Feb. 11, 1969 M. R. SLEWING 3,426,769

CONTAINER FOR A DISPENSABLE MATERIAL HAVING AN AUXILIARY RECESS EXTENDING THEREINTO

Filed June 6, 1966 Sheet 1 of 4

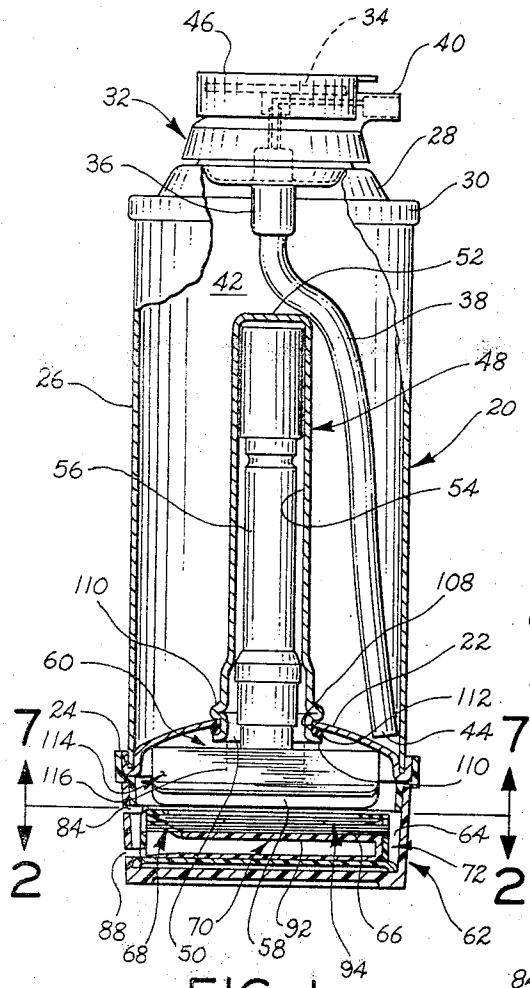

FIG. 1

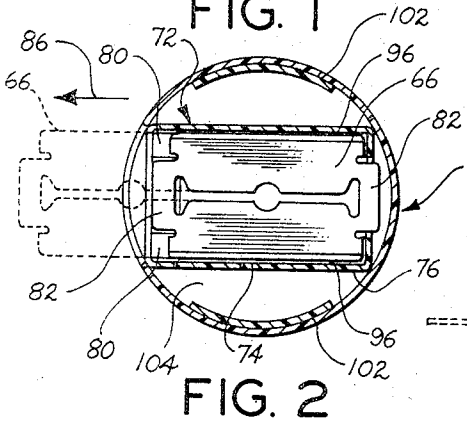

FIG. 2

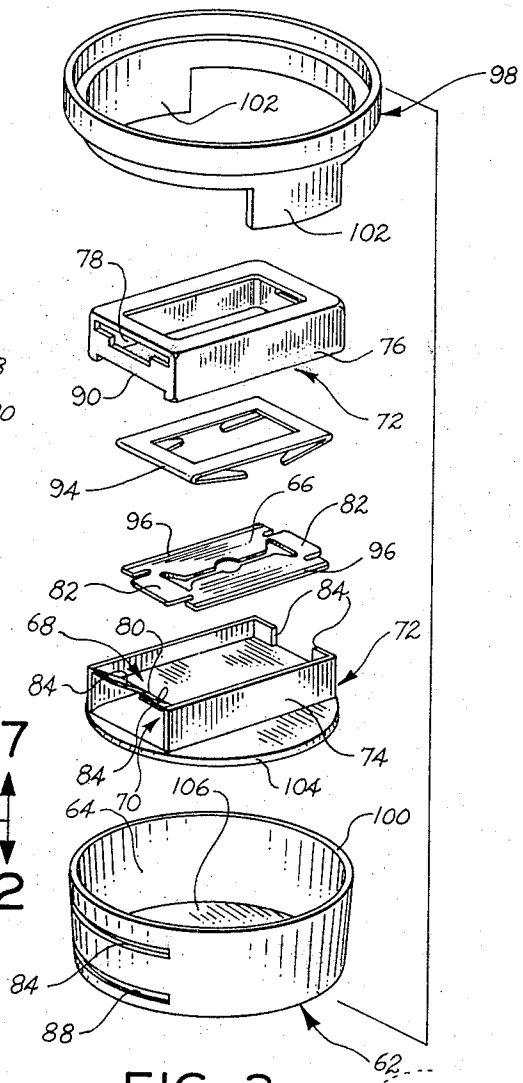

FIG. 3

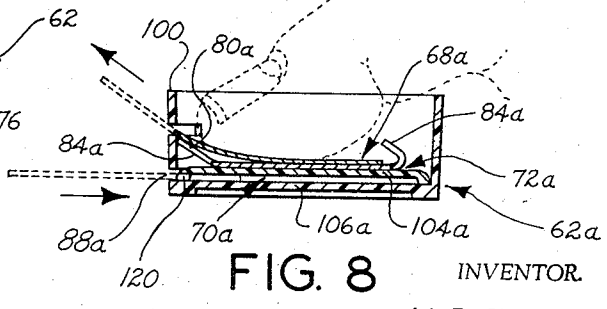

FIG. 8

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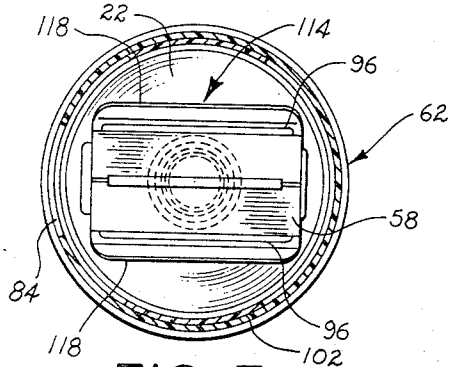

FIG. 7

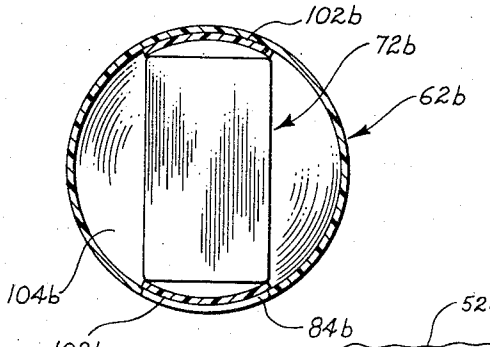

FIG. 9

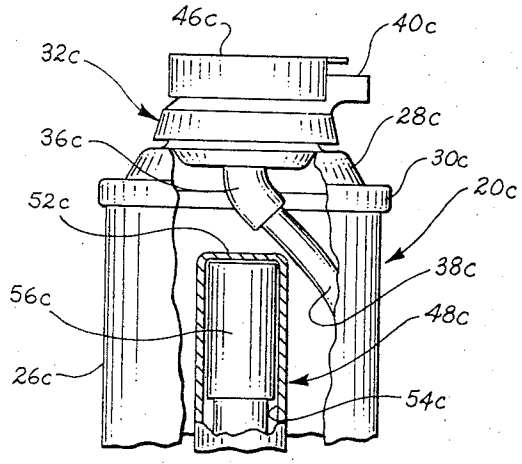

FIG. 10

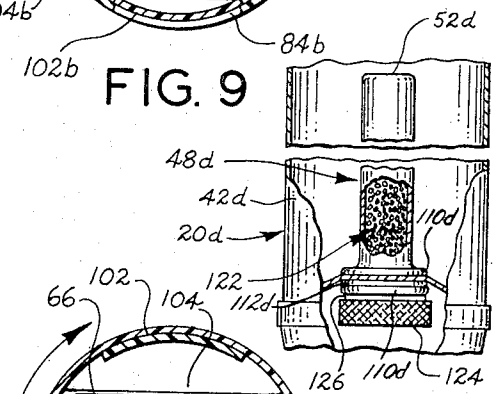

FIG. 11

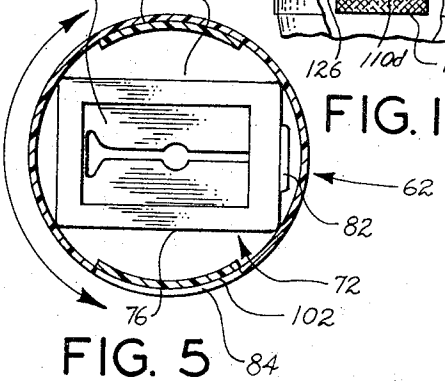

FIG. 5

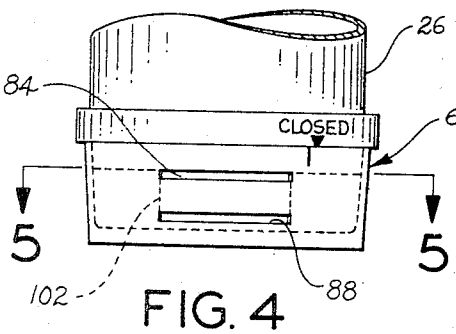

FIG. 4

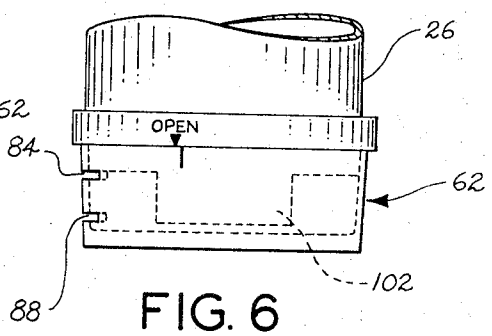

FIG. 6

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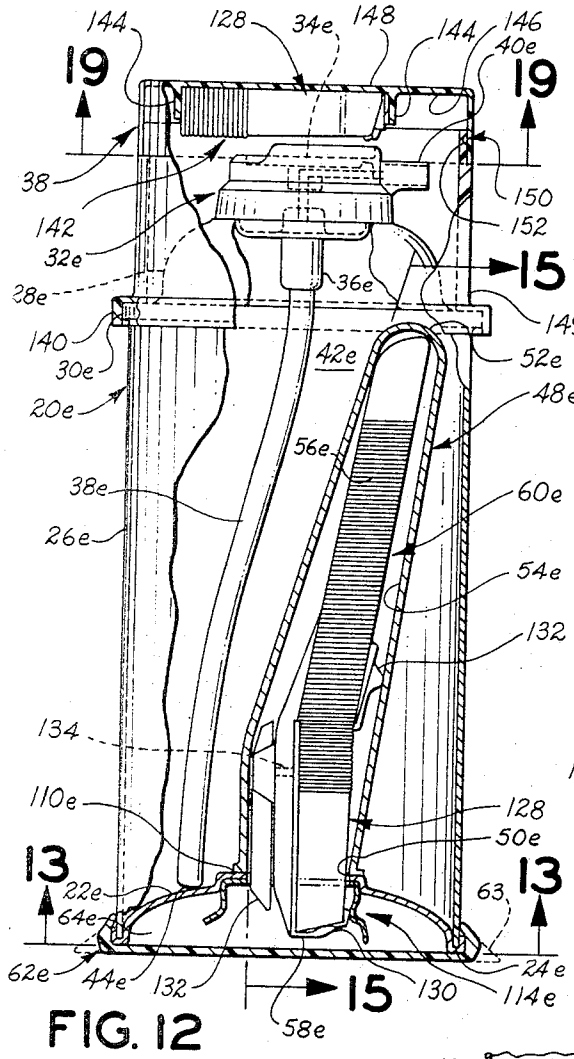

