United States Patent

Douglas

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[54] **BLADE DISPENSER**

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[52] **U.S. Cl.** .....**206/16 BC,** 30/40, 220/93, 221/52

[51] **Int. Cl.** **B65d 83/10**

[58] **Field of Search**.....206/16 BC, 16 B; 220/93; 221/52; 30/40; 312/61, 71

[56] **References Cited**

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[57] **ABSTRACT**

A blade dispenser for razor blades comprising a housing having a partition dividing the housing into a blade dispensing compartment and a used blade receptacle. Double volute springs are disposed on truncated conical studs on the partition and a movable platen for feeding new blades to a position where they may be automatically seated in a razor. The housing has a slot therein and is provided with a baffle for receiving and retaining used blades.

5 Claims, 4 Drawing Figures

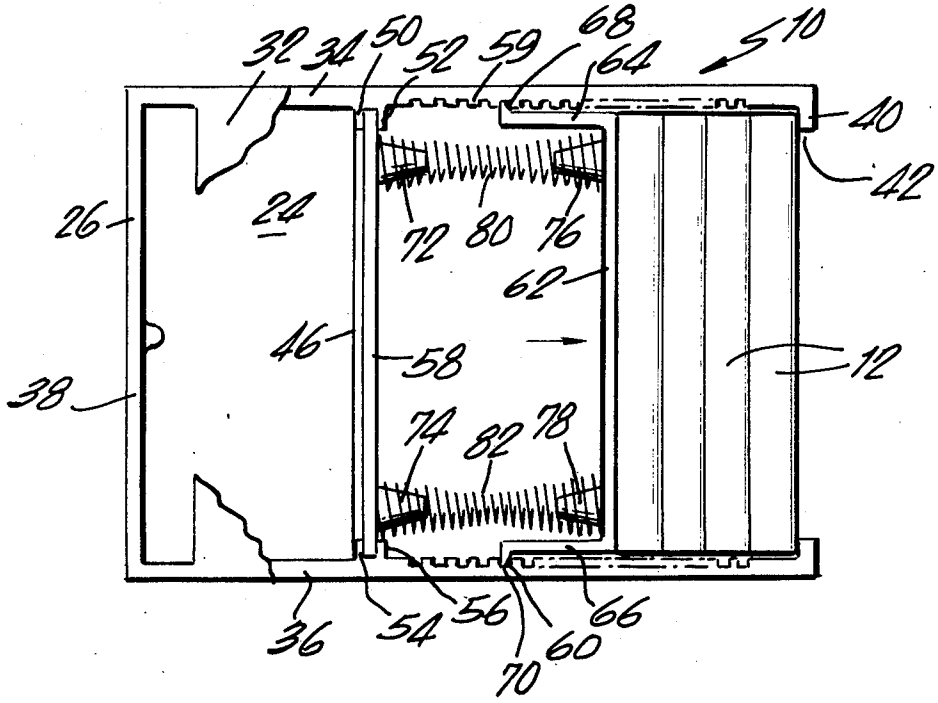
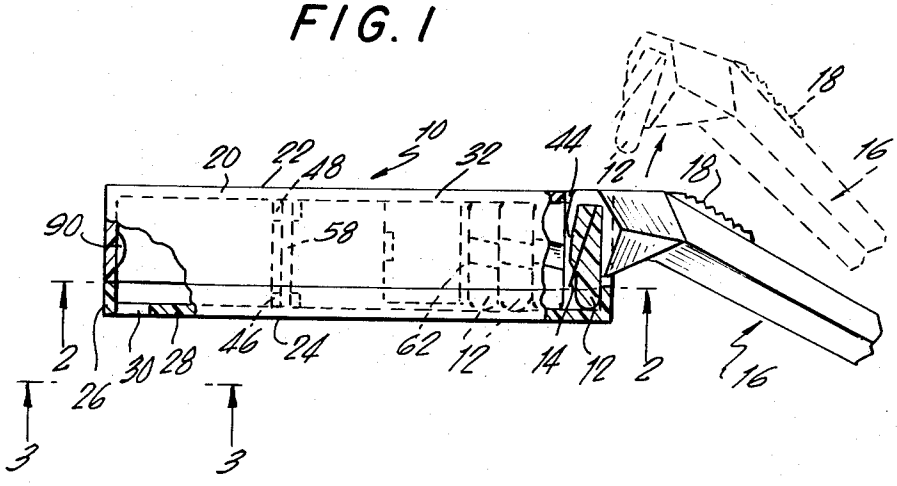


