gans" is not a substitute for the method of tissue culture, Dr. Carrel and Col. Lindbergh explain. It is a new technique.

"It is not in any way a substitute for the method of tissue culture," they report. "Its techniques, as well as its purposes, are quite different. As is well known, tissues and blood cells grow like bacteria in flasks containing appropriate media. The techniques for the cultivation of tissues are somewhat analogous to bacteriological techniques, although far more delicate. But it is through the employment of complex mechanical and surgical procedures that organs are enabled to live isolated from the body. Tissue culture deals with cells as units of bodily structures; the new method, with cellular societies as organic wholes."

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ENGINEERING

Low-Priced Air Conditioning System Seen for Home Use

Key is Silica Gel, Well-Known Cheap Chemical With Extraordinarily High Water-Absorbing Ability

A STRANGE substance that looks like sand but has the power to absorb water vapor from air and which seems destined to reduce the cost of air conditioning to within reach of average home owners, was described before the meeting of the American Society of Heating and Ventilating Engineers at Toronto by W. E. Stark of Cleveland.

This substance, known as silica gel, was widely used in gas masks during the war to absorb poison gases. Until recently it was mainly a laboratory curiosity, although some of its properties have been familiar to science for many years. A new development is its use in air conditioning where it has been proved to be an ideal dehumidifier.

Each crystal of silica gel consists of hard core surrounded by many submicroscopic pores which, while invisible, reveal their presence in laboratory experiments. The air conditioning device contains silica gel reactivated by passing ordinary natural or coke gases through.

Use of the new system may result in the simplification of air conditioning systems which up to now have been confined to large buildings because of the cost of installing the required equipment. Silica gel was envisioned as playing a leading role in lowering the cost and making air conditioning available to small residences.

The water-absorbing compound is now industrially used as a purifying agent in oil processing and for removing moisture from dry ice. It is also used medically in powdered form to absorb certain poisons from the intestinal tract. Prof. Auguste Piccard carried silica gel on his stratosphere flights to keep the gondola free of moisture.

The possible use of silica gel for cheap home air conditioning systems will strike at the humidity phase of keeping comfortable. The old quip "It's not the heat but the humidity" that makes one uncomfortable has, of course, much reality. Two cities, one on the seashore and the other far inland, may both have the same temperature on a given day in summer but the one—usually the coastal city—may be more uncomfortable because the atmosphere over it contains so much water vapor. The reason is principally that moisture on the skin cannot so easily evaporate (and thus cool the body) when the surrounding air is heavily laden with moisture.

The use of silica gel which will absorb much of the existing vapor should thus be able to bring comfort in the home, not by tackling the heat side of comfort but by lowering the water content of the air. The more complete and costly air conditioning systems like those in modern theaters control bodily comfort by both methods. The air is cooled and at the same time its water content (humidity) is lowered.

Science News Letter, June 29, 1935

Contagious diseases are not so common among mammals as among birds.

Oil from a wild cucumber is believed to have been used by western Indians in paint which has withstood exposure for 150 years.

ASTRONOMY

Mercury's Visit to Sun May Reveal Its Atmosphere

THE QUESTION of whether or not the tiny planet Mercury, innermost member of the sun's family, has a layer of atmosphere may be settled within two years when the planet just barely skims the face of the sun on May 11, 1937.

The present conflict between observational astronomers who believe they have obtained definite evidence of such an atmosphere, and others who believe just as definitely, on theoretical grounds, that Mercury could not possibly have retained an air layer, is summarized in a note in the current issue of the *Journal of the British Astronomical Association.* (May). It is signed C. O. B., which are the initials of C. O. Bartrum, secretary of the Association.

Dr. H. N. Russell, of Princeton University, and Dr. H. Spencer Jones, astronomer royal and president of the association, are named as the opponents of the atmosphere theory. On the other hand, Dr. E. M. Antoniadi, of the Meudon Observatory in France, has made observations, with a large telescope, indicating that some of its markings are frequently more or less hidden by local clouds. These observations, declares C. O. B., have been corroborated by a British amateur astronomer, Mr. H. McEwen, director of the Association's Mercury and Venus Section. Of course, if there are clouds, there must be an atmosphere, even though rarefied, to hold them.

When, at rare intervals, Mercury passes directly between the sun and earth in transit, there is an instant when the planet is half in front of, and half off, the solar disk. Then, the presence of an atmosphere may show itself by a ring of light which appears completely around the planet. The air on the edge of Mercury away from the sun would bend some of the light around it, just as the earth's atmosphere bends the sunlight so that we really continue to see the sun for a short time after it has set.

With the ordinary transit, such as last occured in 1924, there is such a brief period, at the beginning and end, when Mercury is thus at the edge of the sun, that there is little time to make any detailed observations. The transit of 1937 will not be visible from England or northern Europe, for from these parts of the earth the planet will just miss coming in front of the sun. But in southeastern Europe and all of Africa it will be seen, and there the planet will just skim along