MEDICINE

Danger of Frostbite For Elderly Persons

➤ A WARNING on the danger of frostbite, especially to older persons who continue at outdoor work, has been given by Dr. Gerald H. Pratt of New York City. Such persons are "dangerously susceptible to cold," he points out in a report to *GP*, the journal of the American Academy of General Practice.

Men whose work requires them to go in and out of refrigerator cars or iceboxes are in danger of suffering exposure, Dr. Pratt says. A variety of conditions made a person vulnerable to freezing cold. The presence or lack of wind, the humidity, the person's clothing, his age, and his general condition, all play a part in the degree of frostbite.

Dr. Pratt warns, "Most often the first symptom is a painful burning sensation followed by numbness and cold." Napoleon's chief surgeon described the sensation, "as if the feet are made of wood."

The prevention of frostbite in civilian life is a big job, Dr. Pratt feels. An elderly person, or one who has diabetes or some circulatory disturbance should not be exposed or permitted to work out of doors in cold or wet weather. Shoes and socks should be changed as often as possible after exposure to wet or cold.

Exposed people must be kept moving and not allowed to fall asleep in the cold. Seeing that the body is clean before going out in the cold or wet is important too, since infection will occur and tissue loss will increase if the skin is unclean and the skin broken because of frostbite.

Proper treatment of frostbite is very important he points out. Wounds should be cleansed, if they are dirty, with great care to prevent any tissue injury.

Science News Letter, February 14, 1953

INVENTION

Patent Issued TV System For Transoceanic Service

➤ A FLYING chain of commercial airliners, cargo planes and other aircraft may be used in the future to get television from continent to continent. In a system patented this week, the planes would relay the line-of-sight signals over oceans that the signals cannot span by themselves.

Invented by Clarence W. Hansell of Port Jefferson, N. Y., and Donald S. Bond of Princeton, N. J., the system is based upon a transoceanic aircraft schedule that would keep planes flying 24 hours a day over the seas. Each plane would trail its predecessor by 250 or 300 miles, and all would fly about 10,000 or 15,000 feet high.

Television signals leaving England for America would be transmitted first from a land-based station, presumably in London. The program would be picked up by the plane nearest England and would be relayed automatically to the next plane in the series flying toward America. Through such an airborne chain of relay stations, the program would skip across the Atlantic at the speed of light. It would be picked up by a TV station in New York and telecast to America the regular way.

The patent also provides for a similar set of flying relay stations to carry a television program from America to England at the same time.

Through electronic directional devices, the television signals can be pointed directly at the plane ahead so that good reception is assured. Called a "service channel," these devices also permit verbal communication between planes.

The inventors assigned their patent, number 2,627,021, to the Radio Corporation of America.

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BIOCHEMISTRY

Synthetic Hormone Helps Breast Cancer Victims

➤ EIGHTEEN WOMEN with advanced inoperable breast cancer have been helped by a new hormone drug, Dr. George C. Escher of Memorial Hospital and Sloan Kettering Institute, New York, reported at the meeting of the southern section of the American Federation for Clinical Research in New Orleans.

The drug is a synthetic hormone called androstanolone. It is a male hormone type of chemical but has weak masculinizing effects. For this reason it seems preferable to testosterone, male hormone used for some years in treatment of inoperable breast cancer.

Although only 43% of the 42 patients treated showed objective improvement, a larger proportion showed improvement in symptoms such as pain, lack of appetite and generally unwell feeling. This symptomatic improvement occurred in 31 of the 36 out of the 42 treated who had symptoms. In 19 of the 31, however, the symptomatic improvement came without objective improvement, or signs of the drug affecting the cancerous condition itself.

Androstanolone was originally prepared by two European chemists and Nobel Prize winners, the German, Dr. A. Butenandt, and the Swiss, Dr. L. Ruzicka. Because of its weak male hormone action, it was not given much attention, but Prof. A. Lipschutz of the Santiago laboratories of the Chilean Public Health Service found it had anti-tumor effects in laboratory animals. Dr. Escher and associates tried it in a screening of various hormones that might be more effective than testosterone.

The drug is now being made under the name, Neodrol, by Foundation Laboratories of New York, an associate of the Syntex laboratories in Mexico.

