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Knaack

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[54] **PADLOCK PROTECTION SYSTEM**

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[52] **U.S. Cl.** **70/63**, 70/56, 70/418, 292/281

[51] **Int. Cl.** **B65d 55/14**

[58] **Field of Search**.....870/51–56, 1–9, 416–418; 292/281; 70/63

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[57] **ABSTRACT**

A tool box adapted to be locked shut by a padlock, including a main box portion, a retractable closure, a first lock bracket on the front wall of the main box portion, a second lock bracket on the closure, said lock brackets being of similar U shapes disposed in overlying relation when the box is closed so that the base of the U shapes is adapted to abut a padlock body and the bight between the legs of the U's receives the lock shackle to prevent insertion of a prying tool when the lock is latched, a first lock cover on the main box portion extending outwardly below the lock brackets, and a second lock cover on the closure extending outwardly above the lock brackets and downwardly along the outside of the lock brackets to enclose the lock except at the ends.

7 Claims, 3 Drawing Figures

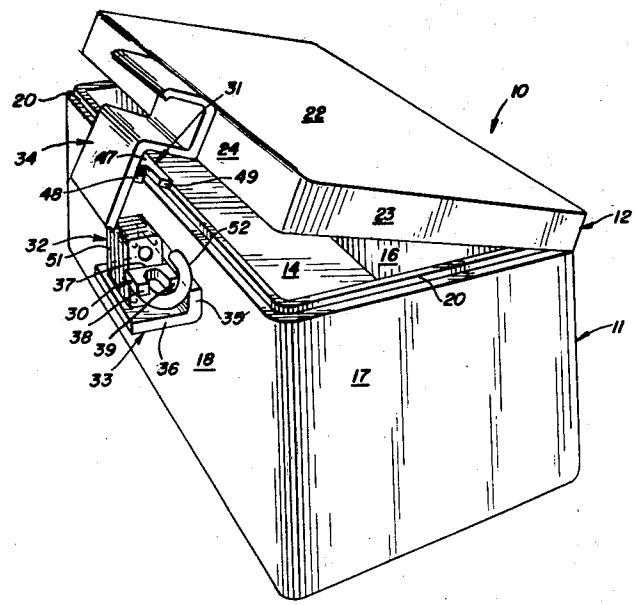


FIG. 1

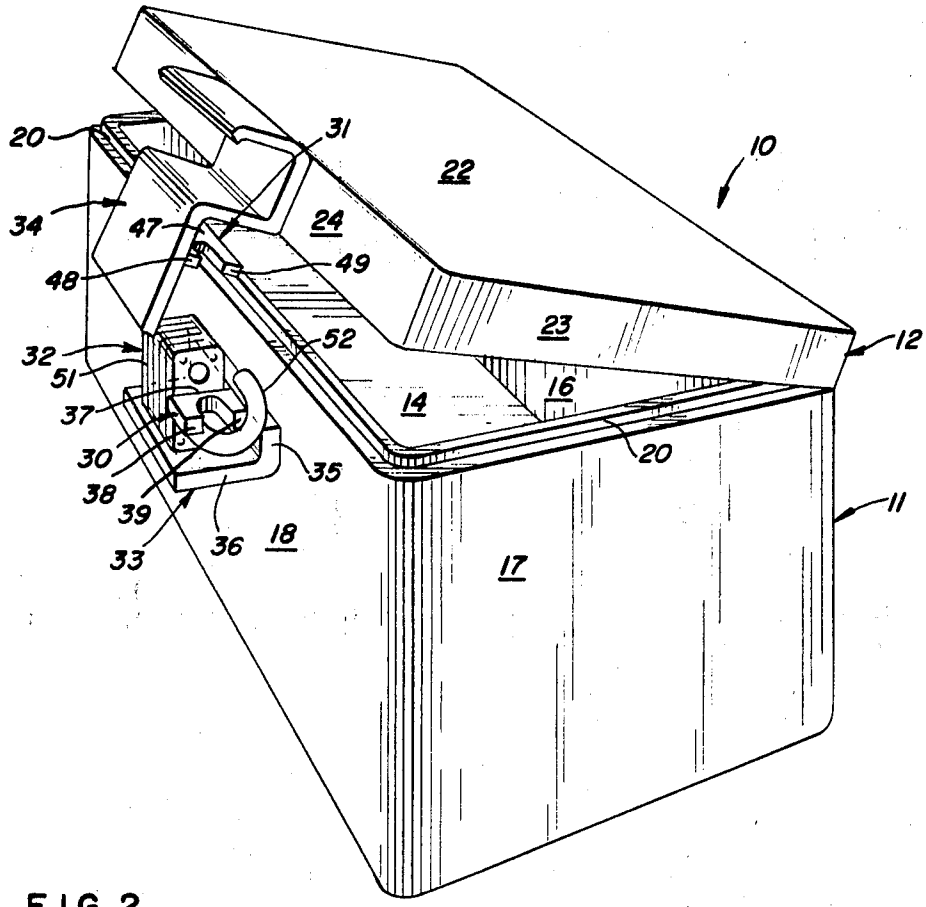


FIG. 2

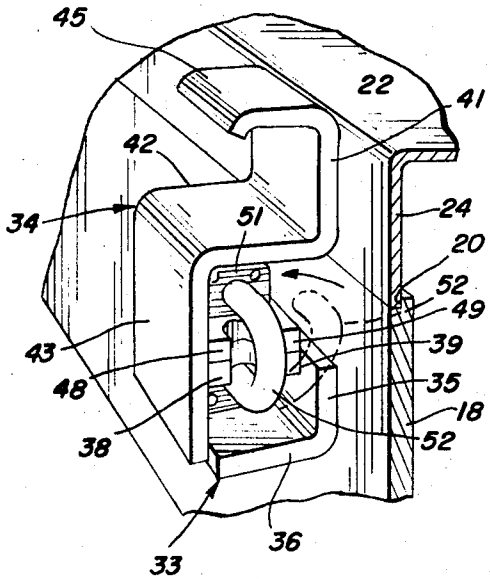
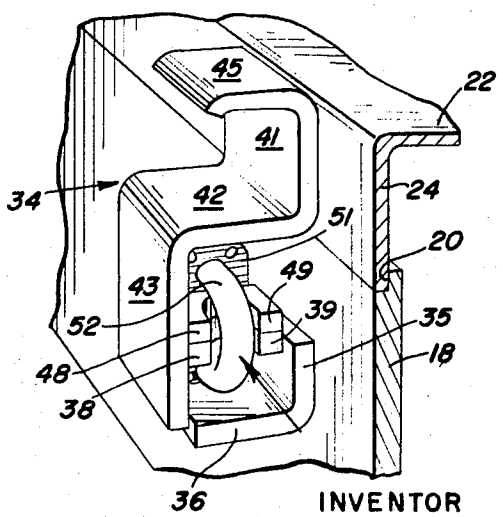


FIG. 3



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PADLOCK PROTECTION SYSTEM

BACKGROUND OF THE INVENTION

It has long been conventional to utilize relatively large and heavy and strong metal tool boxes at construction sites and similar locations for storage of various tools used in the vicinity of the storage facility. Although such tool boxes are portable to some degree, they are rather difficult to move easily because of the weight of the box and the relatively heavy tools therein, and are therefore relatively secure if securely locked