United States Patent [19]

Anghinetti et al.

[11] **3,896,595**

[45] **July 29, 1975**

[54] **HATCHWAY**

[75] Inventors: **Joseph R. Anghinetti,** Kennebunkport; **Paul A. Couture,** Emery Mills, both of Maine

[73] Assignee: **Wasco Products, Inc.,** Sanford, Maine

[22] Filed: **May 21, 1971**

[21] Appl. No.: **145,779**

[52] **U.S. Cl.** **52/19;** 49/379; 49/386; 52/72; 292/238; 292/254

[51] **Int. Cl.** **E04d 13/035**

[58] **Field of Search** ..... 52/19, 200, 72; 49/379, 49/386, 5; 292/254, 256.5, 238, 228, 205, DIG. 30, 246, 250; 220/55 G, 55 E, 55 B, 55 T

[56] **References Cited**

UNITED STATES PATENTS

1,496,551	6/1924	McCulloch	292/205 X
1,752,131	3/1930	Wild	292/254
2,663,268	12/1953	Ahnell	52/19 X
2,715,540	8/1955	Potter	292/91 X
3,516,210	6/1970	Jentoft et al.	52/200
3,561,162	2/1971	Goldman	49/379 X

Primary Examiner—Price C. Faw, Jr.

Attorney, Agent, or Firm—Arthur Z. Bookstein; Wolf, Greenfield & Sacks

[57] **ABSTRACT**

A roof access hatch has an upstanding curb defining the well or hatch opening and a cover pivoted to the curb to open and close the hatch. The cover is counterbalanced and includes an improved latching mechanism which presents no substantial obstruction to the well opening. The latching mechanism is self locking in response to closure of the cover and may be opened from the inside or the outside of the hatchway. Means also provided for padlocking the latching elements from within the hatch is desired.

