



Element B

Problem Statement

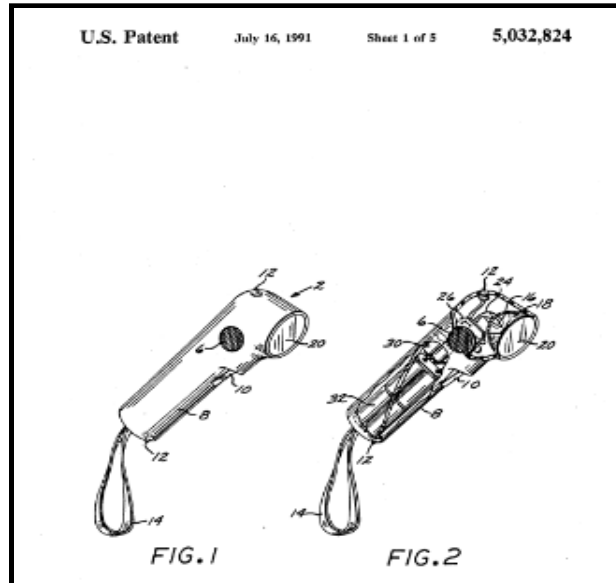
One in six women are a victim of sexual assault. Women from the ages 18 to 24 who don't have the physical means to fight back are the ones most commonly attacked. The victims afterwards then suffer mentally, physically, and financially for something that they weren't responsible for.

Introduction

When it comes to sexual assault there are many different inventions that have been created to try to help, but nothing has really solved the problem. It's such a big world issue, that it can't ever really be solved, just improved upon so that it can hopefully happen less. The inventions have ranged from more on the preventative side to more on the call for help side. When we were looking for previous products, we did research on the so called "best" products and looked at their reviews so that we could see what people liked about them and what people didn't like about them. This gave us the knowledge we needed to be able to see all sides of the problem.

Patent Research

Personal alarm



Patent number: 5032824

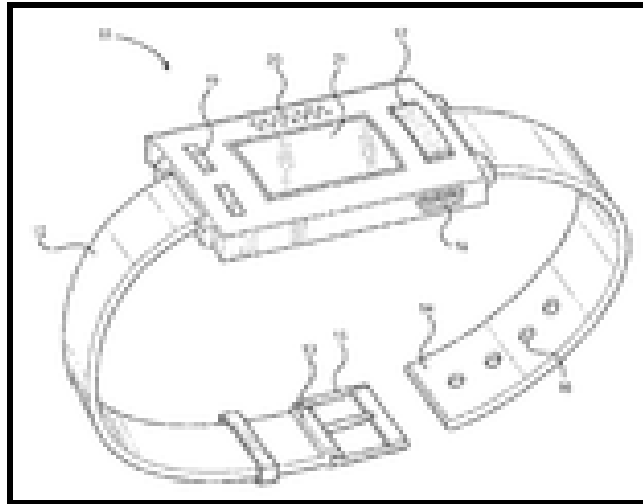
Abstract: A hand held personal alarm incorporating a high intensity light and loud horn and further incorporating a plurality of switches that are located a distance apart that prevents their actuation by the digits of a single hand or by pressing the alarm against a single surface. The switches provide the only means of deactivating the alarm once activated. An alternative embodiment includes a timing circuit that prevents deactivation of the alarm for a set period after activation. Both schemes prevent easy deactivation of the alarm by an assailant, thereby providing more protection than with conventional hand held alarms.

Date of Patent: July 16, 1991

Pros: Hard for assailant to deactivate, loud and distracting.

Cons: Can accidentally be activated, and could easily be taken away from the user by physical means or lost.

Emergency Alert Bracelet and Method of Use



Patent number: UUS20160203701A1S20160203701A1

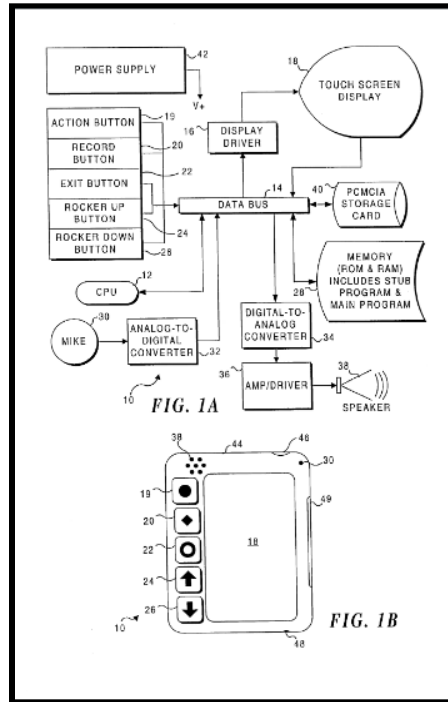
Abstract: An emergency alert bracelet for alerting others and drawing attention to the user when the user is in an emergency situation. The bracelet comprises a strap that can be adjustably secured on the wrist of a user. The bracelet includes a housing thereon that includes a warning light, a control switch, and one or more indicator lights. When a user operates the control switch, the warning light illuminates or flashes, an alarm unit produces an audible alert, and optionally a GPS chip transmits the location of the user to a third party, such as an emergency contact. The housing further includes a power source and indicator lights for indicating the charge status of the power source. Additionally, a charging port is provided for charging the power source of the device.

