United States Patent

Cartledge

[15] **3,644,920**

[45] **Feb. 22, 1972**

[54] COMBINATION SUPPORT AND ALARM SYSTEM

[72] Inventor: **Melvyn T. Cartledge,** 57 Mobile Avenue, N.E., Atlanta, Ga. 30305

[22] Filed: **Jan. 27, 1969**

[21] Appl. No.: **794,305**

[52] **U.S. Cl.** **340/280,** 340/275

[51] **Int. Cl.** **G08b 13/14**

[58] **Field of Search** 340/280, 283, 275, 281

[56] **References Cited**

UNITED STATES PATENTS

1,105,504	7/1914	Gargon	340/280
3,040,141	6/1962	Whildin et al	340/281 X
2,683,260	7/1954	Lavelle	340/280
2,754,498	7/1956	Lavelle	340/280
2,965,890	12/1960	Robillard	340/280
3,145,375	8/1964	Webb	340/280

Primary Examiner—John W. Caldwell
Assistant Examiner—Scott F. Partridge
Attorney—Newton, Hopkins & Ormsby

[57] **ABSTRACT**

A panel mounts a hook having an upturned end and which is adapted to support an article and an actuator bar is pivoted to the panel and overlies the hook so that if the article is removed from the hook, the bar is displaced. An alarm circuit is actuated by displacement of the bar and includes a normally open switch adapted to be closed by the bar when displaced, a signalling device and a holding relay for maintaining energization of the alarm circuit when once tripped. A key control switch is utilized to interrupt the effect of the holding relay.

