

INVENTION

# Apparatus Speeds Production Of Radioactive Substances

## Baffle Plates Which Set Gases Whirling Will Speed Process of Separation of Isotopes; Useful to Industry

**M**ORE speedy production of radioactive potassium and rubidium to be used as substitutes for radium and X-rays in the treatment of cancer, and of other much needed radioactive substances, is provided for by an apparatus invented by Aubrey Keith Brewer of Washington, D. C., and Arthur Bramley of Ocean City, N. J., for which U. S. Patent, 2,258,594 was awarded. This is one of 853 patents granted recently.

The inventors have assigned their patent to the U. S. Government without any payment of royalty to themselves.

The invention consists of an apparatus for the more rapid separation of gases of the same chemical nature but of different molecular weights, or of isotopes—which are different forms of the same chemical element but with different atomic weights. The apparatus is useful both in industry and in research.

Although applying a principle already used in laboratory practice, the inventors have so re-formed the apparatus as to speed up the process.

The principle applied is that if a gas composed of a mixture of molecules of different weights, is admitted to a chamber, one wall of which is kept hot while the opposite wall is kept cold, the lighter molecules will migrate to the hot wall and rise while the heavier ones will migrate to the cold wall and descend. The lighter gas can then be drawn off at the top, the heavier gas at the bottom.

The improvement introduced by the inventors consists principally in certain baffles properly spaced in a long tube whereby whirling motions are induced in the gas which speed up the separation.

*Science News Letter, November 1, 1941*

## Chlorine From Waste Gases

**R**ECOVERY of chlorine—essential for defense, public health, and industry—from waste gases is now possible through a process invented by William C. Klingelhofer of Syracuse, N. Y., for which he was awarded U. S. Patent 2,258,771.

The waste gases used for this purpose

are being obtained in the manufacture of nitrates for explosives and agriculture. These gases contain a considerable amount of nitrosyl chloride. By treating the gases with sulfur monochloride in the presence of a catalyst and putting them through various processes of heating, cracking, cooling, scrubbing and distilling, the chlorine is liberated.

Recovery of chlorine in this way does not use up any other important chemical. Even the sulfur monochloride is recovered for further use.

*Science News Letter, November 1, 1941*

## Parachute With a Dimple

**A** NOVEL type of parachute which is claimed to open more quickly and more certainly and with less shock to the parachutist is the invention of John Overbeke of Cleveland, Ohio, who has been awarded U. S. Patent 2,258,797.

The parachute is shaped like the top of an apple with a similar central dimple. A cord attached to the apex of the dimple helps to support the parachutist and to keep the dimple in shape. On the inside, the effect is that of a cone with the small end pointed down toward the rushing air. The shape forces the air toward the outer edge, keeping the parachute stretched wide open.

One modification of the shape of the dimple provides a way to prevent spinning of the parachute and jumper during descent.

The central cord, being a little shorter than the outer sustaining shrouds, momentarily deforms the parachute on opening and cushions the shock to the parachutist. By pulling on the cord, he can also regulate the speed of his descent or, after landing, prevent the chute from dragging him along the ground.

*Science News Letter, November 1, 1941*

Coffee with their meals may be fed to Nicaraguan cows, since tests of coffee berry pulp as feed indicate that it approaches good quality hay in feeding value.



## SCIENCE CLUBS OF AMERICA

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NEWS OF CLUBS

**RICHMOND** — Industrial organizations and newspapers are cooperating in promoting science club activities, according to James H. Whitehead, sponsor of the Science Club of Maggick Walker High School. Club members find big thrills in successfully reproducing spectacular experiments demonstrated by Mr. Whitehead.

**BALTIMORE**—Dr. J. Wallace Page, Jr., Director of the Maryland Academy of Sciences, which is starting the second year of an extensive club program, says: "We are interested in cooperating in any movement that carries forward the science club idea and will, of course, put our shoulder to the wheel on the job."

**ROCHESTER, N. Y.**—The recorded program produced under the guidance of Harry A. Carpenter, Director of the Rochester Science Center, and broadcast internationally over Station WRUL, Boston, on October 13, was so successful that he has been asked to furnish more transcriptions. Emily Reynolds, James Cotanche and John Lamb of the Rochester Inter-High Science Club took part in the broadcast. Other clubs are invited to make recordings for Science Clubs of America's own program broadcast every Monday night, 9:30 EST.

**SYRACUSE**—Complete cooperation with science clubs has been offered by Dr. Richard R. Armacost, Professor of Science and Education at Syracuse University and Director of the Syracuse Science Center, which is starting its third year with the enthusiastic backing of the university and other organizations.

**STATE COLLEGE, Miss.**—Clay Lyle, of the Department of Zoology and Entomology of Mississippi State College, announces that the Mississippi Junior Academy of Science is being organized and that it will cooperate fully with Science Clubs of America.

**COMMERCE, Texas** — Mrs. Emily Barry Walker, Chairman of the Junior Division of the Texas Academy of Science, and sponsor of the East Texas Ornithology Club, reports that the Junior Academy plans to participate in the big national meeting of the American Association for the Advancement of Science, to be held in Dallas in December, and will be grateful for help from other clubs in Texas.

**LOS ANGELES**—Loyola High School Radio Club, sponsored by Rev. Carl H. Hayn, S.J., has a program of set building, code practice and short lectures on other fundamentals of radio. Advanced members are planning to build a public address system and a transmitter.

*Clubs are invited to become affiliated with SCA for a nominal \$2 for 20 members or less. You can become an associate of SCA for 25 cents, which includes a copy of the 128-page Science Handbook for 1942. Address: Science Clubs of America, 1719 N St., N.W., Washington, D. C.*

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