FIG. 12

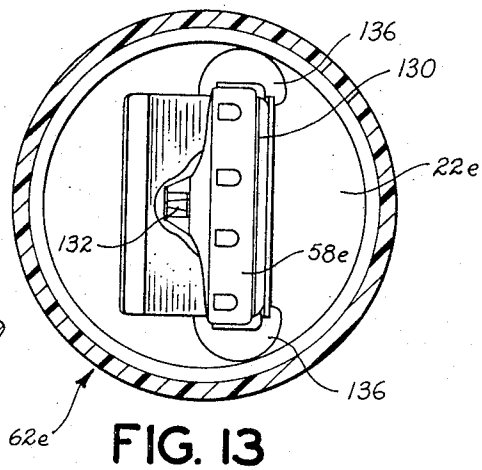

FIG. 13

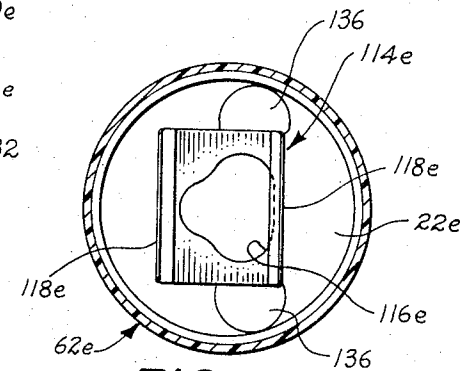

FIG. 14

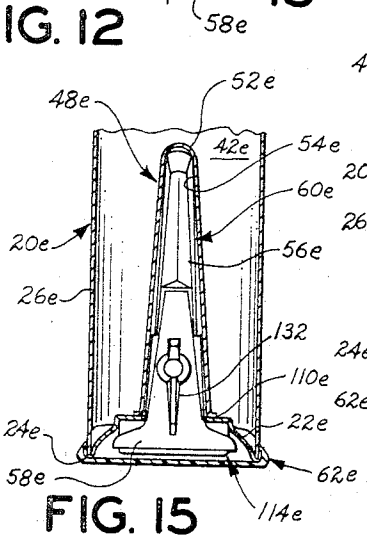

FIG. 15

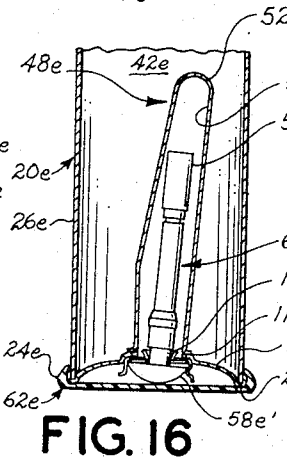

FIG. 16

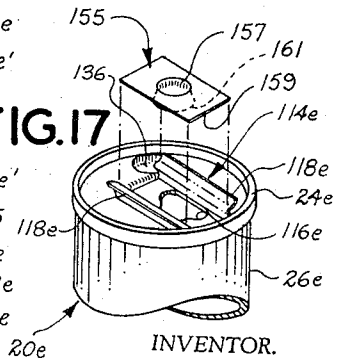

FIG. 17

INVENTOR.
M. R SLEWING

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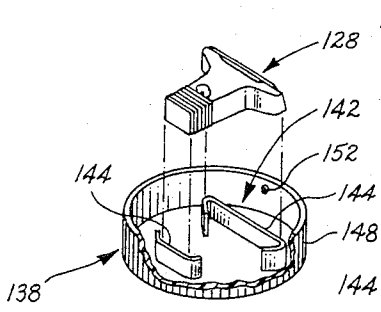

FIG. 18

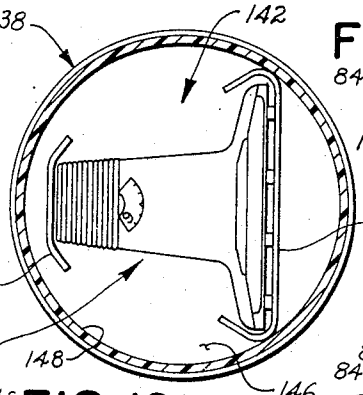

FIG. 19

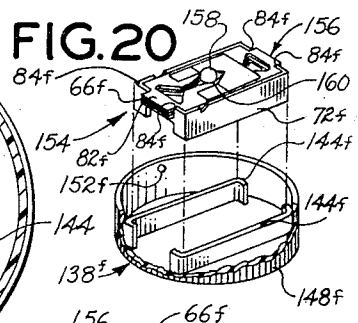

FIG. 20

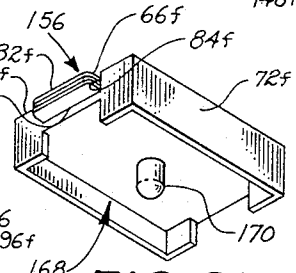

FIG. 21

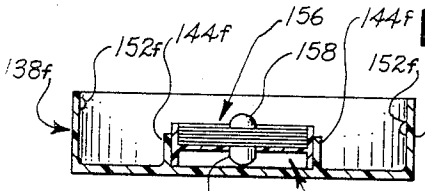

FIG. 22

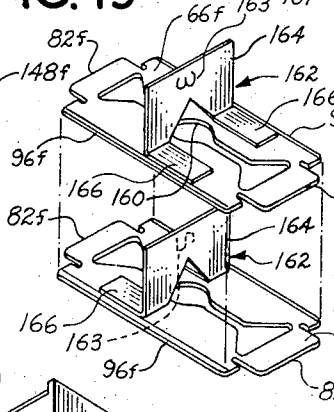

FIG. 23

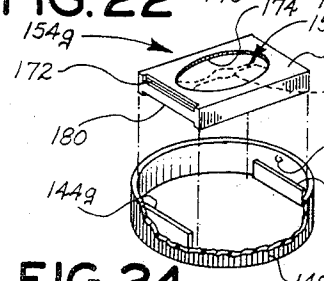

FIG. 24

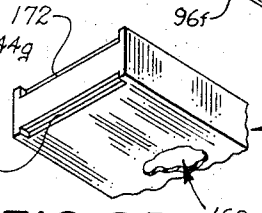

FIG. 25

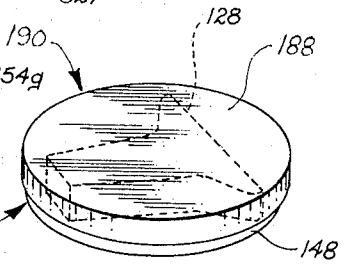

FIG. 29

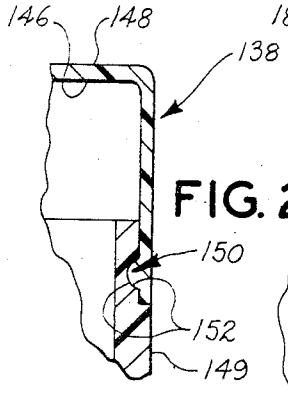

FIG. 27

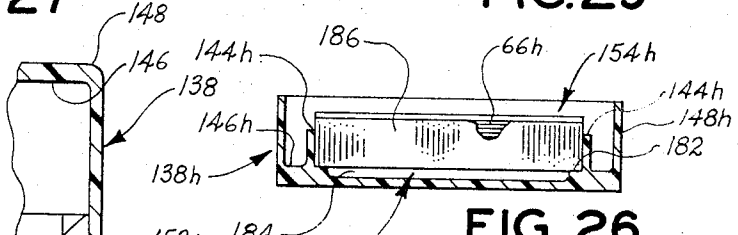

FIG. 26

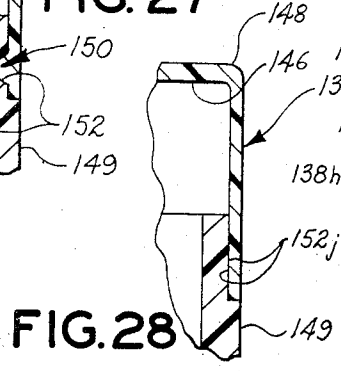

FIG. 28

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M. R. SLEWING

United States Patent Office 3,426,769
Patented Feb. 11, 1969

3,426,769

CONTAINER FOR A DISPENSABLE MATERIAL HAVING AN AUXILIARY RECESS EXTENDING THEREINTO

Merle R. Slewing, Lake Arrowhead, Calif., assignor of one-half to R. W. Hodgson, Sherman Oaks, Calif.

Filed June 6, 1966, Ser. No. 561,654
U.S. Cl. 132—80 24 Claims
Int. Cl. A45d 27/22

ABSTRACT OF THE DISCLOSURE

A container for dispensable material having an auxiliary recess extending thereinto which is physically separated from and isolated from the dispensable material, and which has an outer and usually bottom-positioned access opening providing convenient access into the auxiliary recess which may mount an auxiliary object therein until it is to be removed and used. The dispensable material may comprise shaving cream and the auxiliary object may comprise a razor. In one form, a closure cap may define another storage chamber adapted to mount another auxiliary object such as fresh, unused razor blade means or the like.

Generally speaking, the present invention relates to the container art and, in a broad sense, to a container adapted to carry therein various different types of controllable dispensable materials and usually also provided with means for dispensing said material from said container in selected amounts when desired and with said container having a physically separated and isolated auxiliary recess extending thereinto for auxiliary storage purposes —such as for storing any of various different types of utilitarian objects therein during non-use periods and in a conveniently accessible manner for removal thereof when such an auxiliary utilitarian object is to be used. For example, the utilitarian object adapted to be stored in said auxiliary storage might comprise a utilitarian object adapted to be used in association with, or in conjunction with, a quantity of the material dispensed from within the container and, in certain forms, said utilitarian object might comprise what could be broadly termed an applicator for the material dispensed from the container.

In one specific preferred exemplary form of the invention, the container may comprise a pressure vessel of the type adapted to contain a pressurized aerosol dispensable material therein, such as shaving cream, or the like, although not specifically so limited, and which may be suitably pressurized by what is known in the art as "Freon", comprising one of the fluorochloromethanes or fluorochloroethanes, carbon dioxide, or other functional equivalent safe, non-toxic, non-explosive, readily pressurized gas having the desired characteristics. However, it should be clearly understood that this is merely exemplary and the invention is not specifically so limited.