1 Claims, 3 Drawing Figures

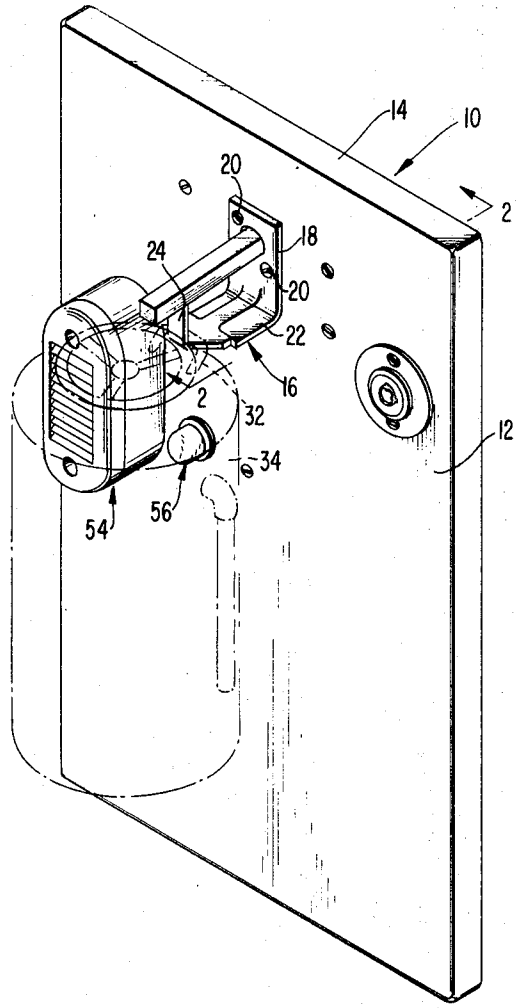


FIG. 1

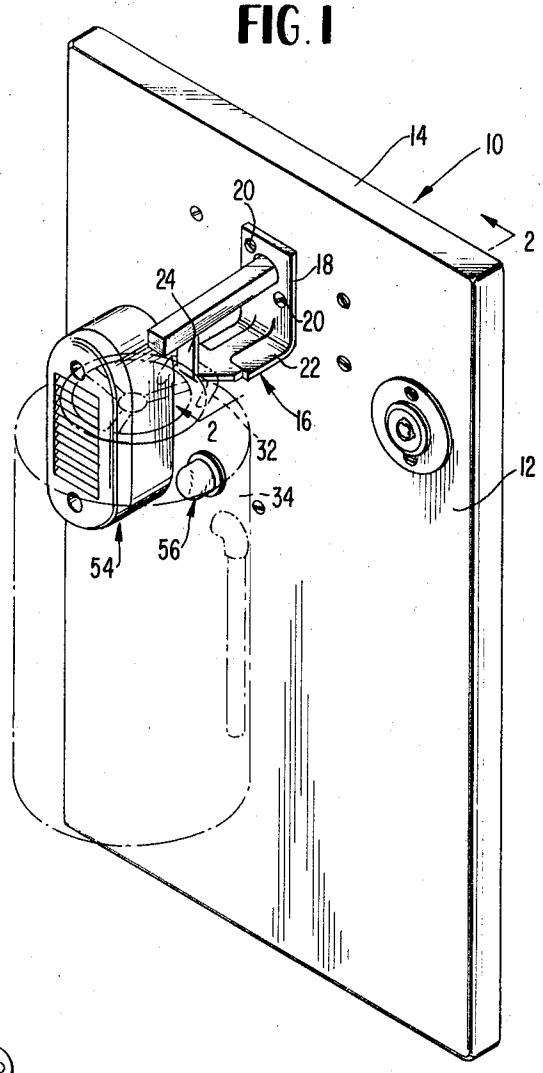


FIG. 2

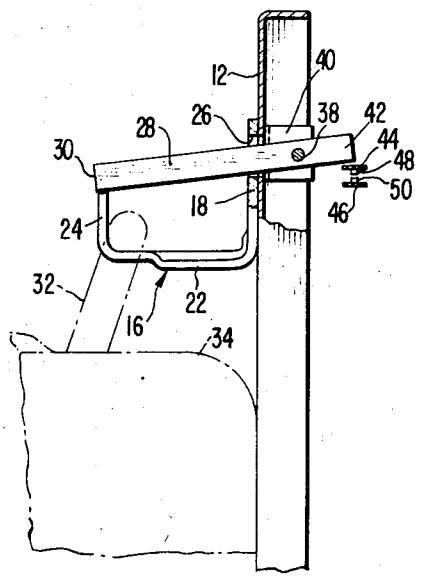
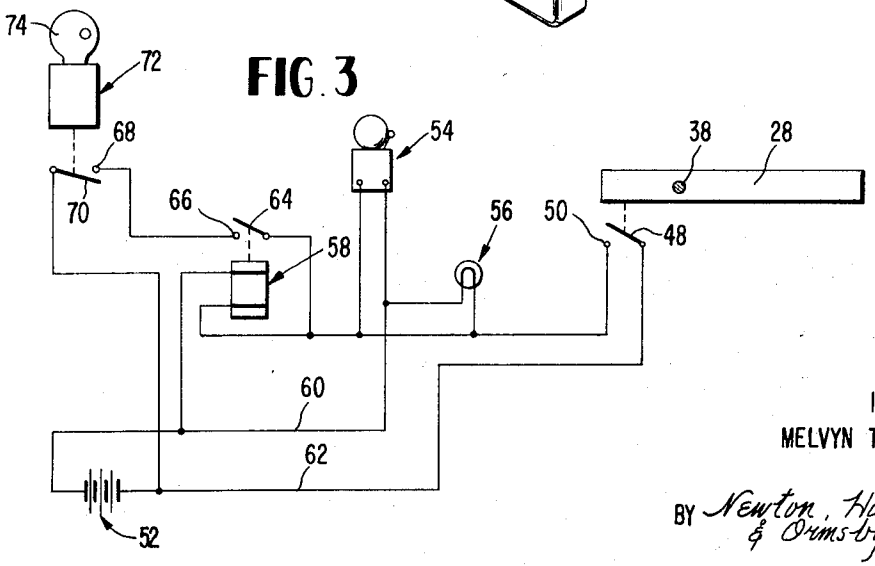


FIG. 3



INVENTOR
MELVYN T. CARTLEDGE

BY Newton, Hopkins & Ormsby

ATTORNEYS

COMBINATION SUPPORT AND ALARM SYSTEM

BACKGROUND OF THE INVENTION

In office buildings and other public places where fire extinguishers and like equipment are required to be provided, it has become increasingly more prevalent to experience vandalism or theft of these articles. Moreover, petty larceny and theft such as purse snatching and more serious crimes such as assault are becoming more common in public buildings, particularly in office buildings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing a combined support and alarm system according to the present invention;

FIG. 2 is an enlarged partial section taken substantially along the plane of section line 2—2 in FIG. 1 and showing details of the actuator bar and its association with the energizing switch; and

FIG. 3 is a circuit diagram of the alarm system.

BRIEF SUMMARY OF THE INVENTION

Accordingly, it is of primary concern in connection with this invention to provide a device which performs two basic functions, that of providing a convenient support for fire extinguishers and like pieces of necessary equipment and to provide an alarm system in conjunction therewith which will register an alarm if attempted theft or actual theft of the article is attempted.

Essentially, the present invention involves the utilization of an article-supporting hook member and an overlying actuating bar associated therewith in which the actuating bar, when displaced as by removal or attempted removal of the article from the hook, actuates an alarm circuit which includes a holding relay which maintains the alarm circuit energized when once tripped.

The device may take the form of a panel having the various components mounted thereon and which may be installed as a unit at various designated and necessary locations throughout a public building. The alarm systems of the various combined article-supporting and alarm devices may be connected to a central control panel whereat tripping of the individual alarm is registered, such control panel being conveniently located, for example, in a building guard's office or the like.

