Questar

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Yes, it is a telescope. The gilt star map etched into the dark lustrous barrel talks to the function as it draws in the eager questioning eye. Civilizations have literally been built around stories of the relationships between star clusters, so deep is the fascination with the night skies.

Galileo was the first to build a telescope. That 1609 refracting model had a barrel 1.2 meters long and a heavy lens 5.1 cm in diameter. Its 32x power was adequate to resolve the moon's craters, and put an end to the Church's doctrine of celestial perfection. Sixty years later, no less a luminary than Sir Isaac Newton invented the first reflecting telescope, replacing lenses with mirrors.

Telescope design since those seventeen century landmarks continues to depend on inspired, sophisticated optical theory in design and ultra-precise, stable instruments in practice. Usually designers are forced to build progressively larger and heavier lenses, mirrors, and tubes, that require massive counterweights and concrete piers for balance and support.

How surprising then to find Lawrence Braymer's optical creation, first built forty years ago, to have the power and acuity of the finest optic systems in a concise unit about the size of a forearm. The classical quality, simplicity, and minimalism of his design depended on mathematical formulas that D.D. Maksutov, a Soviet physicist, published in 1943. Braymer, a commercial artist living in New Hope, Pennsylvania, grasped that this theory could be used to create a new generation of lightweight and compact telescopes, a hybrid of mirrors and lenses.

Braymer was an true amateur in the classical sense of the word. He enthralled by astronomy and he loved to tinker with precision mechanisms. As an adult, he would disassemble Leica cameras, Purdy shotguns, and other beautifully crafted devices to learn how they functioned and manufactured. Braymer had a gift for visualizing interactions in three dimensions and a penchant for elegant design. Long before Steve Jobs, he was satisfied only with the "insanely great" solutions.

By 1950, he had completed his basic design, and received six patents for his efforts. Unfortunately, Korean War driven, material rationing of aluminum and optical glass prevented manufacture and sale of his design until 1954. Since then, with two minor exceptions, its production is unchanged and still by hand.

The telescope is vastly functional. It is easy to carry and set up. Viewing is comfortable and without eyestrain, lending itself to hours of relaxed concentration. Each element of the design works smoothly, accurately, and unobtrusively. The system is versatile. Besides night viewing, it can be used as a solar observatory or can be detached from the base to become a 35mm field camera lens, or birding scope. Its optics are unsurpassed for brightness, sharpness, and clarity. A favorite of law enforcement agencies, it can read a car's license plate from 2 miles away. Research labs use it as a long distance microscope in materials testing, since it focuses down to 10 feet. NASA used it as the first space telescope in the 1965 Gemini mission.

The Questar works because it accepts and fulfills the most stringent optical and mechanical design requirements gracefully, offering frill-free, simple operation over an uncommon range of use.