EARTHQUAKE DETECTOR ALARM

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ABSTRACT

One can't ignore natural laws in spite of the many developments in science and technology. Nature has forced the scientific community to assume or predict some natural warnings. Earthquake is one among the foremost damaging natural activities which supply serious threat to areas close to major active faults toward land or geologic process zones offshore. Earthquake happens thanks to the fulminate unharnessed of huge quantity of energy from the earth's crust. Thanks to this energy earth generates some damaging waves referred to as unstable wave. It's been found that the unstable waves embrace shear wave, longitudinal wave and surface wave. The longitudinal wave and shear wave also are referred to as P-wave and S-wave. The P-wave's vibration direction and therefore the advancement square measure found to be same that is that the quickest in nature among the all waves. However, the damaging force of P-wave is found to be low. The S-wave's vibration is perpendicular to the forward direction, whose speed is under P-wave however the damaging force is high.

Key Words:9V battery , ON/OFF switch, buzzer ,red light, 1kilo ohm resistor

INTRODUCTION

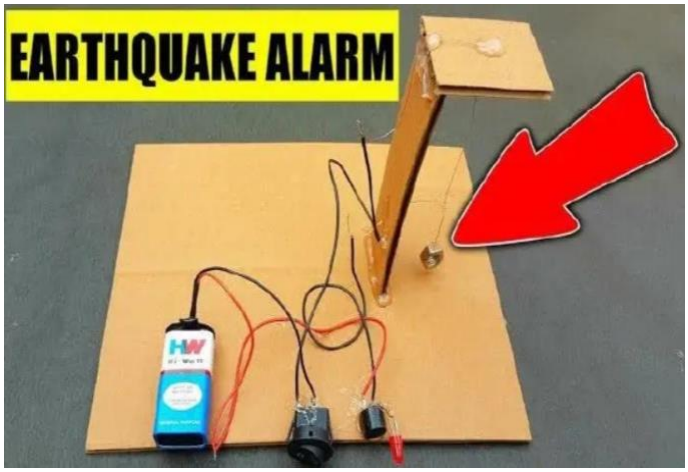
Early Earthquake Warning system is one among the helpful developments to avoid wasting human lives. EEW detects the P-waves and generates warning because the most damaging S-wave follows the P-wave. It's been re portable that some countries have already enforced EEW to rectifying earthquake hazards. But still several countries don't have EEW, because the price of implementation is simply too high. The design of low cost earthquake warning component which can be get by folks in their home to avoid wasting their lives at the time of earthquake. If the acceleration of the unstable wave is bigger than the predefined price, the system blows the alarm. This method may be utilized in multi-storey building because the alarm is connected wireless.

COMPONENTS REQUIRED

- 9V battery
- ON/Off switch
- Buzzer
- Red light
- 1 kilo ohm resistor
- Copper wire
- Steel nut
- Some wires
- Cardboard

EARTHQUAKE ALARM

Earthquake detector or an earthquake alarm is a device that senses earthquake and alerts people so that they can move for safety. We can find a lot of earthquake detectors in the market. Some smart phone apps are also exists. But it would be best if it is made at our house or at school. This detector helps to alert us from earthquake so that we can make plan for future. Many times this alarm can be life saver too. With simple materials and science concept we can easily make this cool alarm. This earthquake detector also can be great science project that can be demonstrated at science fairs.

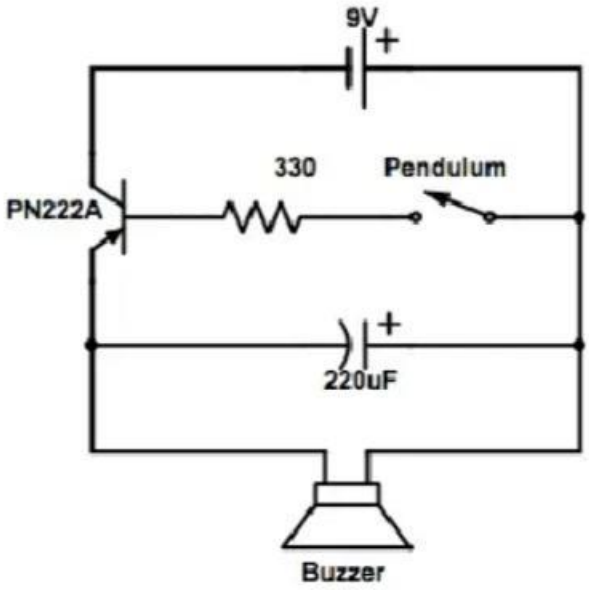


PROCEDURE

- First of all cut all the cardboard as above measurements. For this we have used a diymat, a metal scale and X-ACTOknife.
- With the help of hot melting glue we have glued the base of earthquake detector.
- As base is ready now make two towers. One small where we fix buzzer and other higher.
- Now arrange the wire . We make a small hole at the higher tower. Where we pass naked wire. At the end of this wire we have fixed three small metal nut. This makes wire vertically inclined. At the middle of this wire we put a metal hook having circular space at the middle.
- We fixed a 9 volt battery one end of base which is connects to battery connector. One end of battery connector is connected to higher tower. And next is connected to switch, buzzer, led and finally to the hook.
- Now when the switch is on and if wire touches the round hook then circuit is completed and buzzer is ring with glowing of led.

Note (i.e, led and buzzer are a diode. Which means that they pass current in only one direction.) We have to take in mind that current must be flow as rated or indexed

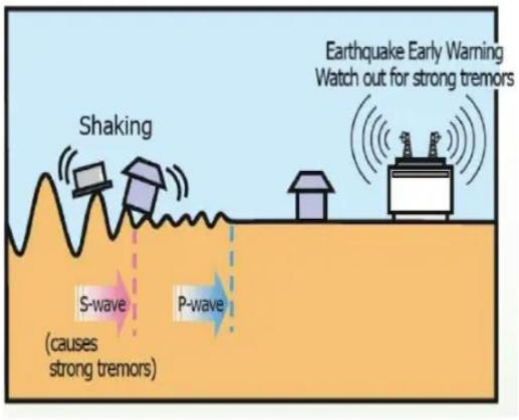
CIRCUIT DIAGRAM



ADVANTAGES

- The device which we are developing an earthquake detector help you wake up and alert the moment of the quake and move towards the safer side.
- The Quake Alarm can eliminate confusion, save valuable seconds and provide peace of mind. This device was said to be very accurate and would detect earthquakes from far and would not rely on shaking or movement in a location.

- Earthquakes strike without much warning.It may harm badly designed and constructed Buildings killing it's inhabitants.



DISADVANTAGES

- Timing
- The window of time from the announcement of an Earthquake Early Warning until the arrival of the main tremors is very short, i.e. a matter of seconds (or between several seconds and a few tens of seconds). In areas that are close to the focus of the earthquake, the warning may not be transmitted before strong tremors hit.
- False alarm
- When using data from only one seismograph, false Earthquake Early Warnings may occur as a result of noise from accidents, lightning or device failure.

CONCLUSION

Earthquake detector basically helps to alarm human beings from an upcoming earthquake so that we can take some precautionary action to prevent both human lives and extensive damage to property.

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