The construction of the present invention is such that theft of the device, without registering an alarm, is impossible and, to this end, the actuating bar is so constructed so that even if it is cut in an attempt to steal the article supported, there is every likelihood that an overbalancing tendency of the bar will cause actuation of the alarm circuitry nevertheless. Further advantages of the present invention are that the installations as above specified will also provide a deterent to crime committed in buildings in general and will give greater confidence to the employees for it becomes a convenient and simple matter simply to hand trip the actuator bar and thus register the alarm and summon help from appropriate personnel.

DETAILED DESCRIPTION OF THE INVENTION

As may be seen more clearly in FIG. 1, the illustrative embodiment of the invention includes a mounting panel indicated generally by the reference numeral **10** and which may include a main body portion **12** having a marginally extending flange **14** and which panel may be disposed in covering relationship to a suitable wall recess within the public building in which the device is used. A hook assembly indicated generally by the reference numeral **16** is disposed in outstanding relationship to the front face of the panel assembly and will be seen to include a base portion **18** rigidly affixed as by fasteners **20** to the face of the panel, a substantially horizontally and outwardly projecting body portion **22**, and an upstanding free end portion **24**.

The base portion **18** of the hook assembly is provided with an opening **26**, see particularly FIG. 2, through which an actuating bar **28** is projected, the outer free end portion **30** of the actuating bar being disposed in overlying relation to the free end portion **24** of the hook device and resting thereon substantially as is shown in FIG. 2. Thus, the bail or handle **32** of the fire extinguisher **34** or like piece of equipment may be engaged over the hook **16** and the disposition of the bar **28** is such that attempted removal of the fire extinguisher will cause the bar **28** to be pivotally displaced about its pivot pin mounting **38** as shown in FIG. 2. For this purpose, a suitable mounting bracket **40** may be provided on the rear face of the panel main body portion **12** to support and carry the pivot pin **38**, substantially as is shown. The rear end portion **42** of the bar is disposed in closely overlying relationship to a movable contact lever **44** cooperating with a further contact member **46** such that when the bar is displaced about its pivot pin **38**, the two contacts **48** and **50** will engage to complete the circuit shown in FIG. 3.

The circuit shown in FIG. 3 may employ a self-contained source of DC energy as indicated by the reference character **52** or a suitable transformer may be utilized since the circuit employed may be either DC or AC. In any event, a buzzer **54**, a light **56**, and a holding relay **58** are disposed in parallel across the conductors **60** and **62** and the circuit between these two conductors is completed upon closing of the switch contacts **48** and **50**, as will be evident. The holding contacts **64** and **66** of the holding relay **58** are in series with the normally open contacts **68** and **70** of a key control switch indicated generally by the reference character **72**. Thus, once the circuit has been energized, it will remain energized due to closing of the contacts **64** and **66** until the appropriate personnel has inserted his key **74** and momentarily opened the contacts **68** and **70**.

If desired, the buzzer and/or light may be remotely located, as in the guard's room, but, in any event, it is desirable that some central display system be provided to immediately identify actuation of any one of the alarm systems in a given building.

The present invention, therefore, is well adapted to carry out the objects and attain the ends and advantages mentioned as well as others inherent therein. While the presently illustrative embodiment of the invention is given for the purpose of disclosure, and is disclosed in an independent system, the system may be used with automatic fire alarm systems, manual fire alarm systems, or automatic or manual burglary alarm systems or other similar types of systems. Numerous changes in the details of construction and arrangement of parts may be made which will readily suggest themselves to those skilled in the art and which are encompassed within the spirit of the invention and the scope of the appended claims.

What is claimed as invention:

1. A combined article support and alarm system comprising in combination a hook including a base portion, an outwardly projecting body portion carried by said base portion and an upstanding free end portion extending from the outermost end of said body portion, a bar extending from the vicinity of said base portion across to the upper end portion of said free end portion and resting thereon so that an article resting on said hook cannot be removed without lifting said bar, a switch operatively connected with said bar in such a manner that the lifting of the bar will close the switch, a source of electric current, an alarm connected to said source of current through said switch and adapted to be energized by the closing of said switch, a relay also connected to said source of current through said switch and adapted, when energized, to close both a second circuit through said alarm and a holding circuit for said relay independent of said switch, and a key controlled switch for opening said holding circuit to cause the relay to be deenergized and to break said second circuit, said bar being pivoted adjacent the base portion of the hook and the end of the bar opposite to the end of which rests on the hook carrying one contact of said first mentioned switch, the other contact of said switch being fixed and so positioned as to be engaged by the first contact when the bar is lifted.