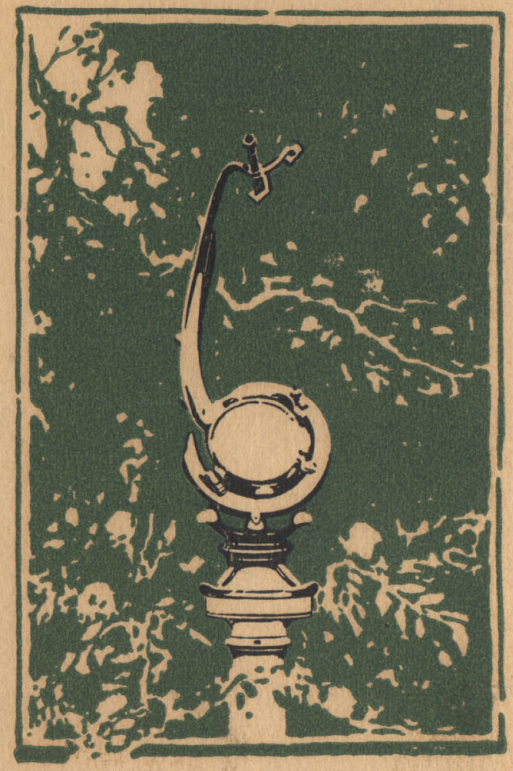
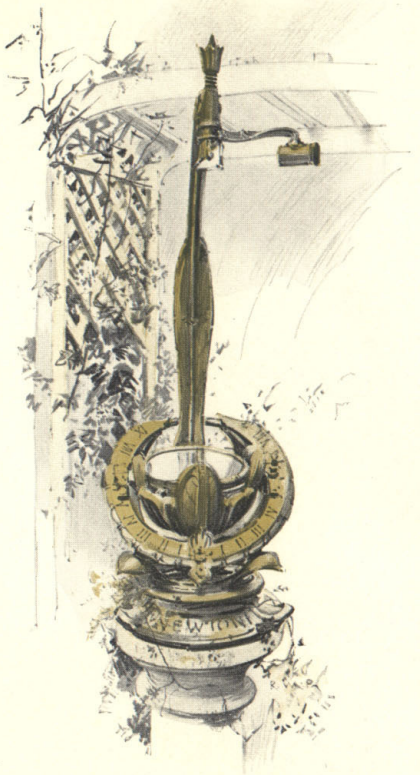
THE PORTER GARDEN TELESCOPE



A Useful and Beautiful Garden Ornament



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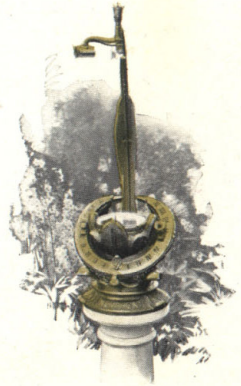