In the exemplary form of the invention referred to above, wherein the container is of the pressure vessel type referred to above and is adapted to contain an aerosol dispensable shaving cream, the auxiliary utilitarian object adapted to be received within the auxiliary recess extending thereinto may comprise the longitudinal handle portion of a safety razor and said recess may be positioned at the bottom end of the pressure vessel in the bottom wall thereof and may extend upwardly into the interior of the pressure vessel, thus positioning the safety razor head immediately below the bottom wall of the pressure vessel, which can be enclosed within, and effectively covered and retained by, a lower closure cap removably attached to the pressure vessel below the bottom wall thereof and effectively comprising a false bottom thereto. Thus, it will be seen that the pressure vessel will appear entirely conventional from the exterior thereof and yet it will have the safety razor stored with the safety razor handle longitudinally centrally positioned within the recess in the pressure vessel and with the safety razor head positioned within the lower closure cap in a completely unobtrusive and exteriorly invisible manner and also in a manner which does not substantially increase the exterior size or dimensions of the complete container including the lower closure cap.

Additionally, in the preferred exemplary form of the invention referred to above, the lower closure cap may also be adapted to carry therewithin a plurality of controllably dispensable safety razor blades for cooperation with the safety razor and to do so in an exteriorly invisible manner and also in a manner which does not substantially increase the size of the complete pressure vessel including the lower closure cap.

It will be undertood that the preferred exemplary form of the invention referred to above may be said to effectively comprise a complete shaving kit which has all of the essential elements for use in shaving self-contained therewithin and is ideally suited for both use at home and for travel purposes where it is quite disadvantageous to have the safety razor, blades, and the aerosol shaving cream pressure vessel independent of one another. This not only requires more space within a suitcase, but leads to the possibility of at least one of the three essential elements—that is, the aerosol pressure vessel of shaving cream, the safety razor, or the package of safety razor blades—being inadvertently mislaid or lost.

On the other hand, it is quite obvious that the novel shaving kit of the present invention, when in closed relationship, functions essentially as a single unit during transporting movement or storage thereof and is only separated into the three essential shaving elements thereof of the type referred toabove when a shaving operation is to be performed and, at all other times, the safety razor, razor blades, and aerosol shaving cream container are fully assembled into the essentially unitary structure comprising the pressure vessel carrying the engaged lower closure cap, which obviously has decided advantages over the conventional prior art practice since it overcomes the conventional prior art disadvantages referred to above.

However, it should be noted that the invention is not limited to the arrangement referred to above wherein new razor blade means are stored within the lower closure cap. Actually, new razor blade means and, in certain cases, used razor blade means, may be stored in a closure cap, or the like, positioned at a variety of locations relative to the container means and, in one exemplary form of the invention, said razor-blade-enclosing closure cap may comprise an upper closure cap adapted to be carried at the top of the container.

In those cases where the container comprises a conventional pressurized aerosol can, the dispensing valve means is usually positioned at the top thereof and an auxiliary upper cover is usually provided for covering same when the device is not in use, and this type of upper cover may comprise the razor blade storage means cover just referred to. It will be understood that this will provide a very convenient complete shaving kit which merely requires that the upper cover be removed whenever a new razor blade is to be obtained for the safety razor stored in the storage recess positioned within the pressurized can. New razor blades of any conventional type may be so stored in the upper closure cap, or a recently-developed type of continuous-blade-strip magazine or cartridge comprising new razor blade means may be so stored in the

upper closure cap until required for cooperative use with the razor which is normally stored within the upwardly directed storage recess or accommodation tube extending upwardly from the domed bottom of the aerosol can into the interior thereof.

The upper storage cap referred to above may merely contain a supply of new razor blades or may also have a storage recess or receptacle into which used razor blades may be placed after they are removed from the safety razor for replacement by new razor blade means from the supply stored within said razor blade storage upper closure cap.

A great variety of different types of razor blade storage means for either or both new razor blade means and used razor blade means may be employed within the broad scope of the present invention in virtually any type of container or dispenser package and may be mounted and held within the upper storage cap by virtually any type of mounting clamp or other supporting means as desired and all within the broad scope of the present invention.

It should be understood that throughout the succeeding portion of this application, the invention will be described primarily in connection with the two different types of preferred shaving kit versions of the invention referred to generally hereinabove because either of said types provides a particularly advantageous and useful form of the invention. However, it should be clearly understood that this is not to be construed as limiting the invention to either of said preferred shaving kit forms thereof referred to hereinbefore. Actually, the invention is to be broadly construed in the light of the broad statements with respect to the scope thereof set forth in the first paragraph of this application hereinbefore. Also, it should be noted that the storage recess is not limited to storing any particular type of utilitarian object, such as a safety razor or other applicatory means or tool or, indeed, is not limited to storing any type of applicatory means or tool whatsoever but may be employed for storing, carrying, or positioning therein any other desired object or material. Indeed, in certain forms of the invention suitable heating means may be positioned therein for controllably heating the material adapted to be carried within the container, and such heating means might comprise electrical heating means, chemically reactive exothermic heating means, various other functional equivalents, or various other types of heating means for providing a desired degree of heating of the material within the outer container or pressure vessel according to the specific type of container employed.

With the above points in mind, it is an object of the present invention to provide an improved container for a dispensable material, with said container having an auxiliary storage recess extending thereinto and adapted to receive any desired type of material or object therein, and which has any or all of the advantages referred to herein, and which includes any or all of the features referred to herein generically and/or specifically and individually or in combination, and which is of extremely simple, inexpensive construction adding very little, or nothing, in the way of modification cost to the construction of conventional containers and/or pressure vessels whereby to be suitable for mass manufacture at extremely low cost such as to be conducive to widespread use of the invention.

It is a further object of the present invention to provide a device of the character referred to in the preceding object wherein the container may comprise a pressure vessel adapted to contain a pressurized dispensable material which may be of a so-called aerosol type including a material which is to be dispensed and a pressurized gas or vapor adapted to bring about a controlled dispensing of said material upon the opening of a normally-closed dispensing valve communicating the interior of said pressure vessel with the exterior thereof.

It is a further object of the present invention to provide apparatus of the character referred to herein, effectively comprising a complete shaving kit and including both means for storing a razor within an aerosol-type can adapted to contain shaving cream, or the like, and in addition thereto also being provided with a storage compartment (usually defined within a closure cap) in which new razor blades may be stored and/or used razor blades may be placed after use until they are subsequently thrown away, thus providing what might be termed a complete shaving kit in the form of a single assembly which can be transported, carried, and stored as a unit and yet will conveniently and quickly provide everything needed for shaving.

Further objects are implicit in the detailed description which follows hereinafter (which is to be considered as exemplary of, but not specifically limiting, the present invention), and said objects will be apparent to persons skilled in the art after a careful study of the detailed description which follows hereinafter.

In summary, the following relatively brief statements with respect to the invention may be made.

(1) By effectively indenting or changing the contour of the bottom of a conventional aerosol can, it can be made to provide an accommodation chamber capable of receiving therein various different types of articles, the use of any one of which is usually related to the main contents of the aerosol can—and this is achieved without enlarging the overall dimensions of a conventional aerosol can.

(2) By the addition of a removable cap (preferably of resilient plastic) to the bottom of the can, various types of additional related articles, such as razor blades and dispensers, and the like, may be stored, carried, and made available for use at the expense of increasing the overall height of the can only, very slightly more than that provided by the auxiliary articles themselves.

(3) By making the conventional one-piece top cap provided on an aerosol can, such as is now provided at the top of a Gillette shaving cream aerosol can, into two pieces instead of one, the protection function which it now serves is not impaired in any way and yet, in addition, the top portion of the two-piece top cover can be fitted with a new razor blade dispenser or supply means, which may be provided with a used razor blade compartment, also. Such a top portion of the conventional upper closure cap provided with such a dispenser therein makes a very convenient package for new razor blades, or a Gillette-type "Techmatic" razor blade cartridge means, suitable for shipment, storage, and sale and for subsequent fitting, after purchase, to the lower portion of the aerosol can upper closure, thus providing a very convenient arrangement for carrying and storing either the complete package just referred to, or said complete package when assembled with respect to an aerosol can, in a manner minimizing the desired storage space therfor and, when assembled, with respect to a conventional aerosol shaving cream can, providing a readily accessible structure requiring little or no increase in the overall outside size or dimensions of such a conventional aerosol shaving cream can, or the like.

(4) Additionally, it should be noted that the present invention also provides means for storing several different types of new razor blade means in the storage cap portion at the top of the conventional two-piece aerosol can top, one of these comprising a magazine or cartridge type of new razor blade means of the "Techmatic" variety, and another of these comprising a highly desirable new and novel type of dispenser means including a compartmented tray having a new blade compartment and a used blade compartment, with each compartment being provided with a center retention friction pin adapted to hold the blades in place and with each new blade being provided with a tab to facilitate removal thereof. This type of dispenser is new, inexpensive to manufacture, extremely safe to handle, and provides a very compact package for facili-

tating the sale of new razor blades, particularly when adapted to be mounted in the top blade storage portion of the two-piece top closure cap for a conventional aerosol can, such as a shaving cream can, or the like, as mentioned hereinbefore.

(5) In the forms of the invention wherein the top cap comprises a two-piece cap with the upper portion thereof storing razor blade means therein, a bottom closure cap of a very simple, inexpensive structure providing a minimum vertical height increase to the height of the overall aerosol can of shaving cream may be mounted across the bottom to confine a mounted and stored safety razor head immediately thereabove and, in one preferred form thereof, said lower closure cap may have an outwardly flared foot portion which will enhance the appearance of the complete unit and which will provide for additional stability and safety by minimizing any tendency of the aerosol can to accidentally tip over. Such an esthetically attractive, outwardly flared, resilient plastic lower cap may be termed a plastic vanity base cap and is an optional feature of certain forms of the invention as just outlined.

For the purpose of clarifying the nature of the present invention, several exemplary embodiments of the invention are illustrated in the hereinbelow-described figures of the accompanying four sheets of drawings and are described in detail hereinafter.

FIG. 1 is a fragmentary, partly-broken-away view, partly in elevation and partly in section, illustrating one exemplary embodiment of the invention in fully-closed relationship with the pressure vessel, the safety razor, and a safety razor carrying and dispensing means, all in assembled, effectively unitary relationship such as to effectively comprise a composite, effectively unitary shaving kit.

FIG. 2 is a view, partly comprising a top plan view and partly comprising a cross-sectional view, taken substantially along the plane indicated by the arrows **2—2** of FIG. 1 and illustrates one exemplary form of a new safety razor blade holder and dispenser and a used safety blade receiver and storage receptacle means carried within the lower closure cap.

FIG. 3 is an exploded three-dimensional pictorial perspective view of the lower closure cap, the new safety razor blade holder and dispenser, and the used razor blade receiver and storage receptacle of FIG. 2 and clearly illustrates the detailed construction of the various elements thereof.

FIG. 4 is a fragmentary elevational view of the bottom portion of the complete apparatus of FIG. 1 as seen substantially from the left side of FIG. 1 looking at the safety razor blade egress and ingress slot means of the lower closure cap, shown in effectively closed relationship thereof, as provided by rotation of the lower closure cap with respect to the upper pressure vessel into closed position.

FIG. 5 is a view taken substantially on the plane indicated by the arrows **5—5** of FIG. 4 and comprises partly a top plan view of the new safety razor blade holder and dispenser and the underlying used safety razor blade receiver and storage receptacle means and with the lower closure cap being shown in cross-section. In this view, as in FIG. 4, both the safety razor blade egress and ingress slot means are in closed relationship as provided by rotation of the lower closure cap means relative to the upper container means into said closed position, as opposed to the open position thereof clearly shown in FIGS. 1 and 2.

