LEARN with DAWN

GLYCERINE FUSE:

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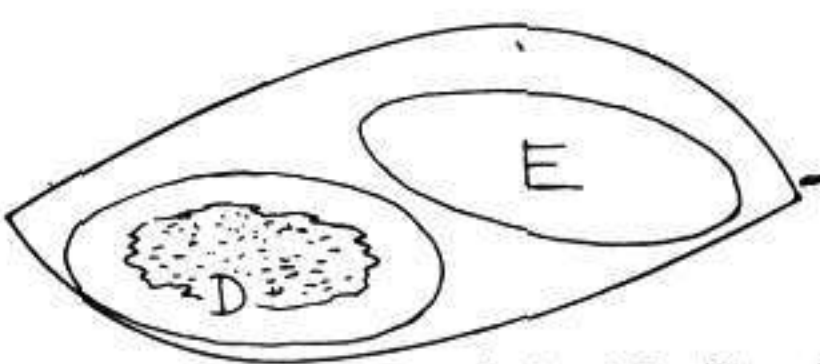
When pure glycerine comes into contact with very finely ground potassium permanganate, an intense flame is given off.

Potassium permanganate *(common name Condie's Crystals)* is used for all sorts of medicinal reasons including washing fruit and vegetables.

Unlike acid, glycerine does not eat through a capsule, but we can make a timing device as follows: YOU WILL *NEED: tube,ballpoint pen,*2 cork stoppers, glue, tissue paper, tape.

TO MAKE CLYCERINE FUSE:

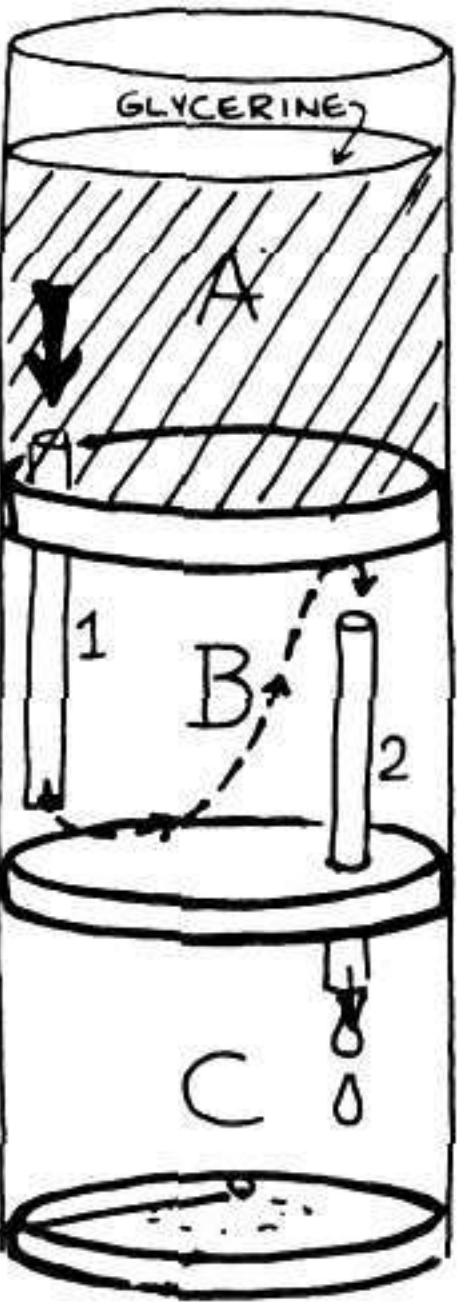
1) Take a length of plastic or glass tube about 10cm. long, open at both ends. A tube for tablets will do - you can cut open the closed end.



You now have three separate chambers A, B and C completely sealed off from one another.

2) Remove the fine inner ink-tube from a ball-point pen and wash it clean. Cut 2 pieces approximately 2 and a half centimetres long from it.

3) Make two cork stoppers that will exactly fit in the tube. Make a small hole in each so that the ball-pen tube can be pushed through the



hole. Push the tube through the hole in the cork so that it sticks out 2mm. Glue around the ball-pen tube so that it is firmly in place and make *sure you have a perfect seal which* allows no leaks.