3 Claims, 5 Drawing Figures

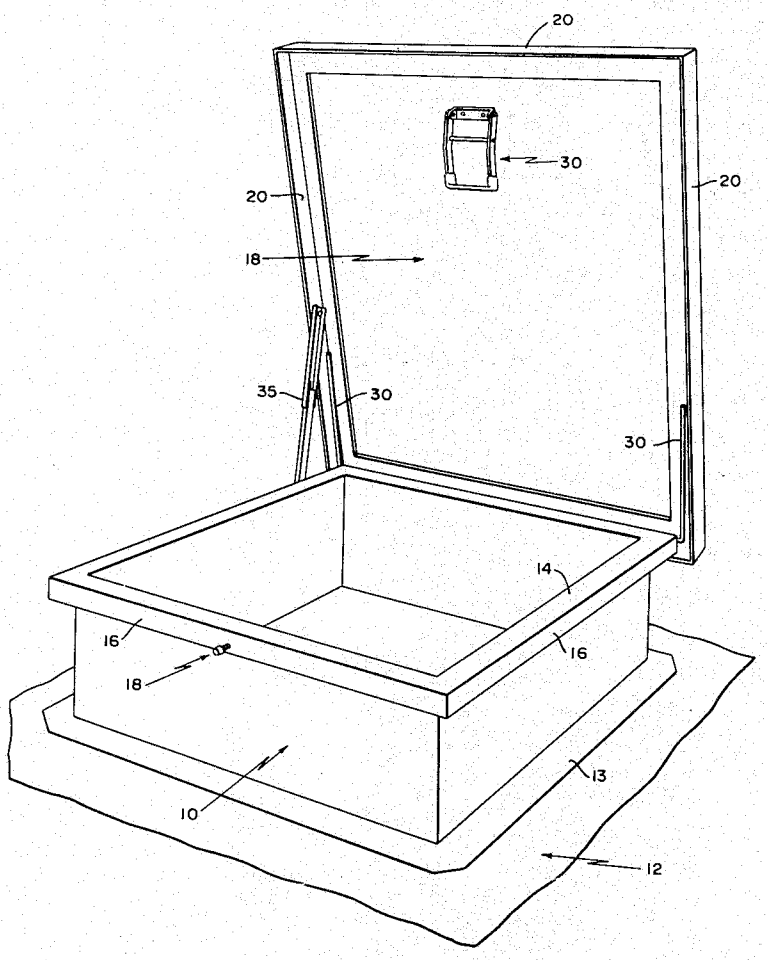
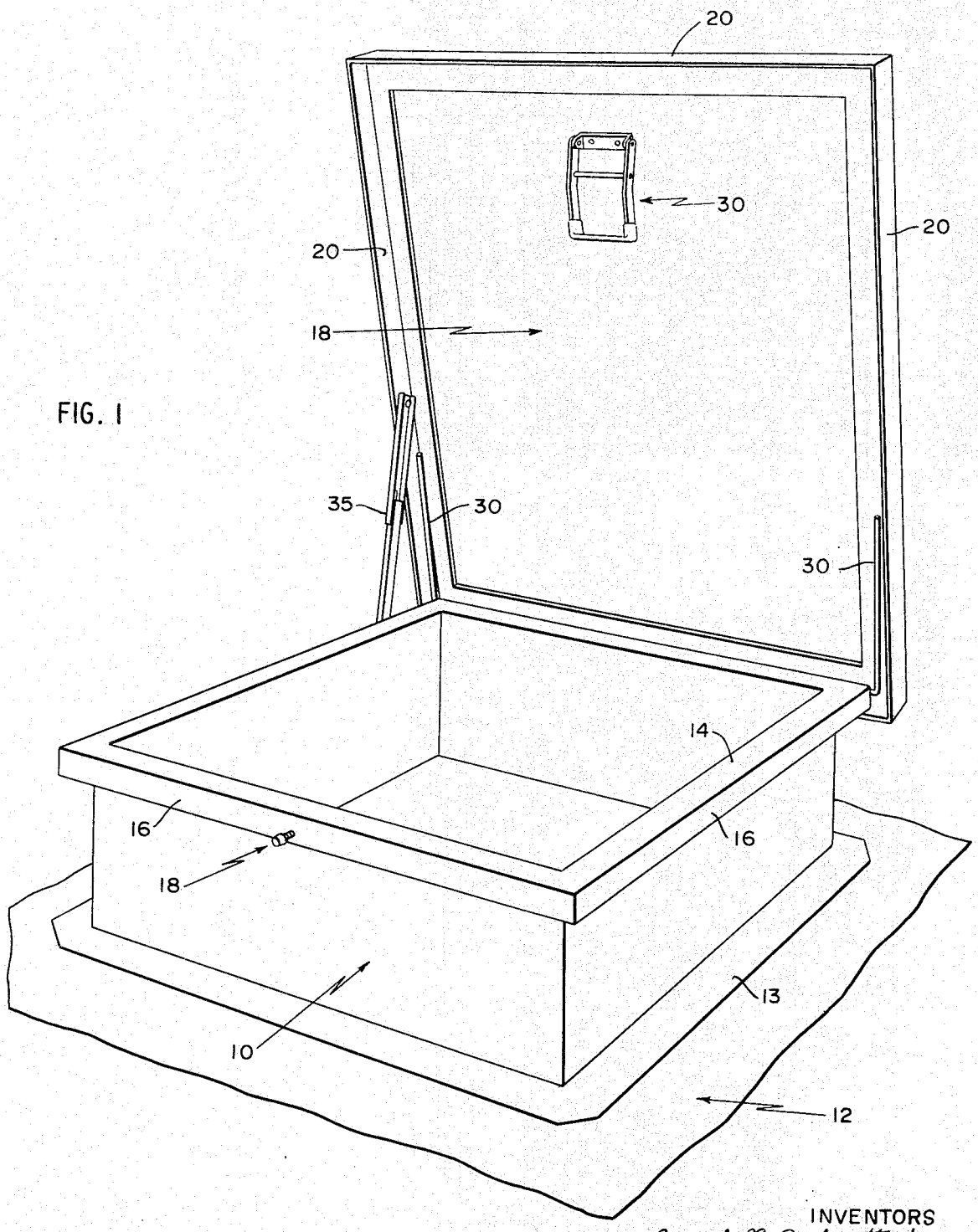


FIG. 1



INVENTORS
Joseph R. Anghinetti &
BY Paul A. Couture
Wolf, Greenfield & Sacks
ATTORNEYS

