United States Patent [19]

King et al.

[11] **3,832,705**

[45] **Aug. 27, 1974**

[54] **ALARM DEVICE**

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[21] Appl. No.: **369,871**

[52] **U.S. Cl.** ..... **340/280,** 340/321, 340/384 E

[51] **Int. Cl.** **G08b 15/00**

[58] **Field of Search** ..... 340/280, 321, 384 E

[56] **References Cited**

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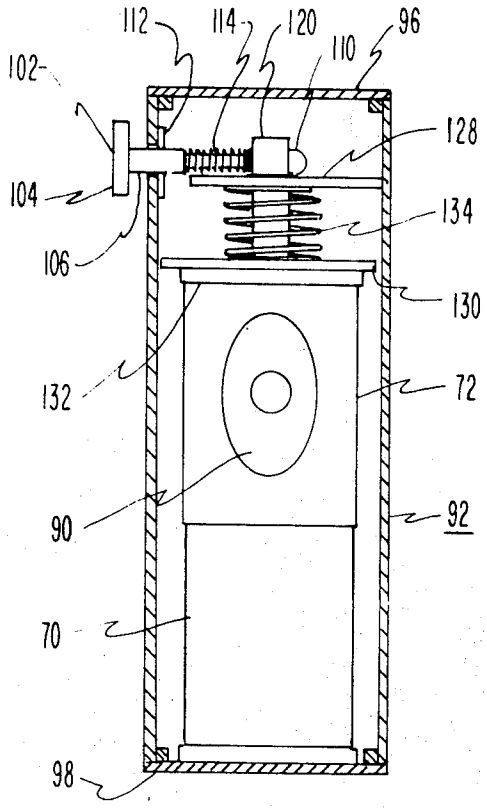
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Primary Examiner—Thomas B. Habecker

[57] **ABSTRACT**

A personal security device that is readily carried by hand and that includes an alarm activating unit that can be preset and restrained by a finger so that when released the activating unit automatically separates from the alarm device setting off a signal generator to produce continuous alarm signals.

