June 1, 1937. S. H. BENJAMIN 2,082,440

SAFETY RAZOR BLADE PACKAGE CARRIER

Filed Dec. 10, 1935 2 Sheets-Sheet 1

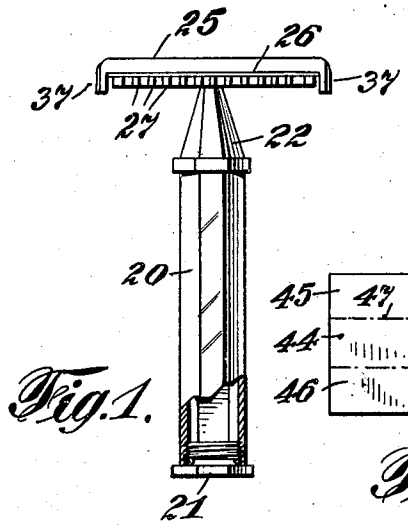


Fig. 1.

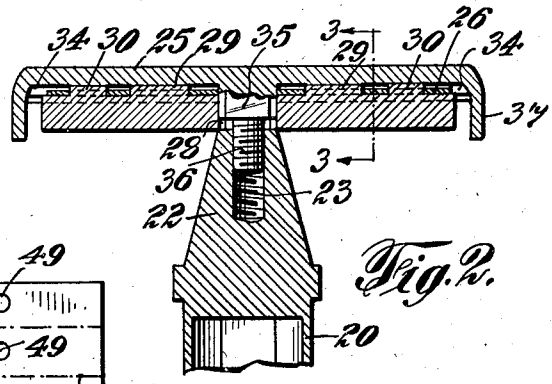


Fig. 2.

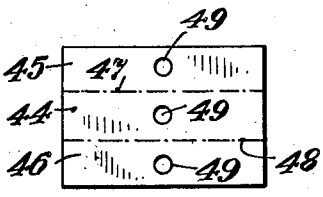


Fig. 7.

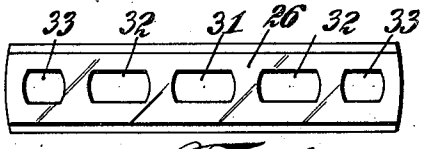


Fig. 4.

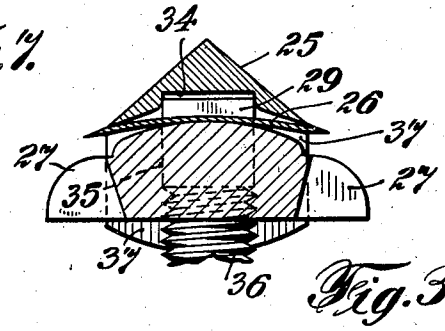


Fig. 3.

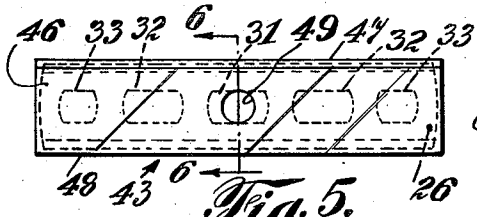


Fig. 5.

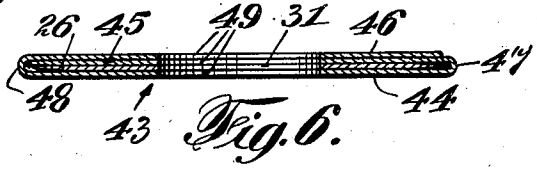


Fig. 6.

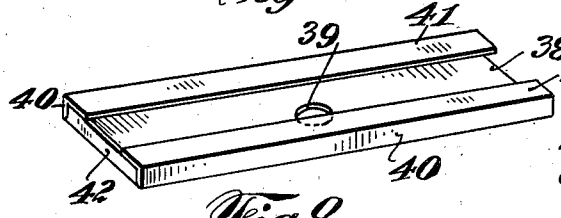


Fig. 8.