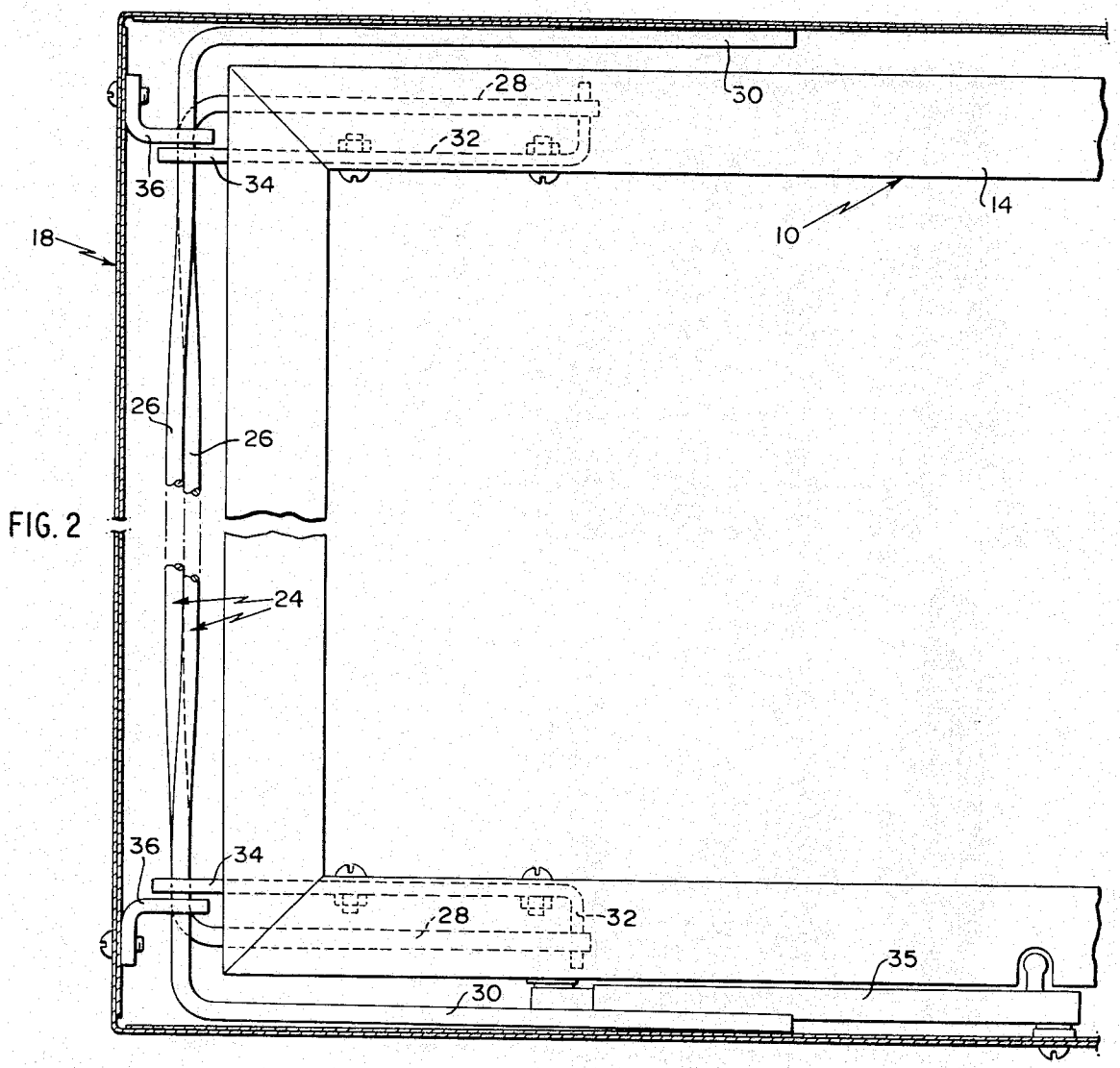


FIG. 2

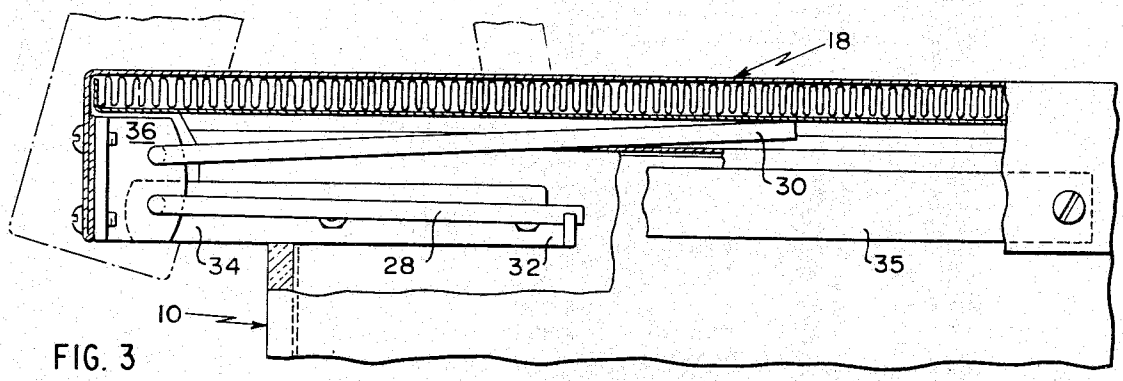


FIG. 3

INVENTORS
Joseph R. Anghinetti &
BY Paul A. Couture
Wolf, Greenfield & Sacks
ATTORNEYS

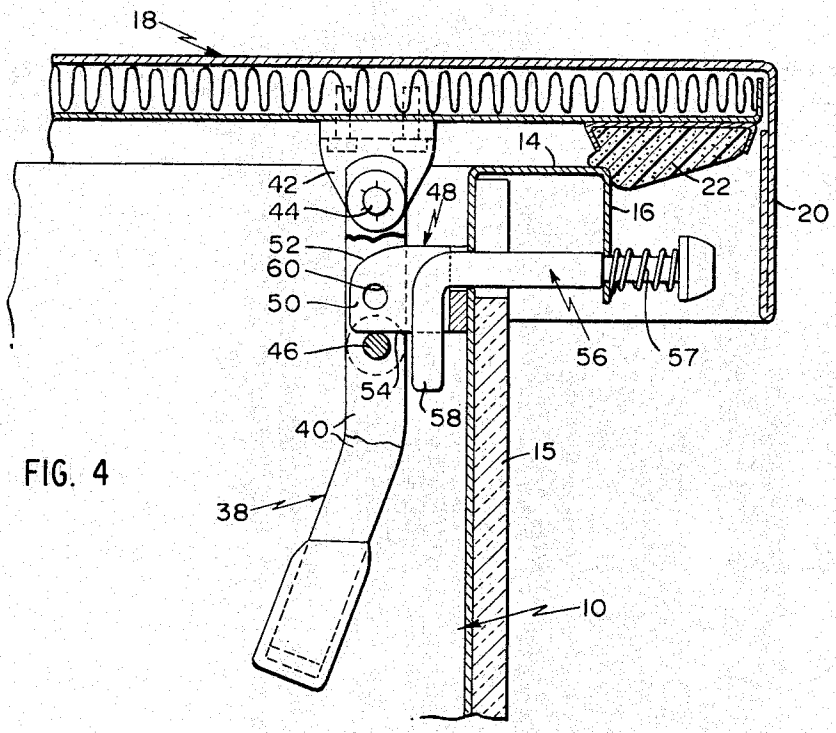


FIG. 4

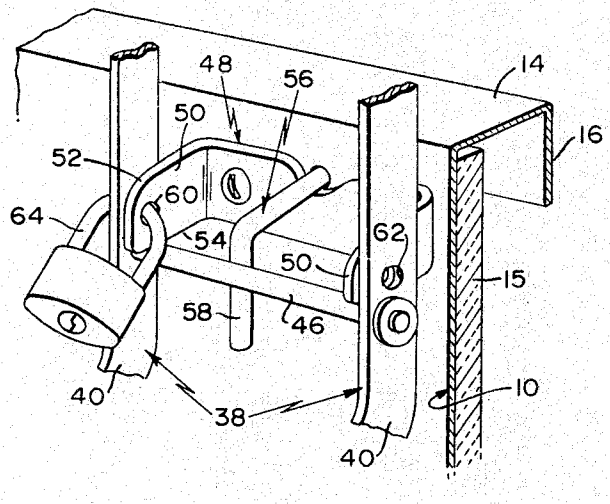


FIG. 5

INVENTORS
Joseph R. Anghenetti &
BY Paul A. Couture
Wolf, Greenfield & Sacks
ATTORNEYS

HATCHWAY

BACKGROUND OF THE INVENTION

This invention relates to roof access hatchways and, in particular, to an improved latching device for a cover associated with an access hatch in which the latch is operated easily yet which presents substantially no obstruction to the hatchway.

