

Breathing by Machinery

Dr. Meltzer's apparatus has saved the lives of many overcome by gas in the trenches

WHEN a man is overcome by poisonous gases or is shocked into insensibility by electricity, he may usually be saved if artificial breathing is at once induced.

In order to accomplish the effects of natural breathing by pumping oxygen into the lungs through the throat, care must be taken that the air does not escape into the stomach. A breathing apparatus devised by Dr. S. J. Meltzer of the Rockefeller Institute for Medical Research prevents this in two ways. The simpler method he uses is to place a board on the stomach and to hold it firmly in place by means of straps which are passed around the body. The board exerts sufficient pressure to make the entrance of air into the stomach impossible. The other method employs a tube inserted in the stomach to remove any air that may enter during the process.

Dr. Meltzer's apparatus consists of a throat tube which fits the mouth, preventing the escape of oxygen; a stomach tube, and a bellows. The throat tube has a flat side which rests against the tongue, and a round side—the upper side—which reaches to the wall of the throat and prevents the oxygen from escaping through the nose by closing the entrance to the air passages in the nose. A rubber hose connects the throat tube with the bellows or bag and this, in turn, is connected with the oxygen tank.

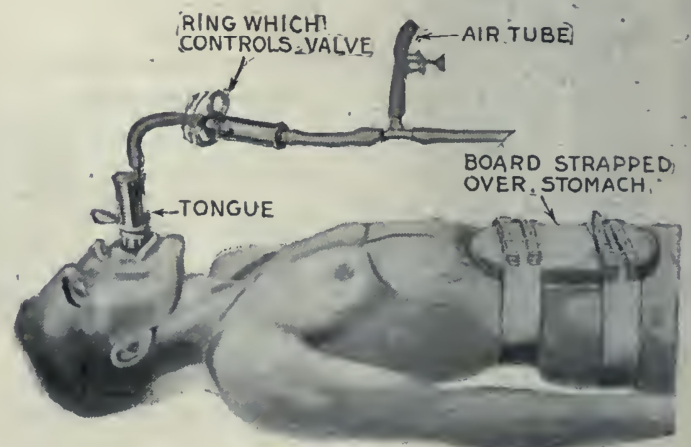
The stomach tube may be attached to the end of the throat tube or not, as the operator desires. When it is not used, the hole in the throat tube to which it is connected may be closed by a plate. Attached to the throat tube is a valve which regulates the passage of oxygen into and out of the lungs. The valve is controlled by a ring, which when moved to the right causes the oxygen to be forced into the lungs; when moved to the left it causes the oxygen to be expired from the lungs. The necessary oxygen is given by the bellows.



The apparatus consists of a throat tube, a stomach tube and a bellows, connected with the oxygen tank



The throat tube has a round upper side which prevents the oxygen from escaping



In case of failing circulation the board on the abdomen will raise the blood pressure