18 Claims, 22 Drawing Figures



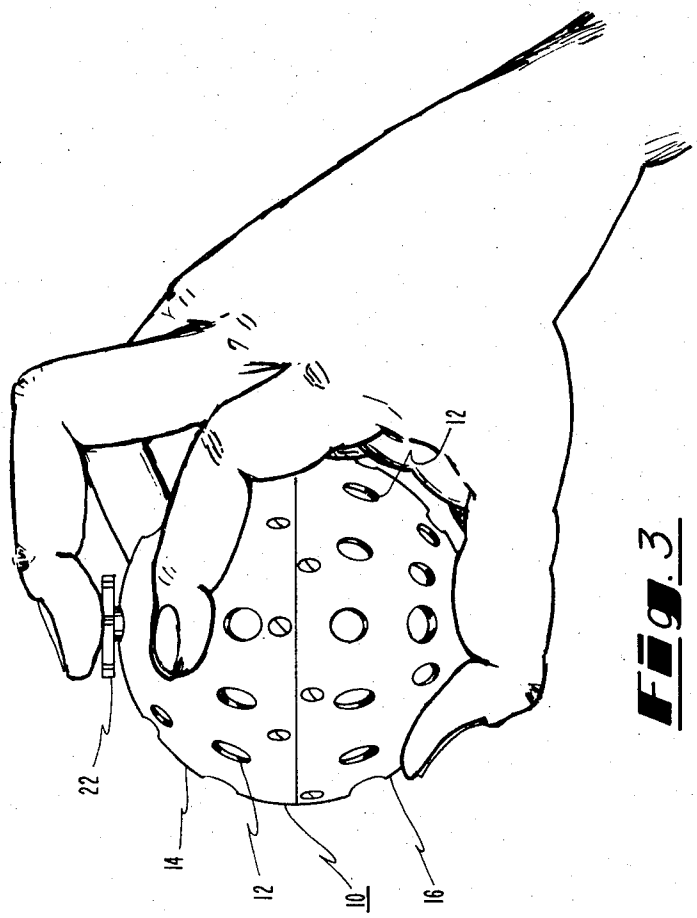


Fig. 3

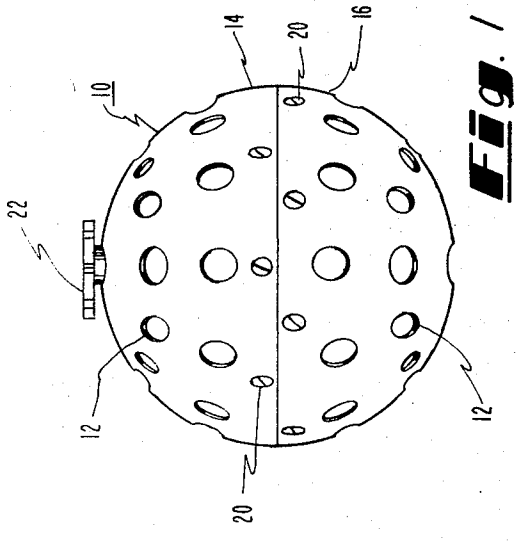


Fig. 1

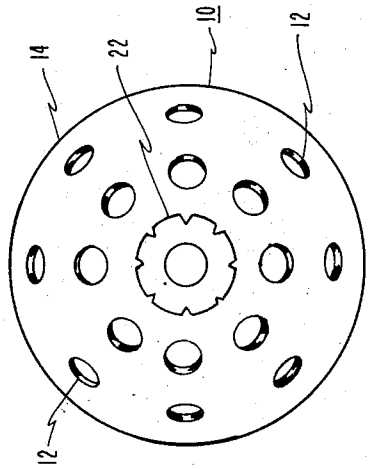


Fig. 2

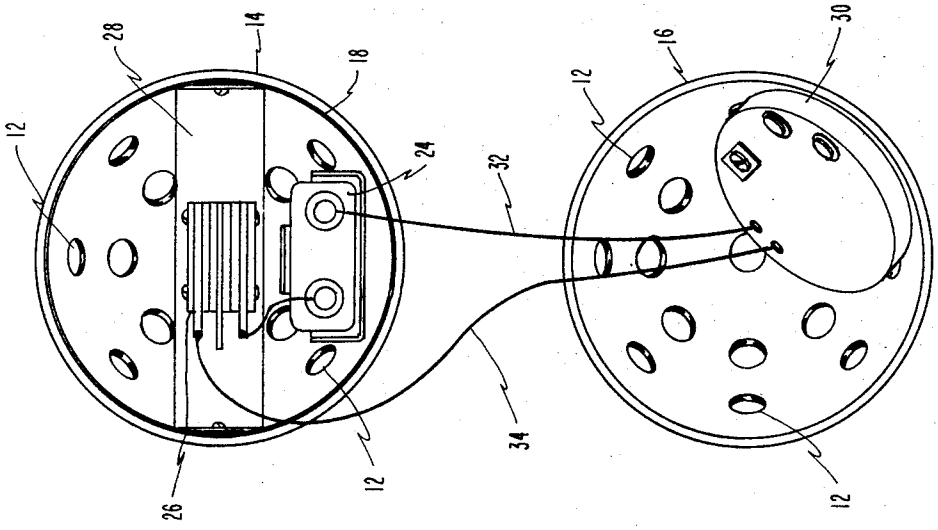


Fig. 5

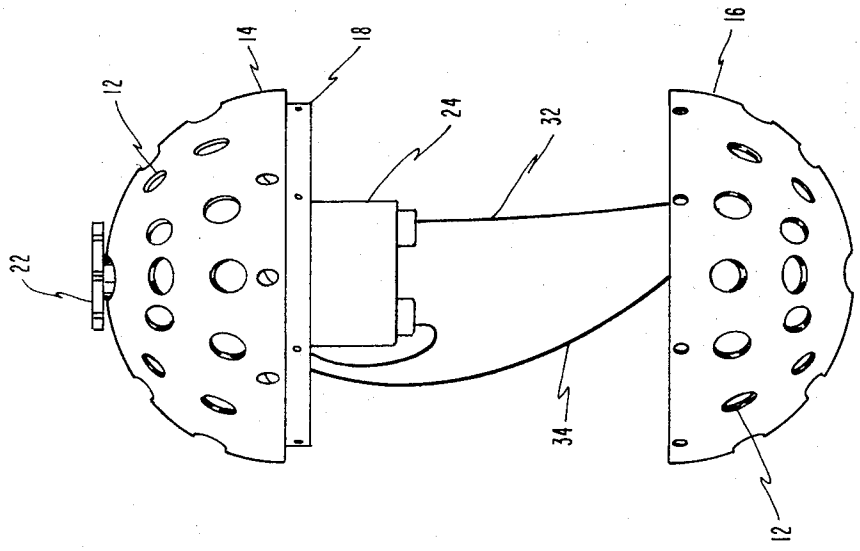


Fig. 4

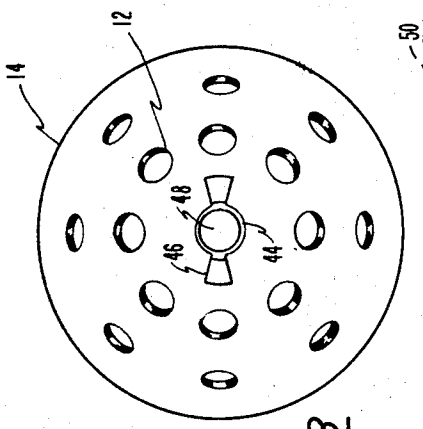


Fig. 8

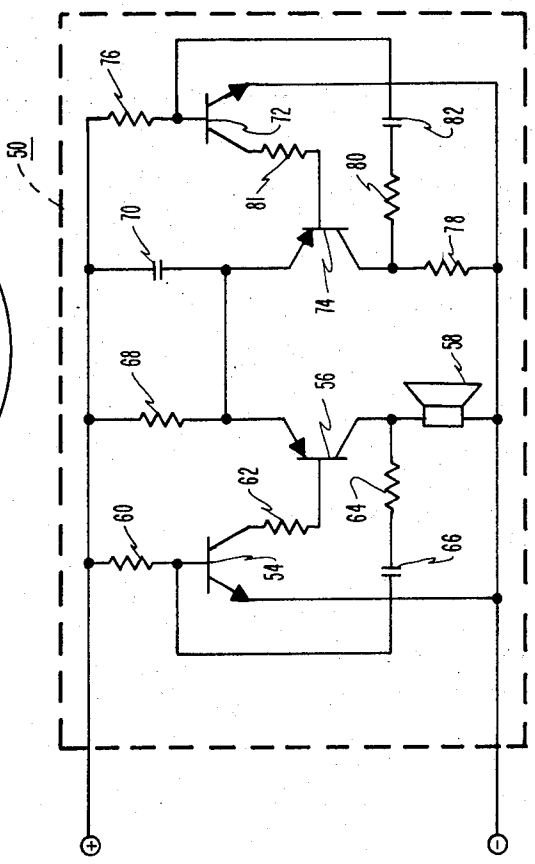


Fig. 10

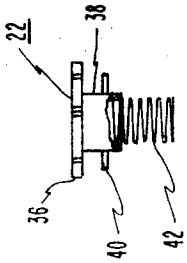


Fig. 7

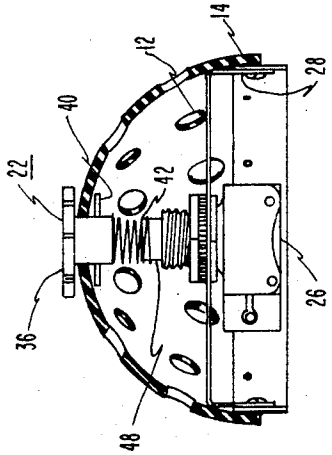


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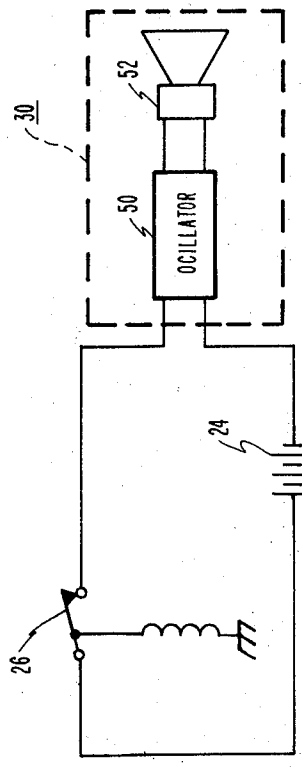


