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DISPOSABLE DUSTERS AND METHODS OF MAKING THEM

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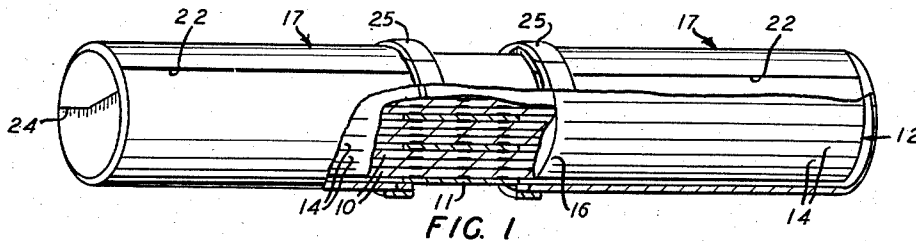


FIG. 1

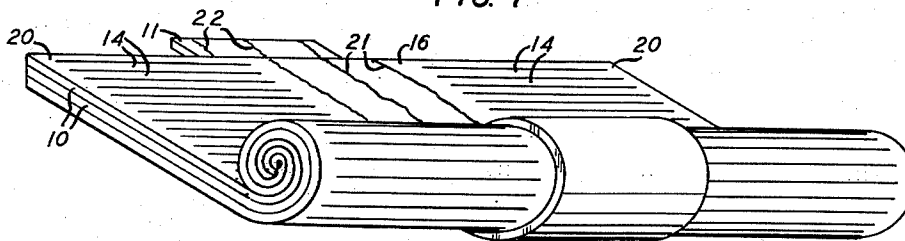


FIG. 2

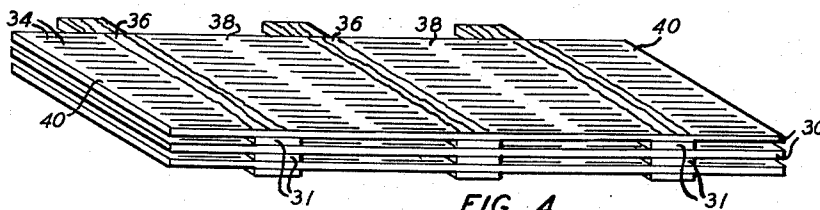


FIG. 4

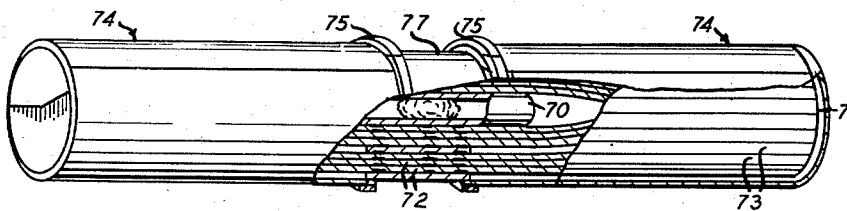


FIG. 6

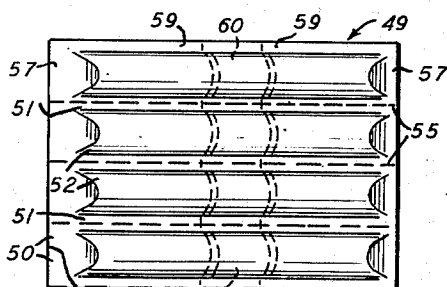


FIG. 5

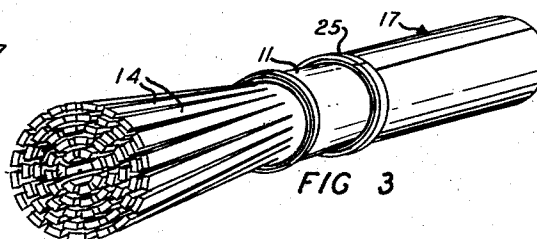


FIG. 3

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DISPOSABLE DUSTERS AND METHODS OF MAKING THEM

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This invention relates to disposable dusters and methods of making them. The invention relates more particularly to dusters which have multiple dusting portions and are sufficiently inexpensive to be thrown away after each dusting portion has been used only once, and to methods of making such dusters.

It is customary for a barber or a beautician to use a soft brush or duster to whisk away the cut ends of hair that fall on the face, neck and the clothing of a patron during the act of cutting hair. Manifestly, for sanitary reasons, it is desirable that such a brush be used only once or that it be sterilized after each use. In fact, the laws of many States prohibit repeated use of barbers' tools, combs and brushes without intervening sterilization. The initial cost of brushes made of animal or artificial fiber bristles is too great to permit them to be discarded after only one use. Also the time, equipment and materials required to sterilize such brushes repeatedly make it extremely expensive to do so. Hence, there is need for a brush that is effective and yet is sufficiently cheap to be thrown away after a single use of each dusting portion thereof.

