

**Get out and look at the Stars!**

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**Astronomical Telescope**

FOR AS LITTLE AS \$6.00

Same Principle as Mt. Palomar Telescope



See the mountains of the Moon, Saturn's rings, Jupiter's moons, nebulae, clusters, the companion of Polaris, and other heavenly wonders.

WITH ALL THE DIFFICULT AND TEDIOUS WORK ELIMINATED you can make a large-size high-powered, reflecting telescope for little money. Two years of intensive research gave us the secret of Machine Processing a reflector to a perfection equalling or better than the average hand-finished mirror of this size. This reflector is absolutely optically centered. The surface is accurate to better than 1/4 wavelength of light as indicated by test against a master plate. Aluminized with Hard aluminum coating of high reflectivity and long life, guaranteed against peeling or blistering for 1 year. Glass is annealed, strain-free. The complete telescope can be built in four hours as described in a recent national scientific magazine. Reprint free with each kit. Reprint alone 10c.

This easily built telescope guarantees success for the beginner. It gives contrasting, sharp, clear images without rainbow effects or fuzz. Material for tube, etc., can be found around every home or purchased for a few cents.

3" REFLECTOR (39 F.L.) A "FLAT" AND 3 EYEPIECE LENSES ALL READY FOR YOU TO ASSEMBLE INTO AN ACHROMATIC (COLOR FREE) DISTORTIONLESS INSTRUMENT—COST .....\$6.00

For 4" Reflector Kit—56" F.L. send 10.00

"A" For 5" Reflector Kit—67" F.L. send 15.00

For your first telescope make a 3" or 4". Advanced workers 5".

**WONDERFUL BUY**

Bausch & Lomb

**SPECIAL WIDE-FIELD EYEPIECES**

Ramsden type oculars with excellent correction and light-transmitting powers. Comfortably large aperture and conical eyepiece mounting add to their convenience in use when the observer is wearing spectacles. High eyepoint permits the entire field to be viewed simultaneously with or without eyeglasses. Until you have used these oculars you will never know how good an eyepiece can be. Only Bausch & Lomb could make these wonders. Quantities are strictly limited; little more than 100 of item #3 and #3a. If these eyepieces were re-ordered today they would have to sell for three times our present price. All fit standard 1 1/4" telescope eye-tubes.



- #3 Modified Ramsden design ocular 3/4" E.F.L. .... \$8.50
- #3A Modified Ramsden design 1" E.F.L. .... \$8.50

**RONCHI GRATINGS**

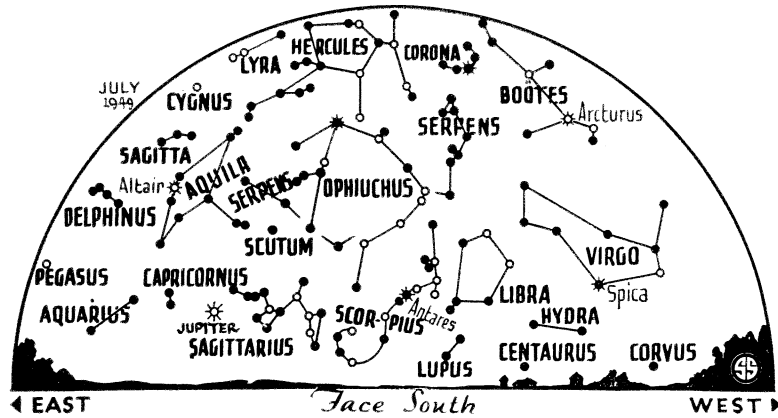
100 line per inch ruling on 2 1/4" x 2 1/4" film, 1" x 1" ruled area. Black and white, sharply defined. Two rulings may be used for excellent demonstration of interference phenomena. \$1.00 per film. 2 for \$1.50.

**HARRY ROSS**

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Scientific and Laboratory Apparatus

70 West Broadway, Section S, N. Y. 7, N. Y.



☼ \* ○ ● SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

when Jupiter is on the far side of the sun, it is about 186,000,000 miles (the diameter of the earth's orbit) farther away.

In the half century following Galileo's discovery of these moons of Jupiter, astronomers began to make predictions as to when they would disappear behind the planet and make their reappearance. When Roemer observed these events, and measured their times accurately, he found that sometimes they were earlier and sometimes later than the prediction. Puzzled at first, he finally realized that they were early when Jupiter was closest to us, and late when it was farthest away. This gave him the clue to a correct explanation of the differences. The eclipses, etc., took place on schedule, but when Jupiter was on the far side of the sun the light had to travel all the way across the orbit of the earth. On the other hand, when the two planets were on the same side of the sun, the light had a much shorter path.

As a result, he announced in a paper to the French Academy of Sciences, published Dec. 7, 1676, that light takes 22 minutes to cross the earth's orbit, so that it would require 11 minutes to get from the sun to the earth. Modern observations make it 8 minutes 19 seconds, which corresponds to a speed of light of 186,000 miles per second.

**Time Table for July**

July	EST	
2	4:00 p. m.	Earth farthest from sun, distance 94,453,000 miles
	5:00 p. m.	Moon nearest, distance 229,800 miles
10	2:41 a. m.	Full moon
	8:00 p. m.	Moon passes Jupiter
16	9:00 p. m.	Moon farthest, distance 251,000 miles
18	1:01 a. m.	Moon in last quarter
20	3:00 a. m.	Jupiter nearest earth, distance 382,300,000 miles
23	6:07 a. m.	Moon passes Mars
25	2:33 p. m.	New moon
27	1:22 p. m.	Moon passes Venus
28	early a. m.	Meteors of Delta Aquarid shower visible
	8:00 p. m.	Moon nearest again, distance 227,600 miles
31	1:00 a. m.	Moon passes Saturn at distance of about a third the lunar diameter

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

Science News Letter, June 25, 1949

Oslo, capital of Norway, has 170 square miles of land within the municipal area, about three times as much as the District of Columbia; much of it is "wild" terrain, with moose, deer, wild cats, foxes, rabbits and badgers roaming at large.

**ERRATA, Vol. 55, Nos. 1-26, January-June, 1949**

PAGE	TITLE BEGINS	CORRECTION
15	New Insect Immigrants	Headline, Immigrants for Emigrants.
28	African Dams	Last par., line 5, Lake Victoria for Victoria Falls.
62	Record-Breaking Cold	Par. 5, line 10, Montana for Wyoming.
114	British Lead in Bevatron	See Letters to Editor, p. 132.
130	Vitamin B <sub>12</sub>	Line 1, after B <sub>12</sub> , insert per unit of weight.
131	Menhaden is America's	Par. 3, lines 7, 8, read the fish meal is used for animal and poultry feed and fertilizer.
152	Scientists, Too, Object	Line 4, Bitter for Bittner.
152	Disease-Bearing Villains	Villains for villains.
172	Mercury Vapor	Line 6, after generator add since the war.
220	FIDO	Last line, droplets for vapor.
260	Blood Test for Cancer	Col. 2, line 13, prostate for prostrate.
268	New Conducting Plastics	Col. 2, line 14, mercury for copper.
297	Americans and Canadian	Par. 4, line 4, the for an.
340	Canners	Col. 2, line 12, in the 1840's for 1819.
347	British Get	Line 5, read McGregor Fund, Detroit. Delete rest of sentence and Par. 5.