FIG. 6 is a fragmentary elevational view similar in many respects to FIG. 4 but shows the lower closure cap rotated with respect to the upper pressure vessel into the open position of the safety razor blade egress and ingress slot means corresponding to that shown in FIGS. 1 and 2.

FIG. 7 is a view taken on substantially the same plane as FIG. 2 but looking upwardly in the direction of the arrows **7—7** of FIG. 1 and clearly shows the head portion of the safety razor in the stored position and with a protective blade edge guard mounted over the opposed razor blade edges for protecting the fingers and thumb of an intended user of the safety razor when he is in the act of removing it from the stored relationship shown in FIGS. 1 and 4, after which he, of course, removes said protective blade edge guard to place the safety razor in condition for use in performing a shaving operation.

FIG. 8 is a view similar to the bottom portion of FIG. 1 but illustrates a modified type of new safety razor blade holder and dispenser and used safety razor blade receiver and storage receptacle.

FIG. 9 is a view similar to FIG. 5 but illustrates a further modification of the new safety razor blade storage and dispensing means.

FIG. 10 is a fragmentary view similar to the upper portion of FIG. 1 but illustrates a slight modification thereof wherein the suction tube communicating the top controllably operable valve with the interior of the container is angularly laterally displaced immediately below its junction with respect to the top or cap member of the container carrying the dispensing valve means in order to provide maximum central vertical clearance within the upper central portion of the container so as to allow the upper closed end of the tube defining the auxiliary storage recess to extend higher than the position thereof as shown in FIG. 1 and to thus be capable of receiving a longer safety razor handle.

FIG. 11 is a greatly reduced size view which is of a somewhat diagrammatic and simplified nature and which is similar in many respects to FIG. 1 except that it illustrates a different application or use of the auxiliary storage recess which, in this case, is provided with a lower end cap adapted to be placed thereover after a heating means has been placed within the central recess for the purpose of controllably heating the material adapted to be contained within the pressure vessel so that, when dispensed, it will be either warm or hot. This view is merely illustrative of one such form of heating means.

FIG. 12 is a fragmentary, sectional view generally similar to FIG. 1, although it is taken on a vertical plane displaced 90 degress from the vertical plane comprising FIG. 1 and, furthermore, illustrates a modified form of the invention wherein the closed accommodation tube defining the interior accommodation chamber or storage recess adapted to receive a safety razor handle is of a somewhat different configuration from the first form of the invention and is of a more universal type adapted to receive a safety razor handle which is non-straight as well as one which is generally straight relative to the substantially perpendicular safety razor head. In particular, the type of safety razor shown received by said accommodation tube in FIG. 12 is of a newly-developed type employing as a front portion of the handle a safety razor blade cartridge means having a continuous razor blade strip carried therein and adapted to be controllably advanced to present a fresh, sharpened edge portion thereof as needed. One such razor and razor blade cartridge means are manufactured by the Gillette Company and are known as a Gillette "Techmatic" safety razor and a Gillette "Techmatic" safety razor blade cartridge means, respectively, and said cartridge means mounted on the razor and, also, the auxiliary replacement cartridge means removably mounted in the upper closure cap are not shown in interior section.

FIG. 13 is a bottom view of the bottom wall of the can of FIG. 12 and is partly a bottom elevation and partly a secional view taken substantially on the plane **13—13** of FIG. 12.

FIG. 14 is a view similar to FIG. 13, but with the razor of FIG. 12 removed.

FIG. 15 is a fragmentary sectional view taken substantially along the plane indicated by the arrows **15—15** of FIG. 12.

FIG. 16 is a reduced-size fragmentary sectional view

generally similar to FIG. 12, but shows that the accommodation tube is capable of also mounting a conventional straight-handled safety razor.

FIG. 17 is a fragmentary, exploded, inverted perspective view illustrating an insert collar member which is adapted to be placed in the entrance of the inverted accommodation tube when it is to mount the conventional straight-handled safety razor of FIG. 16 instead of the effectively-bent safety razor handle, and enlarged cartridge means comprising a front part of said handle, of FIGS. 12 and 15.

FIG. 18 is a partially-broken-away, exploded view illustrating one form of the removed and inverted top part of the top closure cap wherein it effectively defines a safety razor blade cartridge means storage chamber therein adapted to removably mount a safety razor blade cartridge of the type previously referred to as being manufactured by the Gillette Company and known as a "Techmatic" safety razor blade cartridge means and adapted for use with a Gillette-manufactured "Techmatic" safety razor of the type illustrated in FIGS. 12–15.

FIG. 19 is a view taken substantially in the direction of the arrows **19—19** of FIG. 12 and illustrates the razor blade cartridge means of FIG. 17 in mounted relationship within the safety razor blade storage chamber of the upper closure cap.

FIG. 20 is a view similar to FIG. 18, but fragmentarily illustrates a modified type of upper closure cap's top part adapted to mount a modified type of safety razor blade dispenser means which, in this case, is also a used-blade receiver and storage means.

FIG. 21 is a lower partially-broken-away perspective view of the inverted safety razor blade dispenser means of FIG. 20 and primarily shows the used razor blade receiver and storage means thereof.

FIG. 22 is a cross-sectional view taken substantially on a plane such as is indicated by the arrows **22—22** of FIG. 20, but shows the apparatus when fully assembled rather than in the exploded relationship of FIG. 20.

FIG. 23 is a partially exploded view of two new safety razor blades vertically exploded away from the resilient frictional central mounting post of the safety razor blade dispenser means of FIGS. 20–22 and shows the finger-engageable lifting tabs thereof in upwardly deflected lifting relationship as opposed to their normally substantially flat storage relationship when the new razor blades are vertically stacked on the resilient frictional central mounting post of the safety razor blade dispenser means of FIGS. 20–22.

FIG. 24 is an exploded view similar to FIGS. 18 and 20, but illustrates a slightly different type of dispenser for new razor blades and receiver for used razor blades which is adapted to be removably mounted within the top part of the upper closure cap in a manner substantially similar to the mounting of the form illustrated in FIGS. 20–23.

FIG. 25 is a lower fragmentary partially-broken-away perspective view of the modified dispenser of FIG. 24 and primarily shows the used razor blade receiver and storage compartment at the bottom thereof.

FIG. 26 is a cross-sectional view taken on a plane perpendicular to that of FIG. 22, but illustrates a further modification wherein a slightly different type of dispenser is employed and wherein a used razor blade storage receptacle is defined between one surface of the dispenser and a recessed portion of the inside top part of the razor blade storage closure cap.

FIG. 27 illustrates fragmentarily one type of threaded engagement means for the two pieces of the preferred form of the razor blade storage cover.

FIG. 28 is a view similar to FIG. 27, but illustrates another type of engagement means, in this case frictional, for the two pieces of the razor blade storage cover.

FIG. 29 is a reduced-size fragmentary perspective view illustrating one of the upper outer safety razor blade storage closure cover portions of any of the versions of the invention, shown in inverted relationship and with a temporary sealing thin film thereover and covering a new, unused supply of razor blades (or a new Gillette-type "Techmatic" razor blade cartridge means of the type referred to hereinbefore) and effectively comprising a dispensable new razor blade unit or package requiring no further container and adapted to be sold and dispensed in stores as a replacement unit for the corresponding portion of the top closure cover of the aerosol can of shaving cream which has had the razor blade means thereof previously used and which is thrown away.

Generally speaking, the first form of the invention illustrated in FIGS. 1–7 inclusive takes the form of a substantially cylindrical can, generally designated at **20**, having an inwardly and upwardly domed bottom wall **22** fastened at the circular bottom junction edge **24** with respect to the cylindrical can side wall portion **26** and with a top wall portion **28** being similarly fastened by a sealed mechanical bead or junction **30** to the top edge of said cylindrical can side wall **26** and with said top wall **28** having therein a top valve-carrying head member **32** carrying a valve therein (not shown since such are well-known in the art) which is normally closed and which is adapted to be temporarily opened by depression of the pushbutton, indicated in phantom at **34**, for communicating the hollow interior of the suction fitting **36** and the hollow suction tube **38** depending therefrom with an apertured dispensing or outlet spout **40**.

Normally the hollow interior chamber **42** within the cylindrical can **20** contains a dispensable material such as shaving cream, or the like, and a pressurized gas such as "Freon," carbon dioxide, or any other suitable pressurized gas, vapor, or the like, adapted, when the valve-operating pushbutton **34** is depressed, to caue the aerosol type dispensing of said shaving cream upwardly through the open lower end **44** of the suction tube **38** and through the valve-carrying head member **32** and out of the outlet spout **40** for application to a shaver's face prior to the performing of a shaving operation.

In FIG. 1 a protective cap member **46** is shown removably positioned over the valve-operating pushbutton **34** for the purpose of preventing inadvertent or accidental operation thereof. However, when the valve is to be operated, said protective cap **46** is normally removed and, after a dispensing operation has been completed, it is normally replaced in the protective covering relationship shown in FIG. 1.

All that has been said above with respect to the pressure vessel comprising the cylindrical can **20** is substantially conventional and does not touch upon the real inventive concept comprising the basis of the present invention, but is necessary as a preamble for understanding the present invention and its purpose.

In the exemplary first form of the present invention illustrated in FIGS. 1–7, the bottom wall **22** of the can **20** is provided with an axially upwardly extending, substantially cylindrical, tube indicated generally at **48**, which has a bottom opening **50** positioned below the bottom wall **22** of the can **20** and which has a closed top end **52**. Said open bottom end **50** provides convenient upward access into the interior recess **54** defined within said tube **48** for the reception therein of any desired auxiliary object or material.

In the exemplary first form of the invention illustrated, said auxiliary object comprises a longitudinal safety razor handle **56**, which has attached thereto, and positioned at a location therebelow, a conventional safety razor head **58**, which lies immediately below the domed bottom wall **22** of the pressurized can **20** and which is completely enclosed and effectively concealed during non-use storage periods of the complete safety razor, generally designated by the reference numeral **60**, by the provision of a lower closure cap, generally indicated at **62**, which is removably attached to the can **20** below, and which extends down-

wardly below, said bottom wall **22** of the can **20** and defines a substantially cylindrical and controllably openable lower storage chamber **64** therein.

In the exemplary first form of the invention illustrated, said lower storage chamber **64** is also adapted to carry therein, for convenient removal as desired, a plurality of safety razor blades, such as indicated at **66**, and which in said exemplary first form of the invention, are effectively carried within what might be referred to as a new safety razor blade holder, generally designated by the reference numeral **68**, which is positioned immediately above what might be termed a used safety razor blade receiver and storage receptacle generally designated by the reference numeral **70**.