Date of Patent: January 14th, 2015

Pros: Exact location tracking, an alarm to alert bystanders, and it can be on your wrist constantly.

Cons: Will not work if battery is dead, and there is a potential that you could be out of transmitting service in rural areas

Personal Alarm



Patent number: US6760696B1

Abstract: Voice recording is initiated immediately upon pressing a record button on a digital computing device such as a palm computer. To enable an immediate response to the button being pressed without a delay that would be normally be incurred to load a user interface and a recording application, a stub program is continuously executed on the device, even when a main user interface program is not running. When the record button is pressed, the stub program immediately begins recording a digital signal corresponding to the sound waves incident on a microphone of the device in a compressed format. If the record button is depressed for more than a second, the recorded digital signal is stored in a file so that it can subsequently be played back, and if the record button was pressed for less than one second, the file is not retained. Sound recording can be initiated in an "eyes free" mode, e.g., while using the device under low ambient light conditions, or while engaged in another activity. Recording and playback are controlled by a user interface that is launched when the record button is initially pressed, if not already running. Sound files can be selected and played back at either a normal speed or at a substantially higher speed without any significant change in the frequency of the recorded sound, using control buttons provided on the hand-held computing device or the user interface that is provided on a touch screen display.

Date of Patent: June, 6th, 2004

Pros: The voice recorder gives the victim the opportunity to have proof of the attack after it happens, which can help tremendously in court, when trying to prosecute the attacker because it provides undeniable proof.

Cons: If the victim wasn't found and or the recorder was lost/ taken, then the recording wouldn't be of any use, and it's also not backed up anywhere so if it was damaged, that would be it.

Knife With Disposable Inserts



Patent number: 9168672

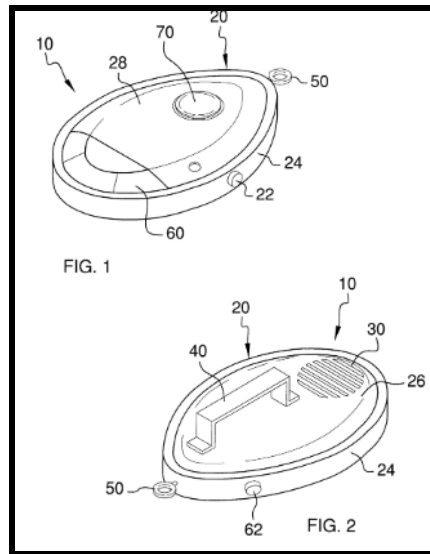
Abstract: A knife with disposable inserts. Either (1) a front side of the knife body has a cutting edge, the front side of the insert is removably mounted to a rear side of the knife body, and either (A) a rear side of the insert has a cutting edge, or (B) the rear side of the insert has a blunt face that forms a rear side of the knife; or (2) a rear side of the knife body has a blunt face that forms the rear side of the knife, the rear side of the insert is removably mounted to the front side of the knife body, and the front side of the insert has a cutting edge.

Date of Patent: October 27, 2015

Pros: Could be helpful in a dangerous situation where you need to defend yourself.

Cons: Easy to self injure, hard to open.

