

May 10, 1955

B. ZABEL

2,707,793

DISPOSABLE BRUSH

Filed Feb. 12, 1952

2 Sheets-Sheet 1

FIG. 1.

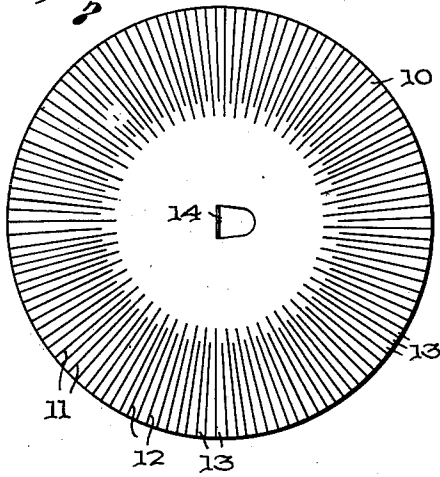


FIG. 2.

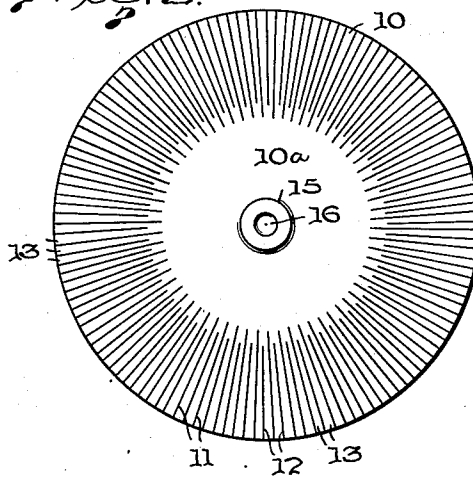


FIG. 3.

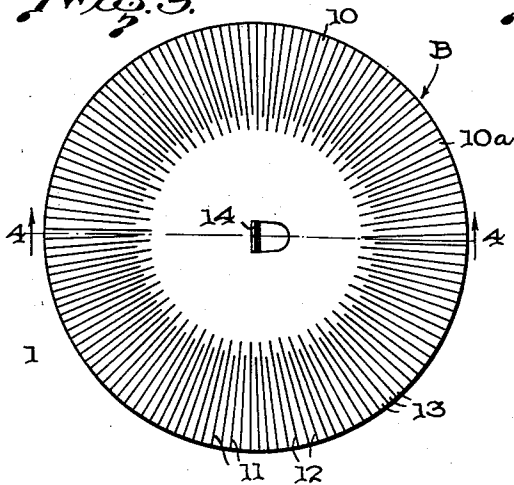


FIG. 5.

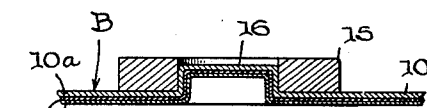
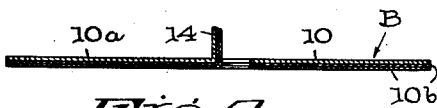
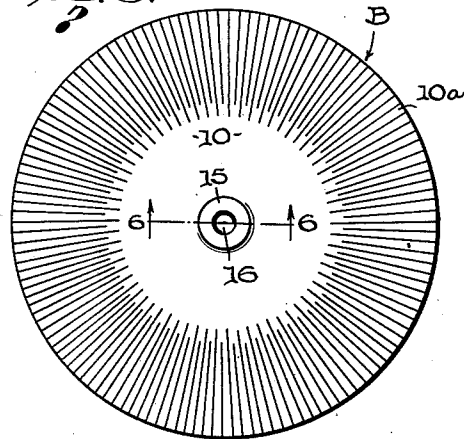


FIG. 4.

FIG. 6.