An object of this invention is to provide new, effective and inexpensive disposable dusters, and to provide new and useful methods of making the same.

A further object of the invention is to provide disposable dusters which have multiple dusting portions and are sufficiently inexpensive to permit them to be thrown away after each dusting portion has been used only once, and to provide simple methods of making such dusters.

Another object of the invention is to provide disposable double dusters in which the dusting portions are completely isolated from each other to prevent migration of germs from one portion to the other, and to provide inexpensive methods of making disposable dusters of this nature.

The aforementioned and other objects and features of the invention will be apparent from the following detailed description of specific embodiments thereof, when read in conjunction with the accompanying drawing, in which:

Fig. 1 is a perspective view of a disposable duster embodying the invention, with portions thereof broken away to illustrate its construction;

Fig. 2 is a perspective view showing how a portion of the duster is assembled;

Fig. 3 is a perspective view of the duster having a portion of the wrapper removed to permit use of one of the dusting portions thereof;

Fig. 4 is a perspective view similar to Fig. 2 illustrating another method of making the duster;

Fig. 5 is a perspective view showing how a plurality of dusters embodying the invention may be grouped together, and

Fig. 6 is a perspective view similar to Fig. 1 showing a disposable duster forming another embodiment of the invention.

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Referring now to Fig. 1 of the drawing, there is shown how a disposable duster embodying the invention is assembled. One or more wide, elongated bands 10—10 of soft paper and a narrow, outer band 11 of tougher paper are rolled into a cylinder 12. The bands 10—10 are made of soft paper, such as is used in making paper napkins, or they may be made of a soft tissue of the type used to make facial tissues. One particular paper that is suitable is known in the paper trade as a soft fibrous, non-woven paper. The edges of each paper band 10 are slit in any suitable manner to form parallel rows each containing a multiplicity of thin strips 14—14, which serve as dusting elements when the duster is used. The center portion 16 of the paper band is uncut, and serves as a base for the edge strips 14—14. The edge strips 14—14 are encased in wrappers 17—17, which are hermetically sealed to keep the duster sterile until it is used.

In practicing one method of making this form of duster, soft paper bands, which are longer than those shown in Fig. 1 and do not have the extreme edge portions thereof slitted, are rolled into a tight cylinder along with the narrow band 11 of tougher paper. The bands 10—10 are slit, as shown in Fig. 2, outwardly from the outer ends of the uncut center portion 16 for a distance equal to the length of the ribbons 14—14 shown in Fig. 1, but thin, unslitted, longitudinal strips 20—20 are left at the extreme edges of the bands.

Each of such soft paper bands 10—10 is coated along one side of the uncut center portion 16 thereof with one or more longitudinally applied layers 21—21 of adhesive, and the narrow band 11 is likewise coated on the side thereof adjacent to the soft paper bands 10—10 with longitudinal layers 22—22 of adhesive. Preferably several of such bands 10—10 with the adhesive layers 21—21 applied thereto are placed together with the narrow outer band 11 as shown in Fig. 2, and then they all are rolled into a cylinder. After the bands 10—10 and 11 are rolled into a cylinder, and are caused to adhere to each other at the center portions 16—16 to form an impervious barrier, the ends of the cylinder 12 are cut off just inside the edge strips 20—20 leaving the ribbons 14—14 at the ends thereof free.

The reason for making these cylinders in this manner is that the bands are made of soft and somewhat fluffy paper. As a result, if the bands are slit all the way to their edges to form free ribbons at the ends thereof, the ribbons tend to form bushy groups and may become somewhat entangled. Also they are limp and tend to droop. These characteristics make it somewhat difficult to roll several of these bands, or a single band, into a cylinder that is as tight at the ends as it is at the center. By providing the extra, uncut strips 20—20 at the edges of the bands and rolling such bands into a tight cylinder, the ribbons 14—14 are held in place during the rolling operation and the resulting cylinder 12 is compact throughout its length.

The adhesive used may be a glue or cement which hardens when it cools. In either case, the adhesive causes the center portion of the convolutions to become so securely affixed to each other that they form a solid barrier between the slitted edge portions 14—14 of the bands 10—10. Obviously the same result is obtained when a single, but longer, band of soft paper is treated with layers of adhesive and is rolled into a cylinder along with an outer narrow band of tougher paper. Also any other suitable manner of effecting a tight seal between the convolutions at the center of the cylinder may be employed.