shut. Customarily, the boxes have often been locked closed by means such as padlocks which always provide a measure of security but nevertheless are subject to tampering, such as efforts to cut the padlock shackle or to pry the shackle from the lock body. While there have been undertakings in the prior art relating to padlocks to provide protection systems, such efforts have sometimes been very complex enclosure systems, for example, utilizing the lock body rather than the shackle as the locking means, or sometimes very simple and inadequate means to fill the shackle to reduce prying but without preventing access for cutting the shackle.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a simple and straightforward lock and protection system which facilitates use of padlocks in the usual manner and at the same time protects the padlock against tampering.

More particularly, the invention contemplates a tool box construction including a main box portion having an access opening, a closure portion for closing the opening and adapted to be retracted relative to the main box portion, a lock bracket on each box portion adapted to abut when the box is closed and formed with portions adapted to be straddled by a padlock shackle and embraced by the padlock body so that the padlock holds the box closed, the lock brackets also being formed with portions which substantially close the space between the lock shackle and the lock body to prevent insertion of a prying tool when the lock is latched.

Specifically, the lock brackets are of similar U shapes disposed in overlying relation when the box is closed so that the base of the U shapes is adapted to abut a padlock body and the bight between the legs of the U's receives the lock shackle.

Preferably, provision is made for enclosing the locked padlock including cover means on both of the box portions for operating when the box is closed to enclose three sides of the lock brackets to restrict tampering.