Built and sold by the

JONES & LAMSON MACHINE COMPANY

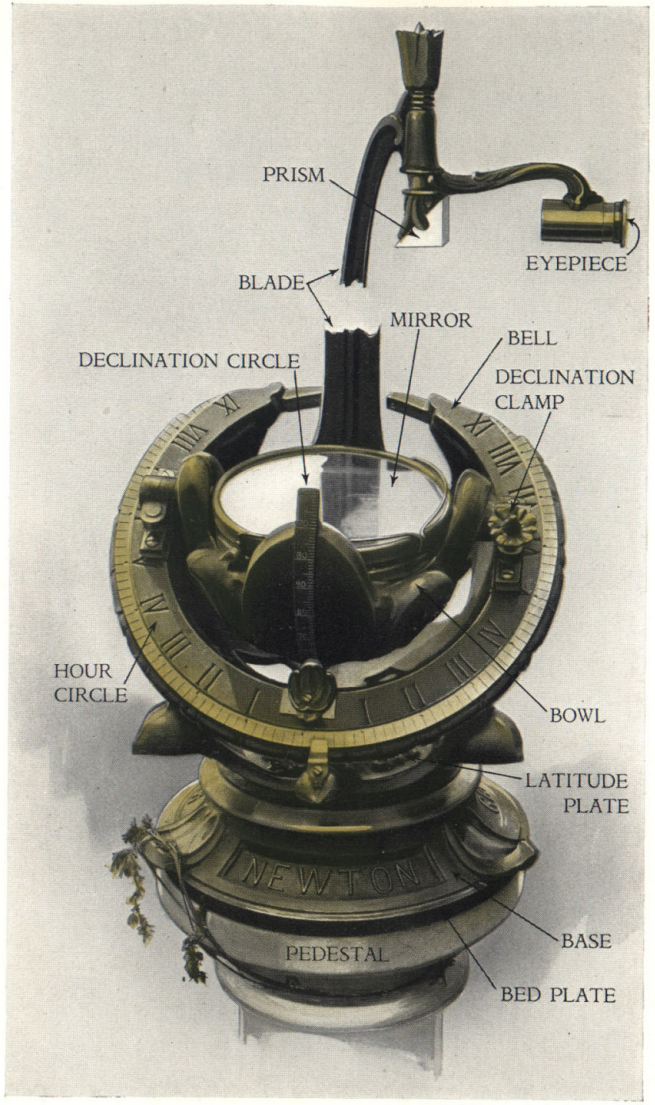
Springfield, Vermont

U. S. A.

WHAT IS THE PORTER GARDEN TELESCOPE?

THE PORTER GARDEN TELESCOPE accomplishes what the common telescope has been unable to bring about. It is a powerful magnifier, that, once set up in the garden, becomes a permanent piece of garden furniture always ready for day or night use, requiring no care or shelter. It is there, like a minute man, when one hears the approaching aeroplane, instantly ready to pick it up and to follow its flight. From a safe and undisturbing distance one sees the joys and sorrows of our little animal friends otherwise invisible—the mother bird feeding her young, the sparrow fleeing from the hawk. What the phonograph and radio do for the ear, the Garden Telescope does for the eye—a continuous source of entertainment for the family and the families' friends. It is there, ever ready to entertain one's guests—whether it be the study of the heavens, or to see what Neighbor Jones is doing to his place across the valley.

And finally the Porter Garden Telescope is a beautiful garden ornament in solid statuary bronze. With its lustrous mirror and graceful design and its real usefulness, it follows the sun



PORTER GARDEN TELESCOPE
DETAILS

dial and gazing globe as the true aristocrat among garden ornaments.

The Porter Garden Telescope has been designed to meet three long felt wants, viz.—a powerful telescope that needs no setting up or dismantling before and after use, always ready when wanted—in fact a permanent outdoor fixture needing no shelter. Second, its mechanical features have been so masked in its unique mounting as to provide a beautiful ornament for the garden. And last, its construction allows one to observe in comfort, either seated or standing, by always looking down at a convenient angle.

For Day Use

The Garden Telescope is as useful by day as by night. It may be placed on the lawn on a pedestal, or may be set up on the porch for viewing distant objects. If the city dweller has a place available on his roof, it may be equally well placed there. On the verandas of summer hotels, in the mountains or on the shore—always ready for instant use. It requires no care—no more than would be bestowed on a garden sun dial.

The mirror is a polished glass concave disc, silvered on its front surface, lacquered to protect its silver coat.

The mirror is protected when not in use by a cast-bronze cover with machined edges that fit tightly to the mirror cell. The mirror always faces the object viewed and since the eyepiece can

be moved around the end of the blade to any position, the observer may always be comfortable whether the object he is viewing is overhead or on the horizon. There are none of the back and neck-breaking attitudes required in some positions of the common telescope.

"Gunning the Bird"

On the back of the blade are two pointers, and these are used very much like gun sights in picking up distant objects. When they are in line with the object, it will be seen in the eyepiece. They constitute a finder.

For terrestrial use, then, the declination and base clamping screws are released and the telescope can be swung around and brought to bear on any desired object. No other adjustments are necessary. The mirror and eyepiece may be taken indoors, if desired, when not in use, for safe keeping.

For Night Use

The earth turning over on its axis gives the stars an appearance of moving

across the heavens. To follow the stars, therefore, the telescope must have one bearing parallel to the earth's axis, thus constituting what astronomers call an equatorial mounting. The drawing, page nine, will show the principle. The polar axis, *A-B*, of the instrument is seen to be parallel with that of the earth, *C-D*. With this condition understood the rather unusual mounting of the garden telescope is at once made clear. The axis of the bell consists of a thrust bearing at one end, *E*, and a track under the rim of the bell resting on the rolls, *F* and *G*, at the other.