The outer narrow band 11 acts as a stiffener and facilitates the rolling of the wider bands 10—10 of soft paper into a cylinder. It also makes the completed cylinder more rigid, and provides a firm base to which the

inner ends of the wrappers 17—17 may be adhered firmly. In addition, the band 11 provides space upon which advertising matter may be printed or adhered.

After the cylinder 12 has been formed, it is encased in the wrappers 17—17, which may be made of sheets of paper, cellophane, or the like. The sheets are rolled into tubes about the ends of the cylinder 12, and the overlapping edges 22—22 thereof are stuck to the surface of the sheet therebeneath by a suitable adhesive or by heat sealing. The inner ends of these sheets are secured in the same manner to the narrow band 11 near the edges thereof to form tight seals. The ends of the sheet are formed into folds, such as the fold 24 (Fig. 1), which also are stuck together so as to form an impervious seal at each end of the duster.

The wrappers 17—17 are provided with severable portions 25—25, to permit the ends of the wrappers to be selectively removed to uncover the strips 14—14 therebeneath. Preferably, the wrappers are made of cellophane, or other plastic, in which case the severable portions 25—25 may be tear-strips, such as are used on cigarette packages and the like. If the wrappers 17—17 are made of paper, rip cords may be provided to expedite their removal. If desired, the inner ends thereof may be free and project inwardly over the narrow band 11 beyond the areas where the wrappers are joined to the band 11. The free inner ends of the wrappers may be grasped so that they may be torn readily.

In using this duster, one of the wrappers 17—17 is torn along the severable portion 25 thereof, and that wrapper is removed. The duster then will look like that shown in Fig. 3, with the strips 14—14 at the uncovered end free and those at the other end still encased in the other wrapper 17. The encased end and the center of the duster may be used as a handle to manipulate the free strips 14—14, like the bristles of an ordinary brush are used, to remove ends of hair or other unwanted matter from the face or clothes of a patron of a barber shop or beauty shop, for example.

It should be noted that the solid barrier formed by the adhered convolutions at the uncut center portion 16 of each paper band prevents any germs, such as may cause skin or other diseases, from migrating to the encased end of the duster. Obviously, after one end of the duster has been used on one patron it is never used again upon another patron. However, the encased end of the duster is still sanitary, and may be used in the same manner upon another person without danger of contamination from the used end of the duster. When both ends of the duster have been used, the entire duster is thrown away.

Obviously, instead of using two wrappers like the wrappers 17—17, the cylinder 12 could be covered with a single wrapper which covers the entire cylinder. In that case, the single wrapper would be sealed at the overlapping edge and at the ends in the manner described. The wrapper would also be sealed to the narrow band 11 so as to form an impervious seal between the ends of the duster. The wrapper would also be provided with two severable portions at about the locations of the severable portions 25—25 to permit the ends of the wrapper to be selectively removed to successively expose the free strips at the ends of the duster.

Instead of making the cylinders for these dusters singly, as is shown in Fig. 2, it would be more feasible in commercial production to follow the method illustrated in Fig. 4. In accordance with this method, a number of very wide, soft paper bands 30—30 are slitted so as to form relatively wide bands of ribbons 34—34, like the ribbons 14—14 shown in Fig. 2, which are joined together by unslitted portions 36—36, each of the same width as the uncut portion 16, and by narrower unslitted portions 38—38, each of the same width as the edge strips 20—20. At the edges there are narrow, uncut strips 40—40, like the uncut edge strips 20—20 shown in Fig. 2.

These bands 30—30 are interleaved with several nar-

row, center bands 31—31, like the band 11, which are made of tougher and firmer paper than are the bands 30—30. The several wide bands 30—30 and the interleaved narrow, center bands 31—31 are rolled into a long cylinder in the same manner that the cylinder 12 is formed. The several convolutions of the cylinder are adhered together at the uncut center portions 36—36 and at the narrow, center bands 31—31 in the same manner as are those of the cylinder 12 so that barriers are formed between the slitted ribbons 34—34.

After the long cylinder has thus been formed, it is cut into lengths each equal to the length of the cylinder 12 and of identical construction. This is done by cutting the cylinder transversely at the inner edges of the narrow outer strips 40—40, and at the outer edges of the unslitted portions 38—38. The resulting shorter cylinders will be identical in construction with the cylinder 12, but it is obvious that they are formed more expeditiously and cheaply than is the case when only one cylinder is made at a time. The bands may be made as wide as desired to make any selected number of cylinders by one rolling operation and one cutting step.