SUMMARY OF THE INVENTION

In brief, the hatchway is defined by a rectangular curb mounted on top of the roof and surrounding the roof opening. A cover is hinged to the curb and is counterbalanced by a C-shaped torsion bar having a middle segment which extends externally and along the rear of the curb. The torsion bar includes end segments which extend forwardly from the middle segment, one of the end segments bearing downwardly against the curb and the other end segment bearing upwardly against the inside of the cover. When the cover is released the bar relaxes to assume a three dimensional Z-shaped configuration. The torsion bar is so sized as to provide just enough force to counterbalance the weight of the cover. The hatchway also includes a gravity operated latch handle which is pivoted freely at one end to the inside of the hatch cover. The latch handle hangs freely downwardly under the effect of gravity and includes a transverse bar at its lower end. As the hatch cover is urged downwardly toward the closed position, the bar of the latch handle slips over a catch secured to the inside of the curb to lock the latch handle to the catch. The latch handle and catch have holes formed therein which register when they are engaged to enable the parts to be padlocked. Another feature of the latching mechanism is that it may be operated both from the inside and from the outside of the hatchway by a plunger, the inner end of which engages the bar of the latch handle. The outer end of the plunger is exposed exteriorly to the curb to enable the plunger to be urged inwardly to separate the latch handle and catch. Although the outer end of the plunger is accessible, it is concealed by the rim of the hatch cover which overlies the outer end of the plunger.

It is among the primary objects of the invention to provide an improved hatchway including a hatch cover and latch therefor.

Another object of the invention is to provide a hatchway which is burglar proof.

A further object of the invention is to provide a hatchway with a self-locking cover which may be unlocked both from inside and outside the hatchway, yet which conceals the control for unlatching the hatchway from the outside.

Still another object of the invention is to provide an improved hatchway in which substantially no obstruction is presented through the hatchway opening.

A further object of the invention is to provide a latching device for a hatchway and cover therefor which is quick acting.

DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the invention will be understood more fully from the following detailed description thereof with reference to the accompanying drawings wherein:

FIG. 1 is an illustration of a hatchway in a fully open position;

FIG. 2 is a plan view of the torsion bar arrangement for counterbalancing the hatchway cover;

FIG. 3 is a broken away side elevation of the torsion bar arrangement;

FIG. 4 is a side elevation of the latching mechanism; and

FIG. 5 is another illustration of the latching mechanism.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows the hatchway in an open position and includes a curb **10** which defines a generally rectangular opening. The curb member surrounds an opening in the roof **12** and is secured to and sealed to the roof by appropriate means **13** well known to those skilled in the art. The upper edge of the curb **10** is formed to define an outwardly extending, generally flat counter **14** which terminates in a downwardly extending skirt **16,** both of which surround the upper edge of the curb **10.** Appropriate thermal insulation **15** may be provided about the wall of the curb member **10** if desired.

The hatch cover **18** is of similar rectangular configuration and is larger than the dimensions of the curb member **10.** The hatch cover includes a downwardly depending peripheral skirt **20** formed integrally therewith which, when the hatch cover is closed, is spaced from and surrounds the counter **14** and skirt **16** of the curb member **10.** If desired, the hatch cover **18** may be provided with a sheet of insulative material along its internal surface. In order to provide an effective seal between the hatch cover **18** and the curb member **10** when the hatch cover is closed, the inner surface of the hatch cover is provided with a resilient gasket **22** which engages the counter **14** and is pressed thereagainst firmly when the hatch cover is closed.