In the position shown, the telescope is pointing into the eastern heavens near the observer's horizon. As the earth turns over into the east (see the arrow), his star appears to rise, and by turning either one of the rolls by its petal the bell turns over in an opposite direction and the sun, moon,

GREAT NEBULA IN ORION

planet or star—whatever the object observed—is held steady in the field of view of the eyepiece.

The other bearing of the telescope, the declination axis, which carries bowl, blade and telescope proper, permits pointing or setting on any object in the heavens. A part of the bell is cut away to prevent interference with the blade in certain positions. This is shown clearly in the photograph.

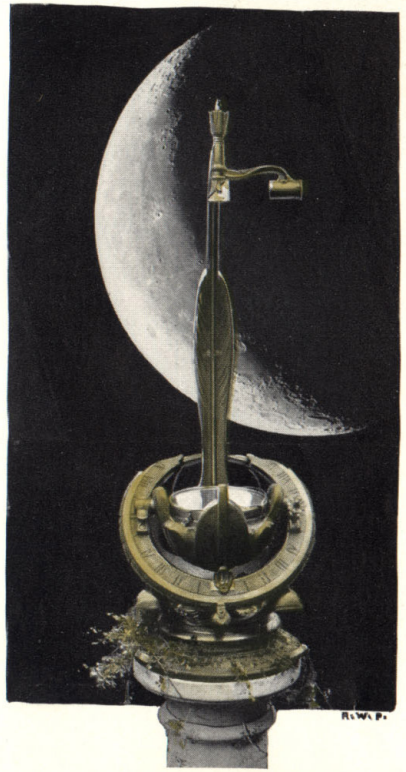
In adjusting the axis of the bell parallel to that of the earth, a spherical seat called the latitude plate is provided on the base to accommodate the instrument to any place on the earth's surface between the parallels of latitude 25 and 55, north or south of the equator. This area covers continental Europe (excluding Scandinavia) and all

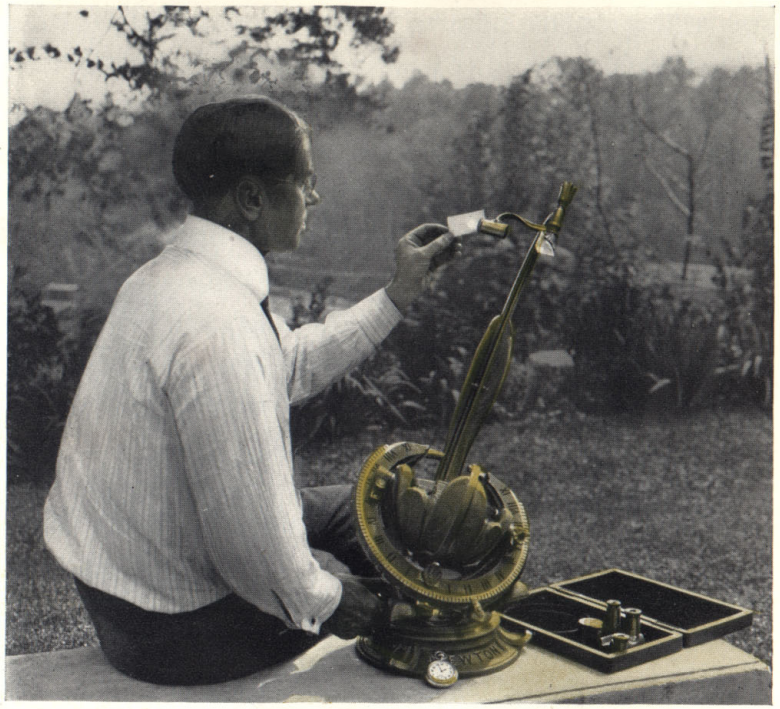
the states from Maine to Southern California. The adjustment is an easy one, on Polaris, on any clear evening, and thereafter is not disturbed. An interesting booklet explaining this adjustment, together with a description of many fascinating objects in the heavens and how to find them, accompanies every Garden Telescope.