The several cylinders formed in this manner are encased in wrappers like the wrappers 17—17, which may be selectively removed from the ends of the completed article to expose the ribbons 34—34 for use as brushing elements. Only one of the strips 31—31 may be used, if desired, as is the case in the manufacture of the cylinder 12. Likewise, a number of narrow center strips like the strips 31—31 may be used to make an individual cylinder like the cylinder 12.

The dusters just described, made by individually encasing cylinders like the cylinder 12 with wrappers like the wrappers 17—17, may be packaged in boxes or the like. However, it may be desirable in some cases to secure a plurality of the dusters together in an endless string in the manner shown in Fig. 5. In that case, an endless, looped casing belt 49 is formed of two sheets 50—50 of paper or other suitable material, such as cellophane. The sheets 50—50 are joined together along transverse areas 51—51 between each of a plurality of cylinders 52—52 by means of an adhesive or by heat sealing. Transverse severable portions 55—55 similar to the severable portions 25—25 are provided at the centers of the areas 51—51 between each pair of cylinders 52—52 to permit the cylinders to be separated as desired.

The edges of the sheets 50—50 are sealed along longitudinal areas 57—57, so that the individual cylinders are hermetically sealed between the sheets and are kept sterile. Longitudinal severable portions 59—59 like the severable portions 25—25 are provided to permit the ribbons to be selectively exposed and used as dusting elements. The sheets 50—50 are adhered to narrow, center bands 60—60 on the cylinders 52—52 by an adhesive or by heat sealing to keep the ends of the dusters isolated until exposed by removing the wrappers directly encasing them. Such a string may be rolled into a cylinder, or it may be folded into layers in a container.

Another form of duster embodying the invention is shown in Fig. 6, which duster is similar to the one shown in Fig. 1. However, instead of having the entire cylinder made of rolled up slitted bands of paper and one or more narrow, tougher center bands, it is provided with a stiff center core 70 around which the bands of paper may be wound into a cylinder 71 similar to that shown in Fig. 1. The slitted paper bands have uncut center portions 72—72 and the sides of the paper bands are in the form of ribbons 73—73 which serve as dusting elements. Hermetically sealed wrappers 74—74, like the wrappers 17—17, enclose the ends of the cylinder 71. The wrappers 74—74 have severable portions 75—75, which function in the same manner as do the severable portions 25—25 shown in Fig. 1.

The core 70 is in the form of a thin cylinder, and it may be made of a solid piece of wood, plastic, fiber or

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the like. The core 70 may be made of a tube of cardboard, or the like, in which case there would be a plug of cotton, or other suitable material, inserted in the tube to form a germ barrier. The paper bands are secured to the core 70 and to the center portions of each other by a suitable adhesive in a manner similar to that by which the band 11 and the uncut center portions 16—16 are adhered together in the embodiment shown in Fig. 1. Likewise the wrappers 74—74 are sealed to a narrow, center band 77 in the same manner that the wrappers 17—17 are secured to the center band 11.

The purpose of the plug 70 is two-fold. In the first place, it is more rigid than are the center portions of the paper bands that are wound around it. Hence, it stiffens the duster at the center and the entire center section of the duster forms a firm handle or support for the paper ribbons 73—73 when the ribbons are used as dusting elements. It should be noted that the plug 70 should not extend materially beyond the uncut center portions 72—72 of the paper bands, so that the ribbons 73—73 are free to flex throughout substantially their entire lengths. Thus, the ribbons effectively serve their purpose as dusting elements.

Another function of the plug 70 is to make a more certain and effective germ barrier between the ends of the duster. While the barrier formed by the adhered center portions 11—11 in the first-described embodiment of the invention is effective, it is obviously sometimes difficult to roll the inner convolutions of the paper bands together tightly enough to ensure a germ-proof barrier. By providing the impervious plug 70 as a base upon which the convolutions of the paper bands are wound, the innermost convolutions are as tight as the outer ones and a germ-proof barrier is ensured at the center of the duster.

It is believed that the construction, mode of use and advantages of dusters embodying the invention, will be apparent from the foregoing description. Since such dusters are made of very inexpensive materials, they may be made so cheaply that they may be discarded after one use of each of the two dusting portions thereof. Despite the apparent fragility of the soft paper ribbons, which act as dusting elements and which take the place of bristles in the ordinary brushes used by barbers and beauticians, they nevertheless are effective to whisk away bits of hair, lint and the like from the skin or clothing. The very softness of these paper ribbon dusting elements permits them to be used upon the face of a patron without the patron experiencing the unpleasant scratching effect resulting from having the bristles of even a supposedly soft barber's brush whisked across his face.

