it means giving a mixture of carbon dioxide with oxygen.

Every hospital should be equipped with an inhalator for the new-born, or better with an inhalator suitable for infants and adults as well, Prof. Henderson consequently advises. And for babies born at home, the physician need no longer depend on the hook-and-ladder boys. An inhalator small and light enough to carry in an overcoat pocket could easily be made, Prof. Henderson says.

You will notice that Prof. Henderson calls the apparatus an "inhalator." "Pulmotor" is a word he does not like. The original Pulmotor has been discredited by scientists and medical boards many times over but unfortunately its name still clings. He says:

"Because of this confusion of terms, the newspapers often report the resuscitations effected by means of inhalators as cases of 'victims restored to life by the Pulmotor.' Then some ill-informed community buys one of these discredited devices for its fire department."

So certain is Prof. Henderson of the value of his method that he believes it should be required by law as part of the routine management of the baby's life. Just as drops of silver nitrate must, legally, be put in the infant's eyes to save his vision from destruction by possible infection, so he should be given carbon dioxide-oxygen inhalations for a few minutes several times a day during each of the first few days of life. This measure is recommended by Prof. Henderson even for babies that start breathing promptly and normally. For those unlucky ones that fail to get started at breathing, the inhalations are the life-saving measure.

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PHYSICS

Scale For Atom Weighing Uses Electric Lenses

THE existence of a new "scale" for weighing individual atoms that occur by the billions in a single speck of matter was revealed by Prof. A. J. Dempster, of the University of Chicago, to the American Philosophical Society, which Benjamin Franklin founded in 1727 and which is the oldest learned society in the United States.

Dr. Dempster's atom "scale" is known to science as the mass spectrograph. Although the device itself weighs several tons, it can determine the weight of individual atoms. It is used in detecting isotopes of the various kinds of matter, the varieties of a substance like chlorine or oxygen, which are chemically indistinguishable but have slightly different weights.

The new Chicago mass spectrograph is five times as sensitive as the world-famous instrument of Prof. F. W. Aston in England and fifteen times as sensitive as the similar device recently built by Dr. Kenneth Bainbridge at Princeton University.

Secret of the delicacy of the apparatus is a system of "electric lenses" which accurately focus the electrically charged atoms of the element under study as they pass through the device.

These ions, as science calls them, have to pass through a narrow slit only one thousandth of an inch wide as they enter the "scale." After curving under the action of a magnetic field, the ions strike a photographic film and register their positions. Different weight ions fall at critically characteristic positions on the film. The measurements which establish their relative weights are based on a highly accurate determination of the position of the lines. The ideal situation would be to have the lines sharp and clear, but in past instruments the lines were always wider than the entrance slit used because the ion beam was gradually spreading out like the rays from a searchlight.

The "electric lenses" in Dr. Dempster's new instrument focus the various beams of different weight ions into extremely sharp lines on the film after first letting them spread out into their magnetic "weight" pattern.

Using a new source of ions in conjunction with this new instrument, Dr. Dempster has just "weighed," for the first time in the history of science, the isotopes of gold and platinum in the pure state. The new source of ions is a highly intense electric spark which knocks out atoms from the element being studied and at the same time strips an electron from many of them, and hence gives them the needed electric charge.

Previously the only way the "noble" metals like gold and platinum could be studied was to form some gaseous compound of them which could be ionized by irradiating it with X-rays or radium rays.

Isotopes of eighteen elements have been studied so far with the new apparatus, Dr. Dempster said.

Science News Letter, May 4, 1935

PHYSICS

Earth Has Magnetic Storm; No Effects on Wireless

A MAGNETIC storm, consisting of rapid and irregular oscillations in the earth's magnetic field, was reported by the U. S. Coast and Geodetic Survey observatory at Cheltenham, Md., on Thursday, April 11. Although such "storms" have nothing to do with the storms of ordinary weather, they frequently disrupt telegraph and wireless communication. The wire and radio companies, however, reported no interference.

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The rare plant, *Tumboa,* of South West Africa, grows just two leaves, but these may become ten feet long.