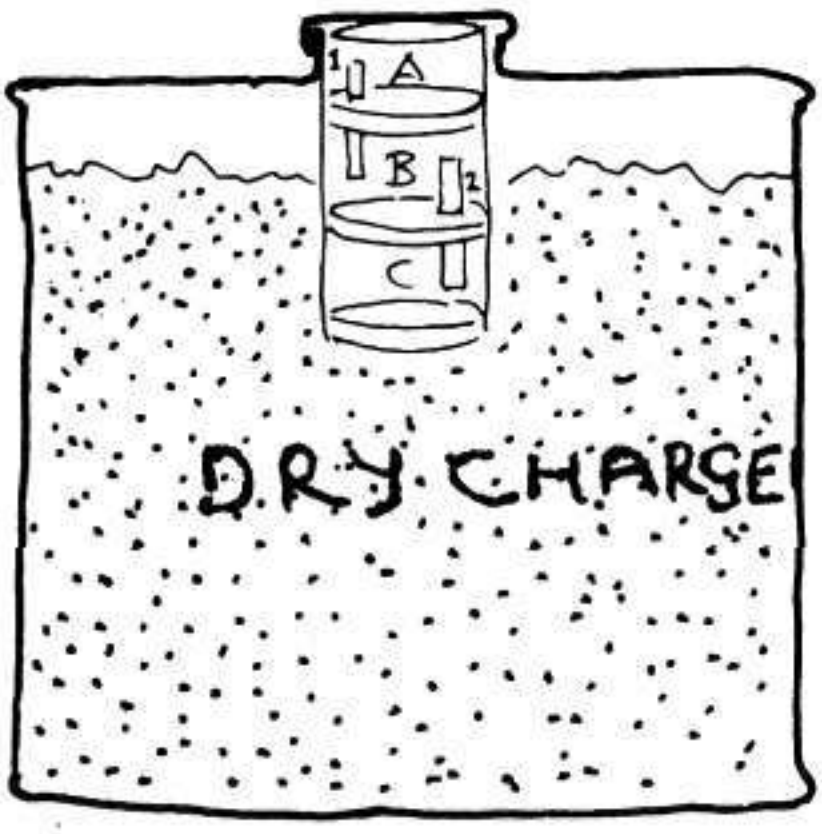
4) Now place the corks into the main tube as in the diagram and seal firmly into position. Again making sure that you have a perfect seal which allows no leaks.
5) Leave one end of main tube open. Other end is covered as follows. Cut two pieces of tissue paper same circumference as tube. Place finely ground potassium permanganate on one piece of tissue paper (D). Glue around edge of tissue paper (E) and stick (E) over (D) sealing the potassium permanganate within the tissue paper.
6) Push this neatly into bottom part of tube and seal end of tube with sticky tape so that the tissue paper cannot possibly drop out.

SAFETY WARNING:

Be absolutely sure that the chambers are sealed-off from one another. If the glycerine leaks down the sides from Chamber A to Chamber C you will have no time delay at all.

HOW IT OPERATES:

1) Glycerine is poured into open end of tube to fill Chamber A.
2) Glycerine drips into Chamber B through tube 1. When glycerine level rises in Chamber B to cover top of tube 2, it starts to drip into Chamber C.
3) The effect of glycerine dropping on to the potassium permanganate enclosed within the tissue paper in Chamber C, is to produce intense flame and heat.



Time how long the process takes and you know the extent of time delay. *About* 10 minutes with a 10cm. tube.

HOW TO USE IT:

NOTE: This is a useful combination because glycerine and potassium permanganate can both be bought quite openly at a chemist. But you will only get a good reaction if the potassium permanganate is very finely ground. Glycerine is used for treating sores in and around the mouth, but make sure the chemist gives you pure glycerine and not glycerine mixed with rose water.

The longer Chamber B, the longer time delay. But you must have enough glycerine in Chamber A to ensure that tube 2 tops up.

SAFETY WARNING:

Double-check that the timing device does not leak before using it with an explosive. If it does the explosive will go off in your hands.

As a timing device to ignite wet or dry charges. But the device must always be placed in a vertical, not a slanting position. The tube can be made to fit neatly into the neck of a plastic bottle by wrapping a strip of cloth around it if the neck of the bottle is too wide for the tube to fit.

Carefully hollow out a space in the explosive powder so that the tube fits into position. After pouring glycerine into the tube, tightly close the lid.