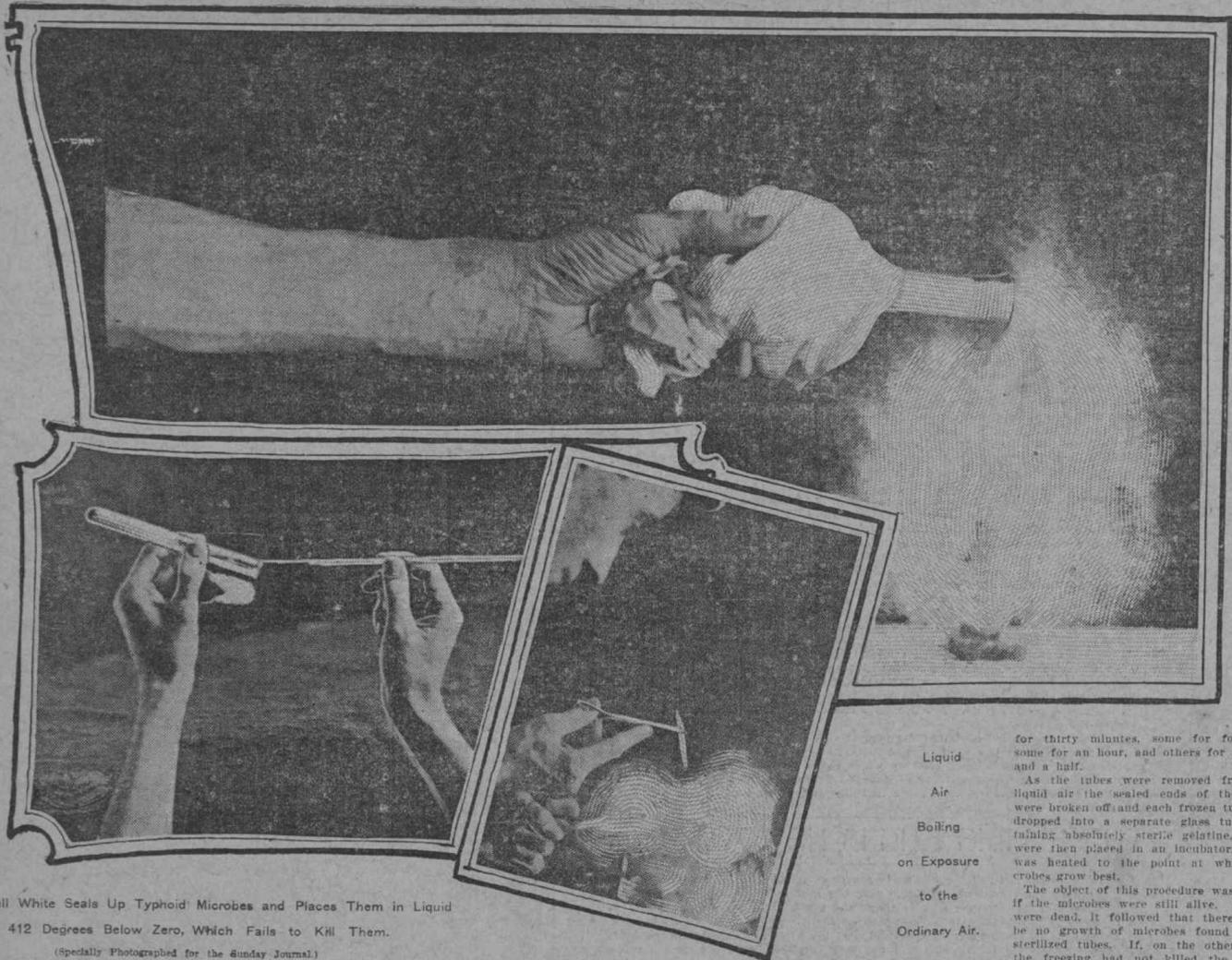


Microbes Cannot Be Killed By Cold.



