Safe Planes

With the presentation of the $100,000 prize of the Guggenheim Safe Aircraft Competition to the Curtiss Tanager, this epochal contest is over. Of nearly thirty entrants only a dozen machines put in an appearance on the field. Of those only two came close to and only one, the winner, met the qualifying conditions.

There were all kinds of aircraft entered from ordinary stock model sport airplanes to the other extreme, the autogyro. The winner and the runner-up were practically stock type ships, modified somewhat with the intelligent application of certain devices which today are not new. Nor were they new nearly three years ago when the requirements of the competition were written.

The victory of the Curtiss Tanager is a victory for Ted Wright and his design staff, who produced the winner, but it is even more a demonstration of the thoroughness of the specifications as laid down by the fund. Much has been heard of the rigidness of those requirements and the impossibility of their being attained. We should not be misled by the results which show but a sole survivor.

Given any reasonable length of time, a hundred airplanes could now be built which could qualify. This does not mean that the Curtiss engineers could not lay out another tomorrow which would walk through the new field of starters.

The object of the competition was to produce a safe airplane, or to put it in a more popular phrase, a fool proof plane. This the Tanager may be for we have seen it put through some literally foolish maneuvers. I feel safe in saying that a man would be safe in it who was no more than deliberately foolish.

The single winner is the only tangible evidence of the success of the competition, yet the lessons taught by the winner and the demonstration that designers can meet rigid specifications for safety will surely tend to make safer our airplanes that are already safe.

Aviation
Science News-Letter, January 18, 1930

Canker Obliterated

There are no trees in the United States now standing with an infection of imported larch canker, so far as the Bureau of Plant Industry now knows.

This does not mean, Dr. William A. Taylor, chief of the Bureau of Plant Industry, stated to the House Appropriations Committee, that there may not be some trees infected which the Bureau has not found, and others exposed and having the disease incubating.

A sum of $35,000 for cleaning up this tree disease was appropriated in the Department of Agriculture Appropriation bill last year, of which only $5,000 has been spent. The Department will go on with the work in 1930-31, under the existing appropriation.

Forestry
Science News-Letter, January 18, 1930

300,000 Words

A new history of the World War is completed and in circulation. This is the U. S. Army's record of the medical work done by physicians, surgeons and nurses. It is called the "Medical History of the World War."

This monumenttal work, Maj. Gen. Wm. M. Ireland, surgeon general of the Army, has told Congress, should prove a most valuable reference book for this generation of physicians and statisticians. It is in 15 volumes, and two of the volumes have two books.

The U. S. Army is still working on its official history of the World War, with prospect that it may not be completed until 1940. Twenty-two officers are working on it, and eight clerks. It is expected to contain 7 to 9 volumes of 200,000 to 300,000 words each.

Medicine—History
Science News-Letter, January 18, 1930

Why Noises Annoy

Why the high notes of a shrill soprano solo are more apt to be received with shudders than the rasping tones of a poor conversational voice is accounted for by two psychologists who have been experimenting with annoying noises.

It is not so much the volume of sound as the pitch that causes noises of this type to affect us like the grating of sand paper against sensitive nerves, these psychologists, Dr. Donald Laird and Kenneth Coye, of Colgate University, believe. The pitches of human speech are the least irritating to us humans. The psychologists speculate as to whether this may be a biological adaptation.

Their experiments, which have been chiefly with acoustical installations, are designed to determine whether devices are needed to protect the ears and nerves of workers when the actual volume of noise about them is not particularly great.

It has been generally believed that high pitches were especially annoying. But whether low pitches were also irritating has been a question. Dr. Laird reports that the high pitches he used were decidedly more annoying than three tones which he describes as "moderately neutral." Low pitched tones were found to be as annoying as high, except that the very highest shrill sounds were the most irritating of all.

If the absolute zero of annoyance can be determined, it will be possible to measure the degrees of annoyance aroused by different degrees of pitch and volume of sound, the psychologists state.

Psychology
Science News-Letter, January 18, 1930

IN VARIOUS

Eye Saved

An unusual case in which a bony tumor was removed from the eye socket without injury to the eye was reported to the Southern Surgical Association by a New Orleans surgeon, Dr. Isidore Cohn. The tumor measured two and one-half inches by one inch. The patient after recovery had full use of the eye without disturbance in any way of the vision, Dr. Cohn stated.

Surgery
Science News-Letter, January 18, 1930

New Plastic

Reduction in the cost of distributing talking movie records to theaters, along with better reproduction of sound, is foreseen as the result of the development of "durium," a new synthetic resin that will make cheap and almost indestructible phonograph records.

While many of the talkie producers record the sound track on the film alongside the picture, from which it is converted back to sound by a photoelectric cell, the flat disc record still finds wide use. One large producer uses such records entirely, while several others produce their films with both kinds of record, leaving it to the theater operator to decide which to use.

With the old heavy disc records, made out of the same material as phonograph records used in the home, but 16 inches in diameter, shipping costs mount rapidly. The records are always sent in duplicate, and, to large theaters, in triplicate, so that breakage of a record will not stop the show. Furthermore, a single record cannot be used more than 10

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or 15 times, without having the scratch become too apparent.

