

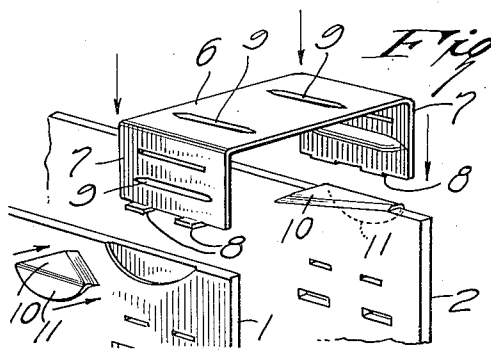
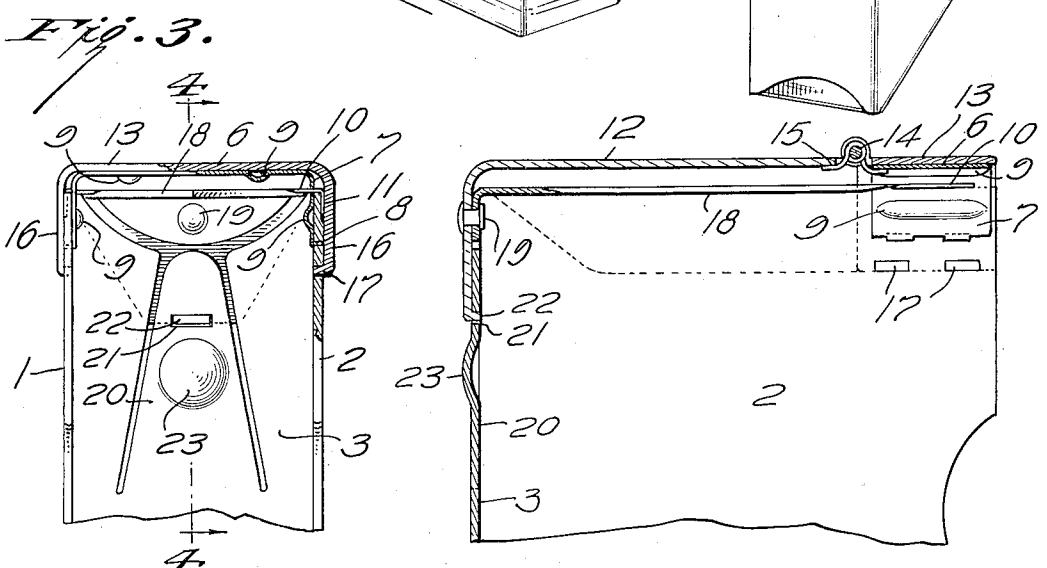
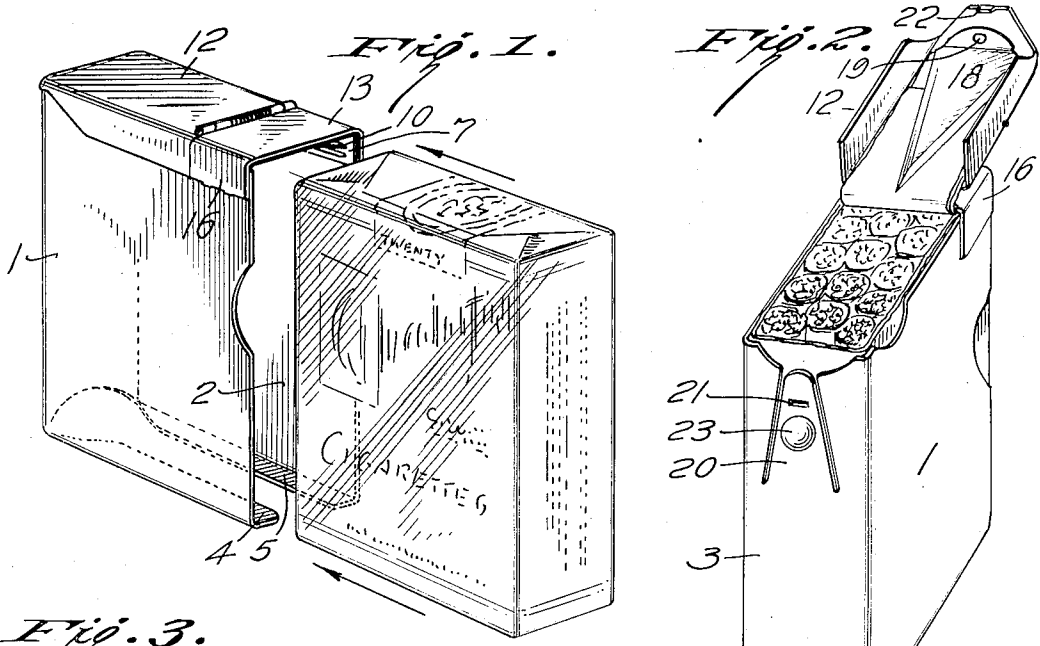
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PACK HOLDER AND CUTTER

