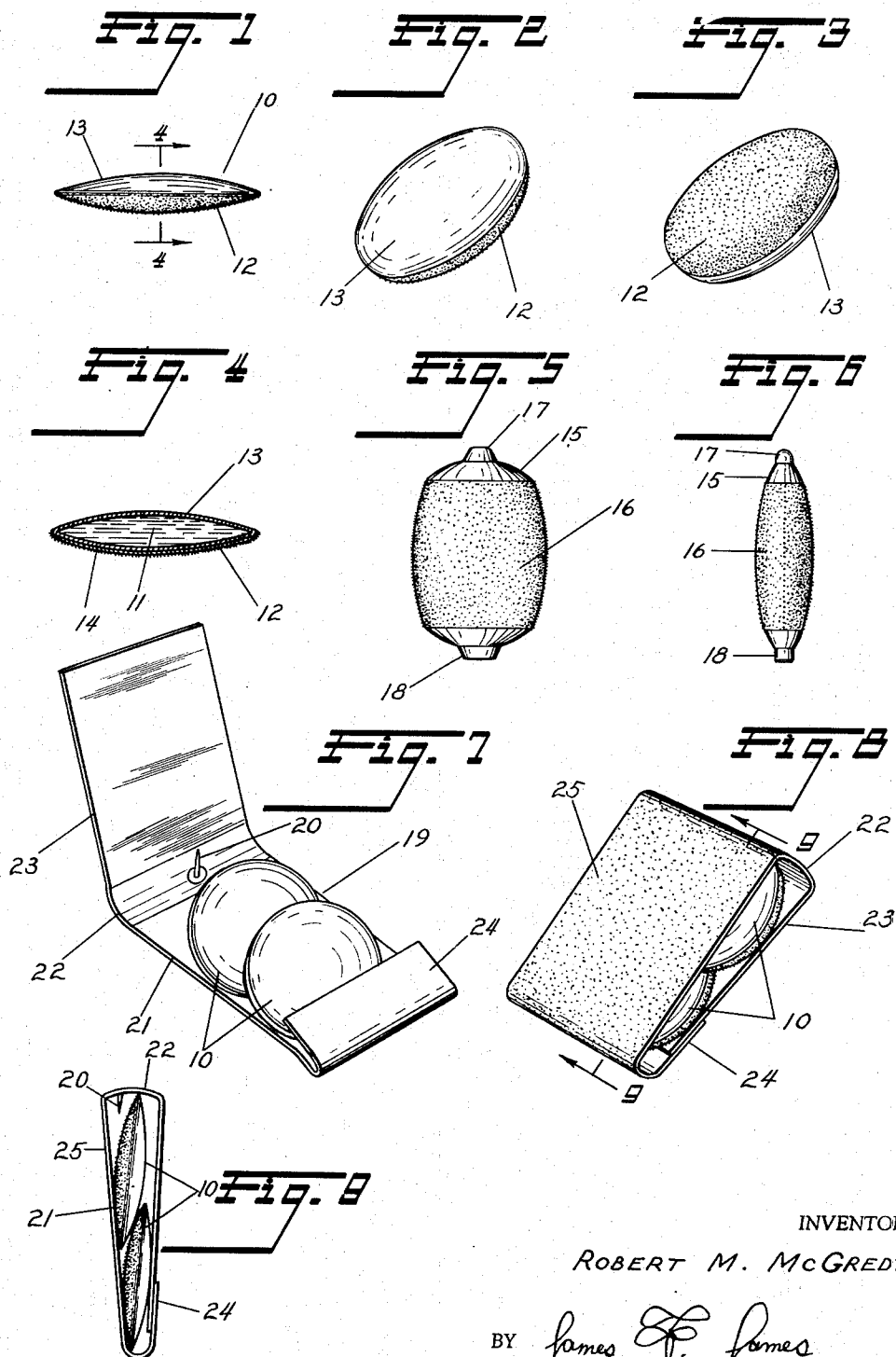
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CLEANING DEVICE AND PACKAGE CONTAINING SAME

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CLEANING DEVICE AND PACKAGE CONTAINING SAME

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The present invention relates to a cleaning device and more particularly to a cleaning device to be carried on the person at all times for cleaning soiled areas of the clothing the moment such areas are discovered.