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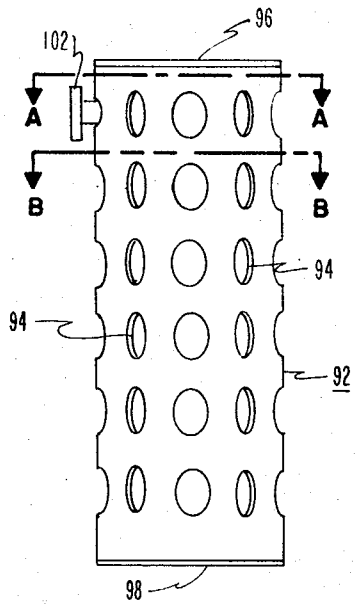


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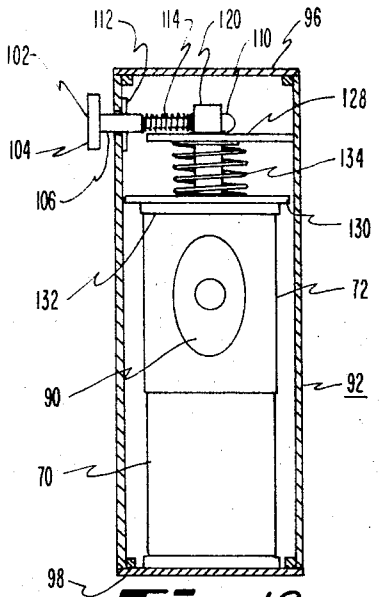


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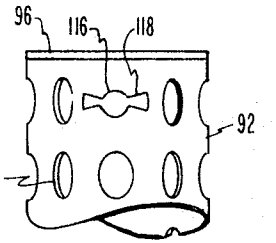


Fig. 13

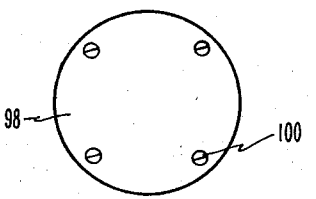


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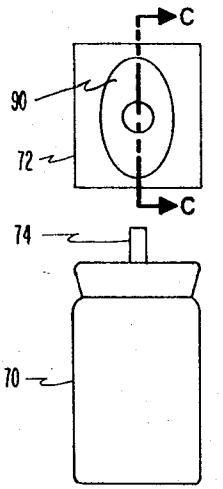


Fig. 18

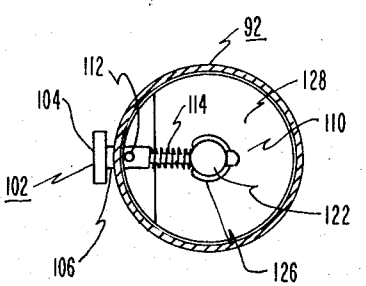


Fig. 15

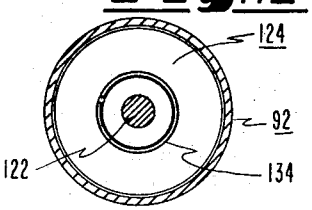


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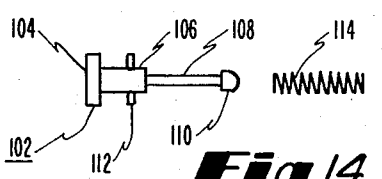
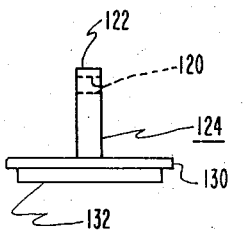