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# UNITED STATES PATENT OFFICE

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## PACK HOLDER AND CUTTER

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19 Claims. (Cl. 206—41)

The present invention relates to a pack holder and cutter and is particularly adapted to receive a paper package of which a pack of cigarettes is typical, and automatically cut the top of the package while the same is being inserted into the casing, the casing being stiff enough to prevent the pack and its contained cigarettes from being crushed in the pocket of the user.

The principal objects of the invention are to provide a device of the above type which will be very cheap to construct, which may be assembled with minimum difficulties, which will efficiently slit the pack at the desired points and which may be universally applicable to slight variations in cigarette packages of different brands.

Other objects and advantages will appear as the description proceeds.

To this end, one embodiment of the invention includes a casing made preferably of a single sheet of metal bent or formed into two parallel planes with a connecting third or intermediate plane. This leaves the top and one side open. The ends of the two parallel walls of the casing may be turned inwardly toward each other to partially close the bottom and to serve as a support for the cigarette pack which is insertable into the casing through the open end or side.

A spacing element is provided between the parallel walls of the casing and near the top thereof and the adjacent open side, this spacing element having a horizontal portion and depending parallel terminal walls which fit within the casing, the ends of which engage the casing walls in any suitable manner.

Two separate and opposed side cutting blades are inserted through slots in the spacing element, each blade having a plane portion lying outside of the casing wall.

The casing is provided with a lid having hinged and stationary portions, the latter portion having depending walls which straddle the casing and lie outside of the portion of the cutting blades which are adjacent the casing. The bottom of these walls are suitably secured to the casing so that when the parts are assembled, the blades are securely fixed in place although in a removable manner, and the casing is held between the spacing element and the walls of the lid.

The cutting portions of the blades are arranged at such a distance from the inturned bottom of the casing that they will sever the paper package just below the top thereof and above the top of the cigarettes without mutilating the latter. Suitable gauges or guides may be incorporated into the spacing element to take care of varia-

tions in package thickness and force the pack to be centered for the blades.

The hinged portion of the top has secured to the bottom thereof a pointed puncturing lifter element with the point projecting toward the open end of the casing. As the pack is inserted into the casing, the side blades first engage, making two parallel slits inwardly of the package. Further movement of the pack causes the end of the lifter to puncture the front wall thereof in opposite directions to meet the parallel side slits, and this action is completed when the pack is entirely within the casing. Spring means are provided on the lid so that when released, the lid will automatically move upwardly, carrying the severed top of the pack with it and thus exposing the cigarettes for use. Due to the fact that the bottom of the casing is partially open, the user may push upwardly on the bottom of the pack to force the front cigarettes slightly above their neighbors, where they may be grasped and removed.

A convenient latch means for the hinged top may consist of a cut-out tongue in the front wall formed by a substantially inverted U-shaped slot, the tongue having an aperture therein which is engaged by a latch element or ear on the hinged top. The natural resiliency of the tongue retains the hinged cover in its closed position when its ear engages the aperture, but slight pressure will release the parts so that the spring may carry the top to an open position.

The invention further consists in the novel arrangement, combination and construction of parts more fully hereinafter shown and described in the drawing.