The purpose of the two large graduated circles around the bowl and bell is in locating obscure objects in the sky, as described in the booklet.

Pedestals

The owner of a Garden Telescope may prefer to make his own pedestal, of brick, stone or





concrete poured into a form, but we can furnish pedestals specially designed to take the Garden Telescope that locks them securely to the pedestal top. Sun dial pedestals make suitable supports, as they are usually of about the right height and size.

The mounting of the Garden Telescope is entirely of solid bronze.

As a Time Keeper

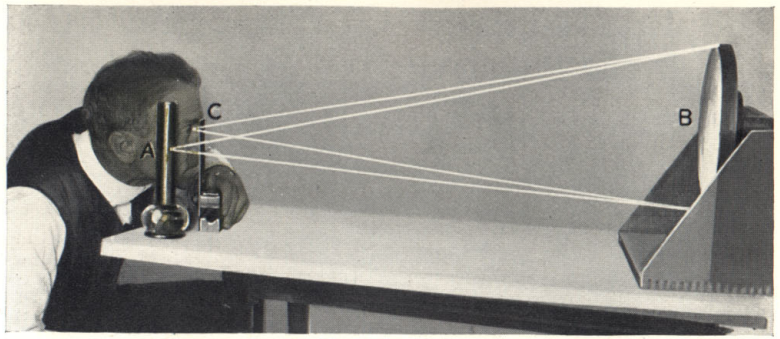
Like the sun dial, the Garden Telescope gives us sun time, but with greater accuracy. The photograph indicates how this is done. The telescope is pointed at the sun, not by looking into the eyepiece but by projecting an image of the sun on a

card placed near the eyepiece. The sun time is then read off on the hour circle on the rim of the bell. Watch or standard time may be found by consulting a table for this purpose in the booklet already referred to.

If the house clock, or your watch, has run down, the time is thus readily recovered on any clear day.

Specifications

The Porter Garden Telescope complete, consisting of six-inch parabolic silvered mirror of approximately two feet focal length; totally reflecting glass prism, with one-half inch E. F.



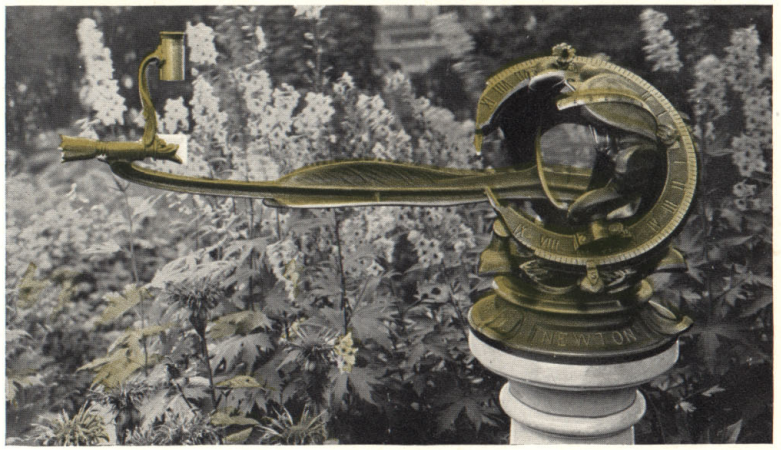
positive prismatic erecting eyepiece giving fifty magnifications; solid bronze combination equatorial and altazimuth mounting, with booklet explaining its adjustment and use, all securely packed in closed box with screw cover top.

The Mirror

As a matter of incidental interest, a few words concerning the mirror are in order.

The optical performance of the instrument depends almost wholly on the excellence with which the concave surface of the mirror is finished. The care bestowed on polishing this surface can be little realized. The optician in testing the glass is able to see imperfections of only a few millionths of an inch—quantities a thousand times smaller than can be measured by any mechanical means. The photograph shows him performing this test. Light from an artificial star, *A*, is produced by perforating a tiny hole in a tin chimney opposite the flame of a lamp. This diverging beam of light strikes the mirror, *B*, and is reflected back

and into the optician's eye, *C*. He then brings the edge of a knife blade slowly across the pupil of his eye. Remarkable shadows then appear on the glass surface that tell him all he needs to know in producing the requisite curve, known as a paraboloid of revolution.



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