During the course of the ordinary day, a great many people are away from their homes for considerable periods of time. During such absences, people are continually subjected from many and varied sources to all forms of dirt, grease, soot, dust, liquids, etc. which quite often comes into contact with their clothing. For example, a person having lunch in a restaurant or the like quite often has particles of food, drops of coffee or milk or alcoholic beverages fall onto some portion of his wearing apparel. Another common occurrence is having soot from chimneys or trains fall on the clothing thus leaving a smudge spot on the fabric.

In either of the above or similar incidents the soiling of the clothes in this manner is highly objectionable. In the first place, the cleaning of such soiled areas is almost impossible since the only fluid readily available is water. However, the chemical nature of these materials creating the soiled areas is such that water usually has no effect on them. The only manner in which the soiled area may be properly cleaned therefore is by employing a special cleaning solution on the area. At the present time, the only way this can be accomplished is by purchasing a large container of cleaning fluid and applying it upon arriving at home or some similar destination or by sending the garment to a regular dry cleaning establishment.

Either of the above conventional procedures are inconvenient since the material soiling the fabric in both cases remains on the clothing for some time. It is an established fact that the fabric absorbs the material readily and when the fabric has dried, its cleaning becomes much more difficult. For example, when clothes soiled in this manner are sent to cleaning establishments, the establishment usually requests that you hold them free from liability for possible harm to the garment.

Another disadvantage to either of the aforementioned procedures is the continued presence of the spot on the clothes. This spot or soiled area will materially detract from the personal appearance of the person. If a person has an important social or business engagement and soils his clothes, he will of necessity have to return to his home for fresh clothing or else go to a dry cleaning establishment providing a clean-as-you-wait service. Either of the above procedures is highly inconvenient and undesired.

In the light of these foregoing objections, to properly and satisfactorily remove soiled areas from the clothing when away from home the cleaning device must be compact and easily carried on the person at all times. Moreover, the cleaning device must contain a sufficient quantity of cleaning fluid to properly clean a soiled area of an average size. The container should be made of a material that will permit ready access to the fluid as well as being of such a nature that the fluid may be readily ejected.

It is, therefore, a principal object of the present invention to provide a fluid-tight compact cleaning device which may be carried on the person at all times for cleaning a soiled area on the clothing the moment it is discovered.

Another object is to provide a fluid-tight cleaning device of a light-weight pressure-deformable material which will contain a sufficient quantity of cleaning fluid.

Still another object is to provide a cleaning device con-

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taining a cleaning fluid which may be easily ejected from such device by simple hand pressure.

A still further object is to provide a cleaning device that may be discarded after a single use.

A still further object is to provide a compact portable cleaning device having an absorbent material secured thereto for more efficiently and effectively cleaning the soiled area of the clothing.

Still a further object is to provide a package containing a plurality of cleaning devices which will prevent any accidental breaking or opening of such cleaning devices accidentally.

Further and additional objects and improvements will become apparent from the annexed drawings and the description to be given hereinafter.

To the accomplishment of the foregoing and related ends, the present invention then consists of the means hereinafter described and particularly pointed out in the claims, the annexed drawings and the following description setting forth in detail certain means in the carrying out of the invention, such disclosed means illustrating, however, but one of various ways in which the principle of the invention may be employed. The present invention, by way of example, is illustrated in the accompanying drawings in which:

Fig. 1 is an elevational view of a cleaning device made in accordance with the present invention;

Fig. 2 is a top perspective view of the cleaning device shown in Fig. 1;

Fig. 3 is a bottom perspective view of the cleaning device shown in Fig. 1;

Fig. 4 is a cross-section view taken along lines 4—4 of Fig. 1;

Fig. 5 is a front elevation of another form of a cleaning device made in accordance with the present invention;

Fig. 6 is an end elevation of the cleaning device shown in Fig. 5;

Fig. 7 is a front perspective view of a package containing a plurality of cleaning devices shown in Fig. 1, with the top of the package in open position;

Fig. 8 is a rear perspective view of the package shown in Fig. 7 with the package in closed position, and

Fig. 9 is a cross-section taken along lines 9—9 of Fig. 5.