The hatch cover **18** is pivoted to the curb and is counterbalanced by an arrangement better shown in FIGS. **2** and **3.** This arrangement includes a pair of torsion bars **24,** each torsion bar having an intermediate segment **26** and a pair of end segments **28, 30.** When in a relaxed configuration each of the bars **24** defines a generally Z-shaped configuration. When the cover is closed and the bars are loaded, they are deformed to a substantially C-shaped configuration as shown in FIG. **2.** One of the end segments **28** is adapted to bear downwardly against a retaining bracket **32** secured to the curb while the other end segment **30** bears upwardly against the inner surface of the cover at the opposite side and in spaced relation to the curb. The portion of each intermediate segment adjacent its associated end segment **28** is rotatably retained within a rearwardly extending hinge bracket **34.** The cover **18** is pivoted to the intermediate segment adjacent the hinge bracket **34** by a hinge bracket **36** which receives the associated end of the associated torsion bar. Thus, the entire cover pivots about an axis which extends from one of the hinge brackets **34** to the other of the hinge brackets **34,** to the pivot axis being spaced rearwardly of the rearward section of the counter and skirt **16** of the curb.

The cover may be supported firmly in an open position by a telescoping locking arm **35** pivoted at its ends to the cover and the curb. The arm **35** may be of any appropriate design as may be apparent to those skilled in the art.

FIGS. **1, 4** and **5** show the improved latching mechanism of the invention. The latching mechanism in-

cludes a latch handle **38** having a pair of parallel members **40** which are pivoted, at their upper ends, to the interior of the hatch cover by the bracket **42** and pin **44.** The latch handle **38** also includes a transverse bar **46** which is secured at its ends to the members **40** and extends therebetween. The members **40** are freely pivotable about the pin **44** and, therefore, hang downwardly at all times under gravity. The latch handle **38** is engagable, when the cover is closed, with a catch **48** secured to the interior of the front portion of the curb which has a pair of lugs **50** extending slightly inwardly. The lugs **50** have a downwardly curved upper surface **52** and a flat lower surface **54** which is disposed in relation to the bar **46** of the latch handle and the curb member **10** and hatch cover **18** so that when the hatch cover is urged to a closed position the bar **46** will ride downwardly along the curved upper surface **52** of the lugs **50** and then will swing beneath the lower surface **54** of the lugs **50.** The members **40** preferably embrace the lugs **50.** When closing the cover the cover is urged firmly to compress slightly the resilient gasket **22** and enable the bar **46** to move below the level of the lugs **50** until they become engaged.

The cover may be unlatched simply from inside the hatch by pivoting the lower free end of the handle to release the bar **46** from the lugs **50.** Another feature of the invention resides in the provision of an externally operable latch release as shown in the drawings. This arrangement includes a plunger **56** which is supported for forward and rearward movement within holes formed in the front wall of the curb and its associated skirt. The outer end of the plunger **56** includes a compression spring **57** which biases the plunger in an outward position. The inner end of the plunger includes a downwardly extending finger **58** which is disposed between the members **40** of the latch handle and which is engagable with the bar **46** when the bar is in the latched position. When the outer end of the plunger **56** is depressed, the finger **58** engages the bar **46** and urges it, together with the latch handle **38,** out of engagement with the lugs **50.** The outer end of the plunger **56** is disposed beneath the overhanging skirt portion **20** of the cover **18** and between the skirt of the cover and the skirt **16** of the curb member **10** so that the cover skirt effectively conceals the externally operative end of the plunger.

The latching mechanism also includes an arrangement by which the latch may be padlocked from within to preclude any possibility of unauthorized opening when necessary. This arrangement includes the provision of holes **60** in one or both of the lugs **50** and cooperative holes **62** in the members **40** which, when the bar **46** is engaged with the lower surface **54** of the lugs **50,** the holes **60,62** will be in registry to enable a padlock **64** to be placed therethrough.

Thus, I have described an improved roof hatchway with a simple, effective lock operable both from the inside and the outside of the hatchway. It should be understood, however, that the foregoing description of the invention is intended merely to be illustrative thereof and that other embodiments and modifications may be apparent to those skilled in the art without departing from its spirit.

