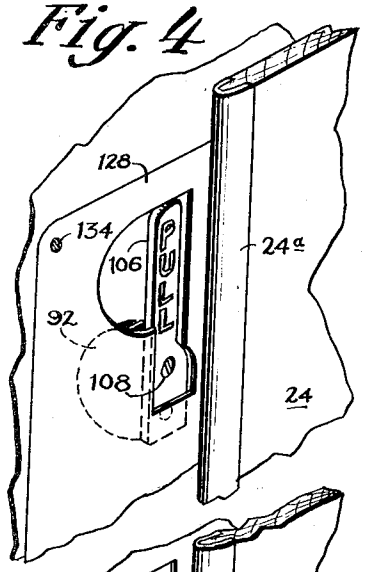
Oct. 30, 1956 H. SECKENDORF 2,769,166

FIRE ALARM STATION

Filed Feb. 21, 1955

Fig. 4



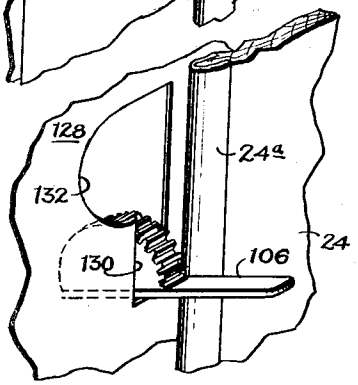


Fig. 5

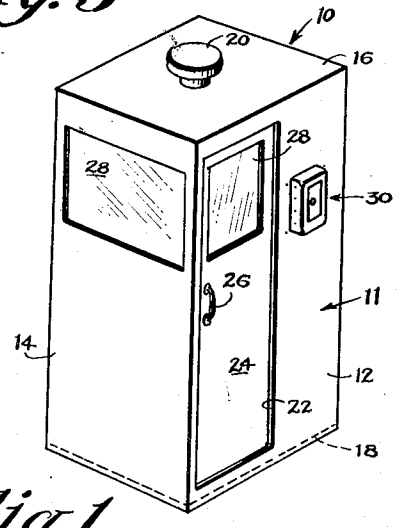


Fig. 1

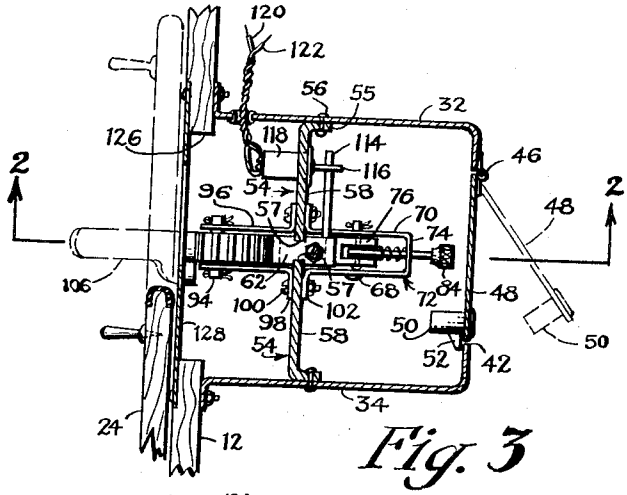


Fig. 3

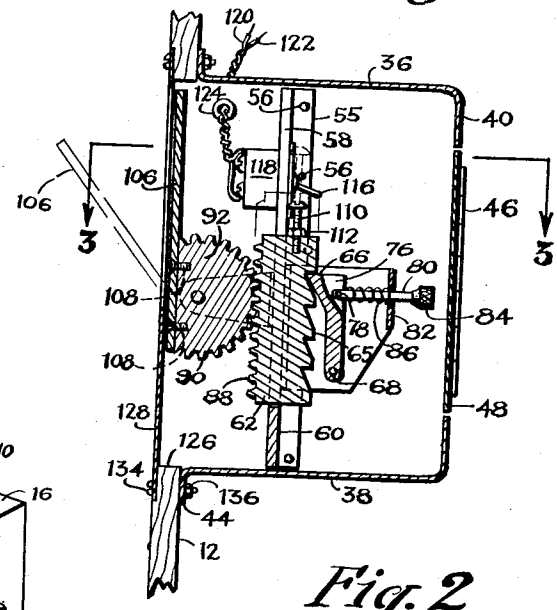


Fig. 2

INVENTOR

HUGO SECKENDORF

BY Kimmel & Crowell

ATTORNEYS

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FIRE ALARM STATION

Hugo Seckendorf, Albany, N. Y.