Dr. Campbell White Seals Up Typhoid Microbes and Places Them in Liquid Air 412 Degrees Below Zero, Which Fails to Kill Them.

ONE more chapter has just been added to the volume of knowledge which science already possesses relative to poisonous microbes and bacilli. Carefully conducted experiments, made in the laboratories of the New York Department of Health, have demonstrated that the germs of the disease can be brought here just as well in the Winter. They can travel safely in a block of ice, or in frozen meat, and will be potent to spread disease just as soon as they meet a thaw.

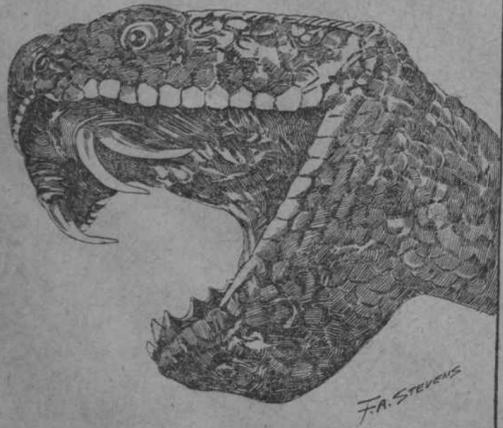
BY DR. A. CAMPBELL WHITE.

IN order to test whether extreme cold would kill poisonous germs, or microbes, I have been conducting some experiments at the laboratory of the New York Department of Health. Those experiments are completed, and are, I think, conclusive. As a result, I consider that no degree of cold that can be reached has power to kill germs. I have kept the germs of typhoid fever and diphtheria at a temperature of 312 degrees below zero for hours together. After they thawed they were as dangerous as ever. The cold to which these microbes were subjected was 344 degrees below the point at which water freezes. This extreme cold was obtained by the use of liquid air, in which the germs were placed. Another thing which the experiments have proved is that oxygen has no killing effect upon microbes. Liquid air, as it evaporates, is almost pure oxygen. The conclusion to be drawn from these experiments is that cold has no deterrent effects upon germ diseases. We are as much in danger of infection brought to these shores in Summer as in Winter. In addition, it shows that extreme care should be taken to ascertain the origin of the ice used in the household. As soon as it melts any dangerous germs it contains are set free and are ready for evil.

partment of Health, have proved that no obtainable degree of cold will kill microbes. It was found, for instance, that after being kept for hours exposed to a temperature of 312 degrees below zero, the germs of typhoid fever and diphtheria were as virulent and deadly as ever. These two species of bacilli were chosen as illustrations because they are said to be the easiest to kill. Yet they successfully withstood a temperature 344 degrees below the point at which water becomes solid ice. Cold of that intensity turns alcohol into a lump and makes steel so brittle that it can be powdered in the hands. But it cannot kill microbes. The importance of this discovery, physicians say, cannot be overestimated. It upsets all the popular ideas as to the safety of ice. It means that germ diseases are not killed by cold weather; that the menace to this country from plague and yellow fever is as great in Winter as in Summer.

A Rattlesnake with Two Sets of Poison Fangs.

THIS illustration in the Sunday Journal is reproduced from a photograph of a rattlesnake's head with four fully developed poison fangs. The head was prepared for the camera by Dr. Menger, in San Antonio, Texas. He says his alcohol jar contains the only snake ever caught that had four poison fangs, nature, as a usual thing, deeming one or two of these dangerous playthings enough for one snake.



This Rattler is Too Well Supplied With Poison Fangs.