FIG. 1



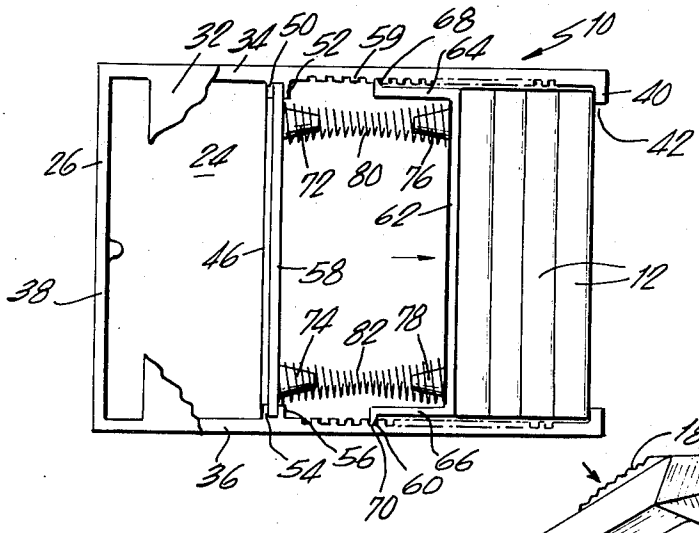


FIG. 2

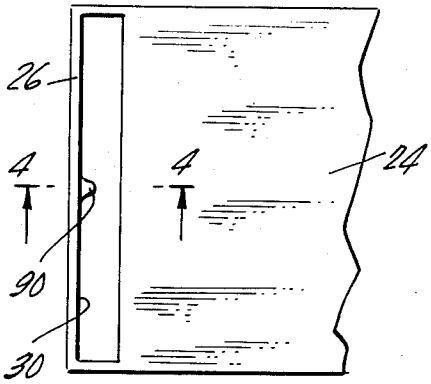


FIG. 3

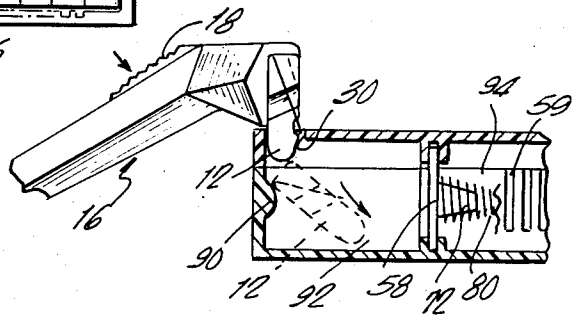


FIG. 4

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BLADE DISPENSER

This invention relates to a package dispenser for razor blades.

In the past, various types of packages for razor blades including dispensers have been devised. These prior dispensers have been provided with mechanical arrangements for facilitating the manual or automatic dispensing of razor blades from the dispenser with the automatic mechanisms being used to set the blades in the razor. At least some of the dispensers had provision for receiving used blades therein.

