Waiting to Exhale--Forrest Bird
A USPTO Inventor Card Activity Challenge

Make Your Own Lung Model

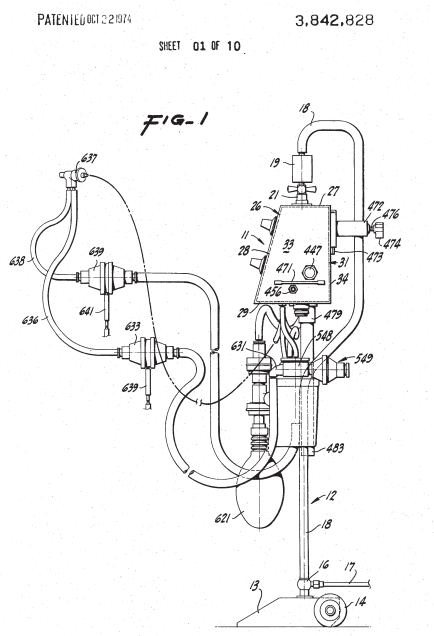
Background:

Medical Respirator Inventor
Born: 6-9-1921 in Stoughton, Massachusetts

Forrest M. Bird is the inventor of the first convenient and reliable, low cost, mass-produced medical respirator, referred to as a medical ventilator in Bird's U.S. Patent No. 3,842,828. Bird also helped reduce infant mortality rates in babies with respiratory issues with his invention dubbed the "Babybird Respirator" whose technology traces back to U.S. Patent No. 3,191,596.

Activity Challenge:

In order to design his medical respirator, Forrest Bird needed to understand how the lungs and respiration work in our bodies. How might he have built a model to replicate respiration?



Forrest Bird Patent No. 3,842,828 Respirator

Your challenge today is to use recyclable materials such as plastic water bottles, trash bags, straws, tape, or balloons to construct a model of a lung. You will want to make sure that the diaphragm is a part of your model. Use at least three different materials to build your lung model. Be sure to brainstorm designs, sketch prototype, build prototype, test and iterate as needed. Good luck!

For Added Enrichment: https://www.youtube.com/watch?v=HKEmtaWBcQQ

A patent gives the inventor the right to exclude others from making, using, selling and offering to sell the invention for a limited period of time. After the patent expires, society benefits by using and improving the invention. Think of all the ways breathing devices have changed since Forrest Bird's first model was made.
What will you invent?

Examples of Forrest Bird's U. S. Registered Trademarks

U.S. Reg. No. 0706080 was granted to Bird Oxygen Breathing Equipment, Inc. on October 18, 1960 for "Respirators and devices for aiding in the administration of gaseous anesthetic agents and parts therefor."

U.S. Reg. No. 1692749 was granted to Bird Products Corporation on June 9, 1992 for "Infant pediatric ventilators."

U.S. Reg. No. 1592881 was granted to Bird Products Corporation on April 24, 1990 for "Medical instruments and apparatus, namely, respirators and devices for aiding in the administration of gaseous anesthetic agents and parts therefore, devices for warming and humidifying medical gases, devices for precise mixing of compressed air and oxygen, and devices for continuous monitoring of blood oxygen saturation level and pulse rate; and cardiopulmonary therapy and topical chemotherapy equipment for applying anesthetic agents and for ventilating mammals – namely, medical positive phase respirators; medical positive-negative phase respirators; medical automatic leak compensating respirators; physiological volume limiting respirators for intensive care; complete volume limiting ventilators for intensive care, having a sensing device connected to the patient; anesthesia ventilators; portable respirators and air compressors; humidifiers and nebulizers; automatic resuscitators; emergency hand resuscitators; pressure reducing regulators; intensive care stands; infant and adult breathing circles; wall outlet valves; pedestals; wheel sets; support arms; cooling and filtration coils; spirometers; portable cases and dispensing bottles for medical use; and masks, tracheotomy fittings, endotracheal adapters, intubation adapters, and component parts and accessories for use with apparatus for the cyclic delivery of gases for inspiratory and expiratory breathing patterns."

BIRD® **U.S. Reg. No. 0706080**

U.S. Reg. No. 1692749

U.S. Reg. No. 1592881