

of nutritive value, the grass product is a dried and powdered green flour which is stored at near zero Fahrenheit to preserve its vitamin content. A vitamin drink for humans and a mash for poultry are the forms the grass food takes when actually consumed. That the product is 10 to 80 times as rich in certain vitamins as fresh fruits and vegetables is the report of the laboratory producing the refrigerated grass food.

Gladioli, quick-frozen in the opening bud stage, have been held there several

months waiting a chance to blossom as if their opening had never been interrupted in experiments which promise to make the idea of flowers in season a quaint and old fashioned memory.

And to round out a picture of ours as a frozen age, are such current developments as frozen blood plasma for keeping blood for vital transfusions and the saving of babies' lives by freezing mothers' milk into wafers and shipping it as needed.

Science News Letter, February 22, 1941

AERONAUTICS

Whirling From 50-Foot Tower New Test For Parachutes

Adaptation of the Amusement Park Airplane Ride Shows Faults of 'Chutes by Slow Motion Pictures

PARACHUTE testing might seem to be a rather perilous task, like distinguishing between mushrooms and toadstools by noticing whether or not you are alive the morning after you eat them.

Of course, it is possible to tie a man-sized sandbag to a chute, and drop it from a plane, but then it is hard to observe exactly what happens when it opens.

To avoid these difficulties and make feasible the testing of these aerial life-

belts to assure that they will operate the way they should when they are needed, a novel method has recently been introduced at Manchester, Conn., by the Pioneer Parachute Company, now operating on a 24-hour basis supplying chutes to the Army and Navy.

The testing equipment is an ingenious adaptation of the amusement park airplane ride—the kind where little airplane-shaped cars are suspended by cables from a huge horizontal wheel on top

of a tower. When the wheel is revolved, the cars are thrown outwards by centrifugal force, and the riders whiz through space at a high speed.

Floyd Smith, Vice-President of the company, himself a pioneer in the parachute business, worked out the new method. On a hillside a few miles from the plant a fifty-foot tower has been erected. At the base is a 320 horsepower Diesel engine, connected by a shaft to a revolving rigging at the top. Attached to this is a dummy, with a parachute pack attached to its back, which can be spun around at speeds ranging from 70 to 300 miles per hour.

When the whirling dummy is going at the desired speed, the parachute is automatically released. Then, with the dummy, it gently floats to earth. This, of course, happens so fast that the eye cannot follow the action. So a 16 mm. movie camera, speeded up 7.5 times, to take 120 frames per second, films the whole process.

The camera is attached to the rigging, revolving with it. It starts just before the parachute is released, so every detail is recorded, for future study.

Some surprising, and enlightening, facts have been discovered. For instance, the little "pilot" chute, supposed to open first and serve as an anchor to aid the unfolding of the big umbrella, in many cases was the last thing to open. This represented a possible source of danger since it might foul the main canopy and the lines holding the user. So an improved pilot was devised, and a way found to pack it so it would always open first.

The studies also showed how the main parachute could be packed to avoid another source of failure. This happened with the older packing methods when the skirt of the canopy tilted upwards in opening, spilling the air out.

The armed services of Canada, England and South American nations, as well as our own country, have sent representatives to inspect the tower and its work, says Mr. Smith. He foresees rapid strides in parachute development, not only for bringing aviators from damaged planes safely to the ground, but also for the safe dropping of heavy bodies, such as boxes of supplies to an isolated location.

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Traditional luck of the farmer's wife with *house plants* in the kitchen is largely due, says a botanist, to the vapor pouring steadily from the kettle on the range into a moderately heated room—very different from hot, dry city dwellings.



SIMULATED JUMPS

Parachute jumps of several miles at least would be needed to duplicate the speed which the testing dummy attains in this device for finding why parachutes sometimes do not open as they should.