June 20, 1967 W. P. SMITH ETAL 3,326,362

CARTON FOR LOCKSET

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Fig. 5.

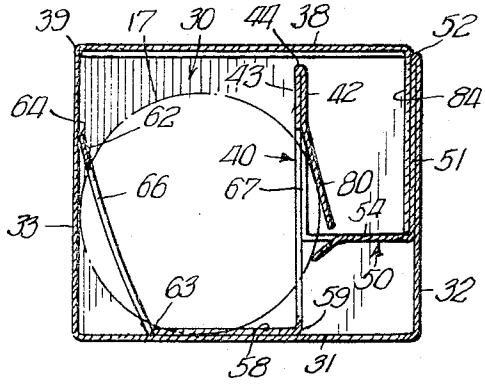


Fig. 6.

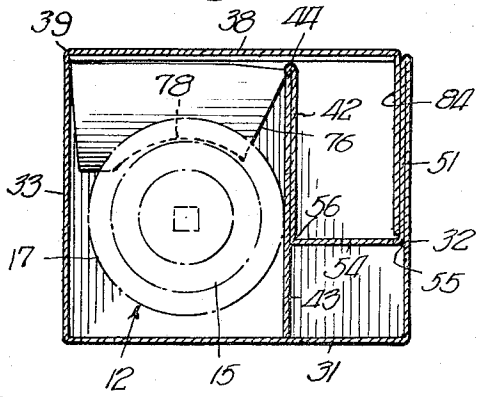
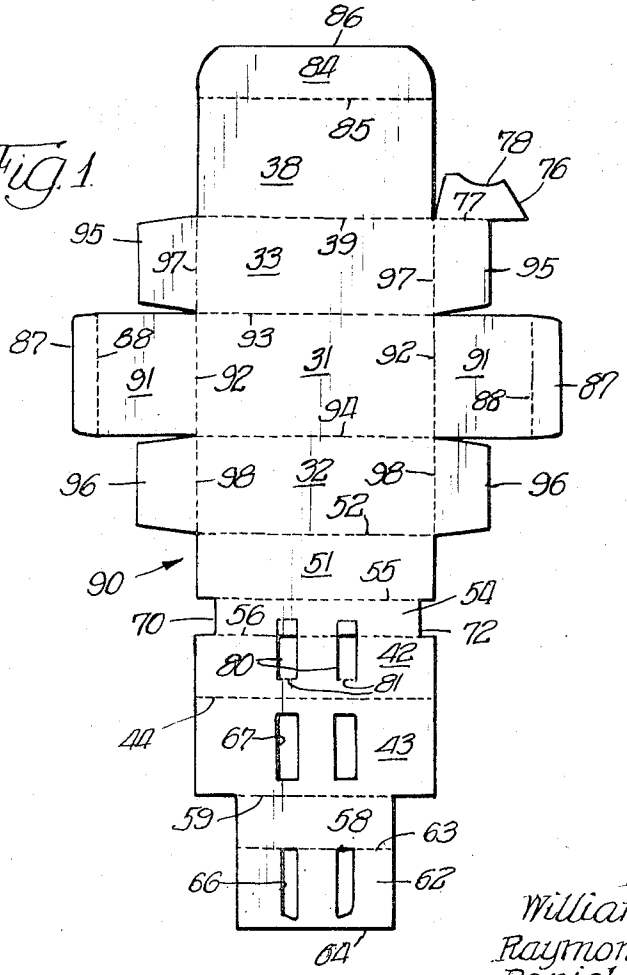


Fig. 1.