Fig. 14



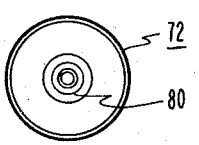


Fig. 19

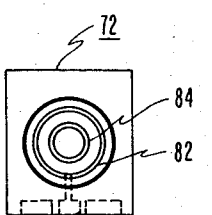


Fig. 20

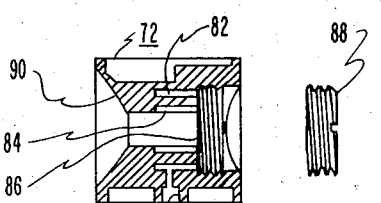


Fig. 21

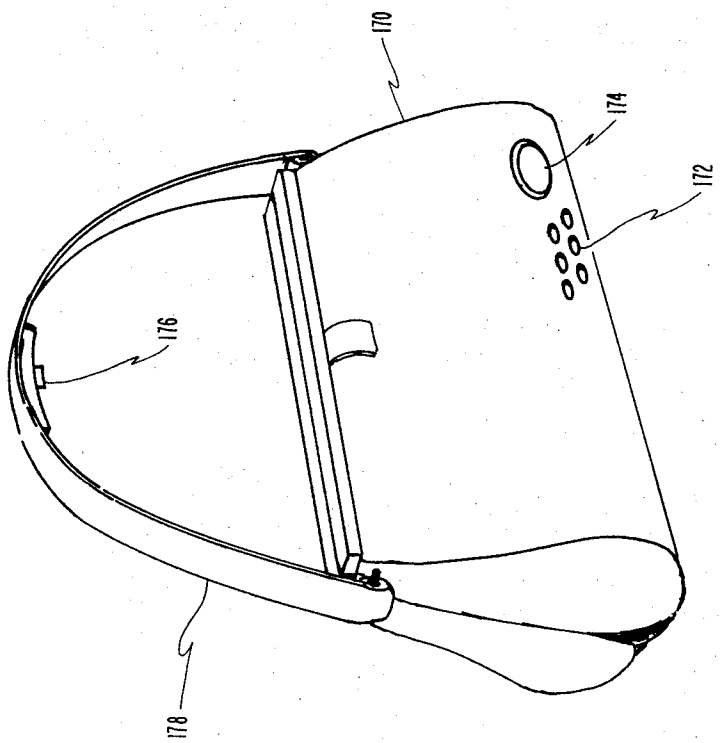


Fig. 22

ALARM DEVICE

BACKGROUND OF THE INVENTION

This invention pertains in general to alarm devices, and more particularly to personal hand carried devices that can be readily set off to generate alarm signals in the event of an attack.

Muggings, a type of robbery wherein a victim is physically assaulted or restrained while being robbed, have been increasing in occurrence over the years and may now account to well over one half the robberies in the United States. The victims are those that are burdened with packages that impede their defense, individuals traveling alone, particularly at night, and the elderly who are too feeble to defend themselves. The muggings occur outdoors in the streets and also indoors in common walkways, or hallways. The chances of being mugged are substantially increased in, or near, high crime areas, such as, older city residential areas, slums, and poorly lighted streets.

Often an attack on a victim is made by two muggers, one who surprises the victim from behind by locking an arm chokingly around the victim's neck, while the other empties the victim's pockets. The attack often occurs as a surprise even though the victim may be guarding against such a possibility. In most cases, the victim can do little, if anything, to fend off the attack. It would be highly desirable if some sort of simple and inexpensive device could be provided for persons that are succeptable to muggings that can be set off in the event of an attempted attack and thereby act as a deterent to such muggings. The alarm device should be inexpensive, small, light weight, and portable, so that it can be readily carried in the palm of the hand or fit within a purse. Furthermore, the alarm device must be capable of being set off even in the event of a complete surprise attack.

It is therefore an object of this invention to provide a new and improved alarm device that is relatively inexpensive, small, light weight and readily portable by hand.

It is also an object of this invention to provide a new and improved alarm device that is capable of being set off even in the event of a complete surprise attack and in cases therein the victim is virtually incapacitated.

It is also an object to this invention to provide a new and improved alarm device that is capable of being immediately set off in the event of an attack to provide a continuous alarm signal which can not be stopped without destroying the alarm device.

It is also an object of this invention to provide a new and improved alarm device that can be preset so that the mere release thereof will set off the unit.

It is also an object of this invention to provide a new and improved alarm device that is physically small so that it can be carried wihtin the palm of the hand, that will be set off by merely releasing the alarm device, and that has a shape that allows the alarm device to roll away from the victim and out of the reach of the attacker in the event the alarm is dropped.

BRIEF DESCRIPTION OF THE FIGURES

FIG. **1** is a side view of a first embodiment of the alarm device of the invention including a spherical housing.

FIG. **2** is a top view of FIG. **1**.

FIG. **3** is an illustration of the alarm device of FIG. **1** carried within the palm of a hand and restrained from activation by a finger.

FIG. **4** is an exploded side view of the alarm device of FIG. **1** with the two hemispheres forming the spherical housing separated.

FIG. **5** is an exploded view of the alarm device of FIG. **1** with the two hemispheres forming the spherical housing separated and rotated to show an inside view of the alarm device.

FIG. **6** is a cut away view of one of the hemispheres showing the alarm device release mechanism.

FIG. **7** is a side view of a pushbutton assembly forming a part of the alarm device release mechanism.

FIG. **8** is a top view of the alarm device of FIG. **1** with the pushbutton removed.

FIG. **9** is a block diagram of the electrical alarm signal generating means included in the first embodiment of the invention.

FIG. **10** is an electrical schematic diagram of a dual oscillator circuit for use in the alarm signal generator of FIG. **9** for generating a modulated alarm signal.

FIG. **11** is a side view of second embodiment of the alarm device of the invention including a cylindrical housing.

FIG. **12** is a cut away side view of the alarm device of FIG. **11** disclosing the alarm device release mechanism and the pneumatic alarm signal generating means.

FIG. **13** is a partial side view of the alarm device of FIG. **11** with the pushbutton removed.