Wearable Personal Alarm Device



Patent: US20090289807A1

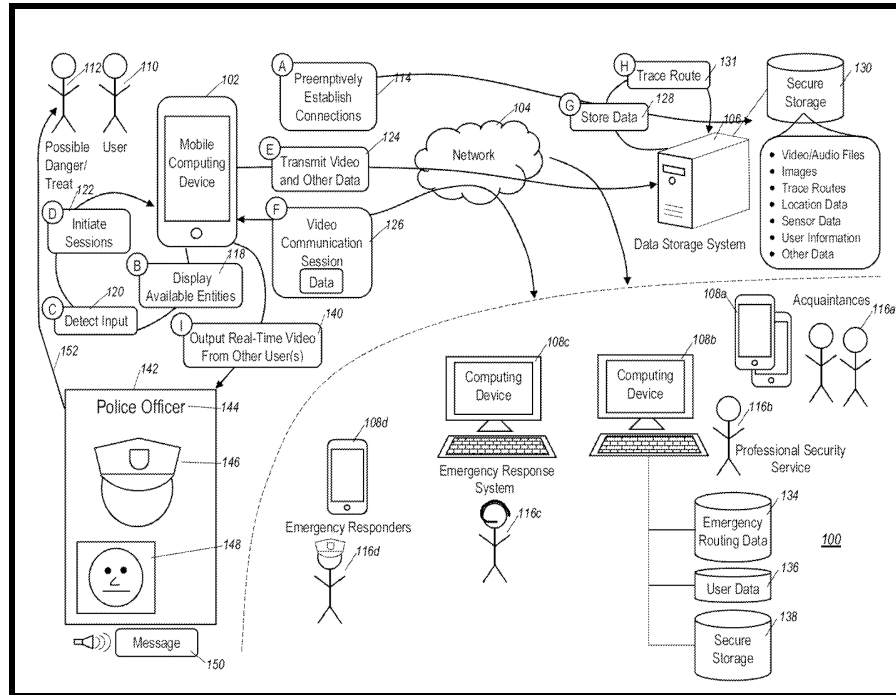
Abstract: A wearable personal alarm device that is constructed of an alarm body that has a length, width and thickness, a maximum value for any of the three dimensions is 3 inches; an on/off switch on the alarm body for turning on/off the device; a speaker on the alarm body for sounding an alarm; a strobe/flashlight for illuminating a visual alarm; a battery for providing power to the speaker and the strobe/flashlight; a panic button for activating the speaker strobe/flashlight; and a clip and an eyelet on the alarm body for wearing on a person clothing.

Date of Patent: November 26, 2009

Pros: Allows the wearer to record sound in the event of an attack, possibly easily accessible.

Cons: Not loud enough, easily activated, hard to turn off.

Mobile security technology



Patent:US14686069

Abstract: In one implementation, a computer-implemented method includes determining a location of a mobile computing device using one or more of a plurality of data sources; communicating, by the mobile computing device, with another computing device as part of a two-way video chat session over a first network connection, the communicating including transmitting the location of the mobile computing device; displaying, as part of the two-way video chat session, real-time video from the other computing device; recording video using one or more cameras that are accessible to the mobile computing device; and transmitting, over a second network connection, the video to a remote storage system for persistent storage.

Date of Patent: April 21, 2015

Pros: It can located the use by multiple means and the two way video link can be useful for authorities to asses the situation, and well as provide legal evidence.

Cons: Relies on phone and therefore requires you to have a phone, have it charged, and have it in reach which is not always possible.

Existing and Competitive Products



Sabre Self-Defense Alarm



Mini Voice Recorder



130 dB Personal Alarm



Runner Personal Alarm



Pink Key Knife

| | | | | | |
|--------------|---|---------------------|--------------------------------------|-----------------------|----------------|
| Company Name | Sabre | ATTo Digital | Vigilant Personal Protection Systems | Sabre | Tanking |
| Product Name | Personal Self-Defense Alarm On Key Ring | Mini Voice Recorder | 130 dB Personal Alarm | Runner Personal Alarm | Pink Key Knife |

| | | | | | |
|-----------|---|---|---|---|---|
| Price | \$7.93 | \$82.82 | \$15.99 | \$15.10 | \$9.99 |
| Specifics | Metal chain pin dual alarm with 120 dB siren | Voice activated recording device with 286 hours of recording. A 24 hour battery life and password protected memory. | A keychain personal alarm with push button, hidden off button, and backup manual whistle. | An arm strapped personal alarm that is triggered by pulling a metal ring. | A fold out knife disguised as an ordinary key. |
| Cons | Never worked, was not durable. Alarm does not turn off when you put the pin back in. Alarm not very loud. | Can't access files on computer. Stops working after a month. Very low sound resolution and voice activation doesn't work. | It is easily activated by accident. The off button does not work and it is not loud enough. | The strap to carry it falls apart and is not secure. The alarm does not always work. | The knife is very difficult to open, especially without given time to do so. |
| Pros | Easy to push buttons, and can alert bystanders to an emergency. | Can record evidence that can be vital to legal persecution | Gets rid of the bystander effect, by louding alerting people. | Is a convenient way for runners to be able to alert help when they don't have bags or pockets | A self defense method that could be easy to access, it can allow women to fight back. |

Conclusion

There is a large amount of products that are intended to help sexual assault. These products range from personal alarms to alert bystanders, discrete weapons for self-defense, mini recorders to record the interaction, and locating devices to alert contacts. All these products can only help sexual assault. It is such a global scale problem that no one product can fully fix it, merely reduce the chances and to help have proof after. That is why these already existing products don't solve sexual assault because a product, such as ours can only reduce the chances or prove it legally. They can not stop sexual assault completely only education and legal actions truly can.