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Fig. 2

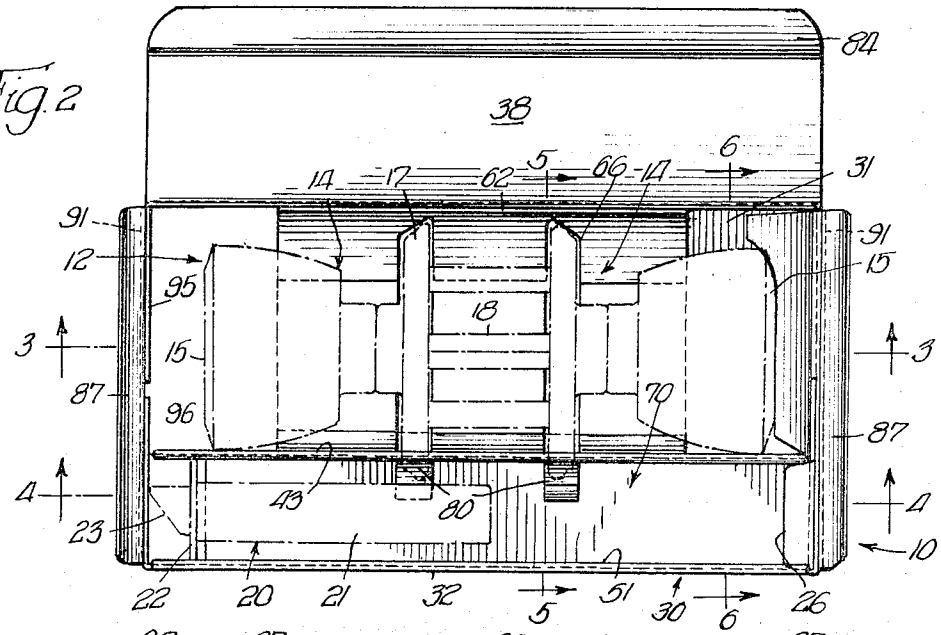


Fig. 3

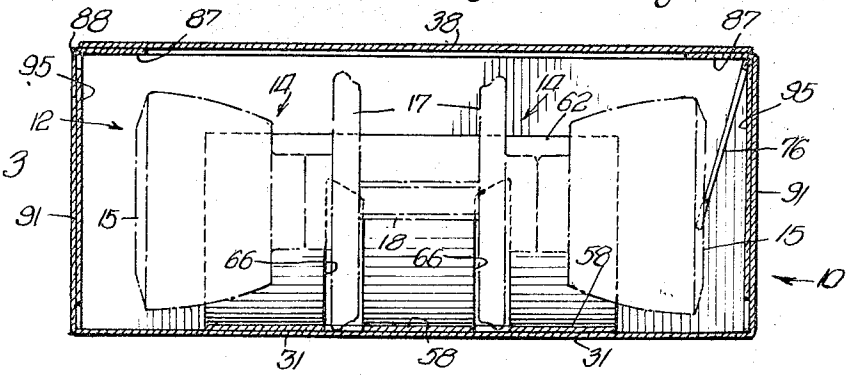
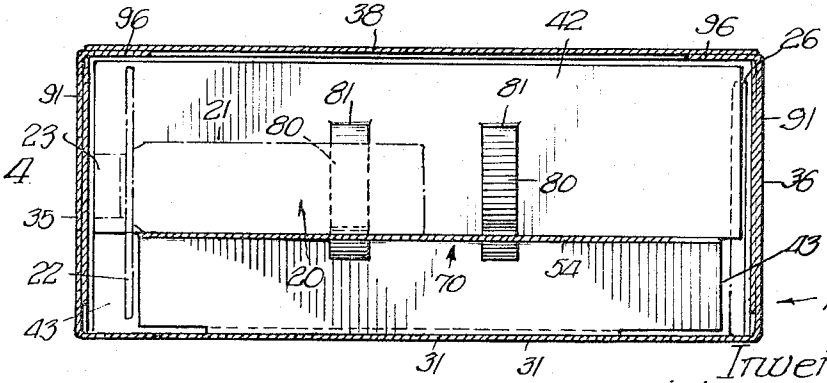


Fig. 4



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3,326,362

CARTON FOR LOCKSET

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10 Claims. (Cl. 206—46)

This invention relates to a carton for a lockset, and more particularly, to a universal carton having floating partition and platform means suitable for locating and securely holding in place locksets of different sizes.