In particular, there is a first lock cover bracket on the main box portion extending outwardly beneath the lock brackets and a second lock cover bracket on the box cover extending outwardly above the lock brackets and downwardly along the outside of the lock brackets.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a storage box utilizing a lock and protection system embodying the principles of the present invention, with the padlock open and with the box cover partially open;

FIG. 2 is a fragmentary perspective view of the box, with the cover closed and with the padlock unlocked; and

FIG. 3 is a fragmentary perspective view similar to FIG. 2, with the padlock locked.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in more detail, a storage box **10** for tools or the like is relatively large and constructed of relatively heavy gauge metal in order to withstand rough usage. The box includes a main box portion **11** and a cover **12** which may be hingedly mounted for movement from the closed position illustrated in FIGS. **2** and **3** to open positions which permit access to the interior of the box. As shown, the main box portion **11** includes a bottom wall **14**, a rear wall **16**, end walls as at **17** and a front wall **18**. The top of the main box portion **11** is open except when closed by the cover, and the top edges of the end walls **17** and front wall **18** are recessed inwardly as at **20** in order to provide a peripheral recess for receiving the bottom edge of the cover **12**.

The cover **12** is of relatively shallow inverted box form including a top wall **22**, end walls as at **23** and a front wall **24**. The bottom edges of the end walls **23** and the front wall **24** fit into the peripheral recess **20** at the top edge of the main box portion when the cover is in closed position as shown in FIGS. **2** and **3**. If desired, there may be one or more handles of suitable construction provided on the top wall **22** or on any of the end walls **17** and **23**.

In order to lock the box in closed condition, a lock bracket **30** is provided on the main box portion **11** and a lock bracket **31** is provided on the cover **12**, for cooperation with a padlock **32**. In order to protect the padlock **32** against tampering, a lock cover bracket **33** is provided on the main box portion **11** and a lock cover bracket **34** is provided on the cover **22**.

In the preferred construction illustrated, the lock cover bracket **33** is right-angular and includes an upright flange **35** welded or otherwise secured to the front wall **18** of the main box portion, and a forwardly outwardly extending flange **36** disposed to lie below the padlock and lock brackets when the padlock is disposed in position locking the box shut.

The lock bracket **30** is generally U-shaped in configuration and includes a base **37** together with legs **38** and **39** with a space between the legs adapted to receive the lock shackle. As illustrated, the lock bracket **30** has its leg **39** secured to the upright flange **35** of the lock cover bracket **33**, as by welding, though other means of securing may be utilized, and if desired, the lock bracket may be secured directly to the front wall **18** of the box rather than to the cover bracket **33**.

The lock cover bracket **34** includes an upright flange **41** secured as by welding or otherwise to the front upright wall **24** of the box cover **22**. The bracket **24** also includes a forwardly outwardly extending flange **42** disposed cover the padlock and lock brackets when the latter are disposed in locking position, and a downwardly extending flange **43** which is disposed along the outside of the padlock and lock brackets when the box is closed and the padlock is in locking position. If desired, the lock cover bracket **34** may in-

clude an upper forwardly outwardly extending flange as at 45 which may be used as a handle for lifting the cover 12 to gain access to the interior of the box.

The lock bracket 31 is of U shape configuration similar to that of the lock bracket 30, including a base 47 together with legs 48 and 49. As illustrated herein, the lock bracket 31 has its outwardly disposed leg 48 secured to the flange 43 of the lock cover bracket 34 as by welding or other suitable means.

The padlock 32 may be of conventional construction including a lock body 51 and a generally U-shaped shackle 52 adapted for movement longitudinally relative to the lock body between the positions illustrated in FIG. 2 and FIG. 3, and mounted also for pivotal movement relative to the lock body from the open position shown in full lines in FIG. 1 and broken lines in FIG. 2 to the locking position shown in full lines in FIG. 2.

In operation, when the cover 22 is in closed position, the lock bracket 31 overlies the lock bracket 30 substantially in register therewith so that the padlock may be placed with the lock body abutting the bases 37 and 47 of the lock brackets and with the shackle 52 adapted to fit into the space between the legs of the lock brackets in the manner illustrated in FIG. 3. In order to get the padlock into the position illustrated in FIG. 3, it is first placed on the lock cover bracket 33 as shown in FIG. 1, with the shackle 52 longitudinally retracted and pivoted to one side in a manner to permit the lock bracket 31 to be lowered from the position of FIG. 1 into the position of FIG. 2. Now, the shackle may be pivoted from the broken line position of FIG. 2 to the full line position of FIG. 2 and then forced longitudinally inwardly of the lock body to latched position as shown in FIG. 3.