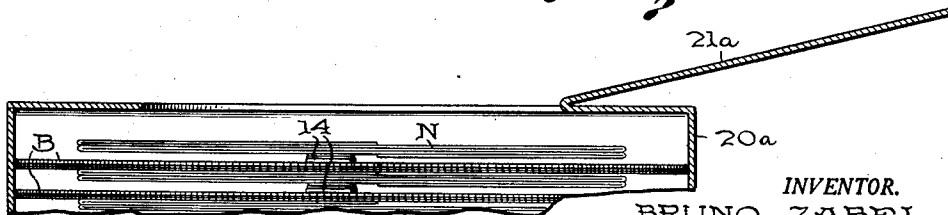


FIG. 14.

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Fig. 10.

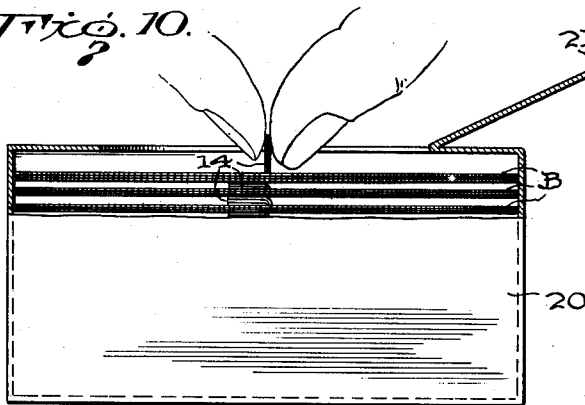


Fig. 11.

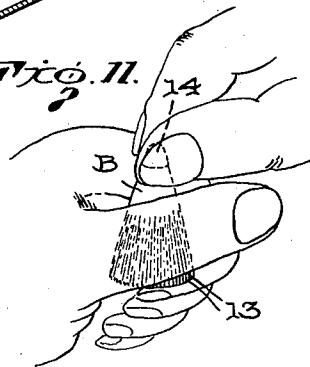


Fig. 9.

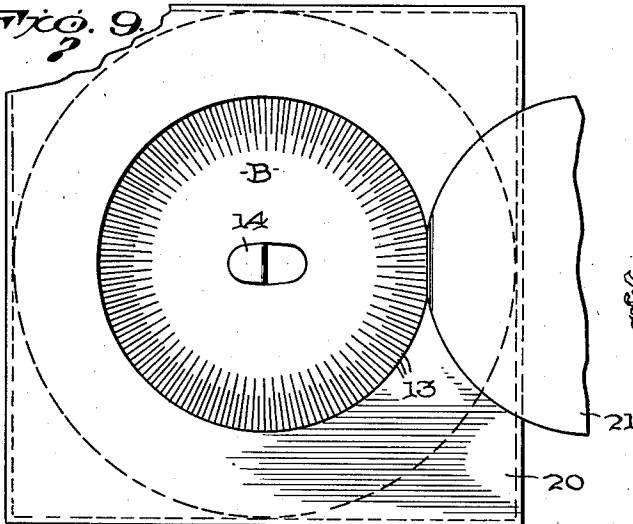


Fig. 12.

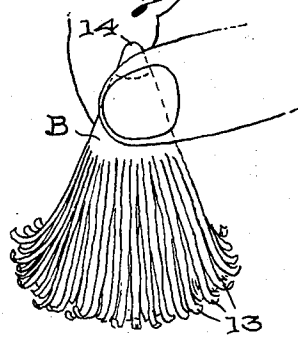


Fig. 7.

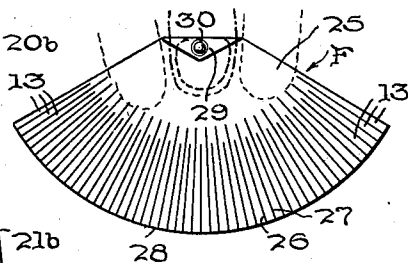


Fig. 13.

