

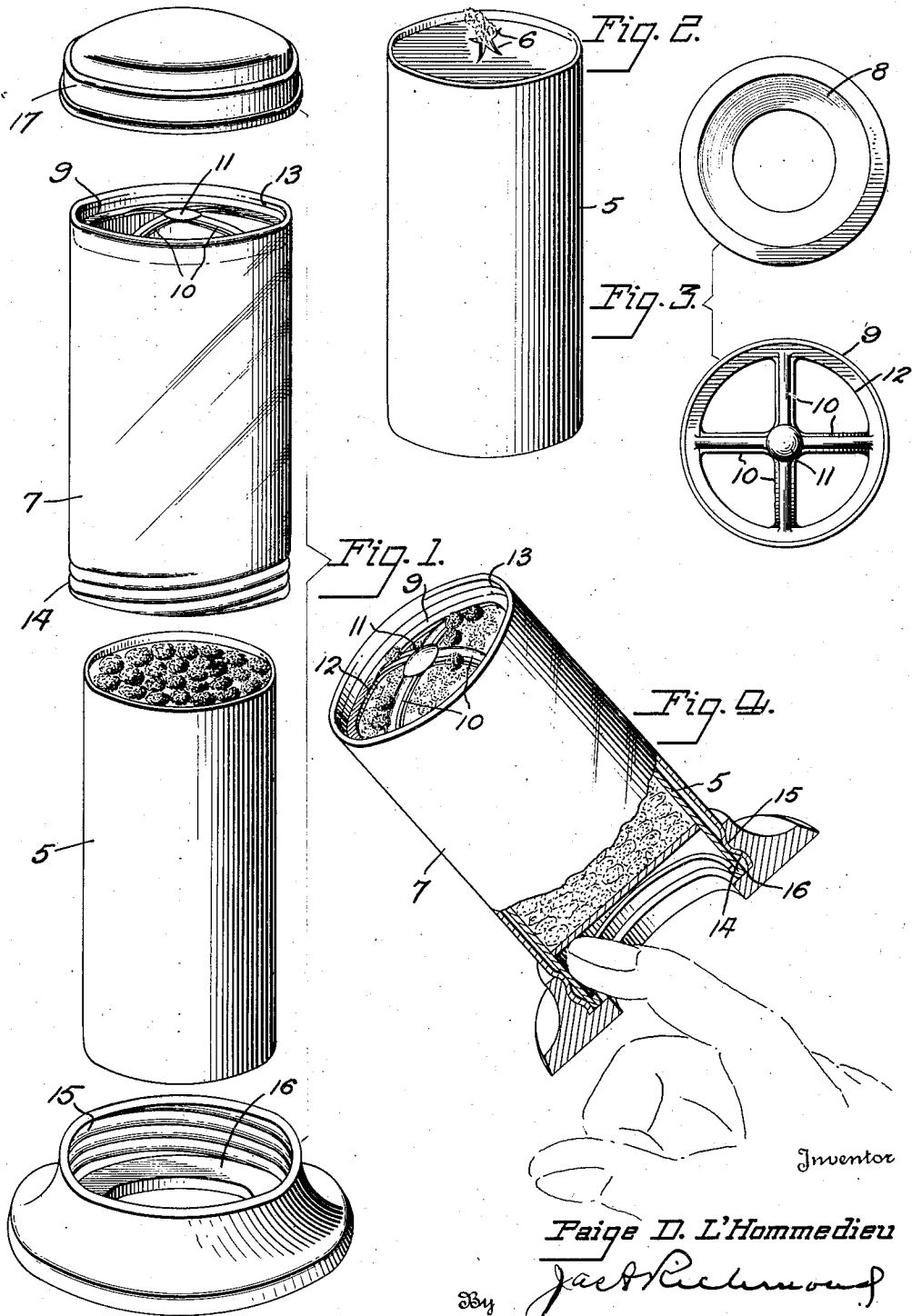
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P. D. L'HOMMEDIU

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APPLIANCE FOR DISPENSING DENTAL COTTON

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Inventor

Paige D. L'Hommedieu

Jack Richmond

Attorney

UNITED STATES PATENT OFFICE

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APPLIANCE FOR DISPENSING DENTAL COTTON

Paige D. L'Hommedieu, New Brunswick, N. J., assignor to Johnson & Johnson, New Brunswick, N. J., a corporation of New Jersey

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6 Claims. (Cl. 206—63.5)

The invention relates to dental equipment and more particularly to appliances for the dispensing of dental cotton.