Having thus described the invention what I desire to claim and secure by Letters Patent is:

1. A roof access hatch comprising:

side wall means including a curb defining an enclosed hatchway;

a cover hinged to one end of said sidewall means exteriorly of said hatchway for movement between open and closed positions;

means counterbalancing said cover towards said open position;

a latching handle pivotally suspended from the inside of said cover adjacent the unhinged end thereof, said latching handle being adapted to depend freely downwardly therefrom in a substantially vertical direction;

a transversely extending bar secured to said latching handle between the ends of said handle;

catch lug means secured to said sidewall at a location adapted to be engageable with said transversely extending bar when said cover is pivoted to said closed position thereof, said catch lug projecting slightly inwardly from said sidewall, said catch lug including an upper edge located to be engaged by said bar, said edge having a downwardly and inwardly extending configuration thereby to guide said transverse bar inwardly and downwardly over the free end of said lug means while said cover is closing, said catch lug means having a lower surface adapted to enable said transverse bar and latching handle to swing back toward its vertically depending attitude and to enable said transverse bar to be disposed beneath said lower surface of said lug means; and

means forming a hole in said latching handle and said catch lug means respectively, said holes being registerable when said transverse bar is in engagement with the inside of said catch lug means to enable a supplemental lock to be passed through said registered holes.

2. A roof access hatch comprising:

sidewall means including a curb defining an enclosed hatchway;

a cover hinged to one end of said sidewall means exteriorly of said hatchway for movement between open and closed positions;

means counterbalancing said cover toward said open position;

a latching handle pivotally suspended from the inside of said cover adjacent the unhinged end thereof, said latching handle being adapted to depend freely downwardly therefrom in a substantially vertical direction;

a transversely extending bar secured to said latching handle between the ends of said handle;

catch lug means secured to said sidewall at a location adapted to be engageable with said transversely extending bar when said cover is pivoted to said closed position thereof, said catch lug projecting slightly inwardly from said sidewall, said catch lug including an upper edge located to be engaged by said bar, said edge having a downwardly and inwardly extending configuration thereby to guide said transverse bar inwardly and downwardly over the free end of said lug means while said cover is closing, said catch lug means having a lower surface adapted to enable said transverse bar and latching handle to swing back toward its vertically depending attitude and to enable said transverse bar to be disposed beneath said lower surface of said lug means;

means enabling said latching handle and catch lug to be unlatched from the outside of said hatch comprising a plunger mounted to said wall for movement toward and away from said latch handle, the inner end of said plunger having a member engageable with said transverse bar, the outer end of said plunger projecting outwardly beyond said wall, and means biasing said plunger outwardly; and

the edge region of said cover adjacent said latch handle including a downwardly depending skirt adapted to cover and conceal said outer end of said plunger when said cover is closed but to provide access to said outer end of said plunger from beneath said skirt.

3. A roof access hatch comprising:

sidewall means including a curb defining an enclosed hatchway;

a cover hinged to one end of said sidewall means exteriorly of said hatchway for movement between open and closed positions;

means counterbalancing said cover towards said open position;

a latching handle pivotally suspended from the inside of said cover adjacent the unhinged end thereof, said latching handle being adapted to depend freely downwardly therefrom in a substantially vertical direction;

a transversely extending bar secured to said latching handle between the ends of said handle;

catch lug means secured to said sidewall at a location adapted to be engageable with said transversely extending bar when said cover is pivoted to said closed position thereof, said catch lug projecting slightly inwardly from said sidewall, said catch lug including an upper edge located to be engaged by said bar, said edge having a downwardly and inwardly extending configuration thereby to guide said transverse bar inwardly and downwardly over the free end of said lug means while said cover is closing, said catch lug means having a lower surface adapted to enable said transverse bar and latching handle to swing back toward its vertically depending attitude to enable said transverse bar to be disposed beneath said lower surface of said lug means;

the latch handle comprising a pair of transversely spaced handle members, said transverse bar being connected at its ends and spanning said handle members;

said catch lug means including a pair of transversely spaced lugs adapted to be embraced within said transversely spaced handle members;

means enabling external operation of said hatch arrangement comprising a plunger mounted to said sidewall means for movement toward and away from said latch handle, said plunger being disposed intermediate said handle members, the inner end of said plunger having a member engageable with the midportion of said transverse bar, the outer end of said plunger projecting outwardly beyond said wall; and

means biasing said plunger outwardly.

* * * * *