Working with Dr. Escher in its trials were Drs. Joseph H. Farrow, Dorothy W. Sved, Guy Robbins, Helen Q. Woodard and Norman E. Treves.

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IN SCIEN

AERONAUTICS

Rotating Beacons For Airliners' Tails

➤ ROTATING BEACONS that finger the night from hilltops soon will have mechanical brothers flying in the sky.

At least two commercial airlines are equipping their fleets with new 50,000 candlepower rotating tail lights. The lights should reduce chances of two-plane collisions at night and in conditions of poor visibility. Other airlines are expected to follow suit.

The light is mounted on top of the vertical fin of the airliner's tail. It rotates slowly, warning nearby planes of the airliner's presence.

Developed by General Electric Company engineers in Cleveland, the lights are of the sealed-beam variety. They are about 50% brighter than automobile headlights.

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TECHNOLOGY

Way to Pack Lemons Saves $9,000,000 Yearly

➤ THE PUBLIC should enjoy a $9,000,000 saving in its annual lemon bill if a packing technique developed at the University of California at Los Angeles is adopted.

Dr. Roy J. Smith, associate professor of agricultural economics, who developed the new technique, estimates the new method will save lemon packing houses about 72 cents a standard box, since it cuts down packing costs as much as 80%, and retailers about 35 cents a box because of easier handling. Such a saving would exceed $1 a box on the estimated 9,000,000 boxes of lemons shipped from California each year.

In contrast to the conventional method of packing lemons, in which each lemon is sized, wrapped in paper and placed in wooden crates by hand, the new process allows the lemons to be literally "poured" unwrapped into chemically-treated cardboard cartons which are half the size of old-type wooden crates. Before the carton is sealed by a special machine, the fruit is shaken into a solid full pack by placing the box on an electric vibrator.

"The key to packing lemons in bulk," said Dr. Smith, "was the development by a Florida company of a fungistatic material with which the inside of the carton is laminated. This material stabilizes fungi growth and sets up a vapor pressure which prevents spoiled fruit from contaminating others."

Dr. Smith worked with the Citrus Industry Research Association and several commercial firms.

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CE FIELDS

PSYCHOLOGY

New View of Neurotics: They Want to Be Thus

➤ A NEW viewpoint on neurotics, which will appeal to many of their friends and relatives if not to the neurotics themselves, has been developed by Prof. O. Hobart Mowrer, University of Illinois psychologist.

If a person is neurotic, Prof. Mowrer thinks, it is because he wants to be that way. In a report at the Cooper Union Forum in New York he said that neurosis is not an illness but a way of behaving, and it is just as much the choice of the individual as any other form of conduct.

Prof. Mowrer believes that neurosis is caused by "one's own denied sense of shame and self-criticism." His position differs from Freud's in that it places more responsibility upon the individual than upon parents or society for the cause of neurosis.

"This conception of neurosis, I am sure, has far less appeal to neurotics and other immature persons than does the strictly Freudian conception," he said. "And it is, rather obviously, related to the traditional religious view in such matters, which is epitomized by the familiar adage: Be good and you will be happy, that is, normal, non-neurotic.

"The neurotic, far from having too much guilt, as the Freudian position implies, has too little—too little in the sense of not letting it enter consciousness and participate in the control of his decisions and actions.

"Irresponsibility is perhaps the neurotic's greatest offense; and one of the main objectives of therapy should be to get the patient, little by little, to reverse this trend and become increasingly willing to be responsible, to take rather than evade consequences, and in this way to be changed by reality instead of trying to live on in a false world of one's own creation."

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ICHTHYOLOGY

Electricity Captures Eels for Life Studies

➤ SCIENTISTS ARE using electricity to capture elusive, although non-electric, eels for studies on their life history.

A. M. R. Burnet of the Fisheries Research Laboratory, Wellington, N. Z., reported in the *Australian Journal of Marine and Freshwater Research* (Oct., 1952) that he has successfully used electro-fishing techniques for population studies of the eels of New Zealand.

Mr. Burnet sets up a rapidly pulsating electric field in the water between two electrodes which are attached to the ends of long wooden poles. Power is supplied from four 6-volt batteries and carried by highly insulated wires. Eels caught in this electric field are stunned or they are chased downstream into a waiting net.