FIG. **14** is an exploded view of a portion of the alarm release mechanism of FIG. **11.**

FIG. **15** is a cut away view of the alarm device of FIG. **11** taken along lines A—A.

FIG. **16** is a cut away view of the alarm device of FIG. **11** taken along lines B—B.

FIG. **17** is an end view of the alarm device of FIG. **11.**

FIG. **18** is an exploded view of the pneumatic signal generating means including a reservoir and an acoustical transducer.

FIG. **19** is a bottom view of the acoustical transducer of FIG. **18.**

FIG. **20** is a side view of the acoustical transducer of FIG. **18** with a plug and a diaphram removed.

FIG. **21** is a cut away view of the acoustical transducer of FIG. **18** along lines C—C with the plug removed.

FIG. **22** is a plane view of a purse including the alarm device of the invention.

BRIEF DESCRIPTION OF THE INVENTION

A personal security alarm device that can be enclosed within a housing of a size for conveniently carrying within a hand, or can be included within a hand carried purse, or like item. The alarm device includes an alarm signal generating means that is set off by an alarm actuation means. The alarm actuation means includes a manually operated actuating unit that extends from the housing or purse. The actuating unit has a first, or locked, position wherein the signal generating means is prevented from generating an alarm signal and a second, or release, position that, if manually unrestrained, the actuating unit will spring away from the housing and set off the alarm generating means to produce a continuous alarm signal. While the alarm device

in storage, or not in use, the actuating unit is positioned in the locked condition. When put in use the actuating unit is positioned in the release position and is manually restrained from activation while in the release position by pressure from a finger. In the event of an attack, the finger is released or the alarm unit is merely dropped and the actuating unit automatically separates from the alarm device setting off the alarm. In the event that no attacks occur, the actuating unit is returned to the locked condition. Hence, as can be seen, the alarm device of the invention can be preset, and in the event of the attack, even a complete surprise attack, the preset alarm can be set off by the mere movement of a finger or by dropping the device, which can be a result of automatic reflex or involuntary action.

If the alarm device is to be carried in the palm of the hand, the housing of the alarm device can have at lease one dimension having a generally circular configuration, such as for example a spherical or sylindrical shape, so that when the alarm device is dropped, or thrown, it can roll away from the person being attacked putting the alarm device away from the convenient reach of the attacker. The attacker is therefor faced with ignoring the alarm, or releasing the victim to silence the alarm. In any event, an alarm signal will be generated even if the victim can not cry out for help.

In a first embodiment of the invention, the alarm signal generating means comprises an oscillator circuit, a battery and a speaker. The alarm actuation means includes a switch including a first position for disabling the alarm signal generating means and resilient means for switching the switch to a second position for operating the signal generating means. The actuating unit, when in the lock position, maintains the switch in the first position and when in the release position enables the switch under the force of the resilient means to switch to the second position.

In a second embodiment of the invention, the signal generating means comprises a reservoir of pressurized gas having a valve for the release of pressurized gas therefrom, and a transducer that is responsive to pressurized gas flow therethrough to produce an alarm signal. The alarm actuation means, under the control of the actuation unit, operates the valve so that the transducer produces the alarm signal. The valve can be of the type that engages the transducer and is responsive to a force therefrom to open the valve. In such an arrangement the alarm actuation means, when actuated by the actuating unit, forces the transducer against the valve to actuate the alarm signal generating means.

DETAILED DESCRIPTION OF THE INVENTION

In accordance with a first embodiment of the invention illustrated in FIGS. **1–10,** the personal security or alarm device includes a spherical hollow shaped housing **10.** The housing **10** is of a size that can conveniently be carried within the palm of a hand (as illustrated in FIG. 3), having a diameter in the order of three inches. The housing **10** can be made of plastic, or metal, and should preferably be of sufficient strength to resist damage by stomping by foot. The housing **10** can be formed with a plurality of openings **12** throughout the circumference, or if greater strength is desired, only in the general location of a sound transducer contained therein. The spherical housing **10** is formed of two hemispheres **14** and **16** that are fastened together to form the sphere by any convenient means such as for example a ring **18** (FIGS. **4** and **5**) that fits within the hemispheres **14** and **16** that is secured thereto by a plurality of fastening devices such as the screws **20.** Extending from within the hemisphere **14** is an activation unit or pushbutton **22** that forms a portion of the alarm release mechanism.

As illustrated by the exploded views of FIG. **4** and **5,** the first embodiment of the alarm device includes an electrical sound generating means having a battery **24** and a normally closed spring actuated switch **26** within the hemisphere **14,** and an oscillator and a speaker combination **30** within the hemisphere **16.** The battery and the oscillator and the speaker can be conveniently mounted within the hemispheres **14** and **16,** respectively, by putty or cement or a bracket (not shown). Preferably, the battery and oscillator-speaker combination **30** should be mounted in a foam rubber type of material to absorb shock. The switch **26** is mounted in place by a bracket **28** secured to the hemisphere **14.** The oscillator-speaker combination **30** is connected to the switch **26** and the battery **24** via the wires **32** and **34** in a manner as illustrated by the schematic diagram of FIG. **9.** The oscillator **50** and speaker **52** can be a commercially available unit for producing a single frequency alarm signal, or can have the double oscillator configuration of FIG. **10** to produce a modulated alarm signal.