With the introduction of the razor blades such as disclosed in the U.S. Pat. to Fishbein, No. 3,071,856, issued Jan. 8, 1963, entitled "Razor Blade and Method of Making Same" and the U.S. Pat. to Hansom, No. 3,388,831, issued June 18, 1968, for "Shaving Units and Dispensers Therefor," the dimensions of this type individual blade became much larger. More particularly, blades are of a substantial thickness as compared with, for example, a conventional double edge safety razor and employ only a thin strip of metal such as stainless steel, chromium alloy, or the like, which may have a coating such as that disclosed in U.S. Pat. No. 3,071,856. These blades are mounted in a magazine-type dispenser for sequential dispensing and, as disclosed in U.S. Pat. No. 3,388,831, they are automatically seated in the razor after the previous blade has been released therefrom. The magazine-type dispenser is provided with a very strong spring due to the bulkiness of the blades to provide for effective biasing action while taking into account the thickness of the blades as they are successively dispensed. This spring is of itself of considerable size and heretofore it has been necessary to utilize a comparatively large size dispenser for housing the spring and blades which did not have any means for receiving therein used blades. Further, the razors of this specific type employ a relatively powerful spring for automatically ejecting the used blade and, when ejected, the blades may strike a surface such as a wash basin or stand and bounce into an awkward location for retrieving thereof or may rebound against the person of the user so as to subject the user to a possible injury.

The present invention overcomes the disadvantages of the lack of storage space for used blades by providing for an arrangement whereby relatively strong springs having a wide range of expansion and contraction can be employed, yet which requires only a minimum amount of space as compared to the prior art springs thereby permitting the used blade to be ejected automatically and directly into a used blade compartment of the dispenser without requiring any increase whatsoever in the overall size of the dispenser.

The concept of this invention features the use of double volute springs arranged in pairs and mounted on suitable truncated conical studs so as to eliminate the possibility of bending or twisting of the springs, yet allowing for considerable expansion of the springs during the dispensing thereby accounting for the considerable total thickness of the blades that are stored in the dispenser.

A further object of the present invention is to provide for a dispenser including a minimum number of easily assembled parts which are so arranged to cooperate with each other to rigidify and strengthen the package thereby allowing for the provision of a used blade storage compartment without deleteriously affecting the strength of the dispenser or increasing the size thereof.

Yet another object of this invention is to provide a storage receptacle for used blades thereby eliminating the need for wrapping the blades for safe disposal. The storage receptacle is adapted to permit automatic ejection and reception of the used blades.

These, together with the various ancillary objects and features of the present invention, which will become apparent as the following description proceeds, are attained by this razor blade dispenser, a preferred embodiment of which is illustrated in the accompanying drawing, by way of example only, wherein:

FIG. 1 is a side elevational view of a blade dispenser constructed in accordance with the concepts of the present invention, with portions thereof being broken away to show the interior construction, and illustrating the manner in which a blade is automatically dispensed to a razor;

FIG. 2 is a plan view of the invention with the top thereof being broken away to show the interior construction of this blade dispenser;

FIG. 3 is a partial bottom plan view of the invention showing the slot for receiving used blades; and,

FIG. 4 is a vertical sectional detail view taken along the plane of line 4—4 in FIG. 3 illustrating the manner in which a used blade is automatically ejected into the used blade receptacle.

With continuing reference to the accompanying drawing, wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates a blade dispenser having blades **12** therein having a body of suitable plastic material, having a strip of metal **14** having a cutting edge bonded therein. The razor, generally indicated at **16**, is designed to automatically retract the blade **12** from the dispenser **10** and may be of a type similar to that disclosed in U.S. Pat. No. 3,388,831. The blade **12** is held in place by the articular construction of the razor **16** and is automatically ejected after sufficient use from the razor **16** upon actuating of a finger actuating button **18** or the like which ejects the blade **12** by spring action with considerable force.

The dispenser **10** includes a housing **20** formed of two major parts including a body **22** and a base **24**. The base **24** is provided with a peripheral flange **26** and includes a bottom **28** provided with a slot **30** therein into which used blades may be ejected from the razor in the manner as shown in FIG. **4**.

The body **22** includes a top **32**, side walls **34** and **36**, a rear end wall **38**, and a front end wall **40** which has an enlarged opening **42** therein in alignment with an opening **44** in the top **32**.