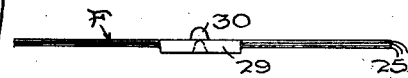
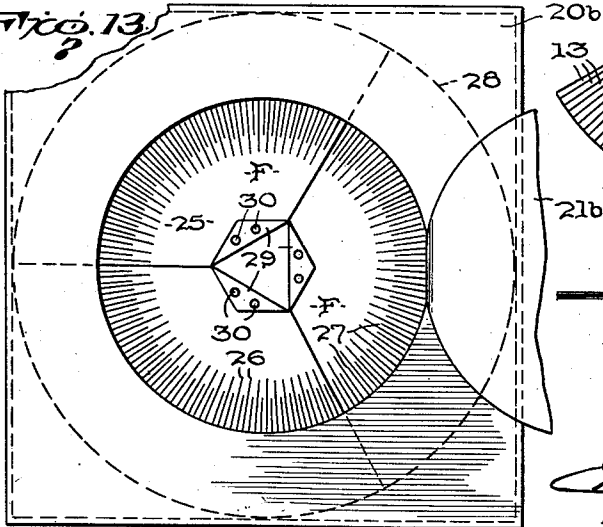


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2,707,793

**DISPOSABLE BRUSH**

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Application February 12, 1952, Serial No. 271,116

7 Claims. (Cl. 15—226)

This invention relates to brushes and more particularly to small inexpensive brushes for use by barbers and the like and which may be discarded after a single use.

It is customary in barber shops and beauty parlors for the operator to use a powdered dusting hair-brush for removing short hair clippings and dusting the neck and face of the customer. It has long been recognized that it is unsanitary to use the same brush on more than one customer and it is impractical and costly to provide a sufficient number of dusting hairbrushes to have a sterilized hairbrush for each customer. As a matter of fact many localities have laws prohibiting the use of the same brush on more than one customer and requiring its re-sterilization before use on each customer. Therefore, there have been many attempts to produce a small "throw-away" brush that is sufficiently inexpensive to permit the use of a new brush with each customer.

Many considerations have entered into the problem of providing such disposable brushes and among them are (1) the expense factor which must be exceedingly low, (2) the manner afforded by such brushes for the packaging and dispensing of them which must not only be inexpensive but afford that degree of sanitation which not only meets the requirements of the laws but which may exceed such requirements whenever possible, and (3) the effectiveness of the article as a brush for the purposes of removing hair clippings from the human skin. Concerning the latter consideration alone, it has been found that soft tissue paper, arranged in a plurality of superimposed layers and having deeply shredded edges producing long tongue-like bristles, is the most effective and suitable for the purpose of removing hair clippings because heavier paper produces hard and rough bristles, even when a single sheet or layer of paper is used, and is objectionable not only to the feel of the customer but it is not efficient for removing hair clippings clinging to the human body. Consequently, it is a desideratum of the present invention as to the manner of handling and securing a plurality of layers of sheets of paper together in order that they may be dispensed without difficulty and with ease and still be within the sanitary and economic limits for practical commercial use.

Accordingly, one of the objects of the present invention is to provide a very inexpensive disposable brush for use in barber shops, beauty parlors and the like to brush and dust away hair clippings and the like from the neck and face of a customer and to provide a brush which is convenient to handle and to use and which does the work for which it is intended efficiently and in a satisfactory manner and with comfort to the customer.

Another object of this invention is to provide a brush of the character stated and which is so inexpensive that it is practical to confine the use of each brush to one customer only and then to throw the brush away.

Another object of this invention is to provide a brush of the character described and which may be made very inexpensively and quickly in large quantities.

A further object of this invention is to provide a brush

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of the character described and which may be packaged in quantities quickly and inexpensively and to provide simple and inexpensive packaging of the brushes in such a way that they may be removed easily, quickly and conveniently one at a time for use and whereby the brushes are maintained in sanitary conditions and thoroughly shielded from dust, dirt and other contamination while in the packages.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

In accordance with this invention, the brush comprises a plurality of superimposed pieces of soft flexible paper cut into disc form or into fan shape, the plurality of superimposed pieces being locked together at the centers of the discs or at the apexes of the superimposed fan shaped pieces. Preferably, the means whereby the superimposed sheets are locked together, provides a grip element which may be grasped by a person's fingers and whereby the brush may be easily and conveniently lifted and handled. All of the superimposed pieces are preferably coextensive in area and each is of substantial uniform thickness throughout its area and each of the disc shaped pieces is shredded for some distance radially inwardly from the periphery and the fan shaped pieces are shredded radially inwardly from some distance from the curved outer edge. The shredding is preferably effected by slitting the pieces with slits of uneven length and preferably with longer slits alternating with slits of shorter length.