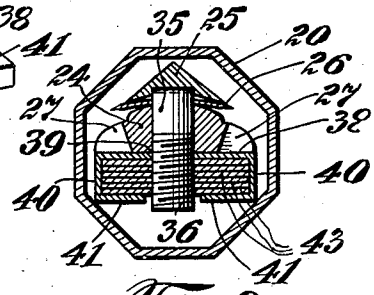


Fig. 9.

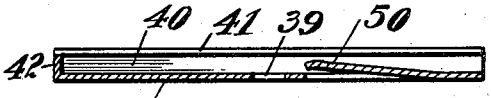


Fig. 10.

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June 1, 1937. S. H. BENJAMIN 2,082,440

SAFETY RAZOR BLADE PACKAGE CARRIER

Filed Dec. 10, 1935 2 Sheets-Sheet 2

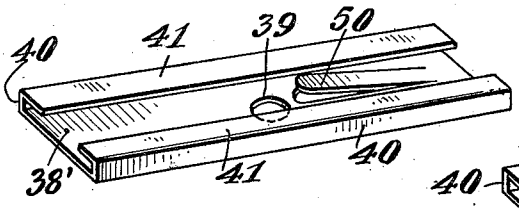


Fig. 11.

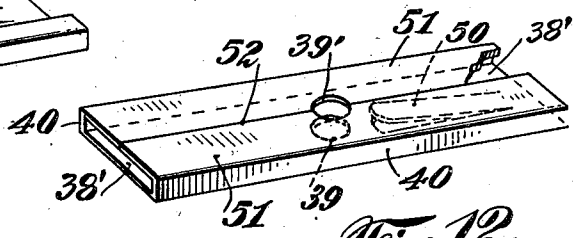


Fig. 12.

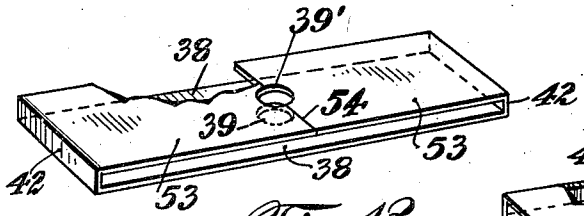


Fig. 13.

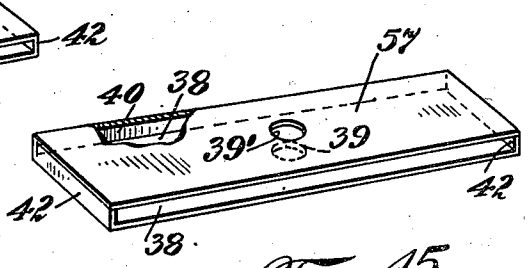


Fig. 15.

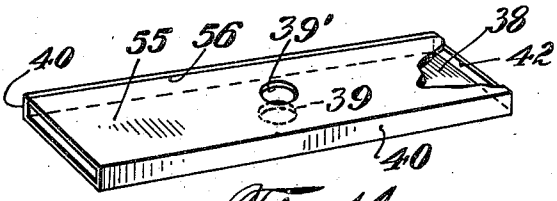


Fig. 14.

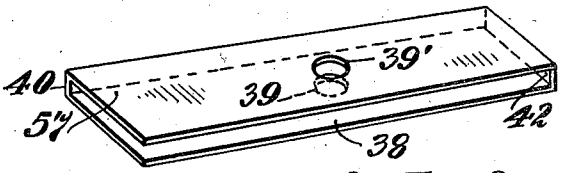


Fig. 16.

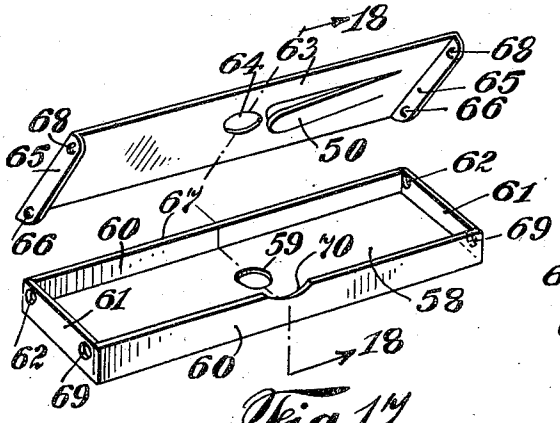


Fig. 17.