As illustrated in FIGS. **6** and **7,** the alarm activation unit or pushbutton **22** includes a circular cap **36** and a elongated rod **38** extending therefrom and that has a substantially smaller diagram than the cap **36.** A pin **40** extends through and beyond the rod **38** near the end opposite the cap **36.** Resilient means, such a coil spring **42,** is attached to one end of the rod **38.** The pushbutton **22** is positioned in the hemisphere **14** by inserting the spring **42** and the rod **38** through an opening **44** with the ends of the pin **40** aligned with the keyways **46.** After the pushbutton **22** is so inserted, it is rotated approximately ninety degrees so that the ends of the pin **40** engage the inner surface of the hemisphere **14** and prevent the pushbutton **22** from releasing, defining a first or locked position of the pushbutton. If desired, a groove can be formed within the hemisphere **14** to further capture the ends of the pin **40.** When the pushbutton **22** is inserted into the hemisphere **14** as illustrated in FIG. **6,** the spring **42** engages the plunger **48** of the switch **26** to operate the switch **26** and disconnect the oscillator **50** from the battery **24.**

As long as the pushbutton **22** is in the off or locked condition (the pin **40** is not aligned with the keyways **46**), the switch **26** remains open and the alarm device is deactivated. Prior to entering a potentially dangerous area, or to going out at night, the user will rotate the pushbutton **22** so that the pin **40** is aligned with the keyway **46** with a finger as illustrated in FIG. **3** while simultaneously maintaining the pushbutton **22** depressed (defined as a second or release position of the pushbutton). In this release position the pushbutton **22** is preset for actuating the alarm device. The alarm device is now carried in the palm of the hand with one finger continuously depressing the pushbutton **22.** Should the person be attacked, he need merely release the pushbutton **22** by dropping the alarm device. The pushbutton **22** under the force of the spring **42** will automatically spring out of the housing **10** allowing the switch **26** to close to set off the alarm device. The attacker is

now faced with the decision to continue the attack, or to silence the alarm device. The spring **42** should be of sufficient strength to propel the pushbutton **22** (when released) a sufficient distance so that it can not be conveniently picked up and used to shut off the alarm device. Although the pushbutton **22** is illustrated as being coupled with the switch **26** via the spring **42**, it should be understood that if the spring mechanism within the switch **26** is sufficiently strong, the switch spring can be used to propel the pushbutton **22** and the spring **42** eliminated. Further, the spherical shape of the housing **10** allows the alarm to roll away when so thrown by the carrier thereby putting the alarm device out of the easy reach of the attacker. The alarm device, when released, immediately produces a continuous distress alarm signal. Others in the vicinity can respond to the alarm signals by quickly summoning the police. Furthermore, the alarm signal may be a sufficient distraction to the attacker to allow the victim to defend himself, escape, or even cause an abandonment of the attack.

It is desireable that the alarm device generates a distinct sound that can be associated with a distress condition. Such a distress signal can be generated by the use of a dual oscillator circuit such as that illustrated in FIG. **10**. The first oscillator circuit includes the transistors **54** and **56**, an acoustical transducer **58**, resistors **60**, **62**, and **64**, and a capacitor **66**. The first oscillator circuit also shares a resistor **68** and a capacitor **70** with the second oscillator circuit, which includes the transistors **72** and **74**, resistors **76**, **78**, **80** and **81** and a capacitor **82**. The resistive and the capacitive components in the first and second oscillator circuits are selected so that the first oscillator circuit generates a high frequency audio carrier signal and the second oscillator circuit generates a lower frequency switching signal. The second signal modulates the first signal because the two oscillator circuits share the common emitter resistor **68**. The capacitor **70** provides a low impedance path for the first (higher frequency) signal. The transistor **56** drives the acoustical transducer **58**, which can be, for example, a small loudspeaker of the type used in small portable transistor radios. A loud modulated sound is generated by the oscillator circuits that has a characteristic intermittent nature designed to attract attention.

In accordance with a second embodiment of the invention illustrated in FIGS. **11–21**, the alarm signal generating means includes an aerosol container **70** and a pneumatic acoustical transducer **72**. The container **70** and the transducer **72** are commercially available devices. The container **70** includes a valve **74** that extends out from the container that when depressed, releases pressurized gas from the container through the valve **74**. The transducer **72** fits over the end of the container **70** so that the valve **74** fits into a groove **80** (FIGS. **19–21**). When the transducer **72** and container **70** are forced together, the top end of the groove **80** engages the valve **74** and depresses the valve thereby causing high velocity gas from the container **70** to flow into the two ring cavities **82** and **84** in the transducer. The cavities **82** and **84** are covered by a thin sheet of metal, or diaphram **86**, which is held in place by a plug **88** that screws into the transducer **72**. The rush of the gas through the cavities **82** and **84** and along the diaphram **88** produces a screaming type alarm signal out of the transducer outlet or horn **90**.

The container **70** and the transducer **72** are illustrated in FIGS. **11–17** as contained within a cylindrical housing **92**. As in the case of the spherical housing of FIGS. **1–10**, the size of the cylindrical housing **92** is such that it can be conveniently carried within the palm of the hand, such as for example being approximately 2 inches in diameter. The housing **92** should also be of sufficient strength to resist destruction by stomping by foot. The housing **92** includes a plurality of openings **94** throughout its circumference, or if greater strength is desired, only in the location of the transducer **72**. The housing **92** can be conveniently sealed after assembly at opposite ends by the end plates **96** and **98** fastened to the housing **92** by the screws **100**.

