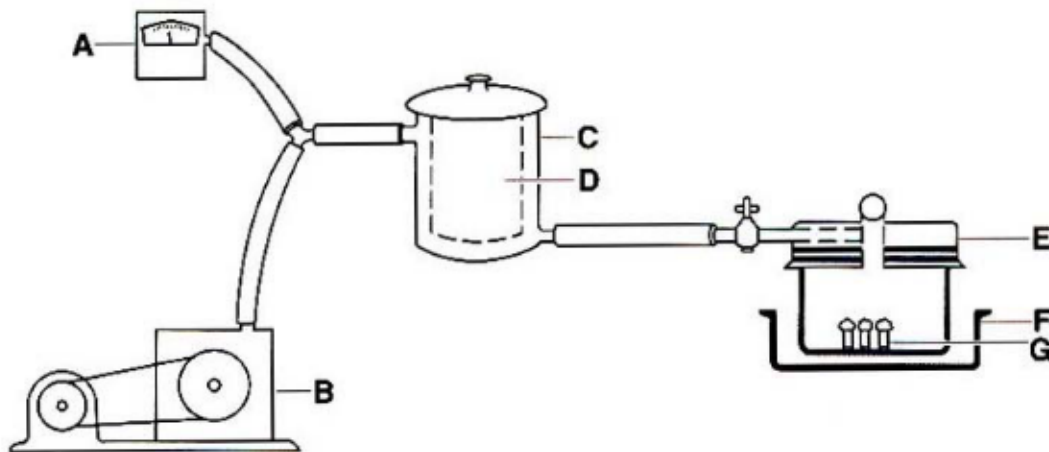


## Physical Weaponizing Methods

Bacteria must be storable (at least master samples to grow from) in some form in order to be useful. This is accomplished in military weapons via the use of spores in the case of anthrax. If the organism you wish to use does not have spore forming machinery, it can be given the spore forming genes from anthrax, clostridium or coccidioides mold.

Most bacteria are *freeze dried* for storage and later use. This is done not only in the military, but in laboratories all over the country as well. The drawing below illustrates a typical freeze drying chamber. The bacteria are placed in a container in a pan. The air is pumped out while the bacteria are chilled by dry ice. The result is freeze dried cells. This method often eliminates clumping together of cells so that they disperse as tiny individual cells which is used in weaponizing anthrax spore weapons. If the cells still bind together, they grind much more easily in the freeze dried form.



**Double-vial Method of Freeze-drying** (A) Vacuum gauge; (B) vacuum pump; (C) condenser; (D) reservoir filled with dry ice and Cellosolve; (E) plastic plate; (F) stainless-steel pan filled with crushed dry ice and Cellosolve; (G) specimen.