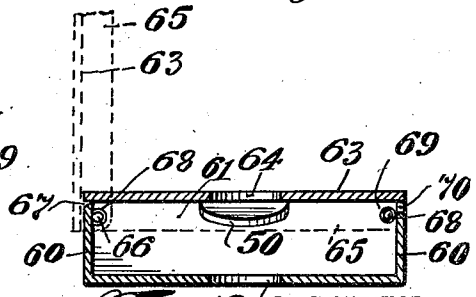


Fig. 18.

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UNITED STATES PATENT OFFICE

2,082,440

SAFETY RAZOR BLADE-PACKAGE CARRIER

Sidney H. Benjamin, Milwaukee, Wis.

Application December 10, 1935, Serial No. 53,725

4 Claims. (Cl. 206—16)

Pursuant to a requirement for division made by the Patent Office, this application is a continuation in part of my copending application for patent, Serial Number 11,970, now Patent No. 2,048,489, filed March 20, 1935, for Safety razors, and also contains further subject matter.

My invention relates to carriers for extra blades, or packages thereof, for safety razors, and refers particularly to packages of blades and a carrier therefor especially adapted to be utilized in co-operative relation with a safety razor of the particular type in which there is employed a two-edge blade of normal length but of less than normal width, a compact assemblage of the detached razor head with the carrier of my invention and its blade packages of my invention being specially adapted to be housed within a tubular razor handle member of normal size and length.

The blade-package carrier of my invention is of rectangular elongated flattened box-like form, having flat walls, and has a central aperture through it flatwise, this aperture being utilized for positioning the carrier in the mentioned assemblage.

The blade package of my invention contains a single extra blade, of the kind mentioned, which has a central aperture through it, this blade being covered by a protective wrapper having a central aperture through each of its opposite sides, the central aperture thus formed through the blade package being adapted to be brought into alignment with the aperture through the carrier and being utilized for positioning the blade package within the carrier and therewith in the mentioned assemblage of parts, the blade carrier being adapted for removably containing a predetermined number of such razor-blade packages.

Thus there is a special co-operative relation of the blade packages and their carrier, as well as also of the carrier and its contained blade packages with elements and features of the razor.

My invention further includes various features of construction and combinations of parts, as will be evident later.

A clear understanding of my invention will be obtained from the following particular description and accompanying drawings of modified forms thereof, in which similar parts are designated by similar numerals.

Figure 1 is a full size elevation partly in section of a safety razor with which an embodiment of my invention is adapted to be utilized in co-operative relation.

Figure 2 is an enlarged broken central vertical section taken in the plane of Figure 1.

Figure 3 is a much enlarged broken vertical section on the line 3—3 of Figure 2.

Figure 4 is an enlarged plan view of a razor blade.

Figure 5 is a similar plan view of a razor-blade package, with the razor blade indicated in broken lines.

Figure 6 is a much more enlarged section on the line 6—6 of Figure 5.

Figure 7 is a plan view of a fully open razor-blade wrapper which is adapted to form a razor-blade package with a razor blade.

Figure 8 is an enlarged perspective plan view of one form of the blade-package carrier, shown as empty.

Figure 9 is an enlarged transverse section of the tubular handle of the razor, shown as housing therein an assemblage of the detached razor head with the blade-package carrier and with blade packages which fill the latter.

Figure 10 is an enlarged central flatwise longitudinal section of a modified form of the blade-package carrier.

Figures 11, 12, 13, 14, 15 and 16 are enlarged perspective plan views each showing a different modified form of the blade-package carrier.

Figures 17 and 18 are respectively a disassembled enlarged perspective view and a further enlarged central transverse section indicated by the line 18—18 of Figure 17, of another modified form of the blade-package carrier.

