

Do You Know?

Aluminum clothespins may soon replace the familiar pin of wood.

Approximately 10,000 derivatives of sugar have been made by chemists.

Vitamin P is able to increase the concentration of calcium in the blood.

Onions in storage keep best in darkness and dryness, and in a temperature slightly above freezing.

The thickness of the skull ranges from less than one-eighth of an inch to almost half an inch.

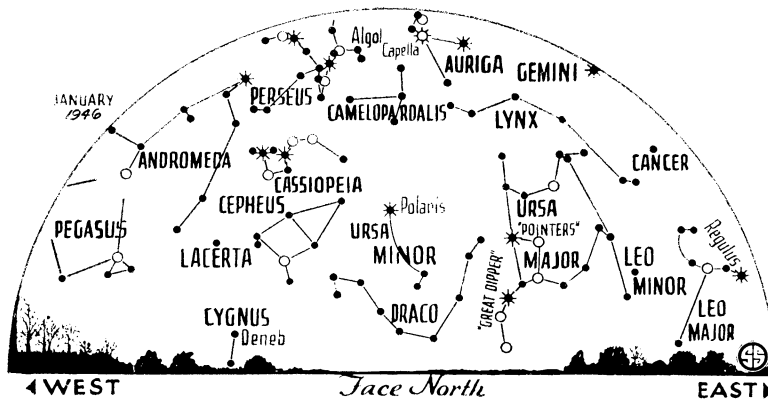
If castor bean growing can be adapted to American mechanized farm harvesting, it can become a permanent and profitable crop in the United States.

Narcotic plants or stimulants have been used since ancient days for purposes of exhilaration, intoxication or in tribal ceremonies.

The American potato crop this year will be about 433,000,000 bushels; this is 15% above the average of the past 10 years, and the second largest crop ever grown.

Flax was the only outstanding important crop of 1945 in France; the production surpassed prewar averages, which means good news for French textile mills.

Sulfur played an important part in winning the war, during which over 15,000,000 tons were mined in the United States to supply all domestic needs and much of the needs of the Allies.



sun for the entire year. The distance then will be 91,455,000 miles, or about 3,000,000 miles closer than it will be in July. This is often a surprise to people who think we should be warmer when the sun is nearest. Actually, of course, it is the height of the sun in our sky that determines how much heat we get from it. Now, even at noon, it is so low that its rays are spread thinly over the ground. In July, by way of contrast, the noon-day sun comes well overhead, and its rays of light and heat, falling more nearly vertically, are much more concentrated.

Celestial Time Table for January

Jan.	EST	
2	1:00 p. m.	Sun nearest, distance 91,455,000 miles
3	7:30 a. m.	New moon Partial eclipse of sun, visible from South Pacific Ocean and Antarctica
10	2:00 a. m.	Mars nearest distance 59,463,000 miles
	3:27 p. m.	Moon in first quarter
12	1:00 a. m.	Saturn opposite sun
13	8:00 p. m.	Mars opposite sun
14	7:00 a. m.	Moon nearest, 227,540 miles
16	11:17 p. m.	Moon passes Saturn
17	2:02 a. m.	Moon passes Mars
	9:46 a. m.	Full moon
22	12:00 noon	Mars passes Saturn
24	5:47 a. m.	Moon passes Jupiter
	12:00 mdt.	Moon in last quarter
26	2:00 a. m.	Moon farthest, 251,320 miles
Subtract one hour for CST, two hours for MST, and three for PST.		

Science News Letter, December 29, 1945

OPTICS

Optics Imitates Nature

► ONCE MORE science finds it profitable to imitate nature. The latest instance is the use of multiple lens systems similar to the eye of a fly to produce optical spectral patterns for comparison with the X-ray spectral patterns found in examination of the structure of crystals. When the spatial arrangement of the lens in the artificial fly's eye is similar to the projection of the crystal structure on a plane, the optical spectra have the same arrangement as the X-ray images.

An improved technique for constructing such "eyes" is described by Prof. W. L. Bragg and A. R. Stokes of the Cavendish Laboratory, Cambridge, (Nature). Previously, the grid of lenses had been made by using pinholes in a square array, with 40 pinholes to the centimeter. This produced fuzzy images and suffered from the further difficulty that the pinholes were liable to be blocked by specks of dust. The new method is to replace the pinholes by small lenses embossed on the surface of a sheet of transparent plastic and to cover the rest of the sheet with a paper mask. The

minute lenses (0.06 centimeter in diameter, 0.5 centimeter in focal length) are produced by pressing a steel sphere into a soft copper block, and then casting or pressing the plastic on the block. The resulting images are sharper and more uniform in intensity than those given by the pinhole method.

The new method makes possible a rapid comparison of various geometrical arrangements for the structure of a given crystal. Previously, the determination of crystal structure from X-ray photographs required long and tedious calculations. Now a first approximation to the structure can quickly be obtained by a trial-and-error process of constructing a series of gratings with different geometrical arrangements. It should prove a valuable tool in speeding up routine X-ray determinations of crystal structure.

Science News Letter, December 29, 1945

Some spiders do not spin webs to catch their prey; they lie in ambush and pounce upon passing insects and grubs.

NEW "PICK-UP" CANE

Permits Disabled Persons To Pick Up Small Articles Without Painful Stooping.

NO OTHER CANE LIKE IT

The Mason "Pick-Up" is a light double purpose cane with concealed patented pick up mechanism that enables the user by simple finger pressure and without any stooping to easily pick up papers, pencils, cards, coins, etc. Proper balance and rubber grip tip insures safer walking. Use a beautifully finished Mason "Pick-Up" Cane yourself or as a perfect gift for a disabled service man or friend. Write today for FREE CIRCULAR and 5 DAYS TRIAL OFFER.

W. H. MASON Box 27, Leesburgh, Ohio

