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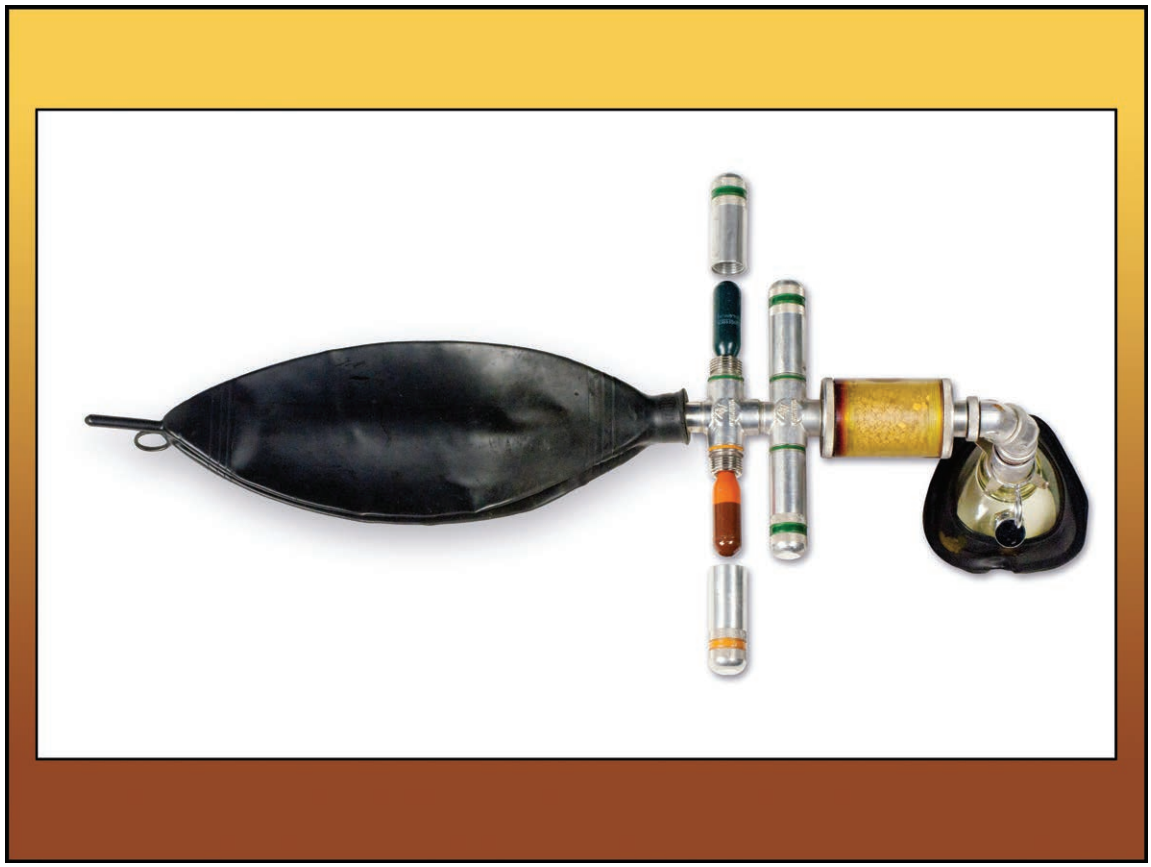
ANESTHESIOLOGY REFLECTIONS FROM THE WOOD LIBRARY-MUSEUM

Ziherl, Kish, and Hingson's "Portable Anesthesia Machine, Oxygen Inhalator and Resuscitator"



In December 1955, Frank A. Ziherl (1912 to 2002), Arthur S. Kish (1920 to 2002), and Western Reserve University anesthesiologist Robert A. Hingson, M.D. (1913 to 1996) filed for a U.S. patent on their invention of a "Portable Anesthesia Machine, Oxygen Inhalator and Resuscitator." Granted in July 1960, U.S. Patent No. 2,944,547 was assigned to Z and W Machine Products, Inc., of Wickliffe, Ohio. The invention comprised "a central axial body assembly, a soda-lime canister assembly, an elbow fitting assembly, a slide valve assembly, a face mask assembly, and a rebreather bag." The tiny colorful compressed gas cylinders permitted brief anesthetics or short resuscitations "in the field." Each full green cartridge contained 1.65 l of oxygen; each orange-and-brown cartridge, 2.2 l of oxygen mixed with 1.18 l of helium. Besides this clever device, Dr. Hingson also pioneered many advances, including jet injection, mass immunization, and both caudal and epidural anesthesia. (Copyright © the American Society of Anesthesiologists' Wood Library-Museum of Anesthesiology.)

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