Figures 1, 2, 3 and 9 of the accompanying drawings show a particular form of safety razor with which the device of my invention is specially adapted to co-operate, and in which it is adapted to be embodied.

The illustrated safety razor has a tubular handle member 20 of the normal or usual size as to diameter and length. The free end of this tubular handle is provided with a removable headed screw plug closure 21. A solid tapered handle end portion 22 forms a permanent closure for the razor-head end of this tubular handle. The reduced end of the tapered closure 22 is flat transversely and has therein a screw-threaded socket 23.

The razor head is of normal or usual length but much narrower. It is somewhat narrower than the internal diameter of the tubular handle member 20. The length of the chamber formed

within the handle 20 between its end closures 21 and 22 is slightly greater than the length of the razor head. The razor head has a guard element 24 and a cap element 25.

Figures 1, 2, 3, and 9 show a double-edged razor blade 26 as interposed between the guard element 24 and cap element 25. Figure 4 shows a similar extra blade 26. Each of the blades 26—26 is of substantially normal or usual length but is much narrower. As a feature in carrying out my invention in a practical manner, each fresh or unused extra blade, such as the blade 26 in Figure 4, is individually embodied in a blade package, as described later.

The guard element 24 has two similar series of guard teeth 27—27 respectively along its opposite margins. This guard element has a flat under surface throughout its extent, inclusive of the guard teeth 27—27. The guard element 24 has a central aperture 28 and spaced outer lugs 29—29 and 30—30 along it in alignment.

The razor blade 26 has a longitudinal series of aligned apertures 31, 32—32, and 33—33, adapted to register respectively with the guard element aperture 28, lugs 29—29, and 30—30, as shown in Figure 2, the blade aperture 31 being central.

The cap element 25 is outwardly V-shaped along its length, has a groove 34 running along its under side, and has a laterally flattened central lug 35 which extends from its under side. The end of the lug 35 is flat and rigidly carries a central screw-threaded stud 36 of less length than the depth of the handle socket 23.

The guard element lugs pass through corresponding apertures of the blade 26 and into the cap element groove 34, the cap element lug 35 passes through the central blade aperture 31 into the central guard element aperture 28, with the handle socket 23 screwed over the cap element stud 36.

The razor head has end guard flanges 37—37, shown as inturned and respectively carried by the opposite ends of the cap element 25 and as extended somewhat beyond the inner flat face of the guard element 24.

The disclosed razor illustrates the utility of my invention and also the particular manner in which my invention is embodied therein. It is to be understood, however, as will later be evident, that the razor construction could be different, in various respects, so far as my present invention is concerned.

My present invention particularly relates to blade packages and a carrier therefor which, together with such packages, is adapted to be integrated into a compact unitary assemblage with a razor head such as described, with such assemblage adapted to be housed within and have its parts maintained in assembled relation by a particular kind of tubular razor-head handle, as shown in Figure 9.

One form of a blade-package carrier for individually-packaged wrapper-covered extra blades is shown in Figures 8 and 9. This blade-package carrier may be readily formed from suitable sheet metal. It is of rectangular elongated flattened form.

This carrier has a flat rear wall 38 provided with a central circular aperture 39, of as great a diameter as the cap stud 36. It has forwardly turned narrower opposed flat parallel side walls 40—40 extended from the rear wall 38 along its length.

A flat front wall parallel with the rear wall 38 is formed by similar inturned opposed spaced front flanges 41—41 extended respectively from the side walls 40—40 along their length, the width of the space or slot between these flanges being shown as slightly greater than the diameter of the aperture 39.

One end of the carrier is closed by a flat end wall 42 shown as a forwardly-turned flange which extends from the rear wall 38 out to the front wall formed by the flanges 41—41. The other end of the carrier is fully open between the edges of its described rear; front and side walls.

The width of the blade-package carrier between the outer faces of its side walls 40—40 and the width of the guard element 24 between the ends of its teeth 27—27 are shown as being the same. The length of the blade-package carrier is substantially the same as or slightly greater than that of the guard element 24 and is slightly less than the spacing between the inner faces of the cap element end guards 37—37.