Application February 21, 1955, Serial No. 489,479

4 Claims. (Cl. 340—304)

This invention relates to a fire alarm signal booth, and more specifically, the invention pertains to a fire alarm signal both having means therein for detaining a person who transmits an alarm.

One of the primary objects of this invention is to provide fire alarm signal booth with means whereby a party operating the alarm signal is compelled to remain in the booth, thereby tending to prevent irresponsible false alarms and further assuring that the party turning in the alarm will be at hand to direct the firemen to the place where the fire exists.

Another object of this invention is to provide an improved system for turning in fire alarms by means of the provision of a booth for the fire alarm box having a door that is normally closed, but left unlocked, and that may be readily opened by any person for the purpose of turning in an alarm, and by pivoting a crank-lever in the booth normally ready for use and so connecting it with the operating mechanism of the box that a partial turn of the lever will send in a call.

A still further object of this invention is to connect the crank-lever for turning in the call with concealed mechanism whereby the door is closed and securely locked as the mechanism of the alarm box is operated, the person turning in the call is thereby securely locked within the booth from which he can only be released by a person who responds to the call having a key for unlocking a closure member set into the casing of the alarm who then manually releases the door securing means.

A still further object of this invention is to provide a fire alarm signal station which is inexpensive to manufacture, non-complex in construction and assembly, and durable in use.

Other and further objects and advantages of the present invention will become more evident from a consideration of the following specification when read in conjunction with the annexed drawing, in which:

Figure 1 is a perspective view of a fire alarm signal station constructed in accordance with the teaching of this invention.

Figure 2 is a vertical cross-sectional view of the fire alarm signal mechanism taken on the horizontal plane of line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a horizontal cross-sectional view taken on the horizontal plane of line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is an enlarged fragmentary perspective view illustrating the relative positions of the crank-lever and the adjacent side of the sliding door for the booth just prior to the operation of the crank-lever of the alarm.

Figure 5 is an enlarged fragmentary perspective view illustrating the relative positions of the crank-lever and the adjacent side of the sliding door for the booth after the operation of the crank-lever for sending in an alarm.

Referring now more specifically to the drawing, reference numeral **10** designates, in general, a fire alarm

signal station constructed in accordance with the teachings of this invention. The station **10** comprises a substantially rectangular booth **11** and includes oppositely disposed spaced and parallel pairs of side walls **12** and end walls **14** (only one of each being illustrated in the drawing). A substantially rectangular top wall **16** extends across the upper ends of the side and end walls **12** and **14**, respectively, and if desired, the booth **11** may also have a floor or bottom wall **18**. It is preferred to mount on the top wall **16** a light **20** having a distinctive color to facilitate the location of the station **10** at night.

One of the side walls **12** is provided with a vertically elongated substantially rectangular opening **22** across which extends a door **24** slidably mounted for reciprocation to its open and closed positions within the booth **11**. A door actuating handle **26** (only one being shown in the drawing) is mounted on each side of the door **24** to facilitate its movement. Unbreakable panes of glass **28** may be set in the door **24** and one or more of the side and end walls **12**, **14**, if so desired.

The alarm box is generally indicated at **30** and is substantially rectangular in configuration. The box or casing **30** includes a pair of spaced substantially parallel confronting side walls **32**, **34**, a pair of spaced substantially parallel confronting top and bottom walls **36**, **38**, and an end wall **40** having a centrally positioned substantially rectangular aperture **42** formed therein.

The side, top and bottom, and the end walls are preferably integrally formed, and the top and bottom walls as well as the side walls are provided with a laterally and outwardly turned continuous flange **44** adjacent the open end of the casing **30**, the flange **44** being integral with the named associated walls.

A hinge **46** pivotally connects a closure member **48** for swinging movement toward its open or closed positions, and a key operated lock **50** having a detent **52** is mounted on the closure member with the detent normally engaging behind a marginal edge portion of the end wall **40** adjacent the lower end of the aperture **42** when the closure member is in its closed position.

A plate **54** having a pair of oppositely disposed side flanges **55** is secured to the side walls **32**, **34** by rivets **56**, and the plate is formed with a substantially rectangular slot **57** to provide a pair of oppositely disposed guide arms **58** and a bight portion **60**.