In said exemplary first form of the invention, both of said means **68** and **70** are provided in a composite structure which is generally designated by the reference numeral **72**, with said composite unit **72** including a lower box-shaped receptacle **74** adapted to receive the cover member **76** thereover and which has a new blade egress slot **78** in one end of said cover in alignment with the upper end of an inclined ramp **80** at a similar end of said lower box portion **74** so that the plurality of razor blades **66** which lie within the upper part of the lower box portion **74** with the end tabs **82** of the razor blades **66** positioned between reduced width-positioning shoulders **84**, can be digitally slidably moved toward the left as viewed in FIG. 2, of course after the lower closure cap **62** has been removed from the lower end of the can **20**, up the inclined ramp **80** and out through the aligned egress slots **78** in the cover member **76** and the egress slot **84** in the corresponding side wall portion of the lower closure cap **62** in the direction of the arrow **86** of FIG. 2 whereby to laterally extend the razor blade **66** in the manner indicated in broken lines in FIG. 2 so that it can be digitally removed and placed in the proper engaged relationship in the safety razor head **58** for shaving use. The aligned blade ingress slots **88** and **90** allow a used safety razor blade to be slidably removed from outside of the lower closure cap **62** in the lower used safety razor blade receiving and storing receptacle **70** positioned below the horizontal wall **92**, which separates the two blade chambers for new and used blades, respectively, **68** and **70**.

The biasing spring means, indicated at **94**, acts to maintain a proper vertical bias on the plurality of razor blades **66** to hold them in the proper position within the new blade holding and dispensing chamber **68**.

It should be noted that the positioning of the new blades **66** is maintained at all times by the location of the reduced width blade end tabs **82** between the correspondingly located positioning shoulders **84** and thus the sharp edges **96** of all of the new razor blades **66** are prevented from contacting side walls of the lower box **74** carrying the new razor blades **66**, which might mar the sharpness of said edges **96**.

The closure cap **62** is provided with an upper shouldered ring portion, generally designated at **98**, adapted to be resiliently engaged with respect to the top edge **100** of the lower closure cap portion **62** and to make resilient engagement with the lower junction bead **24** of the pressure can **20** in the manner clearly shown in FIG. 1, and this arrangement also allows the lower closure cap portion **62** to be rotated relative to said ring portion **98** in a manner such as to cause the gate portions **102** to either lie across and close the blade egress and blade ingress slots **84** and **88** of the lower removable closure cap **62** in the manner clearly shown in FIGS. 4 and 5 or to allow said gate members **102** to be rotated out of alignment with said closure cap egress and ingress slots **84** and **88** in a manner such as is clearly illustrated in FIGS. 1, 2, and 6. The rotation of said lower closure cap portion **62** relative to said upper ring portion **98**, and the pair of gate members **102** carried thereby, does not produce corresponding rotation of the composite new and used blade-carrying structure generally designated by the reference numeral **72** relative to the ring member **98** because the gate members **102** lie along the side walls of the box **74** and rotatively position same. On the other hand, the disc **104** affixed to the bottom of the box **74** rests upon the bottom wall **106** of the lower closure cap portion **62** and allows free relative rotation therebetween.

In the exemplary first form of the invention illustrated, the tube **48** is fastened to the bottom wall **22** by perforating the bottom wall **22** so as to define the circular edge portion **108** through which the tube **48** is inserted and is then caused to form the double closely vertically spaced pair of enlarged beads **110** with an O-ring sealing gasket **112** positioned therebetween and in engagement with the bottom wall **22** of the cam **20**. The twin beads **110** are forcibly deformed toward each other during said sealing operation so as to positively mechanically lock or crimp the circular edge **108** of the bottom wall **22** of the can **20** and the O-ring sealing gasket **112** together in a firm and positively sealed manner, thus firmly mounting the tube **48** in place and in a manner which positively seals the junction thereof with the bottom wall **22** of the can **20** so that the can **20** can still function satisfactorily as a pressurized aerosol-type dispensing can.

While the mounting method and structure of the junction of the tube **48** with respect to the bottom wall **22** of the can **20** just described above provides a very simple and effective arrangement, it should be noted that the invention is not specifically limited thereto and various other arrangements may be provided in lieu thereof, both, or either, as to structure and/or position.

In order to protect the fingers and thumb of an intended user of the razor **60** from being cut by the opposed sharp edges **96** of the razor blade mounted in the razor blade head **58**, a protective razor blade edge guard member, generally designated at **114**, may be resiliently snapped into place as is best shown in FIGS. 1 and 7 by passing the razor handle **56** through the centrally located hole **116** in said guard member **114** and allowing the outwardly flared lip or flange portions **118** of said guard to be resiliently snapped over the corresponding edges of the razor head **58** and to flare outwardly and beyond (in the inverted position of FIG. 1, outwardly and below) the opposed sharp razor blade edges **96** so as to provide entirely adequate protection for the fingers and thumb of a person removing the razor **60** from the stored relationship shown in FIGS. 1 and 7. This is done by grasping said opposed guard flanges **118** between thumb and one or more opposed fingers and then slidably removing the longitudinal razor handle **56** from the tube **48**. This can be done with complete safety since the guard flanges **118** extend outwardly beyond the sharp razor blade edges **96**. After such removal of the razor **60** from the stored relationship shown in FIGS. 1 and 7, said protective guard **114**, which is preferably made of resilient plastic material, may be resiliently disengaged from the razor head **58** and slidably removed from the longitudinal razor handle **56** so that the razor **60** will be completely free thereof and ready for use.

FIG. 8 illustrates a modified new razor blade holder and used razor blade receiver and storage receptacle functionally similar to the composite structure shown at **72** in the first form of the invention of FIGS. 1–7 but somewhat modified as to the structure thereof. Because of the similarities of this modification to the first form of the invention, parts which are structurally or functionally similar are designated by similar reference numerals, followed by the letter "*a*", however. In this modification, it will be noted that the new blade holder and dispenser chamber is designated by the reference numeral **68***a* and comprises a holder and dispenser made of spring metal having open side walls but having laterally spaced positioning shoulders **84***a* at each end thereof functionally similar to those designated at **84** of the first form of the invention and also having a corresponding inclined ramp means **80***a* similar to that designated at **80**

in the first form of the invention. However, in this modification, the used blade receiving and storing receptacle **70***a* is actually the chamber defined below the relatively rotary disc-shaped member **104***a* and immediately above the bottom wall **106***a* and is, therefore, somewhat different from the corresponding used blade-receiving receptacle **70** of the first form of the invention. The blade ingress slot **88***a* actually passes through the downwardly turned small flange or lip edge **120** of said disc **104***a* into said receiving receptacle **88***a*. Otherwise, this modification of the invention is generally similar to the first form of the invention described in detail hereinbefore.

FIG. 9 illustrates a further modification of the razor blade storing means, which is generally designed by the reference numeral **72***b*, wherein it merely comprises a package, box, or container of any desired type adapted to contain any desired number of razor blades therein and normally it will be removed from the lower closure cap **62***b* when a new blade is to be removed from said package, box, or container **72***b*, after which the container **72***b* and the remaining blades carried therewithin will be replaced within the lower closure cap **62***b*. In other words, this is an extremely simple means for storing any conventionally packaged type of razor blades within the closure cap **62***b* and does not comprise a combination new razor blade holder and dispenser and used razor blade-receiving and storage receptacle of the more complex type illustrated at **72** in the first form of the invention in FIGS. 1–7 and illustrated at **72***a* in the second form of the invention shown in FIG. 8. The various elements of this invention similar to those of the earlier forms of the invention are designated by similar reference numerals, followed by the letter "*b*", however.

FIG. 10 fragmentarily illustrates a modification of the upper portion of the pressure can **20** of the first form of the invention which is generally designated by the reference numeral **20***c* in FIG. 10. Indeed, all parts of the FIG. 10 modification similar to those of the earlier forms of the invention are designated by similar reference numerals, followed by the letter "*c*," however. In this modification, it will be noted that the suction tube fitting **36***c* does not extend directly centrally downwardly in the manner of the first form of the invention as is best shown in FIG. 1, but instead is angularly laterally displaced immediately below its junction with respect to the top positioned valve-carrying member indicated at **32***c* so as to provide a maximum vertical central clearance for the closed upper end **52***c* of the inner tube **48***c* which allows it to extend upwardly to a higher level within the can **20***c* than is possible in the first form of the invention as is best shown in FIG. 1. This is desirable when the longitudinal razor handle **56***c* is longer than the razor handle **56** of the first form of the invention as is true of certain conventional prior art safety razor handles. Otherwise this modification of the invention is similar to the first form of the invention.

FIG. 11 illustrates, in greatly reduced and generally fragmentary and simplified form, a further modification of the invention, and similar parts are designated by similar reference numerals followed by the letter "*d*," however. In this modification, it will be noted that the inner tube **48***d* no longer carries a razor blade handle such as that shown at **56** in the first form of the invention, but instead is adapted to carry suitable heating means therein for heating any material adapted to be contained within the hollow interior chamber **42***d* defined within the can **20***d*. In the FIG. 11 modification, said heating means is generally designated by the reference numeral **122** and comprises chemically reactive exothermic heating means. One form of such a specific type of heating means might comprise carbide and water which produce a substantial exothermic reaction. Since this particular reaction also produces gas, the lower closure cap **124** will normally have to be of relatively strong construction and tightly sealed over the otherwise open lower end **126** of the tube **48***d*. Another exemplary such exothermic reaction might be water and unslacked lime which produces a substantial amount of heat. However, these two reactions are merely exemplary of many such exothermic reactions which might be employed for the purpose of heating the contents of the can **20***d*. Also, it should be noted that various other types of heating means, such as heated liquids, electrical heating means, or any other suitable type of heating means, may be positioned within the tube **48**d in lieu of the exothermic chemical reaction heating means **122** referred to above.

FIGS. 12–19 illustrate another modification of the invention wherein parts which are functionally or structurally similar to those of earlier forms of the invention are designated by similar reference numerals, followed by the letter "*e*,", however, except in the case of FIG. 16 where the modified safety razor (and parts thereof) are additionally primed.

In this modification, it should be noted that the longitudinal closed tube **48***e*, which may be referred to as an accommodation tube which defines the interior recess **54***e*, which may be also referred to as an accommodation chamber, is of a somewhat different shape, size, and configuraton from that illustrated in the first form of the invention at **48** and **54**, respectively, and is so cross-sectionally and longitudinally enlarged and shaped as to be capable of receiving and mounting therein a substanttially non-round and non-straight longitudinal razor blade handle **56***e* of a safety razor **60***e* of a type such as is exemplified by the razor manufactured by the Gillette Company and known as a "Techmatic" safety razor and which, in addition to having the non-round, non-straight longitudinal handle **56***e*, additionally mounts and carries in association therewith as an effective forward part of said handle, a safety razor blade cartridge means, such as is generally designated by the reference numeral **128** and which is provided with and carries therein a lengthy razor blade strip, a portion of which is indicated by the reference numeral **130**, which is adapted to be longitudinally shifted so as to present a fresh cutting edge as needed, in response to rotation of the control lever **132** through 360 degrees around the pivoted mounting point **134** thereof.

The detailed interior construction and operating characteristics of the safety razor blade cartridge means **128** are not illustrated in the drawings and are not described in detail in the specification since such comprise no part of the present invention.