In the drawing—

Fig. 1 is a perspective view of such a device with a pack about to be inserted therein.

Fig. 2 is a similar view with the pack inserted and opened.

Fig. 3 is an end view partly in section.

Fig. 4 is a sectional view along the line 4—4 of Fig. 3.

Fig. 5 is a partial perspective view showing the method of assembly.

Referring now with particularity to the embodiment shown, the casing proper may consist preferably of a single sheet of metal folded upon itself to form parallel faces 1 and 2 and a connecting front face 3. In-turned flanges 4 and 5 partially close the bottom of the casing and form a seat for the pack to be held within the casing, which may be inserted through the open end or side between the walls 1 and 2.

A spring spacing element consisting of a horizontal portion 6 and two similar depending terminal walls 7, is located between the upper rear portions of the walls 1 and 2 of the casing, the bottom part of the walls 7 being out-turned into ears 8 fitted within corresponding recesses in the casing walls. The extent of the horizontal portion 6 is such that when the parts are in place, the walls 1 and 2 of the casing are spaced apart the proper distance, and the spring material of which this element is made causes pressure to be exerted outwardly against the casing walls.

It is desirable to provide offset gauge portions 9 in both the side walls 7 of the spacing element and in the top horizontal portion 6 for a purpose which will be more fully described hereinafter.

Side cutting blades having a horizontal cutting section 10 and a vertical retaining portion 11 are provided at each side of the casing, the part 10 resting directly on top of the casing wall with the blade projecting through a corresponding slot in the walls 7 of the spacing element 6. The height of the blade 10 above the bottom of the casing is so calculated that the blade will enter the pack at the proper location without mutilation of the cigarettes therein. The portion 11 of the side blade lies in a plane parallel with the casing wall, and the casing wall if desired may be hollowed or recessed to take the portion 11 and hold the same therein flush with the plane of the wall, although this is not essential.

A casing lid is provided having a hinged portion 12 and stationary portion 13 connected together by a hinge pin 14 and including a coil spring 15.

The stationary portion 13 is provided with downwardly extending walls 16 which are adapted to straddle the upper portion of the casing walls 1 and 2 and exert slight inward pressure thereon, the lowermost end of the wall 16 having in-turned portions 17 engageable with suitable slots in the casing to retain the parts in place.

As shown, the upper portion of the casing walls 1 and 2 are held securely between the walls 7 and 16 of the spacing element and the walls of the stationary section of the lid respectively in a rigid manner. At the same time, the side cutting blades are held against movement by reason of the slot in the wall 7 of the spacing element and the fact that the part 11 of the blade is held securely between the top of the casing wall and the wall 16 of the lid.

Suitably secured in the lid 12 is a pointed lifter element 18, the point of which is toward the open end of the casing when the top is in the closed position. This lifter element may be suitably secured in the top as by means of a rivet 19 or the like.

Suitable latch means to retain the hinged cover in the closed position may consist of a tongue 20 in the front wall 3, said tongue being formed by a substantially inverted U-shaped cut, and having an aperture 21 therein, the tongue 20 lying substantially in the plane of the front wall 3. The front depending wall of the cover 12 is provided with an in-turned portion 22 which is engageable in the tongue aperture 21. Slight pressure on the thumb press 23 on tongue 20 will release the part 22 from the aperture and permit the spring 15 to raise the lid.

In use, the lid is closed and the package of cigarettes pushed into the casing through the open side or end. The gauges or guides 9 at the top of the spacing element 6 insure that the package is pushed down tightly against the in-turned

bottom flanges 4 and 5 so that the cutting edges 10 of the side knives will properly engage. At the same time, the gauges 9 in the side walls of the spacing element 6 center the pack properly while the knives 10 are performing their function.