Typically, a lockset for a door includes a pair of knob and rose trim components adapted to be secured to the opposite sides of the door, a latch bolt component adapted to be mounted within the door and present a latch at the end of the door that is operated through the action of the knob, and a striker plate component adapted to be mounted on the door frame and be engaged by the latch to lock the door. In addition, accessories typically including any keys for such lockset and a bag of screws for securing the lockset to the door come with lockset. Thus, a lockset package must include these components, and further, preferably must separate and cushion them from one another to avoid scratching or othewise damaging them. The problem of packaging is further amplified because typically a lockset manufacturer makes a complete range of lockset sizes so that a corresponding inventory of package sizes must be maintained or the package used must be of a universal nature.

This invention contemplates having a lockset carton of a universal nature, which because of floating partition and platform means, accommodates different size locksets while maintaining the components thereof securely in place and separated from one another.

An object of this invention is to provide a lockset carton having internally formed partition and platform elements appropriately located to separate and firmly hold in place the components of the lockset to prevent damage in transit.

Another object of this invention is to provide a lockset carton which is by its construction reinforced to increase its protection of the lockset while still permitting multiple stacking of like cartons on one another.

Another object of this invention is to provide a lockset carton formed of an economical blank of paperboard to minimize the raw material consumption and thus the cost of the carton.

These and other objects of this invention will be more readily appreciated after referring to the following specification including the accompanying drawings, wherein;

FIG. 1 is a top plan view of a blank suitably cut and scored to define the carton disclosed in the subsequent figures;

FIG. 2 is a top plan view of subject carton showing it opened and a lockset positioned therein;

FIGS. 3 and 4 are front elevational views, partly in section as seen, respectively, from lines 3—3 and 4—4 of FIG. 2, of the subject carton; and

FIGS. 5 and 6 are end elevational views, partly in section as seen, respectively, from lines 5—5 and 6—6 of FIG. 2, of the subject carton.

The subject carton **10** is shown with a typical lockset **12**. The lockset includes a pair of knob and rose trim components **14** each having a knob **15** and a rose **17**. The knob and rose trim components are adapted to be mounted on opposite sides of a door, a spindle or chassis **18** interconnecting them. A latch bolt component **20** having an elongated body **21**, face plate **22** and latch **23** is adapted to be mounted within the door and be operated by the knobs through the spindle **18**. A strike plate **26** is adapted to be mounted on the door frame in registry with, and

be engaged by, the latch **23** to lock the door closed. The carton **10** provides internal floating partition and platform means which receives and securely hold in place these various components of the lockset.

The carton includes a tray **30** having a bottom wall **31**, front and rear walls **32** and **33** respectively, and opposed end walls **35** and **36** hinged together at adjacent edges. A top wall **38** is hinged on fold line **39** to the rear wall **33** and is adapted to fold over the open top of the tray **30** for closing the same.

A partition element **40** extends vertically within the tray parallel to the front and rear walls and divides the tray into two sections. The partition element includes adjacent forward and rearward panels **42** and **43**, respectively, hinged together along their upper edges along fold line **44** approximately in line with the open top of the tray and disposed immediately beneath the top wall **38**. A platform element **50** is formed between partition element **40** and the front wall **32**. The platform element includes a front wall inner panel **51** hinged at its upper edge along fold line **52** to the front wall **32** and a platform panel **54** hinged at its forward edge along line **55** to the lower edge of the front wall inner panel **51**. The platform panel is extended horizontally rearwardly from the front wall and is hinged at its rearward edge along fold line **56** to the lower edge of the partition element forward panel **42**. A base panel **58** is hinged along fold line **59** to the lower edge of the partition element rearward panel **43** and is extended rearwardly therefrom in secured relationship flush against the bottom wall **31**. A sloping panel **62** is hinged along fold line **63** to the rearward edge of the base panel **58** and slopes upwardly therefrom and presents a free end edge **64** below the top wall **38**.