Referring now in detail to the annexed drawings and with particular reference to Figs. 1 through 4, the illustrative embodiment of the cleaning device, made in accordance with the present invention, comprises a cylindrical, oval shaped pressure-deformable container body or shell generally referred to by reference numeral 10, a cleaning fluid 11 of any suitable type within the container body 10, and absorbent material 12 disposed on one face of the container body 10.

The container body 10 comprises a cylindrical oval top portion 13 and a mating identical bottom portion 14 integrally secured to the top portion 13 along its outer circumference thereof. The container body 10 may be made in any desired manner depending upon the material used. For example, the preferred material is an organic synthetic plastic which is impervious to the particular cleaning fluid employed. When using such a material, the container body 10 may be formed by molding, extruding, casting, etc. in a die or mold of the desired shape. This particular method will result in the formation of a hollow, cylindrical oval shaped container body. The cleaning fluid 11 may be then injected into the formed container body 10 and then sealed to completely insure the proper retention of the cleaning fluid within the formed body until needed. The final sealing may be accomplished by heat and/or pressure or by an electronic heat sealing operation. The method of formation just described is for illustrative purposes only since there are various other ways which may be employed to produce the container body.

As stated hereinbefore, the shape of the container body 10 is preferably round in circumference and oval shaped in diameter. This particular shape is preferred with this embodiment of the invention since it results in a compact container that is easily carried. Moreover, a cleaning device having this configuration may be more

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easily packaged in groups of two or more so that a plurality of the cleaning devices may be carried at all times. However, the cleaning device may be made in any shape or design desired so long as such device possesses the required characteristics hereinbefore stated.

The cleaning fluid 11 to be carried within the container body 10 may be of any desired type that is readily available commercially. For example, carbon tetrachloride, benzol, hydrocarbon derivatives, etc. are well-known and readily available cleaning fluids. It should be cautioned, however, that some care should be used in selecting the material for the container body 10 and the cleaning fluid 11. For example, an organic synthetic plastic is the preferred material to be used in forming the container body 10. There are many plastics, however, which are affected in various ways by certain compositions possessing the properties of a cleaning fluid. It is obvious therefore that the cleaning fluid selected should be one that will have no detrimental effects on the plastic container body.

The absorbent material 12 is preferably applied to the bottom portion 14 of the container body 10 by any suitable means such as, for example, by an adhesive or by heating the surface of the bottom portion 14 slightly to render the surface tacky and then applying the absorbent material. The absorbent material 12 may be of any desired type such as, for example, flannel cloth, blotting paper, etc. The absorbent material 12 is shown to be secured only to one-half of the container body 10 and this arrangement is preferred for the particular embodiment of the invention. However, it is obvious that the cleaning device would perform its stated function with the absorbent material 12 completely enclosing the entire container body 10 or some portion thereof.

In the operation of the illustrative cleaning device shown in Figs. 1 and 4, a sharp pointed instrument such as, for example, a small needle, tack or a similar puncturing device is injected into the container body 10 from the side carrying the absorbent material 12. Then by simple finger pressure on either side of the container body 10, the fluid is ejected from the container body 10 through the formed opening and saturates the absorbent material 12. The cleaning device, in this condition, is then rubbed against the soiled area of the clothing causing the cleaning fluid 14 to perform its intended function. This particular mode of operation of the cleaning device is preferred since it permits a simultaneous application of the cleaning fluid 11 over an area as large as that of the absorbent material 12. If the soiled area on the clothing is rather large, the top portion 13 may be punctured and a large amount of the cleaning fluid 11 ejected directly on to the soiled spot and side 14 carrying the absorbent material 12 is then rubbed briskly against the saturated area of the clothing to remove the spot.

