

tube in any observing position. For the design of this platform and the perfection with which it fulfills the required purposes, we are indebted to the ingenuity and ability of Mr. E. P. Burrell, works manager of the Warner & Swasey Co. The problem was an especially difficult one owing to the form of mounting of the telescope, as the tube pivoted at one side of the polar axis and moving eccentrically with respect to the dome, made the motions of the upper end more complicated and the corresponding required positions of the platform much more numerous than is required with telescopes like the 60-inch and 100-inch where the axis of tube, the declination axis and the polar axis intersect. The solution of the problem was facilitated by the construction of a model, one-tenth size of telescope, building and dome for exhibition at the Panama Pacific Exposition, as in this model all possible positions and motions could be studied to scale and the design modified to conform to the requirements.

The observing platform of the 66-foot dome consists of a substantial structural frame about 22 ft. long and 4 ft. wide with a floor of $\frac{1}{4}$ inch plate. In its normal position when the telescope is used in the Cassegrain form, this platform is at the same level as the stationary platform already described and the observing platform is hence readily accessible. At each end of the platform are movable wings extending out into the dome about 6 ft. from the inner edge of the platform, semicircular in shape on the sides facing each other so as to enable the tube to be about two-thirds encircled when they are moved up to it. They are movable by means of roller bearing wheels longitudinally along the main girders of the platform and the observer by standing on either one of these movable platforms can, by means of a hand wheel, move himself and it with the greatest ease, longitudinally along the observing platform to any desired position and bring himself into a convenient position for guiding. These movable platforms are a great advance and enable the following and guiding to be done in most observing positions with the greatest ease. Both the main platform and the wings are completely enclosed by a tubular railing 30 inches high making it perfectly safe to move around on in the dark. The central section of this railing on the front of the main platform can be lifted out if desired, as is convenient in certain positions of the telescope, but in these positions the tube occupies the place of the railing and the safety character of the railing is preserved.

The platform including of course the movable wings, is pivoted by a rigid rectangular structural framework at each end to trolleys running on curved rails attached to the main ribs of the drum, the greater part of the weight of the platform, 11,000 lbs., being sustained by counterweights on similar trolleys running on an extension on the same curved rails down the main ribs on the opposite side of the dome. The platform is pivoted to the trolley at the upper corner of the rectangular frame work and would not remain horizontal unless it were supported at the upper inner corner of the frame. The horizontality of the platform is maintained without appreciable deviation as it moves in its curved path up the dome by an equalizing cable attached to a drum, on the same shaft as the hoisting drum but of a different diameter. These diameters are so proportioned that, over the 70° arc the platform moves, it remains very nearly horizontal and can be moved up and down to any desired position with the greatest smoothness. This motion is controlled by operating handle and rheostat on the platform itself by which the speed can be varied between 1.5 and 6 ft. per minute.