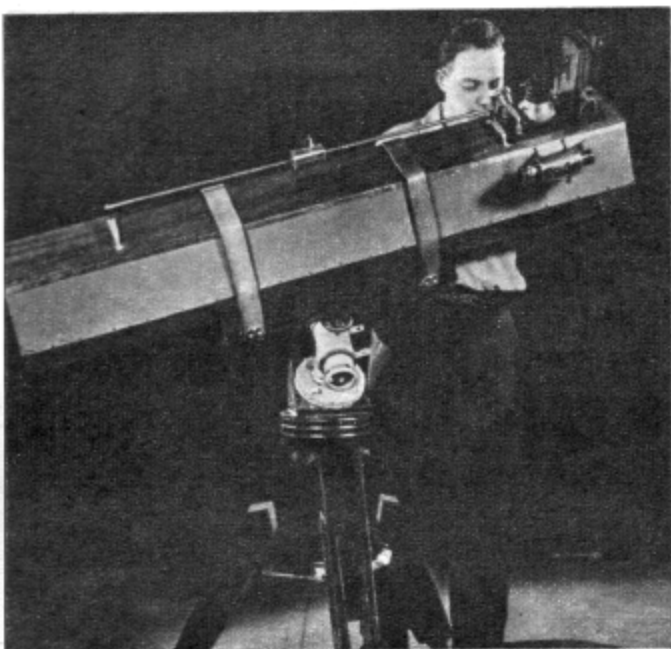


The Amateur Telescope Maker's Page



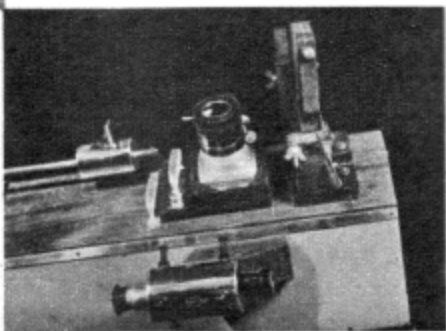
This unusually designed instrument is the result of a high school student's first attempt at the construction of a telescope.

eight

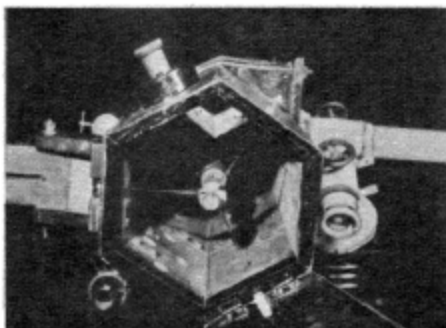
Albert Nagler at the business end of his ~~eight~~ eight inch reflecting telescope. Picture below is a closeup of eyepiece assembly and the finder.

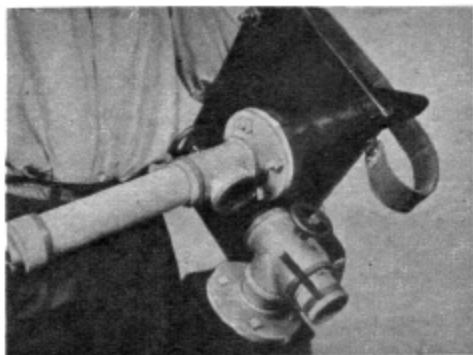
Reflecting Telescope

EVERY fervent amateur astronomer must of necessity eventually become an amateur telescope maker. There are no commercial telescopes in a low price range that have the advantage of a large light gathering system and a mounting capable of coping with all weather conditions. This telescope has these advantages and yet is still portable. The word "portable" does not refer to an instrument that can be tucked under one's arm and carried anywhere in the city or countryside. It refers to a telescope that can be brought in a car to the country and be set up for a

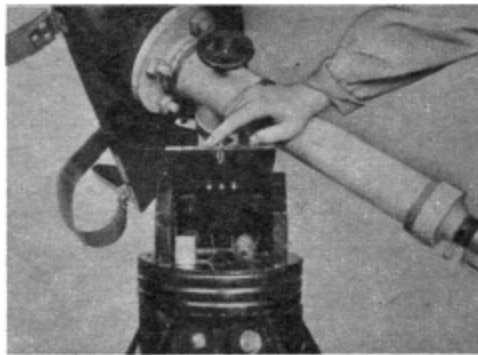


The adjustable spider holding the prism consists of three thin brass vanes bolted to a 1½x2 in. brass cylinder.





The declination and polar axis. Note the leather straps used to hold tube to saddle.



The space beneath the polar axis houses a small box to store extra eyepieces.