The forward and rearward panels of the partition element **40** and the sloping panel **62** have opposed slots **66** and **67** formed therein which are adapted to receive the roses **17** of the separate knob and rose trim components **14**. The platform element panel **54** is spaced from the top wall **38** a distance sufficient to receive and support thereon the latch bolt component **20**. One end edge **70** of platform panel **54** is spaced from the adjacent end wall **35** a distance sufficient to receive therebetween the face plate **22** and latch **23** of the latch bolt component. The upper edge of the face plate is disposed adjacent the top wall of the carton so that the latch bolt component is firmly confined in the carton in this position. The opposite end edge **72** of the platform panel similarly is spaced from the adjacent end wall **36**, and the partition element **40** also is spaced and free from the adjacent end wall to receive therebetween the strike component **26** of the lockset. A flap **76** is hinged to the upper end of one of the end walls **36** along fold line **77** and is folded over the strike component **26** to hold it against the end wall, and a free edge **78** of the lock flap **76** snaps past the knob **15** of the knob and rose trim component **14** and the partition element **40** and is thereby held in place in this folded position over the strike component. It is also possible to wedge the lock flap against the knob and hold the knob in place vertically.

Spacer flaps **80** are hinged on fold lines **81** to the partition platform panel **42** in registry with the slots formed therein and thus removably cover the slots and prevent direct contact of the roses **17** and the latch bolt component **20**.

Tuck flap **84** is hinged on fold line **85** to the forward edge of the top wall **38** and is adapted to be inserted into the tray behind the front wall **32**. The tuck flap **84** is of such length that its free edge **86** engages the platform panel **54** when the carton is closed and the top wall is parallel to the bottom wall. This securely supports the top wall to permit stacking of like cartons on one another. Moreover, dust flaps **87** are hinged on fold lines **88** and **89**, respectively, to the top edges of the end walls **35** and

36, and fold over the open top of the tray and rest upon the partition element 40. Since the partition element 40 terminates at its upper edge directly beneath the top wall, the central support offered by this partition element and edge support through the dust flaps additionally reinforces the carton top wall to permit the stacking of like cartons on one another. The dust and tuck flaps also reinforce the carton against twist.

A blank 90 is shown in FIG. 1 that is suitably cut and scored to form the carton disclosed in the subsequent FIGS. 2–6. In the blank, all panels except those used to form the end walls, dust flaps, and lock flaps are hinged together on parallel fold lines. Thus, the panels, taken from the top of FIG. 1, include the tuck flap panel 84, top wall panel 38, rear wall panel 33, bottom wall panel 31, front wall panel 32, inner front wall inner panel 51, platform panel 54, partition element forward panel 42, partition element rearward panel 43, base panel 58, and the sloping panel 62. Fold lines 93 and 94 separate the bottom wall panel from the rear and front wall panels 33 and 32, respectively. The end walls are formed of outer end wall panels 91 hinged along fold lines 92 to the opposite edges of the bottom wall panel 31, and inner end wall panels 95 and 96 hinged, respectively, on fold lines 97 and 98 to the opposite end edges of the rear and front wall panels. The dust flaps 87 are hinged on fold lines 88 to the top edges of the outer end wall panels 91, and the lock flap 76 is hinged on fold lines 77 to the side edge of one inner end wall panel 95. In the set-up condition, the front wall inner panel 51 is adhesively secured in flush relationship against the front wall 32, and the base panel 58 is adhesively secured in flush relationship against the bottom wall 31. Preferably, the forward and the rearward panels 42 and 43 of the partition element not glued against one another to permit them to float, more or less, forwardly and rearwardly of the carton to accommodate the insertion as required of the knob and rose trim components. The miscellaneous accessories required in the lockset, such as keys or screws (not shown), are deposited in the area above the platform panel between the partition element and front wall. This maintains them separated from the knob and rose trim components which might mar the surface finish thereof.