For his population studies, Mr. Burnet selected representative areas about 100 yards in length in the Horokiwi, Wainui-o-mata and Mangaroa rivers, placing a fine-meshed net across the river downstream. Then starting upstream, Mr. Burnet and an assistant, both insulated by rubber boots and electric linesman's rubber gloves, moved down, covering the entire bottom with the electric field. Mr. Burnet estimated that 81% of the eel population in the test area was captured when the bottom was scoured with electricity three times, the usual practice.

This technique of electro-fishing, which marks an improvement over earlier attempts, may prove of great value in the study of fishes.

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PUBLIC SAFETY

Torch Fabrics Banned By Commercial Standard

➤ FEWER INSTANCES of clothing going up in flames are expected to result from the recent adoption of a "commercial standard for flammability of clothing textiles."

Elimination of highly combustible, or "explosive," fabrics from the retail market is the standard's aim. Although only a few, fly-by-night-type manufacturers of clothing fabrics put out the highly flammable materials, tragic accidents result.

Still needed is a federal law under which anyone violating the ban against flammable garments in interstate commerce could be prosecuted. Such a law, introduced by Rep. Gordon Canfield (R., N. J.), is now pending before the House Commerce Committee. His bill incorporates the standards adopted by the industry.

Congressman Canfield has introduced similar bills since the 80th Congress, but they have never got out of committee. The adoption of the standard by industries concerned may speed passage of such a bill, since it sets a nationally recognized method for distinguishing between safe and unsafe clothing textiles.

Work on the test method was spurred by last year's "torch" sweater tragedies. Several years ago a number of fatalities resulted from the extremely flammable nature of long-napped chaps on children's cowboy suits.

The new standard is aimed at providing the public with the maximum protection from such dangerous fabrics. Representatives of cotton and rayon producers, fabric manufacturers, finishers, converters, wholesalers, retailers and consumers helped to develop the standard under the coordination of the American Association of Textile Chemists and Colorists and the National Retail Dry Goods Association.

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PUBLIC HEALTH

Handicapped Concern Of New Administrator

➤ HELPING MEN and women who are crippled or otherwise handicapped to get back on their feet so they can work and be independent will be a special aim of the new Federal Security Administrator, Mrs. Oveta Culp Hobby. This will be so if one can judge from her first public speech since her appointment, made to the Women's National Press Club in Washington.

Evidence of her interest in this work, carried on by the Office of Vocational Rehabilitation in her agency, is seen in the fact that the work of this office and that of only one other, the Social Security Administration, were chosen for specific examples of the FSA's work. Of course, this may have been because Mrs. Hobby has not yet had time to familiarize herself with the work of the other eight agencies in the FSA.

As an "outstanding example of money wisely and productively spent," Mrs. Hobby told of a man crippled in an accident, who for more than a year had been getting $182 a month relief money for himself, his wife and five children. At an outlay of $261 of Federal Vocational Rehabilitation funds for surgical and hospital care, this man was "literally put back on his feet" so that he could get work paying him $87 a week.

In the past year, Mrs. Hobby said, 12,000 people who had been on relief at a cost of $8,500,000 were rehabilitated at a cost of $6,000,000. After rehabilitation, these people are able to earn at the rate of $22,000,000 a year.

Mrs. Hobby feels that she and the 34,800 or so employees of FSA must consider themselves "a peculiarly dedicated group of people" because their work has such great impact on the lives of all Americans.

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INVENTION

3-Dimensional Movies Without Optical Devices

➤ THE CURRENT boom in three-dimensional movies may profit by an invention of Ralph L. Huber of Seattle, Wash. Mr. Huber's invention promises the illusion of three dimensions without requiring the viewer to wear special optical devices like the glasses handed out in some movie theaters. The inventor also claims that any number of positive prints can be made from the negatives used in his system, and the prints can be distributed through regular channels.

In his system, the "right-eye" and "left-eye" views are projected on a special screen. The screen is built so that each view will be reflected, respectively, into the proper eye of each member of the audience, no matter where he is sitting.

Mr. Huber received patent number 2,627,200 for his invention.

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