July 23, 1957 N. F. HAWVER 2,800,220

CONCEALED BOX LOCK

Filed Dec. 13, 1954

FIG. 1.

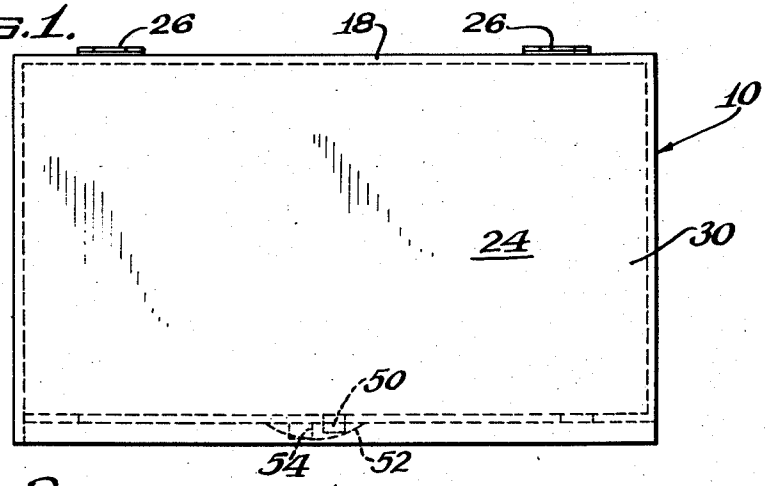


FIG. 2.

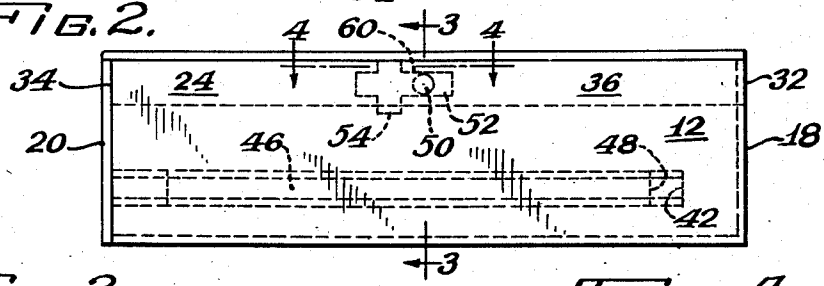


FIG. 3.

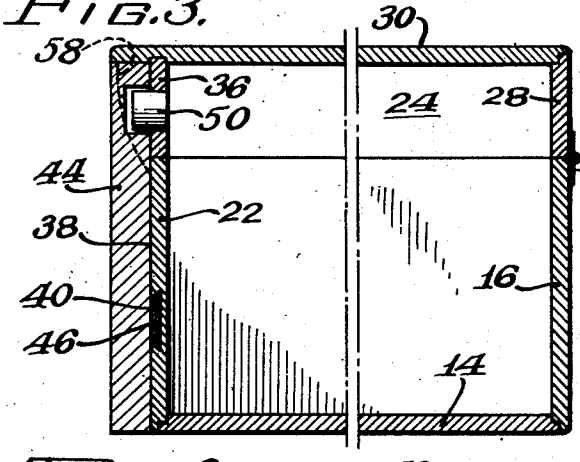


FIG. 4.

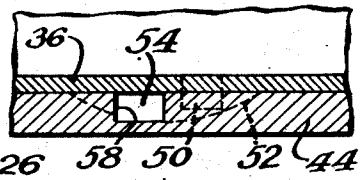


FIG. 5.

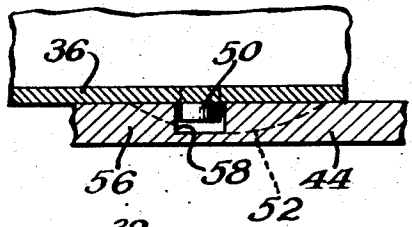
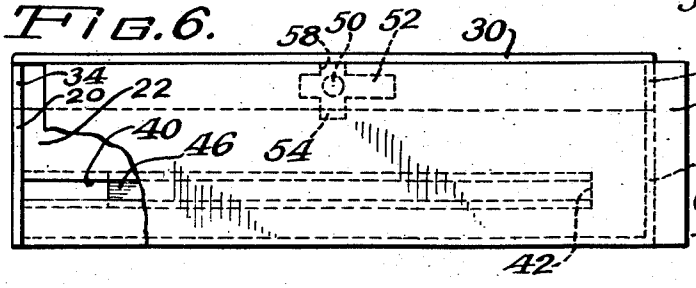


FIG. 6.