An elongated substantially rectangular metallic block **62** has a longitudinally extending groove **64** formed in the opposite sides thereof in parallel realtionship, and is adapted to receive therein the confronting sides of the guide arms **58** on which the block **62** is mounted for vertical reciprocation. The bight portion **60** serves as an abutment to limit the downward movement of the block **62**.

One longitudinally extending lateral edge of the block **62** is provided with a plurality of ratchet teeth **65** adapted for engagement by a pawl **66** pivotally mounted on a pin **68**, the opposite ends of which are supported on the arms **70** of a substantially U-shaped bracket **72** having a bight **74**.

The pawl **66** is recessed at its upper end to form a pair of side walls **76** between which is supported a pivot pin **78** to which one end of an elongated rod **80** is pivotally connected. The rod **80** extends through an aperture formed in the bight **82** and terminates at its other end in an enlarged knurled head **84**. A helicoidal spring **86** is mounted on and surrounds the rod **80** with one end thereof engaging the side walls **76**, and the other end thereof abutting against the bight **82**. The pawl **66** is, consequently, constantly biased for movement in a direction toward the ratchet teeth **65**.

The oppositely disposed longitudinally extending lateral

edge of the block 62 is connected with a gear rack 88 which meshes with the teeth 90 at the circumference of a sector gear wheel 92. The gear wheel 92 is pivotally mounted on a pivot pin 94, the ends of which are supported between a pair of brackets 96 having flanges 98 secured to the plate 54 and to the flanges 100 integrally formed with the bracket 72 by means of bolts and nuts 102, 104, respectively.

One end of an elongated lever 106 is secured by screws 108 across the chord of the sector gear wheel 92 and is normally substantially vertically disposed.

The upper end of the block 62 is provided with an internally threaded tap to receive an elongated screw 110 on which is threaded a lock nut 112. The screw is adjusted and locked relative to the block 62 so that the head thereof will engage the top wall 36 before the gear rack overruns the gear teeth 90 when the lever 106 is pivoted in a counter-clockwise direction, reference being made to Figure 2 of the drawing.

One side of the block 62 carries a laterally extending switch actuating arm 114 which, upon vertical upward movement of the block 62, is adapted to be engaged by the arm 114 and to pivot upwardly into switch closing position a toggle member 116 of a conventional toggle switch 118 connected by leads 120, 122 in an electric fire alarm circuit. Resilient means (not shown) constantly tends to bias the toggle member 116 for downward movement to effect an opening of the switch 118. Any conventional means may be employed to secure the switch 118 to that arm 58 adjacent the arm 114.

As is seen in Figures 2 and 3, the leads 120, 122 extend laterally through an insulated bushing 124 mounted in the side wall 32.

The side wall 12 having the door 24 is provided with an opening 126 and the open end of the alarm casing 30 is connected thereacross exteriorly of the booth 11 at a point adjacent the inner vertical edge 24a of the door 24. A substantially rectangular face plate 128 having a vertical slot 130 makes junction at its upper end with an enlarged slot 132. The plate 128 is mounted on the side wall 12 interiorly of the booth 11 and is oppositely disposed with respect to the casing 30 with the slot 130 and a portion of the slot 132 confronting the lever 106. The plate 128 and the casing 30 are secured to the side wall 12 by bolts 134 and nuts 136, the bolts extending through the flange 44.

In operation, and assuming that the door 24 is in its closed position as shown in Figure 1 and that the alarm mechanism is in its ready condition as shown in Figures 2 to 4, inclusive, and that an individual has located a fire or other emergency requiring the services of the fire department, he opens the door 24 and enters the booth. With the door in its open position the door extends across the lever 106 making it necessary to close the door 24 to gain access thereto. The door 24 is then closed and the lever 106, now being exposed, is pulled downwardly. Downward movement of the lever effects upward movement of the block 62 which carries the arm 114 upwardly, the latter engaging and operating the toggle member 116 of the switch 118 to close the alarm circuit.