The durium records are made by coating the new synthetic resin on heavy paper, and embossing the grooves of the sound track into it. They are light and unbreakable, thus cutting greatly the shipping and packing costs. They will stand all kinds of rough treatment, such as hammering, bending, heating or scratching, without impairing the sound track. They have practically no surface noise, and can be played for a hundred or more times, according to the claims of the inventor.

Dr. Hal. T. Beans, Columbia University chemist, is the inventor of the new resin, the chemical details of which are not yet known because of the patent situation.

Chemistrty—Physics
Science News-Letter, January 18, 1930

Balls of Helium

Six huge balls mounted on a flat car to appear on American railroads soon will not be globes consigned to a mammoth pawn shop, but efficient containers for precious helium to carry the gas from Texas oil fields to distant airship hangars.

When tested recently, one of these six-foot spheres, made of steel an inch and a half thick and mounted on a flat car, was filled with helium at 1,250 pounds per square inch pressure and run off a 25-foot bank. It was unharmed. It finally exploded under a pressure of 4,500 pounds.

The odd-shaped container is used because it can carry twice as much gas as a cylinder of the same volume. That sounds contradictory, but because of its spherical shape, the pressure required in the sphere to stress the steel equally is double that required in the cylinder. Consequently at double pressure the sphere will hold double volume.

Engineering
Science News-Letter, January 18, 1930

Ether Reduces Whoops

Results obtained with a new method of administering ether in cases of whooping cough were described by Dr. W. Ambrose McGee of Richmond at a meeting of the Southern Medical Association. Ether has an antispasmodic action which physicians are trying to use to lessen the intensity of the paroxysms of whooping cough and also to shorten the duration of the disease.

While some scientists have tried hypodermic injections of the ether into the muscles, Dr. McGee has had considerable success with another method of injection by which the drug is absorbed directly from the intestinal tract. This new method of treatment is not a specific cure, but Dr. McGee found it more effective in relieving the symptoms of the disease than other methods of treatment now commonly used. By rather literally taking the whoop out of whooping cough, the small patient is kept from becoming so exhausted and therefore he can recover from the disease more quickly.

The ether injections gave more consistently satisfactory results than the various whooping cough vaccines, Dr. McGee reported. He also stated that this treatment is more successful the earlier in the disease it is started. For this reason he stressed the importance of early diagnosis of whooping cough and declared that a simple blood test combined with other examinations make it comparatively easy to arrive at the desired early diagnosis.

Medicine
Science News-Letter, January 18, 1930

Winter Range

Extension of their winter range, eliminating as much as possible the crowding and concentration incident to feeding with hay, is one of the keys to the promotion of good health in the great elk herd of Jackson Hole, south of Yellowstone National Park. This was brought out by O. J. Murie of the U. S. Biological Survey, who has spent something over two years following the herd and learning their ways and life problems. The Commission consists of representatives of U. S. Government departments, the state of Wyoming, various wild life organizations, and business men.

It is necessary to feed hay to the elk comparatively early in the winter under present conditions, Mr. Murie explained, because if this is not done the animals crowd upon the ranches in the valley, stealing hay intended for the farmers' livestock and in general raising a disturbance. This prolongs the period of their crowding together on the elk feeding grounds, and crowded elk interchange disease germs just as crowded human beings do. If some or all of the ranch lands can be acquired and turned into elk range, the elk can be left to shift for themselves farther into the winter, keeping them uncrowded and in better condition than they are at present.

Zoology
Science News-Letter, January 18, 1930

Fewer T. B. Deaths

"The time is not far distant when a new major decline in tuberculosis may again take place," statisticians of the Metropolitan Life Insurance Co. have just declared. Their earlier prophecy that 1929 would see the lowest tuberculosis death rate ever recorded in the United States will certainly be fulfilled, they found after a review of the latest figures.

Reports through the end of November, the latest available, showed a rate of 85.9 per 100,000, which is a decline of 5.7 per cent, as compared with the corresponding period of 1928. Tuberculosis will some day rank among the relatively minor causes of death. A death-rate of 40 per 100,000 will probably be approached during the next ten years.

"The greatest reduction in the mortality from tuberculosis has taken place in that group of the population where the situation has always been the gravest," the statisticians pointed out, referring to the group of wage earners and their families.

"With the attainment of a death-rate of 40 per 100,000 we shall have reached the point where the end of the fight against tuberculosis will surely be in sight," they stated.

Medicine
Science News-Letter, January 18, 1930

Sky Glow

Seen on any clear moonless evening after twilight as a faint beam of light in the western sky, the zodiacal light has long been an object of study by astronomers and physicists. At the meeting of the American Physical Society, Dr. E. O. Hulburt, of the U. S. Navy's research laboratory, suggested its connection with magnetic storms that sometimes affect the earth.

Recalling observations made 75 years ago by a navy chaplain, Rev. George Jones, Dr. Hulburt pointed out that most abnormalities of the zodiacal light, such as fluctuations, unusual brilliance or distribution over the heavens, followed magnetic storms. This, he thinks, indicates some connection, and suggests that the particles which cause the zodiacal light, by scattering light from the sun in some manner, originate in the atmosphere of the earth. The partly broken atoms high in the atmosphere may cause the phenomenon under the combined effect of the pressure of sunlight, the gravitation and magnetism of the earth.

Meteorology
Science News-Letter, January 18, 1930