To form a brush, a bunch of locked together pieces is grasped at the finger-grip element at the apex and the shredded periphery of the bunch being gathered together to form the bristles of the brush. This may be accomplished easily by grasping the finger-grip element of a bunch between the thumb and forefinger of one hand and then drawing the bunch between the thumb and forefinger of the other hand while held annular-like. Also, in accordance with this invention, a quantity of these brushes in flat condition may be stacked one upon the other in a suitable container having an opening at the top through which the finger-grip element of the top brush may be grasped easily and conveniently to lift the top brush from the stack for use. If desired a disposable separate neck band shield may be associated with the brushes in the stack in such a way that one of the neck band shields may be removed from the container with each brush.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a plan view of a single piece of paper cut into disc form with its periphery shredded and a finger-grip at the center and from which a brush may be formed;

Fig. 2 is similar to Fig. 1 but shows a modification of the finger grip;

Fig. 3 is similar to Fig. 1 except it represents a plurality of brush pieces locked together at the center;

Fig. 4 is a sectional view of the locked together bunch of brush pieces shown in Fig. 3 and is taken on the line 4—4 of Fig. 3;

Fig. 5 is a view similar to Fig. 2 except it shows a plurality of brush pieces locked together at the center;

Fig. 6 is a sectional view thereof and is taken on the line 6—6 of Fig. 5;

Fig. 7 is a plan view of a bunch of fan shaped pieces of paper locked together at the apex and shredded where the edge is curved;

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Fig. 8 is an end view of the same looking toward the apex of the brush;

Fig. 9 is a plan view partly broken away of a plurality of disc shaped brushes stacked in a container having a lid which is shown open;

Fig. 10 is a view of the same with a part of one of the side walls of the container broken away to show the stack of brushes therein;

Fig. 11 is a perspective view of a brush in the process of being deformed into cone shape;

Fig. 12 is a perspective view of the brush in final shape for use;

Fig. 13 is a plan view of fan shaped brushes stacked in a container having an opening at the top and a lid which is shown in fragment and open; and

Fig. 14 is a fragmentary side view of a container with a portion of a side wall broken away to illustrate the alternate stacking of paper neck-bands and brushes therein.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring to the drawings, there is shown in Figs. 1, 2, 3, 4, 5, and 6 made-up blanks 10 from which the disposable brush may be formed, the blanks being cut, preferably, in disc-like form from thin soft flat sheets of paper, such as tissue paper or the like, and the peripheral portion of these discs being shredded deeply about their peripheries by radial slits, such as 11 and 12, for a distance of half or more of their radii, which produce long narrow radial tongues 13 about the disc edges. As shown, alternate slits, such as 12, are preferably shorter than the adjacent slits, such as 11 to prevent easy tearing of the tongues at the bases or roots. Figs. 1 and 2 illustrate blanks from one sheet or thickness of paper, while Figs. 3, 4, 5, and 6 illustrate blanks made up of a plurality of superimposed discs substantially concentrically arranged and forming, what may be termed, a brush bunch B.

In Figs. 1, 3, and 4, a tab 14 is struck-up from the center of the disc or discs to provide a finger-grip element which may be grasped in a person's fingers and whereby the disc or bunch of discs may be lifted and handled. In Figs. 2, 5, and 6, instead of the finger-grip being provided by a struck-up tab, the finger-grip in the form of a relatively flat annular cap 15 is provided and the center 16 of the disc is punched or compressed into this cap to secure the disc to a surface of the cap 15.

