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.)

George S. Bause, M.D., M.P.H., Honorary Curator and Laureate of the History of Anesthesia, Wood Library-Museum of Anesthesiology, Schaumburg, Illinois, and Clinical Associate Professor, Case Western Reserve University, Cleveland, Ohio. UJYC@aol.com.