A rib **46** is integrally formed with the base **24** and is in alignment with a rib **48** on the top **32**. The side walls **34** and **36** include pairs of ribs **50**, **52** and **54**, **56** respectively, the ribs **50** and **54** being in alignment with the ribs **46** and **48**. A partition **58** is inserted between the ribs **50**, **52** and **54**, **56** and is bonded thereto and is bonded to the side walls **34**, **36** as well as to the ribs **46** and **48** of the respective base **24** and top **32**. The partition bears against the ribs **46** and **48**.

The side walls **34** and **36** are provided with racks **59** and **60**. A platen **62** is provided which extends between the side walls **34** and **36** and includes rearwardly extending arms **64** and **66** carrying detents **68** and **70** adapted to seat in the grooves of the racks **59** and **60**. Integrally formed with the partition **58** are a pair of truncated conical studs **72** and **74** which are arranged in opposed relationship to studs **76** and **78** integrally formed with the platen **62**. A pair of double volute springs **80** and **82** are received over the studs **72, 76,** and **74, 78** respectively and bias the platen **62** toward the openings **42, 44** pressing upon blades **12** and directing them into abutting engagement with the front wall **40**. The use of the double volute springs **80** permits for the use of springs having considerable strength and a considerable range of expansion and compression.

The rear wall **38** has a baffle **90** integrally formed therewith so that when a blade **12** after use is ejected by pressing down on the button **18**, the used blade **12** will be directed into the used blade receptacle **92** through slot **30** and kept by partition **58** from entering into the magazine or blade delivery compartment **94** of the dispenser. The baffle **90** will thereafter prevent alignment with slot **30** and thus the used blades cannot fall out of the used blade receptacle **92**.

In use, successive withdrawal of the blades **12** in the manner shown in FIG. **1** through use of the razor **16** is accomplished. Thereafter, the used blades **12** may be discharged into the used blade receptacle **18** providing a convenient repository for the used blades since such blades are of a size where they cannot fit in the conventional used-blade receptacles heretofore provided in medicine cabinets and the like in the home, hotels, motels, and the like.

Further, by providing a repository for the used blades in which the blades can be automatically ejected, accidental injury to the user because of bouncing or rebounding of the used blades **12** is eliminated.

A latitude of modification, substitution and change is intended in the foregoing disclosure, and in some instances, some features of the present invention may be employed without a corresponding use of other features.

I claim:

1. A blade dispenser comprising a housing having a partition therein dividing said housing into a front blade-dispensing compartment having an opening therein for delivery of blades and a rear used-blade receptacle, having a slot therein for receiving blades, a movable platen in said compartment, opposed pairs of studs on said platen and said partition, and a pair of double volute springs disposed on said studs biasing said platen away from said partition, rack means in said compartment, and detent means on said platen for resilient engagement with said rack means.

2. A blade dispenser according to claim **1**, including baffle means integral with said housing for preventing used blades from falling out of said slot, said studs being of truncated conical shape.

3. A blade dispenser comprising a housing having a body and a base, said body including a top provided with a pair of integral sides and a rear end wall, said body further having a front end having a blade delivery opening therein, said base being secured to said side walls and said rear and front end walls, a partition secured to said housing and said base dividing said housing into a blade delivery compartment, and a used-blade receptacle, a movable platen disposed in said blade delivery compartment, blades disposed between said platen and said front end wall, opposed pairs of truncated conical studs on said platen and said partition, a pair of double volute springs disposed on said studs and biasing said platen away from said partition for urging said blades against said front wall and into alignment with said opening, said base having a slot therein adjacent said rear end wall and spaced therefrom opening into said receptacle, rack means on said side walls, and detent means on said platen for resilient engagement with said rack means.

4. A blade dispenser according to claim **3**, including baffle means in said receptacle for retaining used blades in said receptacle.

5. A blade dispenser according to claim **3** including cooperating means on said side walls and said platen for seating said platen, and baffle means integral with said rear end wall for retaining used blades in said receptacle.

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