Preferably, with either modification of finger-grips, a plurality of the discs are superimposed one on the other; and, in the first mentioned modification, the tabs 14 are stuck-up together so as to be interlocked and to lock the discs together at the center while, in the other modification, the center portions 16 of the plurality of discs are stuck or punched-up together into the hollow of the annulus 15 so as to be interlocked and to lock the plurality of discs together. Also, in each modification shown in Figs. 3 and 4 and in 5 and 6, an outermost disc, such as 10a, may be of somewhat heavier texture than the next disc, such as 10b and whatever additional discs there are in the bunch, to aid in permitting the easier separation of the uppermost bunch from a stack of brush bunches when said uppermost bunch is lifted from the stack. It has been found that, when brush bunches are of tissue of the desirably light-weight paper and stacked in contiguous relation, the lifting of the uppermost bunch will cause the adjacent bunch to be lifted also, under certain conditions; whereas, if the adjacent brush bunches of the same weight of tissue-paper have interposed between them a layer of paper of slightly heavier weight, the lifting of the uppermost bunch does not bring the next adjacent bunch along with it. Furthermore, when the flat bunch is deformed to form a brush, the heavier weight paper tends to distribute the shreds of the lighter weight paper and hold them in brush form. It is optional as to how many separate discs are superimposed and locked together to

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form a brush bunch and, while a single disc may serve as a brush when properly shaped, two or more discs are preferable for desirable results. A bunch consisting of four discs of light tissue of about .003 pound and an outer disc of heavier paper of about .003 pound locked together has been found to be satisfactory and this is recommended because of the saving of material and the consequent reduction in cost.

The single discs or the bunches of locked together discs may be continuously stacked in a suitable box or carton 20, which may have a hinged cover 21, permitting access to the top disc or bunches of discs stacked in the box. When the discs having finger tabs 14 are stacked, the tabs will be flattened down backwardly so as to be readily and easily grasped by a person's fingers and the top disc or the top locked-together bunch of discs may be conveniently and easily lifted from the remainder of the stack and out of the box, as shown in Fig. 10. In Fig. 14, the brush blanks 10 or bunches B are illustrated as alternately stacked in a similar box 20a with paper neck-band-strips N, the barber first taking a neck-band-strip N from the box and, after the tonsorial operation, the deformable brush blank or bunch is avaiably exposed for him to remove for dusting off the hair clippings.

To shape a brush for use, a disc or locked-together bunch B of discs is distorted into the shape of a cone in which the tongues, constituting the shredded peripheral portions of the discs, are bunched together in the form of bristles of a brush and the center portion adjacent the tab 14 or the flat cap 15 is gathered together and forms the handle of the brush. One convenient way of deforming the discs into final brush shape is illustrated in Figs. 10, 11, and 12. A person grasps the tab portion 14 or the cap 15 between the fingers of one hand and then pulls the material between the thumb and forefinger of the other hand as shown in Fig. 11. The brush in final form for use as shown in Fig. 12 is thus obtained, and as stated, the shredded portions of the discs are bunched together and form the bristles of the brush and the central parts of the discs are gathered together and constitute the handle of the brush.

As a modification, instead of providing discs of soft thin paper, fan-shaped pieces F, of a plurality of superimposed thin soft paper 25, may be provided as shown in Figs. 7, 8 and 13. All of the layers 25 of these pieces F are shredded for a distance radially inward from the curved edge portion 28 of its periphery by slits, such as 26 and 27 which may be alternately of different lengths, and the pieces are locked together by turning over their corners 29, opposite the curved edge portion 28, and punching the turned over ends 29 together and to the adjacent unshredded portions of the pieces F by one or more punching, as at 30.