The off-center location of the cartridge **128** and the relative non-straight relationship thereof with respect to the remainder of the handle means **56***e*, of which it comprises an effective forward part, in addition to the relative width of the cartridge **128** in the direction best shown in FIG. 15, and the projection of the operating lever **132** mounted on the razor head **58***e*, make it quite apparent that it would not be possible to insert the complete handle **56***e*, including the cartridge **128** comprising the effective forward part thereof, upwardly into an accommodation tube of the type shown at **48** in the first form of the invention, as best shown in FIG. 1. Therefore, the cross-sectional size and shape, and the longitudinal size and shape, of the modified accommodation tube **48***e* of the modified form of the invention illustrated in FIGS. 12–19 have been modified as to shape so as to be capable of receiving said complete handle means **56***e* therein with the razor head **58***e* being positioned immediately below the domed bottom wall **22***e* in the razor head storage chamber **64***e* when the bottom closure cap **62***e*, which is of a modified and simplified type, is fastened across the bottom of the can **20***e* in the manner clearly shown in FIGS. 12, 13, and 15. Said bottom closure cap **62***e* may, in one form of the invention, be made of a resilient plastic and be flared outwardly at the edge thereof, as is indicated in phantom in FIG. 12, with said edge flare being designated by the reference numeral **63**. The appearance of the

cap may be esthetically attractive, and it will be noted that it provides what might be termed a plastic vanity base cap which enhances the overall appearance of the aerosol can and which greatly adds to the stability thereof by minimizing any tendency for it to inadvertently tip over.

It should be noted that, in the modified form of the invention illustrated in FIGS. 12–19, the bottom of the accommodation tube **48***e* is fastened, as indicated at **110***e*, to the bottom wall **22***e* of the can **20***e* in a slightly different manner from that illustrated in the first form of the invention and may comprise a welded, soldered, adhesively fastened, or other hermetically-sealed, structurally-strong junction formed before the bottom wall **22***e* is affixed and sealed to the bottom of the side wall **26***e* of the can **20***e*. However, this is merely for the purposes of variety and numerous other types of junction means may be employed in lieu thereof.

It should also be noted that the razor head **58***e* is adapted to be held and maintained in the proper mounted relationship relative to the bottom **22***e* of the can **20***e* by the combination resiliently deflectable safety-razor-head-holding clamp means and safety razor blade edge guard means generally designated at **114***e*, which is positioned within the lower storage chamber **64***e* and is fastened to the bottom side of the bottom wall **22***e*, which is upwardly deformed or recessed slightly, as best illustrated at **136**, to provide finger room for conveniently grasping with thumb and forefinger opposite ends of the razor head **58***e* when the entire razor **60***e* is to be removed from the stored relationship illustrated for subsequent shaving usage and latter repositioning therein in storage relationship.

It should be clearly understood that the invention is not limited to an arrangement of the type illustrated in FIGS. 12–19 wherein the bottom opening or hole **50***e* into the accommodation tube **48***e* is positioned substantially at the center of the domed bottom wall **22***e* of the can **20***e*. Actually, when a razor of the type illustrated at **60***e* is to be mounted in the accommodation tube **48***e*, it may be advantageous to slightly laterally displace the accommodation tube **48***e* so that the bottom opening or hole **50***e* is laterally displaced from the center of the bottom wall **22***e* of the can **20***e*. When this is done, it will be understood that the displacement will be in a direction opposite to the effective concave side or inside of the effective bend in the longitudinal razor blade handle **56***e* so that the safety razor head **58***e* will be positioned extending substantially across the center of the bottom wall **22***e* of the can **20***e*, thus minimizing vertical space clearance requirements and facilitating the manual grasping of opposed ends of said razor head **58***e* for the removal of the handle **56***e* from the accommodation tube **48***e* or for the insertion of the handle **56***e* into the accommodation tube **48***e*.

It should also be noted that there may be other circumstances where it may be found desirable to position the accommodation tube **48***e* and the bottom hole **50***e* thereof at various locations other than substantially centrally located with respect to the bottom wall **22***e* of the can **20***e*, and all such variations are intended to be included and comprehended within the broad scope of the present invention.

The lower closure cap **62***e*, in the form of the invention illustrated in FIGS. 12–19, may be of a type similar to that illustrated in the first form of the invention and in any of the modifications thereof, wherein it is adapted to store new razor blade means such as those indicated at **66** in the first form of the invention or such as the cartridge type of razor blade means indicated at **128** in the modified form of the invention illustrated in FIGS. 12–15, 18, and19, and all such arrangements are intended to be included and comprehended within the scope of the present invention.

However, the exemplary modified form illustrated in FIGS. 12–19 includes another modification beyond that referred to above with respect to the accommodation tube **48***e* being modified to be of a more universally usable type adapted to receive razor handles of a variety of different types of safety razors. In addition, said exemplary modified form illustrates the idea of storing new razor blade means (and usually used razor blade means) in a second closure cap, which may be an upper closure cap such as that generally designated at **138** and which effectively comprises a razor blade enclosure, storage-defining, upper closure cap means, shown as being removably attached to and mounted with respect to the upper top dispensing end **28***e* and **30***e* of the can **20***e*. This is usually accomplished by a resilient snap or friction-fit of the slightly enlarged engagement lip **140** which frictionally and resiliently snaps over the bead **30***e* comprising the top edge junction of the side wall **26***e* and the top wall **28***e* of the can **20***e*, although various other mounting means may me employed in lieu thereof. The interior of said upper closure cap **138** defines a controllably openable razor blade storage chamber, such as is generally designated by the reference numeral **142**, which lies above all other portions of the can **20***e* when the second closure cap **138** is in mounted relationship as shown in FIG. 12.

Said razor blade storage chamber **142** is adapted to normally concealingly carry auxiliary razor blade means of either the cartridge type previously described and illustrated at **128** or various other types of conventional safety razor blade means in various types of dispensers or packages and, in some cases, including the provision of used blade receiver and storage means. It will be understood that the razor blade cartridge means **128** may be removably resiliently engaged and mounted within the second closure cover **138** by being positioned within the edge-contacting holding clamp means **144**, which is either cemented to, otherwise fastened to, or formed integral with the inside surface **146** of the top part **148** of the upper closure cap generally designated at **138** and which is sufficiently resilient to be capable of being slightly deflected by the insertion of the cartridge **128** thereinto so that it will be positively held in mounted relationship until it is manually removed for engagement as a replacement razor blade cartridge unit **128** for the previously completely-used razor blade cartridge **128** shown mounted as part of the complete razor **60***e* in FIGS. 12 and 15.

In other words, when all of the razor blade strip **130** of the cartridge **128** mounted on the razor **60***e* has been used up, said used cartridge **128** is removed from the razor **60***e* and the new replacement cartridge means **128** is removed from the mounting clamp means **144** inside of the upper closure cap **138** (of course, after the upper closure cap **138** has been removed from the top of the can **20***e* and inverted so as to provide access into the storage chamber **142** thereof) and the new replacement cartridge **128** is engaged with the razor **60***e* for subsequent shaving usage.

The above-described cartridge replacement operation is facilitated by reason of the fact that the second closure cap **138** is a two-piece cap formed of the inner and lower portion **149** and the previously-mentioned upper and outer portion **148**, which are provided with controllably engageable and disengageable quick connect and disconnect means such as generally designated at **150**. This makes it possible, after the complete closure cap **138** has been removed from the can **20***e* and has been inverted, to separate said portions **148** and **149** thereof so that convenient access into the interior of the portion **148** thereof can be easily had for the purpose of digitally removing a new replacement cartridge **128** in the manner previously described.

In the example illustrated, the quick connect and disconnect means **150** is of a threaded type comprising cooperating thread means portions **152**, but it may be of a frictional type as illustrated in FIG. 28 or may comprise any other type of engagement means or quick connect and disconnect means.

FIG. 16 merely illustrates the fact that the accom-

modation tube **48***e* is also capable of mounting a conventional straight handle **56***e'* of a conventional straight-handled safety razor **60***e'* similar to the safety razor **60** illustrated in FIG. 1 of the first form of the invention and, in this case, the upper closure cap **138** will have a different type of new safety blade holder and dispenser from the cartridge means **128** illustrated in FIGS. 12–15, 18, and 19. One such type of safety razor blade holder and dispenser means is illustrated in FIGS. 20–23 and is generally designated by the reference numeral **154**. Another modified type of razor blade dispenser is illustrated in FIGS. 24 and 25 and is indicated by the reference numeral **154***g*, and an additional modification thereof is illustrated in FIG. 26, as is generally designated by the reference numeral **154***h*. Any of these types of new razor blade dispensers may be employed for storing new conventional double-edged razor blades of the type adapted to be mounted in the razor head **58***e'* of the razor **60***e'* shown in FIG. 16.

Of course, since the conventional, substantially cylindrical razor handle **56***e'* of the conventional safety razor **60***e'* shown in FIG. 16 has a different shape from the front handle portion **56***e* comprising the razor blade cartridge means **128** of the form of the invention illustrated in FIGS. 12–15, 18, and 19, the enlarged, non-round bottom opening or hole **50***e* into the accommodation tube **48***e* is excessively large for reception of the conventional safety razor handle **56***e'* of FIG. 16 and, thus, would have no positioning effect thereon. Therefore, a hole-modifying member **155** is provided for effectively modifying the non-round shape of the hole **50***e* of the accommodation tube **48***e* into the smaller substantially circular hole **157**, which is of the appropriate size for proper receiving and positioning cooperation with respect to the razor handle **56***e'* of FIG. 16.

It will be noted that the hole-modifying member **155** is preferably made of very thin-sheet resilient plastic material, which is preferably provided with adhesive means **159** at the bottom thereof for adhesively fastening same to the bottom surface of the bottom wall **22***e* of the can **20***e* in a manner which will position the circular hole **157** in the proper vertically adjacent hole-modifying relationship with respect to the enlarged non-round bottom hole **50***e* of the accommodation tube **48***e*. Also, in the exemplary form illustrated in FIG. 17, an inwardly convex circular flange **161** of thin-sheet plastic material is formed integrally with the remainder of the hole-modifying member **155** and is adapted to extend a short distance into the accommodation tube **48***e* immediately adjacent to the enlarged bottom hole **50***e*. This will provide an arrangement which will allow the several slight cylindrical enlargements provided on the razor handle **56***e'* to forcibly resiliently pass through the hole **157** defined within the double tapered flange **161** and yet will provide a relatively close fit thereof around the razor handle **56***e'* when it is in fully-inserted relationship within the hole **48***e*. This is an exemplary structure only, and it should be understood that numerous other types of insert collars, or hole-modifying members, may be employed in lieu of that illustrated in FIG. 17 and designated by the reference numeral **155**, or it may be eliminated entirely in certain forms of the invention.

In the case of the first form of new safety razor blade dispenser means **154** as illustrated in FIGS. 20–23, it will be noted that it comprises a compartmented tray means also designated by said reference numeral **154** and having a new blade compartment **156** provided with a central, resiliently engageable, upstanding frictional mounting post **158** (which, preferably, may be made of "silicone" rubber or other resilient long-wearing material), which is adapted to extend centrally upwardly through the central aperture **160** in one or a plurality of new double-edged razor blades **66***f* for resiliently engaging, holding, and positioning same in a firm and positive manner and yet in a manner which allows the uppermost razor blade **66***f* to be controllably removed whenever desired.