With the downward movement of the lever 106 it moves into the path of movement of the door 24 to prevent the opening thereof and simultaneously therewith the pawl 66 engages one of the ratchet teeth 65 and locks therein to prevent upward movement of the lever 106. Thus the individual turning in the alarm is held within the booth 11 until a fireman or other officer arrives on the scene and places the proper key in the lock 50. Operation of the key effects a withdrawal of the detent 52 whereby the door or closure member 48 may be pivoted to its open position. Thereafter the operator pulls the knot 84 outwardly to move the pawl out of engagement with its associated ratchet tooth and the released block 62 returns, under the force of gravity, to its normal position as shown in Figure 2 and in so moving, it returns the lever 106 to its normal vertical position. The door 24 may now be moved to its open position and the alarm operator is released from the booth 11.

It should be noted that the engagement of the pawl 66 with the second ratchet tooth 65 causes insufficient movement of the arm 114 to operate the toggle member 116. However, this same movement is sufficient to move the lever 106 into the path of movement of the door 24 to preclude the opening thereof thereby securing within the booth any individual who merely tampered with the lever 106.

With the lever 106 operated to close the switch 118, the operator thereof is securely detained within the booth 11 and in event of a false alarm the operator is promptly apprehended.

The above described invention could also be used in connection with the summoning of police, and finds utility in many other fields.

Having described and illustrated one embodiment of this invention in detail, it will be understood that the same is offered by way of example, and that the invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. A fire alarm station comprising a booth having a normally closed door extending across an access opening thereto, means slidingly mounting said door on said booth for movement to its open and closed positions, a fire alarm mechanism mounted on said booth exteriorly thereof, lever means movable in one direction into the path of movement of said door towards its open position and to effect operation of said alarm mechanism, and said mechanism including means for locking said lever means against movement out of said path of movement of said door towards its open position.

2. A fire alarm station comprising a booth having a door therefor mounted for sliding movement across the access way toward its open and normally closed positions, an alarm mechanism mounted on said booth exteriorly thereof and having a pivoted lever actuating member, said lever being pivotal in an arc extending across the path of movement of said door upon movement of said door towards its open position, and means locking said lever in said path of movement.

3. A fire alarm station comprising a booth having a door therefor mounted for sliding movement across the access way toward its open and normally closed positions, a substantially rectangular casing having an open end, means securing said open end of said casing to said booth exteriorly thereof, said booth having an opening formed therein and communicating with said open end of said casing, a lever pivotally mounted on said casing for actuating alarm mechanism disposed therein, said lever being pivotal in an arc extending across the path of movement of said door as said door is moved in a direction towards its open position thereby preventing movement of said door to its open position, and ratchet teeth supported in said casing and cooperating with said lever to prevent said lever from being pivoted out of the path of movement of said door towards its open position.

4. A fire alarm station comprising a booth having a plurality of substantially rectangular side and end walls and a top wall extending across the upper ends of said side and end walls, one of said side walls having an access way formed therein, a door mounted on said booth for sliding movement toward its open and closed positions, said door normally being in its said closed position, a substantially rectangular casing for enclosing an alarm actuating mechanism, said actuating mechanism comprising a substantially U-shaped vertically positioned plate extending transversely of said casing intermediate the opposed open and closed ends thereof, an elongated substantially rectangular block having a vertically extending groove formed in the opposite sides thereof, said block slidably receiving the adjacent sides of said U-

shaped member within said grooves whereby said block may be vertically reciprocated, a plurality of ratchet teeth projecting laterally from one edge of said block, a pawl mounted on said U-shaped member for engagement with said ratchet teeth, a gear rack projecting laterally from the oppositely disposed edge of said block, a sector-shaped gear wheel mounted on said U-shaped member and meshing with said gear rack, a lever fixedly secured to the chord of said gear wheel and normally disposed in vertical position, means for securing said casing to one of said side walls of said booth, said side wall having a transverse opening extending therethrough and communicating with the open end of said casing, said lever being adapted for pivotal movement in an arc traversing said opening, said lever upon being pivoted

out of its normally vertical position being disposed in the path of the leading edge of said door as said door is moved to its open position, an electric switch connected in an alarm circuit and having a toggle operating arm, said switch being mounted on said U-shaped member, an arm fixedly secured to one of said sides of said block and extending in the path of said toggle, said lever upon being pivoted across the path of said door effecting movement of said block whereby said arm engages said toggle to close said switch to effect said alarm, and said pawl engaging said ratchet teeth to prevent rotation of said lever in a direction away from said path of movement of said door.

No references cited.