While the foregoing embodiments of the invention are inexpensive and effective for their intended purpose, it is obvious that dusters of various other forms and sizes, and for other uses, may be made within the spirit and scope of the invention.

What is claimed is:

1. A disposable duster, which comprises a plurality of bands of soft paper having elongated, parallel narrow ribbons extending laterally from points near the center portions to the edges thereof and an outer, narrow, center band of tougher paper all rolled into a tight cylinder, means for forming a barrier at the center portion of the cylinder to prevent migration of germs between the ends of the cylinder, and air tight sealed wrappers enclosing the ribbons to prevent contaminations of the ribbons, said wrappers including severable means near the inner edges thereof for selective removal of the wrappers to uncover the ribbons therebeneath, whereby the ribbons may be used as dusting elements.

2. A disposable duster, which comprises an impervious cylindrical core, at least one elongated band of flexible paper rolled upon the core into an enclosing cylinder and having an uncut center portion from which parallel ribbons extend laterally to the edges of the bands, means for

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securing the center portions of the convolutions of the cylinder to the core and to each other to form a germ-proof barrier between the ends of the cylinder, and hermetically sealed wrappers enclosing the ends of the cylinder and having severable portions to permit the wrappers to be selectively removed to expose the paper strips at the ends of the cylinder.

3. The method of making disposable dusters, which comprises slitting the edge portion of an elongated soft paper tape into thin strips leaving the center portions uncut, applying an adhesive to the uncut center portion of said tape along substantially the entire length thereof, applying an adhesive to an elongated, narrow tape of tougher paper, placing said soft paper tape and said narrow tape of tougher paper in juxtaposition, rolling the tapes together along their longitudinal axes into a tight cylinder having flexible end portions and a more rigid center portion, causing the adhesive to secure the convolutions of the center portion of the cylinder together, and enclosing the resulting assembly in a sanitary covering having severable portions to permit the ends thereof to be selectively removed from the cylinder to free the paper strips for use as dusting means.

4. The method of making disposable double dusters, which comprises rolling into a tight cylinder a narrow tape of tough paper and a plurality of wide, soft, flexible paper tapes having uncut center portions and elongated, narrow ribbons extending laterally from said center portions to the edges of the strips, forming a germ-proof barrier at the center of the cylinder to isolate the ribbons at one end from those at the other end, and completely encasing at least the ribbons of the resulting assembly within a sanitary covering having severable portions for selective removal of the ends of the covering to uncover the ribbons therebeneath.

5. The method of making disposable double dusters, which comprises transversely slitting an elongated, soft, flexible paper strip into thin parallel ribbons leaving a center band and thin edge portions uncut, rolling the thus slitted strip into a cylinder about an impervious cylindrical core, causing the center portions of the convolutions of the cylinder to adhere to the core and to each other to form a barrier between the ends of the cylinder, cutting off the ends of the cylinder just inside the uncut edge strips to free the adjacent ends of the thin strips, and enclosing at least the end portions of the cylinder in sanitary wrapping material having severable portions to permit selective exposure of the ribbons.

6. The method of making disposable dusters, which comprises forming a multiplicity of transverse slits from one end to the other of an elongated, soft, flexible paper tape so as to leave a longitudinal, uncut band at the center of the strip joined by longer thin transverse strips to narrow, longitudinal strips at the edges of the tape, rolling the thus-slitted tape longitudinally into a tight cylinder, causing the uncut center portions of the resulting convolutions to adhere to each other, cutting the cylinder transversely near the ends thereof to remove the longitudinal edge strips and free the outer ends of the transverse strips, and encasing at least the end portions of the resulting assembly in sanitary material.

7. The method of making disposable double dusters, which comprises making parallel slits partially across wide, elongated webs of soft paper so as to leave thin parallel ribbons bounded at the outer edges of the web by narrow uncut strips and alternately separated by relatively wide uncut bands and narrow uncut strips, placing at least one such web together with a plurality of narrow, elongated bands of tougher paper so that the latter bands are adjacent and parallel to the wide uncut bands in the web, rolling the thus formed group into a tight cylinder with the ribbons running longitudinally thereof, securing the convolutions of the cylinder together at the

wide uncut bands and at the bands of tougher paper to form germ-proof barriers between the ribbons, cutting the cylinder transversely into sections each of which includes one center uncut band to which are attached ribbon portions having their outer ends free, and hermetically sealing at least the ribbons of such sections within sanitary wrapping material having severable portions which permit selective exposure of the ribbons.

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