Dental cotton is supplied to the profession packed in cartons sometimes in the form of bulk stock accessible in rope form to the dentist and from which he abstracts with the aid of tweezers the necessary quantity for the immediate use, and sometimes as pellets, pledgets or other pre-formed objects. In both instances the dental cotton is in a more or less compressed state in the factory packed carton and in service there are difficulties attendant on its dispensing, particularly in the case of pellets which have a high degree of cohesion so that their tendency to cling to one another makes for waste or, at any rate, makes for the hazard of handling which, of course, detracts from the sterility of the cotton.

The principal object is to provide an assembly which optionally will include either a carton of sterile cotton in bulk stock capable of withdrawal and shaping by tweezers or the like, or a carton of pre-shaped sterile cotton elements, such as pellets or the like; and in the latter case to provide means effective to separate the massed units so as to admit of their facile withdrawal in unit fashion and without the hazard of waste and without the hazard of contact with unclean hands.

The nature, characteristic features and scope of the invention more readily will be understood from the following detailed description taken in connection with the accompanying drawing which illustrates the preferred embodiment and wherein

Figure 1 is an exploded view of the complete assembly.

Fig. 2 is a perspective view of a factory filled carton for dispensing dental cotton in selective quantity for subsequent shaping.

Fig. 3 represents, in plan, varied forms of gates for use, respectively, with cartons of bulk stock and cartons of pellets.

Fig. 4 is a perspective view illustrative of the modus operandi in the withdrawal of pre-shaped cotton elements.

In the drawing there is illustrated at 5, a cylindrical carton closed by end disks secured against outward movement by inwardly directed flanges formed, for example, by spinning the edges of the cylindrical shell as is usual. In the case of bulk stock where the sterile cotton is available in wick or rope-like form for selective dispensing and shaping to suit the immediate demand, one of the disks is provided with any suitable discharge opening, for example, cross slits

6 eventuating in converging tongues insuring the withdrawal of the cotton under desirable tension. The other end disk may function, in response to externally applied pressure, as a follower in the case of cartons containing pellets or other pre-shaped objects.

It is a merit of the invention that it provides a cartridge-like holder that optionally will function with cartons containing cotton in bulk or cotton in pre-shaped units. This not only is economical from the viewpoint of the manufacturer of the cotton goods, it also is of great advantage to the dentist as will be apparent.

In the advancement of the inventive thought there is provided a cylindrical shell 7 which may be constructed of any appropriate material but more desirably of transparent or translucent material in order clearly to display the manufacturer's label on the carton containing the cotton goods. The tubular body or shell 7 is of a size telescopically to embrace the carton and the assembly is completed by end stops or abutments and a cap. One of the abutments constitutes a gate or cotton manipulating device as well as an end stop for the carton and the other abutment is relatively heavy so as to perform the function of a pedestal as well as an end stop.

Referring more particularly to Fig. 3, the gate may take the form of a ring 8 which stops short of the cross slits of the carton of bulk cotton so as not to interfere with the flexure of the tongues in the selective withdrawal of the cotton. Alternatively, as in the case of cartons containing pellets, the gate is in the form of a spider, that is to say, a ring or collar 9 with spokes 10 radiating from a hub or center 11. The spider arms or spokes 10 are sprung endwise on an arc from the inner lip or flange 12 of the collar and their edges are relatively sharp. The gates may be constructed of any suitable material, for example, Celluloid has proven eminently satisfactory. Obviously, the gates might be formed integral with the tubular shell or body but it is preferred, in order to carry out the optional provision, to make them as separate units and to secure them with relation to the tubular shell or body by providing the latter with an inwardly turned burr or flange 13.