What is claimed is:

1. A universal carton for a lockset of any of several different sizes, each such lockset typically including a pair of knobs and rose trim components, a latch bolt component, a strike component, and miscellaneous accessories including keys and mounting screws, the carton including the combination of:

(a) an open top tray having bottom, front, rear and opposed end walls hinged together at adjacent edges, and a top wall hinged to the rear wall for closing the tray;

(b) a partition element extended vertically within the tray parallel to the front and rear walls, and including adjacent forward and rearward panels hinged together at their upper edges approximately at the open top of the tray and immediately beneath the top wall;

(c) a platform element between the partition element and front wall, and including a front wall inner panel hinged at its upper edge to the front wall and a platform panel hinged at its forward edge to the lower edge of the front wall inner panel and extended horizontally rearward therefrom and hinged at its rearward edge to the lower edge of the partition element forward panel;

(d) a base panel hinged to the lower edge of the partition element rearward panel and extended rearwardly therefrom in secured flush relation against the bottom wall, and a sloping panel hinged to the rearward edge of the base panel and sloping upwardly therefrom;

(e) said partition element and sloping panel having opposed slots therein for receipt of the rose trims of the separate knob and rose trim components;

(f) the platform element panel being spaced from the top wall a distance sufficient to receive and support the latch bolt component, and one end edge of said platform panel being spaced from the adjacent end wall a distance sufficient to receive therebetween the face plate of said latch bolt component;

(g) the opposite end edge of said platform panel and the partition element being spaced from the adjacent end wall a distance sufficient to receive therebetween the strike component;

(h) a lock flap hinged to the upper end of one end wall and folded over the strike component, and having a free edge that snaps past and is held folded in place by the knob of the adjacent knob and rose trim component;

(i) spacer flaps hinged to the partition element forward panel on horizontal lines and removably covering the slots formed therein to prevent direct contact of the rose trims disposed in the slots and the latch bolt component;

(j) a tuck flap hinged to the forward edge of the top wall adapted to be inserted into the tray behind the front wall, and of such length to engage the platform panel when the top wall is horizontal.

2. A carton according to claim 1, wherein the partition element foward and rearward panels are disposed adjacent one another but are not connected to one another across their adjacent faces.

3. A carton according to claim 1, wherein said front wall inner panel is adhesively secured in flush relationship against the front wall.

4. A carton according to claim 1, wherein dust flaps are hinged to the upper edges of the end walls and are folded over the open top of the tray and rest upon the top edge of the partition element.

5. A universal carton for a lockset of any of several different sizes, each such lockset typically including a pair of knob and rose trim components, a latch bolt component and a strike component, the carton including the combination of:

(a) an open top tray having bottom, front, rear and opposed end walls hinged together at adjacent edges, and a top wall hinged to the rear wall for closing the tray;

(b) a partition element extended within the tray in spaced relation to the front and rear walls, and including adjacent forward and rearward panels hinged together at their upper edges approximately at the open top of the tray;

(c) a platform panel hinged at its forward edge to the front wall and extended rearward therefrom and hinged at its rearward edge to the lower edge of the partition element forward panel;

(d) said partition element having slots therein for receipt of the rose trims of the separate knob and rose trim components;

(e) said platform panel being spaced from the top wall a distance sufficient to receive and support the latch bolt component, and one end edge of said platform panel being spaced from the adjacent end wall a distance sufficient to receive therebetween the face plate of said latch bolt component;

(f) the opposite end edge of said platform panel and the partition element being spaced from the adjacent end wall a distance sufficient to receive therebetween the strike component.

6. A carton according to claim 5, wherein a base panel is hinged to the lower edge of the partition element rearward panel and is secured flush against the bottom wall.

7. A carton according to claim 5, wherein a sloping panel extends rearwardly and upwardly from the bottom wall between the partition element and rear wall, and has slots therein opposite the partition element slots to receive

therein the rose trims of the separate knob and rose trim components.

8. A carton according to claim 5, wherein a tuck flap is hinged to the forward edge of the top wall adapted to be inserted into the tray behind the front wall, and is of such length to engage the platform panel when the top wall is parallel to the bottom wall.

9. A carton according to claim 5, wherein spacer flaps are hinged to the partition element forward panel and removably covering the slots formed therein to prevent direct contact of the rose trims disposed in the slots and the latch bolt component.

10. A carton according to claim 5, wherein a lock flap is hinged to the upper end of one end wall and is folded over the strike component, and has a free edge that snaps past and is held in the folded position by the adjacent knob of the knob and rose trim component.

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