

December 16, 1842.—Prof. Samuel F. B. Morse, in testing out his telegraphic system in Washington, "so arranged my wires along the banks of the river as to cause the water itself to conduct the electricity across."

The current was carried across the canal, then by wires a few feet down the bank, then back by the water of the canal. This was the first telegraphy without wires.

December 16, 1902.—Marconi dispatched the first wireless message across the Atlantic Ocean.

December 17, 1903.—Orville Wright flew the first heavier-than-air machine for the first time.

Practical efficiency was acquired by the Wright brothers, whose flying machine was successfully tested on the 17th of December. For three years they experimented with gliding machines. . . . and it was only after they had obtained thorough command of their movements in the air that they ventured to add a motor. How they accomplished this must be reserved for them to explain, as they are not yet ready to make known the construction of their machine nor its mode of operation.

—O. Chanute: *Aerial Navigation*, paper read before the American Association for the Advancement of Science, December 30, 1903.

December 17, 1778.—Birth of (Sir) Humphry Davy.

His first experiments were the effects of acids and alkalis on vegetable colors, the kind of air in the vesicles of common seaweed, and the solution and precipitation of metals. These were made in his bedroom in Mr. Tonkin's house, or in the kitchen, when he required fire. This old gentleman had brought up his mother and her two orphan sisters, and now was like a father to Humphry. He said, "This boy Humphry, is incorrigible. Was there ever so idle a dog! He will blow us all into the air." He was at this time probably making a detonating composition, which he called "thunder power," his sister Kitty being his assistant.

—Bolton: *Famous Men of Science*.

December 22, 1891.—Asteroid No. 323 discovered photographically by Dr. Max Wolf of Heidelberg. It was the first asteroid to be found by this method.

Here, night by night, the innumerable heavens

Speak to an eye more sensitive than man's,
Write on the camera's delicate retina
A thousand messages.

—Noyes: *Watchers of the Sky*.

Science News-Letter, December 11, 1926

Highway officials in Washington State are using electromagnets to clear the roads of nails and other bits of iron that are hard on auto tires.

Geraniol Lures Beetle

A scent like that of the old-fashioned geraniums in our grandmothers' gardens is to prove the undoing of the Japanese beetle, which has been a most destructive pest in the Eastern truck garden and orchard region for several years. The U. S. Bureau of Entomology has recently discovered that the beetles are attracted by the scent of geraniol, the odorous principle of geranium plants. Comparatively cheap mixtures of this chemical have been made and are sprayed upon a small group of trees with the result that the beetles to the windward side will congregate for half a mile around. They are then easily killed by a contact spray of a diluted pyrethrum extract. The experiment was tried upon comparatively small infested areas last summer but will be used extensively during the coming season.

Other methods of killing the beetles include the introduction of parasitic wasps and flies from Japan, China and India, and the treatment of the soil of lawns and golf courses where the larvæ feed with arsenate of lead. Shade trees have been protected by treatment with arsenate of lead coats applied before the appearance of the insects.

The spread of the insects through commercial carriage is retarded by government quarantine about the infested territory, but the flight of the beetles, which cannot be controlled, has brought about an extension of the infested area. It now includes the southeastern corner of Connecticut, the southeastern end of New York, all of New Jersey, much of southeastern Pennsylvania, and the northeastern part of Delaware, a total of some 10,000 square miles.

The beetle was accidentally brought to this country about ten years ago in the grub state in soil about the roots of Japanese iris.

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ENGINEERING

Stanford Studies Aviation

An extensive program of aeronautic research and training of aeronautic engineers will soon be inaugurated at Stanford University as the result of a grant from the Guggenheim fund, it has recently been announced. The present aerodynamics laboratory, in which experiments have been under way for the past ten years, will be enlarged and housed in a new building, while a six-year course in aerial engineering will be established.

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Traffic Accidents

While public education and propaganda have touched upon the high spots of traffic dangers much research is needed on the less obvious causes of fatal accidents. Dr. H. C. Dickinson of the U. S. Bureau of Standards has reported to the Highway Research Board of the National Research Council that the responsibility of the highway engineer is greater than statistics would indicate.

The construction of highway surface, said Dr. Dickinson, is an important element in skidding accidents. While much has been done on banking and widening curves, more research is needed on this fruitful cause of fatalities.

"Running a tangent into an arc of a circle obviously produces a curve," continued the expert, "which can be only approximated by a vehicle, since to follow the curve would require the instantaneous shifting of the steering wheel from the position of a straight line motion to that for the constant radius of curvature for the circular arc. This is evidently impossible. Doubtless a study of the traffic lines on a stretch of new concrete would show how nearly the average driver can approximate this instantaneous curve."

The psychological effect of traffic laws and regulations on people is a point of considerable importance that should receive further attention, he declared. Most laws affect only the relatively small criminal element in the population but traffic laws are of concern to about half the citizens of the country. Consequently their right or wrong reaction to such regulations is of considerable importance. A too low speed limit is a common example that frequently defeats its safety purpose because the driver thinks it is too low, exceeds it, and keeps his attention on "watching for the cop" instead of the safety of himself and his vehicle for which the law was designed.

Science News-Letter, December 11, 1926

Goldfish should be kept in an open-topped bowl or tank, rather than in a small-topped globe.

One egg, per hen, per year, it was found, paid for the electricity used to stimulate egg production on poultry farms in England.

Nitrogen, an unsocial element, dislikes to join into chemical combinations and retires to its elemental condition under the slightest provocation.