This blade-package carrier is of an internal width between the opposed inner faces of its side walls 40—40 to be adapted for rather snugly but freely slidably receiving therein a blade package 43, and is of a thickness or depth between the inner face of its rear wall 38 and the inner faces of its wall-forming front flanges 41—41 to be adapted to receive therein a predetermined number of blade packages 43—43, shown in Figure 9 as being six in number.

The external thickness of the blade-package carrier, between the longitudinal corners formed by its side walls 40—40, is necessarily limited, by reason of the limited space available within the tubular handle 20, as will be clearly evident later and as is clear from Figure 9.

One of the blade packages 43—43 is particularly shown in Figures 5 and 6. It consists of a described special blade 26 and a specially formed wrapper forming a protective covering therefor. This wrapper is shown separately in Figure 7, in a fully open or flat unfolded condition which it may have after it has been removed from a fresh or as yet unused extra blade, such as the bare blade 26 shown in Figure 4. This wrapper may be of any suitable material, such as relatively thin but tough and firm paper, and it is shown as formed by a single folded sheet extending transversely around a razor blade 26.

This protective wrapper, forming a covering for the blade 26, has a rear or under side 44, a front side formed by overlapped thicknesses or plies 45 and 46, which are in the form of flaps extended from the rear side 44, and fold turns or bends 47 and 48 around the sharp edges of the blade 26 and formed respectively by the folded over inner and outer front side plies 45 and 46.

The particular wrapper member shown in the drawings has three circular apertures 49—49—49 through it. These apertures are of the same diameter as the aperture 39 of the carrier, which is the same as the width of the central aperture 31 of the blade 26. These wrapper apertures 49—49—49 are positioned, as shown in Figure 7, so as to be adapted to be aligned with each other and with the central aperture 31 of the blade 26, thus to form a central aperture through the blade package 43, as shown in Figures 5, 6, and 9.

The carrier side walls 40—40 form collocating abutments for the edges of the contained flatwise-assembled razor-blade packages 43—43, these blade packages being thus restrained against edgewise shifting movement, the sharp edges of

the blades 26—26 being protected by the wrapper folds or turns 47—48.

The carrier end wall 42 forms an aligning abutment for the ends of the blade packages 43—43, with the described central apertures of the latter in alignment with the central aperture 39 of the carrier. The internal length of the carrier between the inner face of its end closure wall 42 and the wall edges at its open end is shown as being slightly greater than the length of the blade packages 43—43.

The operation of the above described device of my invention is as follows:—

It is evident that the razor head as a whole may be readily detached or removed from the handle member 20 and reattached thereto. With the razor head detached the described blade-package carrier, together with a supply of the described reserve blade packages 43—43 contained therein, may be mounted upon the assembled razor head merely by passing the stud 36 of the latter through the aperture 39 in the rear wall 38 of the blade package carrier, similarly through the described central apertures in the blade packages 43—43, and out between the spaced front flanges 41—41 of the carrier, as clearly shown in Figure 9.

It is evident that if desired, the stud 36 may be passed first between the carrier flanges 41—41, through the apertured blade packages 43—43, and finally out through the aperture 39 in the rear wall 38 of the blade-package carrier. In the first instance, the flat rear wall 38 will rest flatly against and cover the flat under face of the guard element 24, while in the second instance the flat outer faces of the carrier front flanges 41—41 will similarly rest flatly against the flat face of the guard element 24. In each instance, the blade-package carrier lies endwise between the ends of the end guard flanges 37—37 of the cap element 25.

It is evident from Figure 9 that the described apertured blade-package carrier, in co-operation with the stud 36, will now function to prevent any relative bodily sliding movement in any direction between the blade-package carrier and the assembled head elements, while at the same time this stud will lock the described apertured blade packages 43—43 in the blade-package carrier and prevent their escape therefrom or movement therein.