The other end of the tubular shell is formed or provided with an external screw thread 14 to enable it to be screwed into the tapped socket 15 of the pedestal. It will be understood that upon screwing the tubular body or shell to place, the pedestal acts as an end stop, its inner ring or

flange 16 acting as a seat or end bearing for the carton.

It is a characteristic of the invention that there is provision for relative angular movement to insure selective discharge of the cotton. Reference already has been made to the screw threaded arrangement between the shell and its pedestal whereby under some conditions this may be brought about. Obviously, other forms of connection might be employed providing for relative rotation of the parts, or instead of relatively rotating the shell and its pedestal, the carton may be grasped through the pedestal opening to provide for rotation or oscillation as between its discharge end and the means for engaging and separating the cotton into easily selectable units.

In the dispensing of bulk stock it will be understood that the cartridge shell or holder merely acts as a restraining member upon the carton so that the dentist may work with both hands free in the sense that he need not support the carton holder, the pedestal providing desirable mass or weight and the apertured collar or ring serving to put desirable restraint on the discharge end of the carton without interfering with the selective withdrawal of dental cotton to suit the immediate demand.

In the case of pellets or other pre-shaped objects, one of the end closures of the carton is removed before putting the carton in place and in service the other end closure may act as a follower, as by the application of the thumb or finger through the pedestal opening, to force the pellets towards the gate.

As previously stated, pellets are packed under more or less compression and have a tendency to cling to one another so that, in the conventional practice of extracting them with tweezers or the like, there is the ever present annoyance of waste or necessary handling. Such annoyance and inconvenience is obviated by providing for relative rotation and of means insuring separation of the pellets or other pre-shaped objects.

It will be understood that, by relative rotation of the carton or cotton carrier and the cotton separator, the upper stratum or layer is acted upon by the spider arms in such way as to separate and individualize the pellets, the arcuate form of the arms or blades readily facilitating this and tending to force the pellets beyond the spider or gate to a point where they are freely available. In short, the spider has a slicing and lifting action.

The assembly is completed by the provision of a cap 17 appropriately fitted to the gate or outlet end of the cartridge in such way as to exclude dust and other contaminating substances.

What is claimed as new, is:—

1. An assembly for use in dispensing dental

cotton and the like, comprising in combination a cylinder and a pedestal in separable relation, an original package of dental cotton angularly movable in the cylinder in dispensing relation and having a movable member effective as a dust excluding closure for the cylinder as well as for the package, a removable cap for the outlet end of the cylinder, said pedestal having an opening to admit of pressure effort on said movable member to force the cotton towards the outlet, and an element transverse said outlet and effective to delaminate and elevate the cotton in response to relative angular movement of the package.

2. An assembly for use in dispensing dental cotton and the like, comprising in combination a holder having an outlet, a carton of dental cotton sealed in said holder other than at the outlet and yet capable of rotation in the holder, a knife-like element transverse the path of the cotton to exert slicing and lifting action thereon in response to rotation of the carton, said carton having a bottom sealing disk adapted and arranged to serve as a follower, and a pedestal having an opening through which access may be had to the carton to rotate the same and to advance the follower.

3. A dental appliance comprising in combination a tubular casing and a ring-like supporting base in separable relation, a cotton holding carton telescopically and rotatively received in the casing and also supported by the pedestal, a restraining collar for the carton at the open end of the casing and having radial arms with knife edges effective to delaminate the massed cotton and elevate the same in unit form when the carton and casing are relatively rotated, the bottom closure of the carton serving as a follower.

4. Means for the selective dispensing of dental cotton under sterile conditions, comprising a carton of dental cotton in pledget form having an open end and a closed follower end, a holder in which the carton is rotatable, said holder having a wheel-like device whose spokes range transversely the path of the pledgets whereby they are effective, when the carton is rotated, to delaminate the layers of pledgets and to elevate individual pledgets to a plane above the wheel, and a pedestal in which the holder is stepped having an axial bore to admit of the introduction of a finger to rotate the carton and to advance the follower.

5. The device set forth in claim 4 in which the spokes of the wheel are formed on a relatively low arc to accelerate the elevating action.

6. The device set forth in claim 4 in which the holder is formed with a translucent wall through which the label on the carton is readily discernible.

PAIGE D. L'HOMMEDIEU.