An alarm activation unit, such as a pushbutton **102**, extends out from the housing and forms a part of the alarm release mechanism. The pushbutton **102** includes a circular cap **104** and a first elongated rod **106** extending therefrom having a substantially smaller diameter than the cap **104**. A second elongated rod **108** having a substantially smaller diameter than the first rod **106** extends from the first rod and includes a detent finger **110** at the end thereof. A pin **112** extends through the first rod **106** near the end opposite the cap **104**. Resilient means, such as a coil spring **114**, fits over the detent finger **110** and the second rod **108** and engages the end of the first rod **106**. The pushbutton **102** and the spring **114** are inserted into the housing **92** through an opening **116** (FIG. **13**) with the ends of the pin **112** aligned with the keyway **118**. The spring **114** is compressed between the end of the rod **113** and a plunger rod **122**. After the pushbutton **102** is so inserted, it is rotated 90° to a lock position wherein the ends of the pin **112** engage the inner surface of the housing **92** and prevents the pushbutton **102** from being released under the force of the spring **114**.

When the pushbutton **102** is inserted into the housing **92**, the detent finger **110** engages a cavity **120** in the rod **122** of the plunger **122**. The plunger rod **122** is mounted to fit loosely in a hole **126** extending through a circular wall **128**. The wall is secured to the inner cylindrical surface of the housing **92**, generally normal to the cylindrical axis and adjacent the hole **116**. A portion of the wall **128** is cut away to allow clearance for the pin **112** (as illustrated in FIG. **14**) so that the pushbutton **102** can be rotated. A circular piston **130** is attached to the other end of the rod **122** and includes a rim **132** for capuring the free end of the transducer **72**. A coil spring **134** is placed between the piston **130** and the wall **128**.

When initially assmebling the alarm device of FIGS. **11–21** the spring **134** is placed around the rod **122**. The end of the rod **122** is inserted through the opening **126** in the wall **128** and the spring **134** is depressed. The pushbutton **102** and spring **114** are inserted through the keyway **116** so that the detent finger **110** engages the cavity **120** in the rod **122** and the pushbutton **102** is then rotated 90°. The detent finger **110** engages the wall **128** and prevents the plunger **124** from moving under the force of the compressed spring **134**. The transducer **72** is placed over the container **70** and inserted into the housing **92** so that the end of the transducer **72** fits wihtin the rim **132**. The housing **92** is now sealed at opposite ends.

As in the case of the first embodiment of FIGS. **1–10**, the pushbutton **102** of the second embodiment of FIGS. **11–21** is preset for actuation by rotating the

pushbutton **102** until the pin **112** is aligned with the keyways **118** (release position), however maintaining the pushbutton **102** depressed so that the detent finger **110** continues to engage the cavity **120.** The alarm device is carried in the palm of the hand with a finger continuously depressing the pushbutton **102.** Should an attack occur, the pushbutton **102** need merely be released and the detend finger **110** will automatically spring away from the rod **122** causing the plunger **124,** under the resilient force of the spring **134,** to force the transducer **72** against the container **70** and set off the alarm device to produce a shrill shreek. The alarm device will continue to provide the alarm signal until either the container **70** is emptied or the alarm device is destroyed. As in the case of the spherical alarm device, the cylindrical shaped alarm is also capable of rolling away when released or thrown.

Although the alarm device of the invention has been described in the contex of a spherical or cylindrical unit that can be carried within the palm of the hand, the alarm device of the invention can also be used in a variety of other ways, such as for example being built within a purse **170** as illustrated in FIG. **22.** The transducer of the alarm device can be mounted within the purse adjacent the holes **172.** In the case of an alarm device including the electrical signal generating means of FIGS. **1–10,** two pushbuttons **174** and **176,** or a single pushbutton can be used. One pushbutton **176** is located in the purse handle **178,** and the other pushbutton **174** is located in the body of the purse **170.** In the case of the alarm device including the pneumatic signal generating means, a single pushbutton **174** is used. The pushbutton **174** and **176** can be preset to the release position as previously described above and held in place by a finger as the purse **170** is carried. In the event of a purse snatch, the preset pushbutton will be released and the alarm will automatically go off. The robber, as a result, will run off with a screaming purse, which will force the robber to immediately stop and empty the purse, empty the purse in flight, or simply get rid of the purse. In any event, the noise of the alarm will produce an embarrassing situation for the purse snatcher, perhaps to the point of foiling the robbery attempt. Quite often a purse snatcher will cut through the purse strap in an attempt to snatch a purse. In such a case two sets of wires can be provided from the switch **176** (a complete circuit through each half of the strap) so that shen one half of the strap is cut, the alarm circuit can be completed through the other half of the strap.

Hence, in accordance to the invention, when a person leaves work at night or enters a dangerous area, the person need merely preset the pushbutton in the alarm device to the release position. The alarm device is set off by merely releasing the pushbutton. If the person reached a safe location, the pushbutton is returned to the deactivated of lock position and the alarm device can be stored until needed at a later date. In the event of an attack, the alarm device is easily set off. The alarm device will continue to produce distress signals until destroyed, or the aerosol container emptied, or the battery discharged. In any event, the distress signals will distract the attacker even to the point of attempting to destroy the device. The distraction may allow the victim the opportunity to escape or to protect himself. The attacker is forced with the decision to continue the mugging during the distress signals or to abandon the attack. The distress signals will attract attention of others so that help can be much more quickly summoned, and even perhaps resulting in the capture of the mugger. In the case of the purse snatcher, the alarm signal will draw attention to the robber as he attempts to flee with the purse. Rather than facing the possibility of capture, the purse snatcher may abandon the robbery. In any event, the alarm device of the invention provides an arrangement for summoning help even in the case of a complete surprise attack.