It is to be noted that the tying together and anchoring of the several parts as the cap element 25, the guard element 24, the blade-package carrier, and the blade packages 43—43, in a single unitary assemblage, by means of the cap stud 36 and by reason of the described construction of the apertured blade-package carrier and blade packages, greatly facilitates the insertion of the described assemblage into and its removal from within the tubular housing handle 20, as a unit, and also enables this housing handle 20 to maintain such unit intact.

The described unitary assemblage of razor head parts, blade-package carrier and blade packages, may be readily slid longitudinally into the outer open end of the tubular handle member 20, after the closure plug 21 of the latter has been removed, and then this closure plug may be replaced upon the tubular handle for securely retaining the described assemblage therein.

It is to be noted that this housed assemblage has only very slight transverse or lateral looseness within the closed chamber thus formed within the tubular handle 20, nor has it much play therein longitudinally. The transverse fit of this assemblage of parts within the tubular handle 20 is sufficiently close to maintain these parts in their assembled relation, as is clear from Figure 9. The blade-package carrier side walls 40—40 protect the keen edges of the double-edged blades 26—26 by preventing the edges of the blade-packages 43—43 from coming into abutting contact with the internal face of the tubular handle 20.

It is to be noted, as shown in Figure 8, that the described compact snugly housed assemblage of parts is positioned within the tubular handle 20 along three lines of abutting contact therein. The outer V-shaped corner of the cap element 25 provides one of these contact lines, while the two external corners of the described flattened rectangular blade-package carrier provide the other two contact lines. These contact lines, it will be noted form substantially an equilateral triangle.

The valuable attributes and advantages of the device of my invention are now believed to have been made clearly evident.

The modified form of the blade-package carrier shown in Figure 10 is different from that above described only in the respect that in this modification a resilient frictionally-acting blade-package-holding tongue 50 is struck forwardly from the rear flat wall 38'. This tongue 50 normally, or in the empty condition of the blade-package carrier shown in Figure 10, is spaced inwardly or forwardly at its free end from the rear wall 38'. This tongue 50 has a gradual forward and longitudinally inward inclination from a point in line with the rear wall 38' adjacent to the open end of the blade-package carrier toward a point at the free end of this tongue adjacent to the aperture 39, with the extreme free end portion of this tongue inwardly rounded or slightly bent back toward the rear wall 38', as clearly shown in Figure 10.

Ordinarily, when the previously described blade-package carrier, shown in Figures 8 and 9, is completely filled with a fresh supply of blade packages 43—43, as shown in Figure 9, these packages will fit therein with sufficient friction not to fall out when the carrier is being handled in a detached condition thereof. However, after some of these blade packages 43—43 have been removed for the use of their contained razor blades 26—26, the friction of the edges of the remaining packages with the opposed side walls 40—40 of the blade-package carrier may not be sufficient to prevent their dropping out, or at least becoming displaced toward and beyond the open end of the blade-package carrier, with the described central apertures of the blade packages then out of alignment with the central aperture 39 of the carrier.

In the blade-package carrier construction shown in Figure 10 the resilient tongue 50 is capable of yielding rearwardly substantially into alignment with the rear wall 38', so as to allow the carrier to be completely filled with blade packages, similarly as in Figure 9. The spring tongue 50 will press against the rearmost blade package near its center and will press all of the interposed blade packages 43—43 forwardly into abutting and frictional engagement with each other and with the front flanges 41—41, while this tongue 50 itself at the same time has resilient frictional abutting engagement with the rearmost blade package.

The blade packages 43—43 may be easily withdrawn for use, one by one, or as many as desired,

and the remaining fewer number of such packages left in the blade-package carrier will be frictionally retained therein by the pressure of the tongue 50.

In other respects than mentioned the operation of this blade-package carrier of Figure 10 is substantially the same as already described for the blade-package carrier shown in Figures 8 and 9 and its cooperative relation with other parts and features of the complete device is substantially similar.

The modified blade-package carrier shown in Figure 11 is similar to those already described and differs therefrom by the omission of the end closure wall 42. Thus this modified blade-package carrier of Figure 11 is fully and freely open at each of its opposite ends.