The main mounting and holding of the new razor blades **66***f* is provided by said central resilient frictional mounting post **158**, but proper end positioning is also provided by the positioning shoulders **84***f* at each side of the end wall openings **161**, which allow the projecting end tabs **82***f* of the razor blades **66***f* to extend therethrough.

The positioning shoulders **84***f* at each end of the new razor blade compartment **156** act to positively maintain the proper positioning of the razor blades **66***f* in a manner such that the sharp side edges **96***f* thereof never come into contact with the spaced side wall portions of the new razor blade compartment **156**.

In the example illustrated, each new razor blade **66***f* is provided with a bifurcated flexible yoke-shaped lifting tab **162** positioned astride the mounting post **158** and on each side thereof so that the free end **164** thereof, when lifted with finger and thumb and pulled upwardly, will exert a centralized upward lifting force on the new razor blade **66***f* and will lift it directly off of the frictional mounting post **158** and directly out of engagement with the end positioning shoulders **84***f*. The next tab **162** will normally be oppositely directed. In other words, preferably every other tab **162** will be in alternating, oppositely directed relationship. Also, each of the tabs **162** may be adhesively, or otherwise, affixed to the top surface of each corresponding safety razor blade **66***f* at a location such as is indicated at **166** and in a manner which will allow it to be controllably completely disengaged therefrom when the razor blade **66***f* is to be positioned in the razor head, such as that shown at **58***e'* of a safety razor such as that shown at **60***e'* in FIG. 16. Also, it should be noted that the upper surfaces of the lifting tabs **162** may be provided with numbers, such as indicated at **163**, indicating the number of remaining new unused safety razor blades carried by the new-blade compartment. However, this is an optional feature and, in certain forms of the invention, may be eliminated if desired. Also, if desired, the lifting tabs **162** may be modified or eliminated entirely in certain forms of the invention.

It should be noted that the razor blade dispenser **154** illustrated in FIGS. 20–23 also includes a used safety razor blade compartment, generally indicated at **168**, which is provided with a central resiliently engageable frictional mounting post **170** similar to the previously-mentioned new blade mounting post **158** and adapted to resiliently receive, engage, and hold one or more used safety razor blades thereon in precisely the same manner as the previously-described mounting of the new safety razor blades **66***f* on the mounting post **158** and in the new razor blade compartment **156**. In fact, the new razor blade compartment **156** and the used razor blade compartment **168** are substantially mirror images of each other having identical but positional reversed structures and, therefore, no repetitive descriptions of the used safety razor blade compartment **168** is thought necessary.

The entire dispenser **154** is adapted to be mounted in either precisely the same type of edge-contacting holding clamp means as that illustrated at **144** in FIGS. 12–15, 18, and 19 or to have a modified type of holding clamp means **144***f* which more closely engages and frictionally engages and encompasses the razor blade dispenser and receiver and storage means **154**, as is perhaps best illustrated in FIG. 22.

FIGS. 24 and 25 illustrate a further modification of the new razor blade dispenser and used razor blade receiver and storage means, which is generally designated at **154***g* and, in this case, said new razor blade dispenser and used razor blade storage means **154***g* comprises a conventional prior art type of combination unit having a slot **172** at one end of the new razor blade compartment **156***g* and having a thumb-opening **174** in the top wall **176** extending down into said new razor blade compartment **156***g* so that after removal of the dispenser **154***g* from

the edge clamp means **144***g*, a thumb may be inserted downwardly through the thumb-opening **174** so that an upper wrapped razor blade **66***g* can be frictionally engaged and slidably extended outwardly through the end slot **172** for removal and use in a safety razor of the type illustrated at **60***e'* in FIG. 16.

The conventional prior art dispenser **154***g* also has a bottom slot **180** through which used razor blades can be inserted into an interior used razor blade storage chamber or compartment **168***g*. In other words, the modified razor blade dispenser **154***g* is a conventional prior art type but can be readily mounted in the edge clamp means **144***g* inside of the upper portion **148***g* of the upper closure cap **138***g* until such time as it is removed for use. Otherwise, the modification of FIGS. 24 and 25 *is* generally similar to the modification of FIGS. 20–23.

FIG. 26 illustrates a further slight modification of the invention wherein a slightly different type of conventional prior art razor blade storage and dispenser means, generally designated by the reference numeral **154***h*, is adapted to be removably mounted by a modified type of holding clamp means **144***h* and wherein a modified type of used safety razor blade storage compartment means or receptacle **168***h* is provided immediately below the edge portion **182** of the modified edge clamp **144***h*, which thereby supports the dispenser **154***h* above a slightly downwardly recessed part **184** of the inside surface **146***h* of the upper portion **148***h* of the upper closure cap **138***h* so as to define said used razor blade compartment **168***h*. After a razor blade has been used and removed from a safety razor of a type shown at **60***e'* in FIG. 16, it may be placed in the used safety razor blade recess **168***h* (of course, after removal of the dispenser **154***h*) and then the dispenser **154***h* can be replaced on top of the used safety razor blade, thus retaining it in safe position until disposal thereof.

In the exemplary version illustrated in FIG. 26, the so-called razor blade dispenser **154***h* merely comprises an outer box or container **186** which can be opened to remove a new razor blade whenever needed. However, said dispenser **154***h* may be of any other functionally equivalent type, a major feature being the fact that it is removably retained within the second closure cap **138***h* until it is needed. This is true of all of the modified forms of the invention beginning with FIG. 12.

Any of the upper closure caps of any of the modified forms of the invention illustrated in any of the figures following FIG. 11 may be, although not necessarily limited to, the two-piece construction form illustrated in said figures and previously described and may have threaded engagement means as best illustrated at **152** in FIG. 27 or may have frictional engagement means of the type specifically illustrated in FIG. 28 at **152***j*, or any other suitable type of engagement means may be employed and, in certain forms of the invention where the upper closure cap **138** can be made relatively shallow, it is not necessary that it comprise two pieces and, therefore, no such engagement or quick connect and disconnect means is required.

FIG. 29 illustrates a typical exemplary upper or outer portion **148** of a typical upper closure cap **138** (although this is to be construed as being exemplary of any of the forms of the invention illustrated following FIG. 11), which is provided with a temporary sealing film of thin-sheet material, as indicated at **188**, and which may be of either a transparent or opaque nature and which merely comprises a temporary sealing closure to make a complete package of said top portion **148** and the new razor blade means (which is not shown in FIG. 29 and which lies under the thin film **188**).

This complete package is generally designated by the reference numeral **190** and it will be noted that it comprises a conveniently stackable, storable and dispensable unit which can be stored in vertical columns in vending machines or in dispensers adapted to be positioned in drug stores, or the like, or at various other convenient locations where a prospective purchaser might buy one. Of course, after purchasing such a unit as that shown at **190**, the user will strip off the film **188** and will then remove the corresponding top portion **148** from the upper closure cover **138** of any of the forms of the invention illustrated in FIGS. 12 through 28 and will throw said old top portion **148** away and replace same with the newly-purchased top cover portion **148** of the unit **190**, thus placing fresh razor blade means in the upper closure cap **138** for later use as desired.

It will be noted that the type of package or container **190** illustrated in FIG. **29** is less complex and less expensive to produce than the conventional type of razor blade dispenser employed by most large manufacturers of safety razor blades to package new safety razor blades and, thus, it reduces the per-unit cost of each new safety razor blade and, at the same time, provides a unit capable of direct mounting on top of a can of aerosol shaving cream, such as that shown at **20***e* in FIG. 12, for example, or in any of the other figures showing comparable pressurized aerosol shaving cream cans, or the like.

It should be noted that the razor blade storage cover **138** is not limited to being positioned at the top of a can such as the one shown at **20***e* in FIG. 12, for example. Actually, as previously pointed out, it may be carried at the bottom of the can or it may be associated with containers or cans of shapes different from those illustrated and may be positioned at any location where the can is provided with means for mounting the razor blade storage closure cap **138**.

The razor blade storage cap feature of the present invention, and various of the razor blade dispenser means carried thereby, are claimed herein as a part of the complete inventive combination.

It should also be noted that an auxiliary interiorly pressurized or interiorly non-pressurized container or can may be provided with supplementary tube means extending therethrough so as to form an effective extension for the closed accommodation tube, such as that shown at **48***e* of the can **20***e* of FIG. 12, and may be adapted to be placed in alignment and communication therewith by fastening juxtaposition of said auxiliary container or can relative to a bottom end wall, such as that shown at **22***e* of FIG. 12, whereby to provide an effectively lengthened combination or composite can adapted to have a lower or first closure cap, similar to that shown at **62***e* in FIG. 12, removably fastened across the bottom thereof whereby to define a controllably openable lower storage chamber at the bottom of the combined can and functionally similar to that shown at **64***e* of FIG. 12.

Such a combined can type of structure might be fastened together by threaded fastening means at the bottom of the first can and at the top of the second or auxiliary can or by any other suitable fastening means, and an assembly of two or more such containers or cans, each having such communicating holes, might be joined together to form a combination or composite can of any desired length. Each such can might contain a different material to be dispensed, and it might be either unpressurized and provided with an appropriate dispenser, or pressurized and provided with a controllably openable valve. Thus, this would make it possible to have two or three different toilet preparations, or the like, assembled in such a combined can and controllably separable for independent dispensing usage when desired. Also, the connected recess or storage chamber provided in a composite or combination effectively-extended can might carry therein one or more applicatory or other utilitarian objects intended for use with any or all of the materials to be dispensed from the various containers.

It should be noted that the particular method and structure for mounting the tube **48** in the hole **108** in the bottom wall **22** of the container **20** illustrated in FIG. 1 is not to be construed as limiting the invention

thereto. As one example of a variation thereof, it should be noted that the O-ring **112** may be positioned between the upper enlarged bead **110** and the bottom wall **22** of the can **20** rather than between the lower bead **110** and said bottom wall **22** of the can **20** as illustrated in FIG. 1. Also, if desired, two such O-rings may be employed positioned both below and above the bottom wall **22** of the can **20** and in engagement with both the lower and upper enlarged beads **110**, if desired. Also, various other methods and constructions for mounting the tube **48** may be employed within the broad spirit and scope of the present invention. This is also true with respect to the bottom closure means **62**, the upper shouldered ring portion **98** thereof, and the various razor blade storing and/or dispensing elements contained therein.

The foregoing descriptions of various species of the invention are to be understood as being exemplary only, and are not to be construed as specifically limiting the invention to either the precise structures illustrated or to the structures defined in the foregoing written descriptions thereof.

Actually, the invention is much broader than the exemplary embodiments specifically set forth in this application and should be so construed. For one example of this, it should be noted that the accommodation tube or chamber has been described hereinbefore primarily as a receiver for a safety razor handle and the storage chamber within the storage closure cap has been defined primarily as a storage place for new razor blade means and, in certain forms of the invention, a receiver for used safety razor blades until subsequent disposal thereof. However, this is only one of many possible uses of the accommodation tube or chamber and/or the storage closure cap, all of which are intended to be included and comprehended herein as fully as if specifically described in detail herein.