Inventor:
Neil F. Hawver
By
H. N. Rogers Jr. Atty.

United States Patent Office

2,800,220

Patented July 23, 1957

2,800,220

CONCEALED BOX LOCK

Neil F. Hawver, Harvard, Ill.

Application December 13, 1954, Serial No. 474,663

1 Claim. (Cl. 206—1.5)

My invention relates to a concealed box lock, and more specifically to a concealed combination lock and latch.

For jewelry boxes and the like, it is desirable that latches be provided which will serve to lock the box shut and at the same time not require the use of keys which are easily lost or combinations which are easily forgotten. There have been many novelty latches devised in the past, but the latch here described is believed to be substantially simpler than any of those of which I am aware, and at the same time, effective and foolproof.

A primary object of my invention, therefore, may be considered to be the provision of a novel, concealed lock.

Another object of my invention is the provision of such a lock which affords excellent locking characteristics and at the same time permits complete concealment of the locking mechanism.

Still another object is the provision of such a lock which is exceedingly simple and yet whose functioning is thoroughly concealed from a person not knowing the secret of the lock.

Another object is the provision of such a lock which, while enjoying all the advantages above, can be incorporated in a box structure at very reasonable cost.

Although I have illustrated my invention in conjunction with a jewelry box (and I anticipate that it will be in such usage that my lock will find its most frequent use), there are many other possible fields of application, such as drawers, china cabinets, desks and concealed receptacles in cabinetry and woodwork around the house or office.

Other objects and advantages of my invention will be apparent from the following description and drawings, of which:

Fig. 1 is a top view of a box embodying my invention;

Fig. 2 is a front view thereof;

Fig. 3 is an enlarged section through the box which may be considered as being taken substantially along the line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 is an enlarged section through the lock which may be considered as being taken along the line 4—4 of Fig. 2 looking in the direction of the arrows;

Fig. 5 is a view similar to Fig. 4 showing, however, the parts in unlocked position; and,

Fig. 6 is a view similar to Fig. 2 showing the box in unlocked position.

The box **10** with which my invention is associated consists of the usual bottom **12** having a floor **14**, back **16**, sides **18** and **20** and front panel **22**. A skirted lid **24** is hingedly secured as by hinges **26** to the back **16** of the bottom **12** and includes a back skirt **28**, a top **30**, side skirts **32** and **34** and a front skirt **36**. The skirt of the top meets squarely the sides of the bottom.

In the front surface **38** of the front panel **22** of the bottom of the box, a transverse dovetail groove **40** is cut which extends from one edge of the front panel to a point well past the center of the front panel, but stopping short of the other end thereof as at **42**. A second panel **44** has a dovetail **46** glued thereto to ride slidably in the dovetail groove **40**. The panel **44**, hereinafter referred to as the face, is proportioned to cover entirely the front panel **22** of the box bottom and extends thereabove to the top **30** of the box lid. Laterally it extends from the left-hand side panel **20** to overlap the right-hand side panel **18**. The left-hand side panel **20** extends outwardly beyond the front panel **22** a distance equal to the thickness of the face **44** in order to provide a continuous surface for the left front corner and a stop for the face **44**. Similarly, the left side skirt **34** extends out beyond the front skirt **36** an equal distance to be continuous with the left side panel **20**. The right side panel and skirt **18** and **32** terminate at the front panel **22** and skirt **36**.

The dovetail **46** terminates at its right-hand end **48** (Fig. 2) a distance short of the end of the dovetail groove **42** when the face abuts against the outstanding end of the left side panel **20** and skirt **34** and is flush with the right side panel **18** and skirt **32**. It will be appreciated that by virtue of this structure, the face **44** is capable of being slid to the right from its center locking position illustrated in Fig. 2 a distance equal to the space between the end **48** of the dovetail **46** and the end **42** of groove **40** to the position illustrated in Fig. 6 or the unlocked position. The panel, however, is prohibited from being moved to the left by virtue of the forward ends of the left side panel and skirt **20** and **34** overlapping the left end of the face **44**.