The blade-package-holding tongue 50 shown in Figure 10 has been shown as similarly embodied in this Figure 11 blade-package carrier. With this tongue omitted, its construction would then be similar to the Figure 8 construction, with the omission of the end wall 42.

The modified form of blade-package carrier shown in Figure 12 is similar to that shown in Figure 11. It differs therefrom in being of open-ended tubular form, having opposed front and rear flat parallel walls forming similar top and bottom closures. The top or front wall is shown as formed by means of inturned flanges 51—51, the straight inner edges of which meet along a joint line 52. This form of carrier has similar central circular apertures 39 and 39' through its rear wall 38 and its front wall 51—51 respectively, in alignment with each other, the front aperture 39' being upon the joint line 52 between the wall-forming front flanges 51—51.

The blade-package-retaining tongue 50 of Figures 10 and 11 is shown as similarly embodied in this Figure 12 construction.

The modified blade-package carrier shown in Figure 13 is similar to that of Figure 12 and differs therefrom in being of transversely tubular form, instead of being longitudinally tubular, as in Figure 12. In this Figure 13 form, a top closure wall is shown as formed by means of similar flat flanges 53—53 turned inwardly toward each other from opposed end closure walls 42—42 respectively and meeting along a joint line 54, with a central front aperture 39' on this joint line in alignment with the rear aperture 39 of the rear closure wall 38. It will be noted that this Figure 13 form of blade-package carrier is fully open along both of its sides longitudinally between the edges of its rear and front closure walls 38 and 53—53, from one to the other of its end closure walls 42—42.

Figure 14 shows a modified blade-package carrier of an open box form. If differs from that shown in Figure 8 by having an uninterrupted flat front wall 55 forming a top closure, similar to the bottom closure formed by its rear wall 38, and shown as turned over transversely from one of its side walls 40—40 and as forming a closed joint 56 with the other side wall 40.

The front wall 55 has a central aperture 39' in alignment with the rear wall aperture 39. At one of its ends it has an end closure wall 42, similar to that of Figure 8, its other end being fully open between its rear and front closure walls 38 and 55, and between its side walls 40—40.

It is evident that the blade-package-holding tongue 50 of Figure 10 could be similarly embodied in the Figure 14 form of blade-package carrier.

The modified blade-package carrier of Figure 15 is also of open box form and differs from that of Figure 14 by being open along one of its sides instead of at one of its ends.

It has a top closure formed by a front wall 57 having a central aperture 39' in alignment with the central aperture 39 of its rear wall 38 which forms a bottom closure. It has a single side wall 40 connecting together its rear and front walls 38 and 57, and opposed end closure walls 42—42 shown as turned forwardly from its rear wall 38. It is fully and freely open between the edges of its rear and front walls 38 and 57 along its side opposite to its side wall 40.

The modified blade-package carrier of Figure 16 differs from that of Figure 15 by the omission of one of the end closure walls 42—42 of the latter. Thus this blade-package carrier of Figure 16 is open both along one side and at one of its ends.

The modified blade-package carrier shown in Figures 17 and 18 is of a rectangular elongated flattened box form which is normally closed but which is adapted to be opened, having one of its walls movable to a fully open position for the insertion and removal of razor-blade packages such as 43—43. This form of blade-package carrier comprises two principal parts. In the particular construction shown one of these parts is a box body having a flat bottom 58, with a central aperture 59, opposed flat parallel side walls 60—60 shown as turned upwardly from the bottom wall 58, and opposed flat parallel end walls 61—61, also turned upwardly from the bottom wall 58. These end walls 61—61, adjacent to one of the side walls 60—60, are respectively shown as provided with small apertures 62—62, adapted to form hinge bearings.