In these bunches also an outermost layer on either side of the pieces F may be of heavier texture than the other layers of said pieces. Obviously the pieces F may be provided by cutting or die-stamping them from a plurality of superimposed discs, and, as shown, each fan shaped piece F constitutes one-third of a circle but, if desired, these pieces may be shaped to constitute one-fourth of a circle or any other desired portion of a circle. These bunches of locked together superimposed layers may be conveniently stacked in a box, such as 20b in Fig. 13, and three stacks of these each having the expanse of one-third of a full circle may be stacked in the box in circular arrangement as shown. These bunches of locked together sheets or layers may be readily and easily removed separately from the box by a person merely grasping the edge portion 29 of the top bunch where the pieces are locked together by the one or more marks 30 and lifting the bunch from the container. These bunches may be deformed into final brush form by folding them once or twice, as desired, between the thumb, the first and second finger of one hand in a general radial direction as indicated in Fig. 13. The formed brush will be substantially

cone shaped with the shredded peripheries of the bunches pieces gathered together and forming the bristles of the brush and the uncut portion of the bunch gathered together and forming the handle of the brush.

In the modifications, the slits or shredding extend approximately one-half the radius of the discs or in the fan-shaped pieces, approximately one-half the distance from the curved edge to the apex. This depth of shredding and the plurality of bunched pieces yields a greatly improved and superior brush.

Although only disc shaped and fan shaped pieces of paper have been illustrated in the drawings, it is obvious that shredded and locked together flat pieces of soft thin paper of other shapes can be used as well for the brushes.

From the above, the inexpensiveness of brushes constructed and formed in accordance with this invention is readily apparent as is also the minimum amount of space required for their packaging, storage and transportation. It is also apparent that brushes made in accordance with the invention can be sanitarily packaged inexpensively and attractively and are so constructed that they can conveniently and easily be grasped and formed into final shape for use. Brushes formed in accordance with this invention are very effective in brushing and dusting hair ends and other particles from the necks and faces of patrons serviced in barber shops, beauty parlors and the like and the brushes are very convenient for the operator to use and feel soft and comfortable to the patron.

It will thus be seen that the objects hereinbefore set forth may readily and efficiently be attained when following the principles embodied by the present invention; and since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limited sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a disposable brush of the character described, a brush blank comprising a group of superimposed substantially co-extensive flat circular sheets of thin soft paper, having an exposed outermost sheet, each being radially shredded completely around its marginal peripheral edge by slits extending inwardly towards its geometrical center a distance approximately half its radius to provide numerous bristles that taper inwardly and lie in closely packed edge-to-edge relation, said radial slits comprising at least two concentric groups of slits alternately arranged but of different lengths, the short slits, in one group, being of substantially the same length, and the longer slits, in the other group, also being of

substantially the same length, said peripheral portion of each blank thereby providing relatively long narrow tapering tongues of bristles characterized by different degrees of resilience and flexibility; and locking means securing said sheets together at approximately their common geometrical centers, said shredded edges being bunched together into the form of bunched brushing bristles with the unslit portions of the sheets, between where they are locked together and the base of each inwardly extending slit, providing a brush handle; and said bristles and handles when so formed providing a cone-shaped brush with said locking means at the apex of the cone.

2. A disposable brush as defined in claim 1, and further characterized in that said exposed outermost sheet of said group of superimposed flat sheets of paper is of substantially heavier texture than the next adjacent of said group of sheets in order to prevent adhering together of such groups when the same are placed in stacked relation.

3. A brush as defined in claim 1, and further characterized in that said exposed outermost sheet is of approximately .003 pound, and the combined weight of the remaining sheets is also of approximately .003 pound.

4. A brush as defined in claim 1, and further characterized in that said group of superimposed sheets constitutes approximately between 200 to 400 bristles.

5. A brush as defined in claim 1, and further characterized in that there are present in said group about four sheets of said shredded paper, each of said sheets having approximately 100 bristles therein.

6. A disposable brush as defined in claim 1, and further characterized in that said locking means comprises a tab by which said flat sheets initially may be lifted, as well as separated, from a next succeeding group when the same are in stacked relation.

7. In a brush as defined in claim 1, and further characterized in that said locking means comprises interlocking tabs struck from their centers, thereby locking the sheets together, said interlocking tabs providing a gripping element by which said locked-together sheets may be lifted, and said locked-together sheets being bunched as a whole from their centers, beginning at said tabs, to collect said shredded peripheral portions into the form of bunched brushing bristles, and together the center portions together into the form of a brush handle.

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