Referring now to Figs. 5 and 6, a modified form of a cleaning device made in accordance with the present invention is shown. The modified cleaning device comprises a pressure-deformable plastic body which is a relatively flat elongated fluid-tight container body 15 having a small oval tip 17 at one end thereof and a sealed portion 18 at the opposite end thereof, cleaning fluid contained within the container body 15, and an absorbent material 16 disposed centrally on the outside area of the container body 10.

To form the modified cleaning device shown in Figs. 5 and 6, using synthetic organic plastic as an illustrative material, the body 15 is a moulded or cast forming a hollow body having the tip 17 at one end thereof with the opposite end open. The cleaning fluid is then poured in from the open end to substantially fill the container body 15. The open end is then subjected to heat and pressure which welds the sides together forming the sealed portion 18. The sealing may be accomplished by placing the open end of the container body 10 in a jig. The jig is then closed bringing the sides of the open end together and the jig in this position is subjected to electronic heat which forms the sealed end 18. The absorbent material 16 may be of the type hereinbefore identified and may be secured to the container body 15 in a manner hereinbefore suggested with respect to the embodiment of the invention shown in Figs. 1 through 4.

To use the modified form of the cleaning device shown in Figs. 5 and 6 to remove a spot from the clothing, the tip 17 is punctured by a sharp pointed instrument, i. e. a needle or a tack. The container body 15 is then pressed

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lightly by the fingers and the cleaning fluid is then ejected through the formed opening in a very fine spray on to the spot. After the fluid has been ejected from the container body 15 the absorbent material 16 is then rubbed briskly against the saturated area of the clothing and the spot is thereby removed.

It has been stated hereinbefore that in each embodiment of the invention, the cleaning device must first be punctured in order to reach the fluid and make it available. However, there are many synthetic organic plastics that may be employed with a preformed opening. Such materials are self-sealing and with this type of material a preformed opening could be present in the container body of the cleaning device. After the fluid had been added to the container body through the preformed opening, the opening could be closed by simple hand pressure thus preventing the escape of the cleaning fluid. To use this device, hand pressure on the container body would break the seal thus forcing the cleaning fluid out. This particular embodiment will be found desirable since it permits the cleaning device to be used for more than one cleaning.

It has been hereinbefore indicated that the preferred material for making the container body portion of the cleaning device in each embodiment is a synthetic organic plastic. There are a wide variety of such materials readily available commercially. Illustrative examples of such materials are polymerized unsaturated organic resins, i. e. polyethylene, vinyl resins, etc., synthetic rubber, Celluloid and similar materials. While such materials are preferred it is obvious that any material that is pressure-deformable and capable of being punctured by a sharp pointed instrument may be employed in the formation of a cleaning device embodying the principles of the present invention.

A particularly useful feature of the present invention is the throw-away characteristics of the cleaning device. It is quite obvious that, in most instances, it is undesirable to have an article that has been punctured and which contains cleaning fluid to be carried on the person. The presence of such an article would create the possibility of having the cleaning fluid seep through the opening in the cleaning device and wet the clothing thus causing discomfort. With the present device, such features are eliminated since the size of the cleaning device is such that the amount of cleaning fluid normally used is sufficient only for one cleaning. In other words, a user simply punctures the cleaning device, ejects the fluid on to the soiled area of the clothing, wipes it with the absorbent material and then discards the used cleaning device.

Referring now to Fig. 7, a package generally referred to by reference numeral 19 is shown which permits the carrying of a plurality of cleaning devices. In the description to be given hereinafter, the cleaning device shown in Figs. 1 and 4 will be described in conjunction with the package 19.