A top wall or cover 63 has a central aperture 64 which is adapted to be brought into alignment with the aperture 59 of the bottom wall 58. End flanges 65—65 are turned downwardly respectively from the opposite ends of the top wall 63 in parallel relation with each other and are spaced to pass at the outer sides of the box body end walls 61—61. Adjacent to one edge of the top wall 63 these flanges 65—65 are respectively provided with small inwardly indented projections 66—66 adapted to form hinge pivots which engage in the apertures 62—62, as shown in Figure 18 and as indicated in Figure 17. These hinge pivots 66—66 are adjacent to the inner face of the top wall 63, while the hinge bearing apertures 62—62 are closely adjacent to the inner face of the box body side wall 60 near its upper edge, which is shown as beveled outwardly at 67, in order to provide clearance for the adjacent edge portion of the top wall 63, as is clearly shown in Figure 18.

Near their other ends and adjacent to the free edge of the top wall 63, the lower portions of the top wall flanges 65—65 are shown as provided respectively with inwardly indented rounded projections 68—68, forming releasable catches. Small apertures 69—69 are provided respectively in the box body end walls 61—61, in position for the catches 68—68 to come into alignment therewith respectively and engage therein, as shown in Figure 18.

The upper edge of the body side wall 60, intermediate of its length and beneath the free edge of the top wall 63, has therein a notch 70 which provides for the easy release of the top cover wall 63, allowing the latter then to be swung

to its fully open position shown by broken lines in Figure 18.

It is evident that different hinge means could be provided for the cover wall 63, or that either this cover wall or one of the other walls of the normally closed box, could be otherwise movable to an open position.

The cover wall 63 is shown as provided with a blade-holding tongue 50, similar to that shown in Figure 10, and which, in the normally closed condition of the box, functions to prevent loose or unrestrained movement of blade-packages 43—43 during the handling of the blade-package carrier, by pressing such blade packages against the bottom wall 58, the releasable catches 68—68 functioning to hold the cover wall or box lid 63 in its closed position.

It is obvious that various modifications may be made in the constructions shown in the drawings and above particularly described, within the principle and scope of my invention as defined in the appended claims.

I do not specifically limit myself as to materials, size, shape, proportions, arrangement, relationship, number of parts, or inconsequential details, these being given simply as a means for clearly describing the device of my invention.

What I claim is:—

1. A mercantile unit comprising a holder and a plurality of razor blades stacked therein, said holder being constructed with at least two opposed walls and with at least one other wall connecting said opposed walls, means retaining said blades in said holder, at least one of said walls being provided with an opening in alignment with apertures in said blades and of such size and shape as to receive and embrace a razor-head stud, whereby a razor-head may be applied to said holder and its stacked blades to form an integral package and adapted when said stud is thus inserted to prevent the removal of said blades from said package.

2. A mercantile unit comprising a holder and a plurality of removable wrapped razor blades stacked therein, said holder being constructed with at least two opposed walls and with at least one other wall connecting said opposed walls, means retaining said blades and said wrappers in said holder, at least one of said walls being provided with an opening in alignment with apertures in said blades and said wrappers and of such size and shape as to receive and embrace a razor head stud, whereby a razor-head may be applied to said holder and its stacked blades and said wrappers to form an integral package and adapted when said stud is thus inserted to prevent the removal of said blades and said wrappers from said package.

3. A mercantile unit comprising a holder and a plurality of razor blades stacked therein, said holder being constructed with a bottom wall, two opposed side walls, and two spaced top wall members extending inwardly toward each other from said side wall, said bottom wall being provided with an opening in alignment with apertures in said blades and of such size and shape as to receive and embrace a razor-head stud, whereby a razor-head may be applied to said holder and its stacked blades to form an integral package and adapted when said stud is thus inserted to prevent the removal of said blades from said package.

4. A mercantile unit comprising a holder and a plurality of razor blades stacked therein, said holder being constructed with a bottom wall, a top wall, and two opposed side walls connecting said bottom wall with said top wall, said bottom wall being provided with an opening in alignment with apertures in said blades and of such size and shape as to receive and embrace a razor-head stud, whereby a razor-head may be applied to said holder and its stacked blades to form an integral package and adapted when said stud is thus inserted to prevent the removal of said blades from said package.

SIDNEY H. BENJAMIN.