Because of these discoveries it is likely that much more stringent regulations will be made to apply to the ice supply of New York, and that the rules which govern quarantine will be searched for dangerous loopholes. At present any kind of ice can be sold in New York. Along the banks of the Hudson there are scores of cut-offs, ponds and backwaters, with roomy ice-houses ranged beside them. In the Summer any kind of filth is allowed to leak into these ponds. Hereafter that may be changed, for the experiments in the laboratories of the

Liquid Air Boiling on Exposure to the Ordinary Air.

for thirty minutes, some for forty-five, some for an hour, and others for an hour and a half. As the tubes were removed from the liquid air the sealed ends of the tubes were broken off and each frozen tube was dropped into a separate glass tube containing absolutely sterile gelatine. They were then placed in an incubator, which was heated to the point at which microbes grow best. The object of this procedure was to see if the microbes were still alive. If they were dead, it followed that there would be no growth of microbes found in the sterilized tubes. If, on the other hand, the freezing had not killed the bacilli, there would be an abundant growth. After the tubes had been in the incubator for forty-eight hours they were removed and examined. Each tube was found to contain pure cultures of diphtheria, typhoid or anthrax, according as they had been inoculated by the frozen tubes. It meant that the extreme temperature of 312 degrees below zero had not inconvenienced the microbes in the least. They were as lively and as deadly as ever as soon as they were thawed out. It was then determined to find out if any actual germ-killing property existed in liquid air itself. In the former experiments the germs had been protected from actual contact with the liquid air by the glass tubes in which they had been enclosed. The next experiment it was decided, should consist of pouring the freezing liquid air straight on top of the microbes so that it might mix up with them and get direct action. Some liquid air was placed in a glass and then about a tablespoonful of microbe-killing gelatine was poured right into it. The gelatine solidified up and was instantly frozen as hard as a diamond. More and more liquid air was added to the vessel, as the air evaporated, and the gelatine was always kept covered with it. At the end of an hour the bit of frozen gelatine was fished out of the liquid air and was then dropped into a dish containing sterile jelly. The whole was placed in an incubator and left there for forty-eight hours. At the end of that time it was found that the bit of infected gelatine had retained its poisonous properties in spite of the freezing. The germs were as deadly as ever and as active. The formerly sterile jelly was full of them. Dr. J. H. Huddleston, becoming interested in the experiments, tried the effect of liquid air upon vaccine virus—the material with which vaccination is performed. He found that fifteen minutes' direct exposure to liquid air had no effect whatever on the power of the virus to produce vaccination. Longer exposures to liquid air are now being tried, and other microbes are being subjected to it. The experiments made in the laboratory of the Health Department are looked upon as conclusive. It is now the opinion of scientists that microbes are immune against cold. It merely renders them inert for the time being. As soon as they get a chance to thaw, they are as dangerous as ever.

medicine and surgery. In this line of investigation Dr. A. Campbell White, of this city, was the pioneer. He found liquid air to be a curative agent in many complaints of the skin, and he then began to experiment to see if its efficacy and curative power extended to what are known as the germ diseases. Through the courtesy of Dr. William T. Jenkins, the privileges of the hospital laboratory of the Department of Health were given to Dr. Campbell White to test the effects of liquid air, and the consequent extreme degree of cold, upon germ life. Dr. Parks, who is attached to the department, assisted Dr. White in the work. When Dr. White began his investigations to find out if extreme cold would kill microbes he selected the microbes of typhoid and diphtheria to begin the experiments upon. This selection was made partly because these two diseases are the principal ones from which New Yorkers suffer, and also because it is said that these particular germs are the easiest to kill. In order, first, to test the effect of extreme cold on these germs without bringing them into direct contact with the liquid, he first took a small quantity of virulent diphtheria germs in gelatine and put the mixture into a little bit of glass tube that had been sealed up at one end. When the microbes were in position the other end of the tube was brought into the flame of a spirit lamp and the end was sealed with a blowpipe. Exactly the same procedure was followed with the germs of typhoid fever and anthrax—which is better known as glanders, a disease affecting animals. Each of the tubes was then marked to indicate its contents.