For example, the accommodation tube or chamber may mount a toothbrush handle of the type having detachable interchangeable and replaceable brush heads and, in such case, the storage closure cap may store such brush heads for use as needed. In this instance, the material contained within the can would comprise a tooth-cleaning material. Also, it is possible that an electrically-operated toothbrush, and the interchangeable cleaning heads thereof, might be similarly stored by the apparatus of the present invention for removal and use as needed.

The accommodation tube or chamber might carry an applicator for a shoe-dressing material adapted to be carried within the container or can. In fact, it is immediately apparent that virtually any type of applicator, tool, or equivalent device might be carried in the accommodation chamber or tube, and various types of replacement elements or portions for use therewith might be carried within the storage closure cap, all in correspondence with the type of material to be dispensed, which is carried within the container or can.

Also, if desired, it is possible that something other than an applicator, tool, or the like, might be carried within the accommodation tube or chamber. In the case of certain hair treatments, it is often necessary to apply two different liquids, pastes, or the like, and one of these might be contained within the main portion of the can and the other carried within the accommodation tube or chamber, perhaps with an appropriate applicator also being carried therein, if desired, although not in all forms thereof.

The purpose of the above brief description of various possible alternate uses and applications of the invention is to make it clear that it is of very extensive scope and that it would be impossible to enumerate all of the various possible applications, uses, or structural and/or functional variations thereof and that all such are intended to be included and comprehended within the broad scope of the present invention.

Additionally, it should be noted that the word "can" as used therein is not intended to be limited to a conventional metallic can, but is to be broadly construed as meaning any container capable of functioning for the purposes of the present invention.

It should be understood that the figures and the specific description thereof set forth in this application are for the purpose of illustrating the present invention and are not to be construed as limiting the present invention to the precise and detailed specific structure shown in the figures and specifically described hereinbefore. Rather, the real invention is intended to include substantially equivalent constructions embodying the basic teachings and inventive concept of the present invention.

I claim:

1. A container for dispensable material having an auxiliary recess extending thereinto, comprising a can provided with an inwardly extending closed tube having a closed inner end and an access opening at its outer end providing convenient access to an interior recess defined within said tube for the positioning therein of an auxiliary object, said inwardly extending closed tube defining said interior recess being of a cross-sectional shape and size and of a longitudinal shape and size such as to receive a longitudinal handle of a safety razor having a safety razor head portion positioned at the outer access opening end thereof; and a closure cap removably attached to said can in a position effectively extending across and effectively closing said access opening and effectively defining therewith a controllably openable razor head storage chamber to concealingly carry a razor head portion of a safety razor therein during non-use storage periods for ready removal thereof when desired for use.

2. A container as defined in claim **1**, including a second closure cap removably attached to and mounted with respect to said can and defining a controllably openable auxiliary and second storage chamber.

3. A container as defined in claim **1**, including a second closure cap removably attached to and mounted with respect to said can and defining a controllably openable auxiliary item second storage chamber adapted to normally concealingly carry at least one auxiliary item therein during non-use storage periods for convenient removal when desired for use.

4. A container as defined in claim **1**, including a second closure cap removably attached to and mounted with respect to said can and defining a controllably openable razor blade storage chamber adapted to normally concealingly carry razor blade means therein during non-use storage periods for convenient removal when desired for use.

5. A container as defined in claim **1**, wherein said can has an upper dispensing portion provided with an upper closure cap removably attached to and mounted with respect to said can and extending upwardly from said upper dispensing portion of said can and defining a controllably openable upper razor blade storage chamber adapted to normally concealingly carry razor blade means therein during non-use storage periods for convenient removal when desired for use.

6. A container as defined in claim **5**, wherein said upper razor blade enclosing cap comprises a lower engaging portion adapted to engage said upper dispensing portion of said can and an upper end wall portion controllably separable from said lower engaging portion thereof, with said upper end wall portion being adapted to carry on the inner surface thereof razor blade means, for removal of said upper end wall portion from said lower engaging portion of said closure cap whereby to provide convenient access to the razor blade means.

7. A container as defined in claim **6**, wherein said lower portion and said upper portion of said upper closure cap being provided with controllably engageable and disengageable quick connect and disconnect means.

8. A container as defined in claim **5**, wherein said upper razor blade enclosing cap comprises a lower engaging portion adapted to engage said upper dispensing portion of

said can and an upper end wall portion controllably separable from said lower engaging portion thereof, with said upper end wall portion being provided with and carrying therein a safety razor blade holder and dispenser means, for removal of said upper end wall portion from said lower engaging portion of said closure cap whereby to provide convenient access to said safety razor blade holder and dispenser means.

9. A container as defined in claim 8, wherein said lower portion and said upper portion of said upper closure cap are provided with controllably engageable and disengageable quick connect and disconnect means.

10. A container for dispensable material having an auxiliary recess extending thereinto, comprising: a substantially cylindrical can having an upwardly domed bottom wall centrally axially provided with an upwardly extending substantially cylindrical closed tube having a closed upper end and a bottom access opening positioned below said bottom wall and providing convenient access to an interior recess defined within said tube and positioned therein is an auxiliary object comprising a longitudinal handle which is provided with, and which is a part of, a safety razor having a head portion positioned immediately below said bottom wall of said can and within the recess defined by said upwardly domed shape thereof; and a lower closure cap removably attached to said can below and extending downwardly from said bottom wall of said can and defining a substantially cylindrical and controllably openable lower storage chamber adapted to concealingly carry a razor head portion of said safety razor therein during non-use storage periods for ready removal thereof when desired for use and to also carry therein for convenient removal, as desired, a plurality of controllably dispensable safety razor blades.

11. A container as defined in claim 10, wherein said lower closure cap is provided with laterally directed safety razor blade egress slot means and laterally directed used safety razor blade ingress slot means, each provided with and communicating, respectively, relative to a new safety razor blade holder and dispenser and a used safety blade receiver and storage receptacle positioned within said lower storage chamber.

12. A container as defined in claim 11, wherein said lower closure cap is controllably rotatably movably connected with respect to a bottom portion of said can for relative rotation with respect thereto in a first manner such as to open said egress and ingress slot means and in a second manner such as to close said egress and ingress slot means.

13. A container as defined in claim 10, wherein said tube has a pair of axially displaced circumferential outwardly directed enlargement beads formed therein and effectively mechanically engaging and lockingly crimping a corresponding circular edge portion of said bottom wall of said can therebetween in a mechanically rigid and pressure-sealed manner.

14. A container as defined in claim 10, wherein said can comprises a pressure can having a top portion provided with a controllably openable normally closed dispensing valve and a depending suction duct normally extending downwardly into the hollow interior of said pressure can for suction engagement with respet to a pressurized dispensable material adapted to be contained therein.

15. A container as defined in claim 14, wherein said suction duct is laterally displaced immediately below its junction with respect to said top-positioned dispensing valve to provide maximum central vertical clearance for the upper closed end of said tube.

16. A container for dispensable material having an auxiliary recess extending thereinto, comprising: a substantially cylindrical can having a bottom wall provided with an axially upwardly extending closed tube having a closed upper end and a bottom access opening positioned below said bottom wall and providing convenient access to an interior recess defined within said tube for the positioning therein of an auxiliary object, said axially upwardly extending, closed tube defining said interior recess being of a cross-sectional shape and size and of a longitudinal shape and size such as to vertically receive an inverted longitudinal handle of a safety razor having a safety razor head portion positioned immediately below the bottom of said access opening; and a lower closure cap removably attached to a bottom end of said can in a position below, downwardly spaced from, and extending across and effectively closing said access opening and defining a controllably openable lower storage chamber for concealably carrying and storing a razor head portion of an inverted safety razor therein during non-use storage periods for ready removal thereof when desired for use.

17. A container for dispensable material having an auxiliary recess extending thereinto, comprising a can provided with an inwardly extending closed tube having a closed inner end and an access opening at its outer end providing convenient access to an interior recess defined within said tube for the positioning therein of an auxiliary object, said inwardly extending closed tube defining said interior recess being of a cross-sectional shape and size and of a longitudinal shape and size such as to receive a non-round non-straight longitudinal handle of a safety razor of a conventional prior art type normally provided with and carrying in association therewith a safety razor blade cartridge means of a type carrying therein a lengthy razor blade strip adapted to be longitudinally shifted so as to present an unused cutting edge as needed, and also such as to be capable of receiving a conventional substantially straight and generally cylindrical longitudinal handle of a conventional prior art safety razor; a closure cap removably attached to said can in a position effectively extending across and effectively closing said access opening for effectively defining therewith a controllably openable razor head storage chamber adapted to concealingly carry a razor head portion of a safety razor therein during non-use storage periods for ready removal thereof when desired for use.

18. A container as defined in claim 17, including safety razor head holding clamp means and safety razor blade edge guard means positioned within said razor head storage chamber.

19. A container as defined in claim 17, including safety razor head holding clamp means and safety razor blade edge guard means positioned within said razor head storage chamber and fastened to a wall portion of said can adjacent to said access opening.

20. A container for dispensable material having an auxiliary recess extending thereinto, comprising a can provided with an inwardly extending closed tube having a closed inner end and an access opening at its outer end providing convenient access to an interior recess defined within said tube for the positioning therein of an axiliary object, said can having an upper dispensing portion providing with an upper razor blade storage closure cap removably attached to and mounted with respect to said can and extending upwardly from said upper dispensing portion of said can and defining a controllably openable upper razor blade storage chamber to normally concealingly carry razor blade means therein during non-use storage periods for convenient removal when desired for use, said upper razor blade storage closure cap being provided with controllably engageable and disengageable holding means provided with and removably mounting a safety razor blade holder and dispenser means positioned within said upper razor blade storage chamber.

21. A container as defined in claim 20, wherein said safety razor blade holder and dispenser means comprises a compartmented tray means having a new razor blade compartment provided with a central resiliently engageable frictional mounting post for resiliently engaging, holding, and positioning a plurality of new safety razor blades in a controllably manually removable manner.

22. A container as defined in claim **20**, wherein said safety razor blade holder and dispenser means comprises compartment provided with a central resiliently engageable frictional mounting post for resiliently engaging, holding, and positioning a plurality of new safety razor blades in a controllably manually removable manner and having a used safety razor blade compartment provided with a central resiliently engageable frictional mounting post for resiliently engaging, holding, and positioning a plurality of used safety razor blades in a controllably manually removable manner until subsequent disposal thereof.

23. A container as defined in claim **20**, wherein said safety razor blade holder and dispenser means comprises a compartmented container having a new razor blade compartment provided with an end-positioned safety razor blade egress slot means for forced egress therefrom of a top one of a plurality of new safety razor blades,

and having a used razor blade compartment provided with an end-positioned used razor blade ingress slot means for the insertion thereinto of used razor blades.

24. A container as defined in claim **20**, wherein said safety razor blade holder and dispenser means comprises a razor blade cartridge means including a container carrying a lengthy razor blade strip adapted to be longitudinally shifted so as to present a fresh cutting edge as needed when mounted in a safety razor.

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ROBERT PESHOCK, *Primary Examiner.*