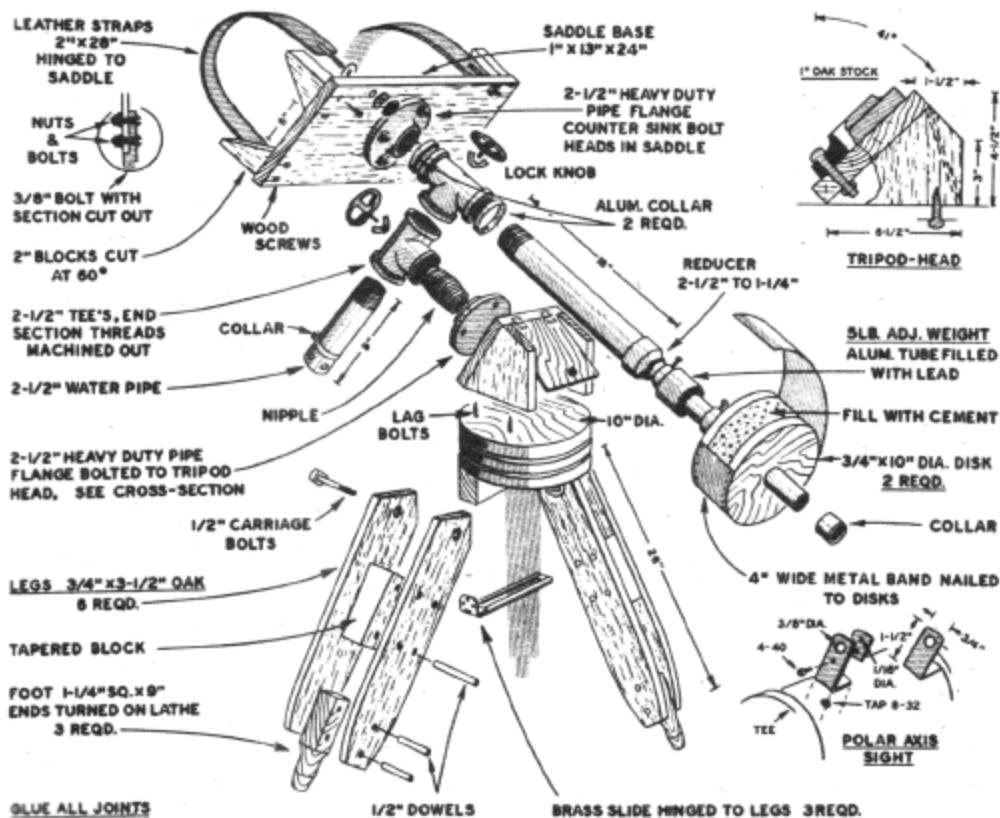
full evening's work with the stars.

This telescope is an eight-inch Newtonian reflector with a focal length of 52 inches. It was built in the shop of the Bronx High School of Science of New York City. The entire project was completed in eight months' time for less than \$100. The telescope weighs about 150 pounds and can be set up in ten minutes. The eight inches of aperture bring into view thousands of faint galaxies, some below the 13th magnitude.

A most beautiful sight is the famed

Hercules globular cluster. Resolved into myriads of sparkling stars, it is always breathtaking. Other spectacular objects are the double cluster in Perseus; the Great Nebula in Orion and the Andromeda Galaxy. Of course the planets always present a thrilling sight. A transit of one of the moons of Jupiter appearing as a black dot on the disk of the planet is a never to be forgotten sight.

The tube is a wooden hexagon. It is inexpensive, strong and makes the addition of accessories simple. The tube is



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Telescope Maker's Page

[Continued from page 182]

head are three blocks of wood. The tripod legs are attached to the blocks with half-inch bolts.

Mounted on top of the tripod head is a wedge-shaped compartment. With a small door hinged to one side, the compartment serves as a handy place to keep tools and eyepieces. Top, which supports mountings, is inclined at an angle of about 41°.

The telescope uses three counterweights. At the end of the declination axis is a 15-pound concrete counterweight. To make finer weight adjustments, a small lead counterweight is positioned further up on the tube.

The third counterweight, a small machined steel bar, is mounted on a steel rod running the length of the telescope tube. It centers the weight of the telescope tube directly over the mounting. The annoyance of exact centering of the tube in the saddle is thereby avoided. It also balances the tube when a camera is added to the telescope.

The telescope tube has a hinged cover at the top. A locking device keeps the cover open or closed. The tube also has handles for easy carrying and a camera adaptor on the side of the tube. To control the spread of the tripod legs, brass chains are passed through the screw eyes in the legs. •

—Albert Nagler

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