As the pack is slid into the casing, the blades 10 of the side knives form two parallel slits just below the top of the pack and above the tops of the cigarettes. After the blades 10 have begun to function, the front of the package comes in contact with the point of the lifter 18 which punctures the same in two opposite directions, running toward the slits which the side blades have made. When the pack is fully in position in the casing, these three lines will have joined and the cut top will be held between the lifter 18 and the hinged lid 12. Upon exerting pressure on the latch tongue 20, the spring 15 exerts itself and the top 12 flies up, thus exposing the cigarettes.

Suitable cut-outs are provided in the casing to assist in removing the empty package.

Obviously, the casing may be slightly deformed by squeezing the side walls together, to assist in gripping the pack when in a partly empty condition.

I claim:

1. A pack holder and cutter comprising a casing having a hinged lid and an open side through which the pack may be introduced, and having two separate and opposed side blades near the casing top and adjacent the open side thereof, said blades projecting inwardly towards each other and adapted to slit the sides of the pack top inwardly, and means to sever the front of said pack between the slits made by the side blades and lift the severed top when the casing lid is swung at its hinge.

2. The device of claim 1 with gauge means below said blades and engageable with the pack.

3. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof.

4. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said casing lid having a stationary portion with downwardly extending side walls straddling the casing, with the casing wall held between the walls of the stationary portion and the spacing element.

5. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said casing lid having a stationary portion with downwardly extending side walls straddling the casing, with the casing wall held between the walls of the stationary portion and the spacing element, and side blades held between the casing and the walls of the stationary portion of the lid.

6. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said casing lid having a stationary portion with downwardly extending side walls straddling the casing, with the casing wall held between the walls of the stationary portion and the spacing element, said side blades being held between the casing and the walls of the stationary portion of the lid, and slots in the spacing element through which the side blades project.

7. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said casing lid having a stationary portion with downwardly extending side walls straddling the casing, with the casing wall held between the walls of the stationary portion and the spacing element, said side blades being held

between the casing and the walls of the stationary portion of the lid, and slots in the spacing element through which the side blades project, said blades resting on the top of the casing wall.

8. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said spacing element having downwardly extending parallel walls and offset portions projecting toward each other and acting as a gauge for the pack when said pack is received in the casing.

9. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said spacing element having a horizontal portion above the plane of the casing top and parallel downwardly projecting terminal wall portions extending within the casing and secured thereto.

10. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said spacing element having a horizontal portion above the plane of the casing top and parallel downwardly projecting terminal wall portions extending within the casing and secured thereto, with an offset gauge portion in each terminal wall of the spacing element.

11. The device of claim 1 with a spacing element between the side walls of the casing at the top thereof, said spacing element having a horizontal portion above the plane of the casing top and parallel downwardly projecting terminal wall portions extending within the casing and secured thereto, with an offset gauge portion in the horizontal section of the spacing element.

12. The device of claim 1 in which the casing lid comprises a hinged and a stationary portion, said stationary portion having downwardly extending side walls straddling the casing and removably secured thereto.

13. The device of claim 1 in which each side blade is removable.

14. The device of claim 1 in which each side blade has a portion on the outside of the casing wall and lying in a plane parallel thereto, and means to secure each blade in place.

15. The device of claim 1 in which the casing is constituted by a single sheet of metal folded on itself to form two parallel planes with a connecting third plane, with the top and one side open and the bottom partly open.

16. The device of claim 1 with a spring exerting pressure upon the hinged lid to force the same into an open position and latch in the front wall of the casing engageable with the hinged lid to retain the same in a closed position.

17. A pack holder and cutter comprising a casing having a hinged lid and an open side through which the pack may be introduced, and having separated and opposed horizontal side blades near the casing top, said blades projecting inwardly toward each other and adapted to slit the sides of the pack inwardly, and means to sever the front of said pack between the slits made by the side blades, said means serving to lift the severed top by swinging the casing lid on its hinge.

18. A pack holder and cutter comprising a casing having a hinged lid and an open side through which the pack may be introduced, and having two separate side blades near the casing top, said blades being adapted to slit the sides of the pack inwardly, and means to sever the front of said pack between the slits made by the side blades, said means serving to lift the severed top by swinging the casing lid at its hinge.

19. The device of claim 17 in which the side blades are in exact opposition to each other.

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