



**DAWN CACTUS**—This fossil imprint in Eocene rocks of eastern Utah, 50,000,000 or more years old, shows that prickly-pear cactus grew in the region then, as it grows there today. Less spiny than its modern successor, it is still very definitely a cactus. The flat-ended structure at upper right is a crushed flower.

## PALEBOTANY

## Dawn Cactus Found

Fossil imprints in Eocene shale of eastern Utah show ancestor of the prickly pear cactus. Attached are remains of a flower.

➤ CACTUS grew on Utah hillsides 50 or 60 million years ago, and it was very much like the cactus that grows there today.

First information on this new chapter on ancient American plant life was imprinted on a split slab of Eocene shale found in the Green river valley in eastern Utah by Earl Douglas, veteran collector of fossils. First description of the species is given by Prof. Ralph W. Chaney of the University of California, in a detailed report to the *American Journal of Botany*.

The type specimen of this oldest of all known cacti consists of the fossil traces of three flattened, more or less oval stem joints, unmistakably similar to those of the present-day prickly-pear cactus. Attached to the uppermost joint are the crushed remains of a flower; although

poorly preserved, the petals still show the kind of venation they had in life.

From the second joint arises another crushed structure that may have been either a bud or an immature fruit—it is now hard to tell which. In addition to this largest and most complete specimen, there are also fossils of three separate stem-joints of the same species.

Although the ancient plant was unmistakably a cactus of the prickly-pear group, it has characters that indicate its position nearer the primitive base of the cactus family tree. Thus, it is not as thickly beset with spines as most present-day prickly-pears, and the spines it has are relatively short and weak.

Other plant fossils found closely associated with the cactus remains indicate a climate in the region, at the time it grew there, somewhat like that of the

Louisiana coast, or of parts of Mexico on the opposite side of the Gulf of Mexico. The fossil leaves and twigs include such species as willow, chestnut, oak, sweetgum, mimosa and bittersweet.

Prof. Chaney has given the ancient plant the botanical name *Eopuntia douglassii*. The first or generic name means "dawn cactus"; the second or specific name is bestowed in honor of the original collector.

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## MEDICINE

## American Apparatus To Process Soviet Blood

➤ SOVIET blood will soon be prepared for fighting shock in Russian wounded through use of four complete plasma processing units given to the Union of U. S. S. R. Red Cross and Red Crescent Societies by the American counterpart of this organization, the American Red Cross.

Prof. Peter G. Strelkov of the U.S.S.R. Academy of Sciences flew to the United States to arrange for its use in Russia and Capt. John Reichel, Jr., of the Office of the Surgeon General of the U. S. Army, will accompany the apparatus to Russia to aid in its installation and use.

Prof. Vladimir Lebedenko, Washington representative of the Soviet Red Cross, in receiving the apparatus in presentation ceremonies stated that the 4,000 pints of blood daily that will be processed by the four units will supply the Russian armies and civilians in reoccupied areas as well. The equipment was paid for from war relief funds given the Red Cross by Congress.

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## ENGINEERING

## Rayon and Nylon Tire Cord Much Stronger Than Cotton

➤ RAYON CORD in synthetic tires for trucks, used instead of cotton, has more than tripled the performance of the tires, and nylon cord in airplane tires has doubled their strength without increasing their size. These are two of the many results of scientific research by rubber chemists pointed out at a recent meeting of the American Society of Mechanical Engineers by Dr. Sidney M. Cadwell of the U. S. Rubber Company, who predicted a continued use of synthetic rubber in postwar days.

Rubber chemists, he said, have achieved as much knowledge of synthetic rubber