

ENGINEERING

Light Structural Column

➤ A NEW TYPE of structural column of concrete and steel, developed in the Technological Institute of Northwestern University for use in high buildings and long-span arch bridges, has light weight and great strength and probably will be used widely in the future in place of more costly steel columns. It is a type of a reinforced concrete compression unit, with about 15% by volume of steel and 85% by volume of concrete, which is about as heavy as aluminum and stronger than solid structural steel.

The column consists of extremely high-strength concrete wrapped about with a high-strength spiral steel wire, which is always under tension, to form a core which is then covered with a fireproofing concrete. An eight-inch core with two inches of fireproofing concrete covering will take a safe load of 1,000,000 pounds, it is claimed. In laboratory tests it carried a load of 2,500,000 pounds, and at this load the elastic limit of the steel had not been reached.

The new type of structural column was developed under the direction of George A. Maney, chairman of the university's department of civil engineering, in a program of finding new materials to meet critical needs sponsored by the War Production Board.

"The features that distinguish the new type of column from the ordinary spirally reinforced concrete column," Prof. Maney says, "are, first, an extremely high-strength concrete, and, second, a spiral wrapping in which the steel is always under tension even though there is no load on the column. The latter feature is extremely important in that it permits the restraining steel spiral to act as soon as any load is applied, whereas, in an ordinary reinforced concrete

column this is not the case."

This result is accomplished by using a very small amount of water and applying a great pressure to the concrete unit while it is being compressed. The unit is not difficult or expensive to make and requires only ordinary plant equipment except for the press that applies the load. The cost, according to Prof. Maney, is estimated at about one-third that of a steel column.

Science News Letter, December 23, 1944

AERONAUTICS

Tree-Fresh Dates Sold Day After Being Picked

➤ A SHIPMENT of tree-fresh Arizona dates, picked on a Tuesday near Phoenix, Ariz., went on sale in Tennessee on a Wednesday, inaugurating the commercial shipment of fresh produce by air to any point in the South. Regular consignments totaling 5,000 pounds of the highly perishable fruit will be received in Tennessee daily, as well as in New York, in coming weeks.

The fresh dates are a delicate variety usually consumed near the producing area because they spoil rapidly. The dates are being harvested from the groves of the Clarence W. Pruitt farm at Phoenix, washed, packed and put aboard an American Airlines airfreighter the same day. They are flown overnight to the East and delivered to stores immediately upon arrival.

The dates are being offered in nine-ounce packages at 65 cents and in three-pound boxes for \$2.49. The shipment of perishable foodstuffs from the West Coast to the East by air is forging between the grower-farmer and the consumer a new link which promises to bring to the homes of America fresh foods of greater variety and finer quality.

As airlines are able to make more non-priority space available, other products such as tree-ripened oranges, grapes, and fresh-caught seafood will be offered to housewives in most parts of the country.

According to Kenneth Reeves, representative of A & P Food Stores, chain food stores all over the country will offer a wider variety of foods to housewives after the war as a result of air-shipment of produce. Farmers whose outlets have been limited to nearby communities will

be able to find new and bigger markets by shipping their products by air.

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MEDICINE

Radium and X-Ray Used For Removing Birthmarks

➤ SEVERAL ways of removing those distressing and often disfiguring blemishes known as birthmarks have been reported.

Radium treatment gives the most uniform and best cosmetic results, although X-ray treatments have also been tried, in the opinion of Dr. G. E. Pfahler of Philadelphia. The cavernous and strawberry types of birthmarks respond satisfactorily to irradiation treatment but the port wine types do not, he finds. Dr. Pfahler has also used electro-surgery in selected cases. He stated that others have reported good results with carbon dioxide snow and injection treatments of birthmarks.

The advantages of X-ray treatment of these marks, which are tumors of new-formed blood vessels, were reported by Dr. James V. Prouty, of Cedar Rapids, Iowa.

The development of shock-proof apparatus and accurate measuring instruments, he pointed out, have overcome the dangers of electrical shock and over-exposure which formerly caused objection to the use of X-rays for treating these tumors.

Science News Letter, December 23, 1944

MATHEMATICS DICTIONARY

Second Printing, Second Edition

American Library Association's Subscription Books (encyclopedias, dictionaries, etc.) Committee says in Subscription Books Bulletin, Oct. 43: "In its subject field there is no work directly comparable to the Mathematics Dictionary. Because of its usefulness to anyone seriously interested in mathematics, the volume is recommended for personal, school or library purchase. For those already possessing the 1942 edition, purchase of the 1943 edition is suggested only if the dictionary is extensively used or a second copy is desired." Send \$3.00 to Digest Press, Department 3B, Van Nuys, California, or Science News Letter.



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