



◊ ◈ ◉ ◊ SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

only about six hours more than Mars' rotation period of 24 hours 37 minutes, its easterly motion causes it to lag behind the stars and planets as they move westward during the night.

In fact, seen from one position on Mars, Deimos would rise only once in five and one-half days.

That is, if you were on Mars, you might see it come up this evening, but at sunrise tomorrow morning it would not yet

AERONAUTICS

Lifting System for Planes Passes Trials

➤ A CARRIER-BASED AIRPLANE that helps blow itself into the air has successfully passed its first trials.

The new system is called "flap-blowing." Its object is to give more lift power to the wings. If this can be accomplished, problems such as the limits of landing space, speed of a moving carrier, stopping power of arresting gear and the launching capabilities of catapults might be solved.

In "flap-blowing," a jet of air is blown out from the airplane's engine and directed along the wing's rear edge where the flap bends from the wing. Without the jet of air, turbulence starts behind this line, but with the jet air, lift is "significantly increased," because the air flows smoothly over the top surface of the flap.

The system was tested in 110 trials on a modified de Havilland Sea Venom Mark 21. It decreased stalling speed by 15 knots.

The power plant was a standard gas turbine, the Ghost 104, modified to give the required air supply at the wing-flap juncture. The engine was equipped with a governor to prevent overheating.

The aircraft's wings were fitted with dropped leading edges, which also increase lifting power.

"Flap-blowing" to get planes into the air in less space would not have to be restricted to carrier-based planes. It could also be used to get land-based aircraft off the ground from shorter runways. Added weight is still a problem that British engineers are now trying to overcome.

Science News Letter, July 28, 1956

have set. After dark tomorrow evening it would still be in the sky!

Celestial Time Table for August

AUG. EST	
3	7:40 a.m. Moon passes Venus.
5	4:00 p.m. Moon nearest, distance 222,400 miles.
12	early a.m. Meteors of Perseid shower, which seem to radiate from constellation of Perseus, visible, especially after midnight.
13	3:45 a.m. Moon in first quarter.
	4:05 p.m. Moon passes Saturn.
18	11:00 a.m. Moon farthest, distance 252,200 miles.
21	7:38 a.m. Full moon.
23	4:05 p.m. Moon passes Mars.
28	11:13 p.m. Moon in last quarter.
30	12:00 mid-night Mercury farthest east of sun.
31	1:00 p.m. Venus farthest west of sun.

Subtract one hour for CST, two hours for MST, and three for PST.

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AERONAUTICS

Tanker Can Refuel Three Fighters At Once in Flight

See Front Cover

➤ BORROWING FROM nature, aircraft planners are now using a mother ship to suckle smaller aircraft in mid-air to keep them in trim and alive. Being able to refuel smaller craft in mid-air has become an all-important factor in our nation's air defense.

A flying filling station is shown in the official U. S. Navy photograph on the cover of this week's SCIENCE NEWS LETTER. The Convair Tradewinds R3Y tanker is simultaneously refueling three McDonnell Banshee F2H jet planes in flight.

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ENTOMOLOGY

Wasps Given Formal Names

➤ WASPS are being classified for the first time in a joint project sponsored by the University of Michigan and the Dow Chemical Company.

Two-thirds of the 7,500 species of *Ichneumonidae* in the United States have not been named, and only a few sting people.

Most of these parasitic wasps probably do more good than harm. They kill such destructive insects as gypsy moths, alfalfa weevils, spruce budworms, and a variety of fruit pests.

The wasps are being classified by Dr. Henry Townes of the University and Robert R. Dreisbach of Dow.

Science News Letter, July 28, 1956

OPTICAL STAR FINDER



Stars—Planets—Constellations—their stories are recorded in the skies. There before your eyes are the eternal records of the birth of science and history.

Not a telescope but a brand new optical method of positioning the outlined figures of the constellations on the night sky and directly naming the stars.

A precision instrument not a gadget. Charts register accurately over the actual stars in the night sky. Complete sky coverage with 30 illuminated charts for your study and enjoyment.

With one eye to the instrument and one eye to the sky optical illusion "projects" the battery illuminated chart on the heavens to name the stars, locate the planets and identify the constellations. Easily used. No technical knowledge required. Offered complete with satisfaction guaranteed, \$1.98 postpaid. California residents: add 6¢ sales tax.



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