The package 19 comprises a back portion 21 and a top portion 22 integrally secured to one end of the back portion 21 in hingeable relationship. A front portion 23 of somewhat shorter length than the back portion 21 is integrally secured to the opposite edge of the top portion 22 in hingeable relationship. The back portion 21 has its free edge turned upon itself forming a pocket portion 24 in which the bottom free edge of front portion 23 will be secured when the package is in closed position. A small sharp pointed instrument 20, i. e. a small tack, is secured on the inner face of the package 19 at any convenient point such as, for example, on the inner face of the top portion 22.

The cleaning device is secured to the inner face of the back portion 21 in any suitable manner and by any suitable means. It is preferred that the cleaning devices are secured on the side containing the absorbent material. This may be accomplished by applying adhesive to the absorbent material at some convenient spot and then securing the absorbent side to the back portion 21.

It will be found advantageous to have an absorbent surface 25 on the outer face of the back portion 21. By this construction, the package may be employed as an absorbent medium for the ejected cleaning fluid. The absorbing surface 25 may be obtained by securing an absorbent material to the back portion 21 by adhesive or the like or the back portion 21 may be made of an absorbent paper such as, for example, blotting paper.

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The package, when closed, gives the general outward appearance as that of a conventional book-type pack of matches. The operation of the package shown in Figs. 7 through 9 operates in a similar manner. For example, the package 19, when in closed position, has the front portion 23 recessed in the pocket 24 forming a package having its sides open. To obtain a cleaning device, the front portion 23 is then lifted from the pocket 24 and drawn upwardly and backwardly in a manner similar to that employed with a conventional pack of book matches. The cleaning device is then pulled from the back portion 21 and the container body 10 is pressed against the piercing instrument 20 secured to the package 19 forming an opening therein. The cleaning device is then operated in a manner as hereinbefore described.

A modified form of a package (not shown) may be employed to carry the cleaning device without securing any of the surfaces of the cleaning device to the walls of the container. This package comprises a bottom portion and four upwardly turned flange portions defining a shallow box thereof. A top portion is secured to the free edge of one of the upwardly turned flanges in hinging relationship. The opposite free edge of the top portion is downwardly turned so that when the box or package is closed, the top will be held by the cooperative relationship of the downwardly turned portion of the top and one of the oppositely turned flanges. The desired number of cleaning devices are merely stacked within the formed shallow box portion of the package. The piercing element is positioned within the box at some convenient point and the bottom or top portions of the box preferably have an absorbent material secured thereto.

I claim:

1. A cleaning device comprising a thin, cylindrical, oval shaped, pressure-deformable, fluid-tight plastic sealed shell, cleaning fluid within said shell, and an absorbent material permanently and adhesively secured to only a portion of the outside surface of one face of said container body, said cleaning device adapted to be punctured through that portion of the container body having the absorbent material permanently secured thereto whereby simple hand pressure on said container body will cause said absorbent material to be saturated with the cleaning fluid.

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2. The combination of a wrapper comprising a back portion, a top portion integrally secured to the upper free end of said back portion in hingeable relationship therewith, a front portion integrally secured at one end to said top portion in hingeable relationship therewith, said front portion extending downwardly therefrom in spaced relationship to said back portion, a bottom portion integrally secured to the bottom edge of said back portion and extending upwardly therefrom and in spaced relationship with respect to said back portion, said bottom portion receiving the bottom free end of said front portion when the wrapper is in closed position, absorbent means permanently secured to the outside face of said back portion, a piercing instrument secured to an inside face of the wrapper, at least two cleaning devices positioned within said wrapper in detachable relationship therefrom, said cleaning devices each comprising a fluid-tight, pressure-deformable, sealed shell and cleaning fluid within said shell, and absorbent means permanently secured to only a portion of the outside surface of each of said shells, said cleaning devices being puncturable by said piercing instrument of said wrapper.

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