When these things had been done, each of the tubes was dropped into a glass containing liquid air. The air in the glasses was removed at intervals, so that the tubes were at all times kept covered with the liquid, and were, consequently, exposed to the liquid air temperature of 312 degrees below zero. Some of the tubes were kept in liquid air

THE "Pride of the Pier" can you guess who she is? There are many pretty girl faces on the East Side recreation piers—faces whose dark, lustrous eyes and olive skins are like those that Murillo delighted to paint in his Italian groups; girl faces with the pink and white tints that tell of Celtic blood, whose byron beauty is world-famous; faces whiter, fairer still, with the sunny, flaxen hair possessed only by Scandinavia's children and her children's children. But it is none of those types of beauty that is New York's East Side "Pride of the Pier." It is just a plain little face, with its dimples worn away and the rounded plumpness of childhood straightened into the drawn features of premature womanhood. The look on this little face is not that of sparkling, elf-like gaiety, which dashes from even the children of the poorest of the poor as they dance on Summer nights beneath the glowing arc lights to the mad waltzing of the orchestra on the pleasure piers. But the "Pride of the Pier" has a look of pathetic sweetness. She is the little daughter of Sam Weston, the once popular and famous minstrel, now poor and blind. Every moonlight night or cool afternoon during the past Summer she led her father down to one of the recreation piers, found him a comfortable seat, and then, instead of going off with other children of her age, or dancing with the happy little tots, she sat holding his hand and describing the merry going-on about them—seeing for his sightless eyes. No matter how earnest the father's entreaties or commands to "Run, now, play for awhile," she always said: "Daddy, I'd rather sit by you and tell you about it."



The Blind Pianist and His Devoted Little Daughter.

DECORATORS WALL PAPER CO

Our stock comprises every new coloring and design that can be found in this or any foreign market. Never before have you had the opportunity of selecting from such a rare and unlimited variety of Wall Papers as we are offering this season. Cut of our unlimited variety of new designs we call your special attention to a few of our exclusive papers for the following rooms:

Parlors.

The variety of our patterns for these rooms is unequalled. They include every period and style. Table width brocade effects, richly embossed ivory and gold, embossed opalescent, scintillates, French applique, stamped burnished golds, brocaded stripes, Venetian velvets, cameo brocaded flocks and satin damasks representing the periods of Renaissance, Louis XVI., Rococo, Empire, Colonial, &c.

Halls.

Here you will find clever reproductions in Heraldic, Early English, Byzantine and Empire. Novelties in Bagdad backgrounds, printed carriage, printed and plain corduroy stripes, Royal Warwick tapestry, Persian filigree, Flemish stripes, Grecian designs, stained leathers and burlaps.

Dining Rooms and Libraries.

This season brings forth many unique novelties for these rooms, such as the new Morris belvelts with crown friezes, self-toned buckrams, cloth of gold effects, Elizabethan designs, Morocco stripes, hand-pressed papers in Gothic, Heraldic and Moorish designs, over two hundred tapestries that are perfect imitations of fabrics, among which are fruit designs exclusively for dining rooms; our famous prize design, Anatolian and Toria tapestries, the well-known Titania, &c., &c.

Bedrooms.

An endless variety of new effects in Dresden, English crotches, chintzes, dimities, rep and embossed silk, two-toned, striped, floral patterns in great variety, from the conventional Japanese chrysanthemum, on through the varieties of coppies, cosmos, wood and English violets, carnations, jonquils, hydrangeas, roses of every description, &c., &c.

Dens, Smoking and Billiard Rooms.

For these rooms we have received a large importation of foreign tapestries, in East Indian, Persian and Syrian styles, that are entirely new in this market. For Nurseries, Bathroom, &c., we can offer you a large assortment of highly glazed, washable tiles in mantel, mosaic and brick designs, also the Certosa, the blue and white iris and Holland styles. Many interesting and grotesque patterns, exclusively for nurseries.

The papers above mentioned range in price from 5c., 7c., 8c., 10c. 15c., 25c. and up to 50c. and \$1.25 a roll. Rare Hand Prints and Japanese Leathers up to \$3.50 a roll.

DECORATORS WALL PAPER CO

23RD ST. 6TH AVE
NEW YORK. TRADE MARK.