



TIRE CHANGER—This new Firestone bead-loosening tool makes it easier to remove heavy truck and tractor tires stuck to their rims. One of the detachable hooks has been forced, by leverage, between the tire iron and the rim. This exerts tremendous downward pressure on the tire, forcing the bead away from the rim.

MEDICINE

Statistics Show that Cancer is Curable

► **TOO MANY** people still look on cancer as an absolutely hopeless condition. Dr. Ira T. Nathanson, of Harvard Medical School, challenges this gloomy view. (*New England Journal of Medicine*, Sept. 16)

"It is a well-accepted fact," he declares, "that present-day treatment is effective in the early stages of the disease, before it has spread to distant organs or tissues

MATHEMATICS DICTIONARY

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THE JAMES MATHEMATICS DICTIONARY,

the only such book now published, provides standard definitions of the terms and phrases from arithmetic through elementary differential equations; the technical terms ordinarily used in the applications of these subjects, and more advanced basic terms. Easy examples, many illustrations and all sorts of formulas are included. The appendix contains tables of weights and measures, a list of mathematical symbols and the tables ordinarily used in handbooks.

This dictionary is a great deal more than a collection of definitions. It explains, illustrates and correlates, stressing especially those operations that are hardest to understand. One reader has called it "Ten texts in one."

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that are essential to life. Moreover, the prognosis is far from hopeless, even in more advanced cases."

In several forms of cancer, he adds, "the rate of cure is higher than that of some other diseases."

The chances for any given patient being cured of cancer depend on many factors, such as the location of the cancer, the type of cancer, and how early in the disease treatment is started.

In cancer of the skin, for example, the curability rate is 48 to 68%. In cancer of the breast the relative curability rate, based on results five years after operation, ranges from 30 to 51%. The absolute curability rate, for all patients who have treatment of any kind including that which is merely palliative, is 22 to 28%. In cancer of the stomach, the five-year curability rate of all patients who enter the hospital is 5%. When operation is possible, however, and it is in about half the patients with stomach cancer, the outlook is much brighter, with survival rates of from 15 to 50%.

Even when cancer is discovered too late for an absolute cure to be achieved, suitable treatment can often give the patient many months or even a few years more of comfortable life. No one who thinks he has cancer should feel too discouraged or frightened to see a doctor. The condition may not even be cancer, and if it is, the outlook may be much brighter than he thinks.

Science News Letter, October 23, 1943

PUBLIC HEALTH

Health Supervision Needed In Child Day Care Centers

► **ADEQUATE HEALTH** supervision, including nursing, should be provided by communities establishing day care centers for children of working mothers, warns a report issued in New York by the Council on Maternity and Child Health of the National Organization for Public Health Nursing.

Definite policies should be formulated in cooperation with the proper health authorities before the establishment of day care centers, recommends the report. Immunization against smallpox and diphtheria, medical examination of children before they are admitted, prevention and control of communicable diseases, and the care of injuries and emergency illness; all should be considered.

As not every day care center would need a full-time nurse, part-time nursing service can usually be secured.

Absenteeism of mothers from work can usually be traced to the illness of their children. Most centers do not have facilities for taking care of sick children, but volunteer or paid auxiliary workers can be trained to help with sick children in the home. Those suitable would include Red Cross-O.C.D. nurses' aides and other volunteers in public health nursing agencies, neighbors whose ability in caring for sick children is well-known or who have had a course in home nursing.

Science News Letter, October 23, 1943

PHYSICS

Revolutionary Compass Developed for Airplanes

► **A NEW** airplane compass has been developed which is not thrown off by the bomb load, armor plate or other metal parts of the plane, it was announced at the Philadelphia Division of Bendix Aviation Corporation. Motion of the plane does not affect it either.

"This new compass will not go off its reading when the plane dives or climbs rapidly, it will not lay or overshoot during a turn and it will not oscillate or 'hunt' back and forth in rough weather," the designer, W. A. Reichel, explained.

The Gyro Flux Gate Compass uses the earth's magnetic field to develop minute electrical impulses which, when amplified, turn the compass indicator. The transmitter can be located at a distance from the master indicating dial. The principle of the gyroscope is employed solely for stabilization.

This revolutionary type of compass is "as great an advance over the conventional magnetic compass as that compass was over the lodestone," Mr. Reichel said.

Science News Letter, October 23, 1943

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