What is claimed is:

1. An alarm device comprising:
a housing;
alarm signal generating means mounted within the said housing, and
alarm actuation means contained within the said housing coupled to said signal generating means to control the operation thereof, said alarm actuation means includes a detachable actuating unit extending from said housing for the manual operation thereof and includes means for receiving said actuating unit providing a lock position for capturing said actuation unit and preventing the operation of said signal generating means and providing a release position wherein said actuating unit, if unrestricted by manual force, is adapted to spring away to separate from said housing causing said actuation means to operate the signal generating means.

2. An alarm device in claim **1** wherein:
at least one dimension of said housing is of a generally circular configuration so the housing can be rolled, said housing is formed with a plurality apertures extending through the housing for the transmission of the alarm signal, and the size of the housing being such that it can be carried within the palm of the hand.

3. An alarm device as defined in claim **2** wherein:
said housing has a generally spherical shape.

4. An alarm device as defined in claim **2** wherein:
said housing has a generally cylindrical shape.

5. An alarm device as defined in claim **1** wherein:
said signal generating means includes a oscillator circuit, a speaker and a battery, and
said alarm actuation means includes a spring operated switch coupled for operation by said actuating unit, when released, for enabling said signal generating means.

6. An alarm device as defined in claim **5** wherein:
said receiving means includes a portion of the housing formed with an aperture including a keyway, and
at least a portion of the actuating unit has the general shape of the keyway so that the actuating unit can be inserted through the keyway into the release position and then roated beyond the keyway to the lock position.

7. An alarm device as defined in claim **6** including:

resilient means in said alarm actuation means for resiliently urging said actuating unit out from said housing.

8. An alarm device as defined in claim **1** wherein:
said signal generating means includes a reservoir of compressed gas, a valve for releasing pressurized gas from the reservoir, and a transducer positioned to receive gas flow from said valve and is respon-

sive to the flow of gas therethrough to produce an alarm signal, and

said alarm actuation means operates the valve to release pressurized gas flow through the transducer.

9. An alarm device as defined in claim **8** wherein:

said valve is opened by depressing the valve into the reservoir;

said transducer positioned adjacent said valve, and

said alarm actuation means, when operated, forces the transducer against the valve so that the valve is opened to produce pressurized gas flow through said transducer.

10. An alarm device as defined in claim **9** wherein:

said alarm actuation means includes resilient means for forcing the transducer against the valve; and

said actuating unit, when released, causes said resilient means to force the transducer against the valve.

11. An alarm device as defined in claim **10** wherein:

said receiving means includes a portion of the housing formed with an aperature including a keyway, and

at least a portion of the actuating unit has the general shape of the keyway so that the actuating unit can be inserted through the keyway into the release position and then rotated beyond the keyway to the lock position.

12. An alarm device comprising:

a hollow housing having at least one dimension having a generally circular shape so that the housing can be rolled, the housing being formed with a plurality of aperatures and the size of the housing being such that it can be conveniently carried within a hand;

signal generating means mounted within said housing including an oscillator, a speaker and a battery;

a switch connected to said signal generating means having a first position for inhibiting the signal generating means from operating and resilient means for switching the switch to a second position for causing the signal generating means to produce an alarm signal, and

switch actuation means, including a detachable actuating unit extending through an aperature formed in the housing for the manual operation of the switch actuation means and engaging said switch overcoming said resilient means to switch said switch to the first position, and including means for providing a lock position for said actuating unit for preventing the operation of the signal generating means and a release position wherein the actuating unit, if unrestricted by manual force, springs away to separate from said housing thereby causing said actuation means to continuously operate said signal generating means.

13. An alarm device as defined in claim **12** wherein:

said aperature receiving te actuating unit includes a keyway, and

a portion of the actuating unit has the general shape of the keyway so that when the actuating unit is inserted into the keyway and is aligned with the keyway the actuating unit is in the release position and when the actuating unit is thereafter rotated beyond the keyway, the actuating unit is in the lock position.

14. An alarm device as defined in claim **13** including:

additional resilient means coupled to said actuating unit so that when the actuating unit is inserted into the aperature including the keyway, the addition resilient means provides a force for urging said actuating unit out from said housing.

15. An alarm device comprising:

a hollow housing having at least one dimension having a generally circular shape so that the housing can be rolled, the housing being formed with a plurality of aperatures, and the size of the housing being such that it can be conveniently carried within a hand;

signal generating means mounted within said housing including a reservoir or pressurized gas, a valve for releasing gas from the reservoir, and a transducer responsive to gas flow from said valve and through the transducer to produce an alarm signal, and

alarm actuating means contained within the housing for controlling the operation of said valve, including a detachable actuating unit extending from said housing for manual operation of the alarm ectuation means, resilient means, and receiving means for providing a lock position for said actuating unit for preventing the operation of said signal generating means and providing a release position wherein the actuating unit, if unrestricted by manual force, springs away under the force of said resilient means to separate from said housing causing said actuation means to continuously operate the signal generating means.

16. An alarm device as defined in claim **15** wherein:

said valve is opened by depressing the valve into the reservoir;

said transducer positioned adjacent said valve, and

said alarm actuation means, when operated, forces the transducer against the valve so that the valve is opened to force pressurized gas through the transducer.

17. An alarm device as defined in claim **16** wherein:

said alarm actuation means includes additional resilient means for forcing the transducer against the valve when the alarm actuation means is operated.

18. An alarm device as defined in claim **17** wherein:

said receiving means includes a portion of the housing formed with an aperature including a keyway, and

at least a portion of the actuating unit has the general shape of the keyway so that when the actuating unit is inserted through the keyway and aligned with the keyway the actuating unit is in the release position and when the actuating unit is thereafter rotated beyond the keyway the actuating unit is in the lock position.

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