The front skirt **36** has a forwardly extending peg **50** secured approximately centrally therein and downward of the top **30**.

In the central portion of that part of the face which overlaps the front skirt **36** of the lid, a pair of cross slots are cut which accomplish, with the peg **50**, the locking of the box. A horizontal slot **52** is formed on the back side of face **44** on the center line thereof. A vertical slot **54** is also formed to intersect slot **52** at a point displaced from the center of slot **52**. The vertical slot opens onto the top edge **56** of panel **44** as at **58** (Fig. 5). The displacement of the vertical slot **54** is such that it is in alignment with peg **50** when the face **44** is moved to the right as illustrated in Fig. 6.

The operation of my lock will be readily apparent from the foregoing description. Assuming the box to be locked as shown in Fig. 2, all that is necessary to unlock it is to slide the face **44** to the right to the position illustrated in Fig. 6. At this point the vertical slot **54**, open on the top edge of face **44**, is in alignment with the pegs **50**, and the peg may be withdrawn from the cross slots through the vertical slot to open the box. In closing, the peg drops to the intersection of the cross slots **52** and **54** and the face **44** is returned to its locking position of Fig. 2 where the peg is no longer in alignment with the vertical slot **54**, and the shoulder **60** resulting from the formation of the horizontal slot **52** prevents the opening of the lid.

It is in the manufacture and assembly of the box where one of the principal advantages of my lock may be best appreciated. The fabrication of the commonplace box members is too well known to be described here. Regarding the modifications, it will be appreciated that the dovetail groove **40** represents an exceedingly easy manufacturing problem and may be formed all the way across the front panel **22** and subsequently blocked off at the right-hand end. The insertion of the peg **50** in the front skirt **36** is likewise very simple. The cross grooves **52** and **54** may both be formed with the same small diameter dado cutter by placing the front panel against appropriate stops and simply dropping the panel onto the cutter, first in one direction and then in the other. The same cutter may be used for making both of the cross cuts. The attachment of the dovetail **46** to the front face likewise represents no manufacturing problem. The assembly of the box, as was stated before, is entirely conventional with the exception that the face **44** must be secured to the

front panel 22 before the left panel 20 is attached to the bottom of the box.

It will be appreciated that the locked box as illustrated in Fig. 2 presents an entirely conventional picture with a totally blank exterior. No keyholes are evident, no open joints appear, all corners may be smoothly rounded, and it is not necessary that any gaps be evident between the face 44 either at the left or right and the parts relative to which it moves.

It is desirable that the dovetail 46 be long, as illustrated, to minimize any tendency of the front face 44 to warp and pull away from the panel ends which it touches.

It will be appreciated from the foregoing description that the use of this latch need not be limited to jewelry boxes, although I contemplate a major use in such application. In the case of a jewelry box, this latch will probably do little to prevent theft since jewelry boxes themselves are easily taken, but it should serve the purpose of keeping young children out of the box and prevent possible pilfering by domestic help. The application of the latch to other, larger scale use will be evident. In such use, a knob possibly could be fixed to the face 44 to facilitate sliding it. More than one of the locking elements comprising the peg 50 and cross slots 52 and 54 may be employed where the edge to be locked is long. The lock is adapted to be turned through any angle to accommodate a door or lid opening in any direction.

It is thus apparent that the lock embodying my invention is susceptible of variations in structure and use, and I, therefore, wish that my invention be regarded as being limited only as set forth in the following claim.

I claim:

A box having four sides including a front and a rear side, a skirted cover for said box hinged to the rear side, the skirt of said cover meeting the sides of said box in aligning abutting relation, a front panel secured to the front side of said box for lateral movement, said panel extending above said front side to overlap the front portion of said cover skirt, the panel portion above the front side of said box having a vertical slot in its rear surface open to the top edge thereof and a horizontal slot intersecting said vertical slot, a pin secured in said front skirt portion above the lower edge thereof to extend forwardly from said skirt, said pin being positioned to be contained in said horizontal slot when said box is closed, said front panel being movable to place said vertical slot into and out of alignment with said pin.

References Cited in the file of this patent

UNITED STATES PATENTS

1,254,538	Rice	Jan. 22, 1918
2,494,942	Hirsch	Jan. 17, 1950
2,591,271	Levereth	Apr. 1, 1952