It will be seen in FIG. 3 that when the padlock is latched, the space between the shackle 52 and the lock body 51 is substantially filled by the bases of the U-shaped lock brackets 30 and 31, and the legs of the U-shaped lock brackets embrace the rounded end of the shackle in a manner such that it is virtually impossible to insert a prying tool between the shackle and the lock body in a manner to apply force to open the lock without a key. Additionally, the bottom of the lock is guarded by the flange 36, the top of the lock is guarded by the flange 42, the inner side of the lock is guarded by the flange 35 and the front wall 18 of the box, while the outer side of the lock is guarded by the flange 43, in a manner such that the lock and the lock brackets are substantially enclosed except for access at opposite ends, in one of which (not shown) a key may be inserted and the other of which access is provided for manipulating the shackle.

I claim:

1. A container adapted to be secured by a padlock, comprising,

a. a main container portion having an access opening,

b. a closure portion for closing the opening and adapted to be retracted relative to the main container portion,

c. a first lock bracket on the outside of one wall of the main container portion near the opening therein,

d. a second lock bracket on the outside of the closure portion adjacent the first lock bracket when the cover is closed,

e. said lock brackets being of U shapes disposed in adjacent relation when the cover is closed so that the base of the U shapes is adapted to abut a padlock body and the bight between the legs of the U receives the lock shackle and the legs of the U substantially close the space between the lock shackle and body to prevent insertion of a prying tool when the lock is latched,

f. a first lock cover bracket on one container portion extending outwardly at one side of the lock brackets, and

a second lock cover bracket on the other container portion extending outwardly at the opposite side of the lock brackets and along the outside of the lock brackets so that the lock is accessible only at opposite ends thereof.

2. A container as defined in claim 1, wherein the second lock cover bracket is on the closure portion and carries the second lock bracket.

3. A container as defined in claim 1, wherein the first lock cover bracket is on the main container portion and carries the first lock bracket.

4. A tool box adapted to be secured by a padlock, comprising,

a. a main box portion having an access opening,

b. a closure portion for closing the opening and adapted to be retracted relative to the main box portion,

c. a first lock bracket on the outside of one wall of the main box portion near the opening therein,

d. a second lock bracket on the outside of the closure portion adjacent the first lock bracket when the cover is closed,

e. said lock brackets being formed of similar U shapes adapted to be straddled by a padlock shackle with the shackles in the bight between the legs of the U and adapted to be embraced by the padlock body so the padlock when latched holds the box closed,

f. a first lock cover bracket on one box portion extending outwardly at one side of the lock brackets, and

g. a second lock cover bracket on the other box portion extending outwardly at the opposite side of the lock brackets and along the outside of the lock brackets so that the lock is accessible only at opposite ends thereof.

5. A tool box adapted to be secured by a padlock, comprising,

a. a main box portion having an access opening,

b. a closure portion for closing the opening and adapted to be retracted relative to the main box portion,

c. a first lock bracket on the outside of one wall of the main box portion near the opening therein,

d. a second lock bracket on the outside of the closure portion adjacent the first lock bracket when the cover is closed,

e. said lock brackets being of similar U shapes disposed in overlying relation when the cover is closed so that the base of the U shapes is adapted to abut a padlock body and the bight between the

legs of the U receives the lock shackle to prevent insertion of a prying tool when the lock is latched,

f. a first lock cover bracket on the main box portion extending outwardly at one side of the lock brackets,

g. a second lock cover bracket on the cover portion extending outwardly at the opposite side of the lock brackets and along the outside of the lock brackets so that the lock is accessible only at opposite ends thereof, and

h. said second lock cover bracket carrying said second lock bracket.

6. A lock system for securing a cover member in closed position relative to a box member, comprising,

a. a first mounting bracket having an upright flange adapted to be secured to an upright wall of one member, and a horizontal flange extending outwardly from one edge of the upright flange,

b. a second mounting bracket having an upright flange adapted to be secured to an upright wall of the other member in the plane of the upright flange on the first bracket, a horizontal flange extending outwardly from one edge of the upright flange in spaced parallel relation to the horizontal flange on the first bracket, and a vertical flange extending downwardly from the outer edge of the horizontal flange in spaced parallel relation to the upright flange of the first bracket,

c. a first lock bracket extending outwardly from the upright flange of the first bracket, and

d. a second lock bracket extending inwardly from the vertical flange of the second bracket adjacent the first lock bracket,

e. so that the lock brackets may be embraced by a padlock and the padlock protected by the horizontal and vertical flanges.

7. A lock system as defined in claim **6**, wherein the lock brackets are generally U-shaped so that the basses of the U-shapes are adapted to abut the body of a padlock with the shackle of the lock in the bight between the legs of the U-shapes.

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