

MEDICINE

Device Resuscitates Baby

Simple apparatus on principle of oxygen-powered atomizer helps keep infants from suffocating. Provides clear airway and plenty of oxygen.

➤ A SIMPLE apparatus developed on the principle of an oxygen-powered atomizer is helping save new babies from suffocating to death, Drs. John P. Fletcher and Joslyn W. Rogers of the University of Toronto report. (JOURNAL, AMERICAN MEDICAL ASSOCIATION, Feb. 24).

The apparatus has a slender tube which is put down the baby's throat and windpipe. An inner tube is used to suck out mucus or other material clogging the airway. Then, without removing the main tube, the doctor can deliver oxygen into the windpipe at a safe pressure that lets the baby breathe it into his lungs.

The apparatus thus provides two of the three things needed to resuscitate the baby: a clear airway and plenty of oxygen. The third thing the Canadian physicians advise is gentle handling.

Over a period of three years these resuscitation efforts seem to have played a

considerable part in the steady drop of deaths of babies in a large series of deliveries, the physicians report.

Every baby has a deficiency of oxygen during or right after birth, they point out. In the great majority of cases this is relieved by the prompt beginning of adequate breathing. But some babies cannot start breathing at once. This may be due to many causes, ranging from too much anesthetic given the mother to defects of the baby's heart and kidneys at birth.

Sometimes the baby has begun to make breathing movements and its lungs have started to expand before the head is born. This may happen in prolonged, difficult labors. Then the expanding lungs can suck in a mixture of air and amniotic fluid.

Depending on the amount of such material, and how fast the efforts to resuscitate are started, the fluid will either block the windpipe or get into the smaller bron-

chioles of the lungs and cause permanent multiple obstruction to the breathing passages.

If the infant fails in his first efforts to breathe, the want of oxygen may depress the breathing center in the brain. Congestion, dropsy and bleeding into various tissues follow. The depressed breathing aggravates the oxygen lack, setting up a vicious cycle that leads to death if not checked.

Severe oxygen lack for eight minutes may result in permanent damage to parts of the brain, especially those involved in mental activity. Other parts of the brain can live for 20 to 30 minutes with severe oxygen want. Consequently babies that survive severe lack of oxygen may have epilepsy or mental deficiency from the damage to the more vulnerable parts of the brain.

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AERONAUTICS

Autopilot Guides Jets In Loops and Rolls

➤ IMPORTANT among newly developed equipment for speedy jet-propelled fighter planes is an improved autopilot that will guide the craft through loops and rolls, and also an electrically-heated windshield to provide clear vision regardless of weather conditions.

Automatic pilots have been used for several years on conventional planes, and also on jet fighters where they are particularly important because they "react" more quickly than the human pilot. This new improved "co-pilot" will guide the jet-plane through loops, rolls and other combat maneuvers with split-second accuracy, it is claimed.

It was developed by scientists of Westinghouse Electric Corporation in cooperation with the Control Equipment Branch of the U. S. Air Force. Described as the first automatic pilot with "unlimited maneuverability," it will be installed in the F94C fighter plane being built for the Air Force by Lockheed Aircraft Corporation.

Its ability to provide complete maneuverability, according to Dr. Clinton R. Hanna of Westinghouse, is due to the use of three "non-tumbling" gyroscopes that are locked in the plane and stay on the job no matter what evasive tactics the plane employs. Conventional autopilots contain gyros that would "tumble" if the pilot put his plane through intricate maneuvers. This would send the aircraft into dangerous gyrations.

The clear-vision windshield is a development of the Libbey-Owens-Ford Glass Company. It is made of glass, an inch and a half thick, which is heated by electricity passing from electrodes at the edges through an invisible stannic oxide film with which the inside of the glass is coated. It will be used on the Scorpion F-89, now in full production at the Northrop Aircraft's plant at Hawthorne, Calif.

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COLD-PROOF "BRAIN"—The "thing" in the box is an electric computer mechanism to be used in the Convair B-36 intercontinental bomber where it must function under the extreme temperature conditions found at high operating altitudes. It is being wheeled for testing into a chamber where the thermometer remains at a maximum of 65 degrees below zero.