

Foya Nunn Hibbard was born in Ohio on November 23, 1886 and died April 15, 1968 at age 81 years. He was an Associate Meteorologist of the U. S. Weather Bureau Office at Richmond, Va. Hibbard is responsible for having the Richmond precipitation published in NCDC records from 1872 to 1940. The Weather Bureau Building at 3301 East Broad Street was built in 1909 and the first observations were taken there on January 30, 1910. The land was donated and the building cost \$15,489 in Chimborazo Park. The observers who lived in the building were as follows:

Edward A. Evans (1910-1930) Died March 28, 1930, from injuries received when struck by an automobile.

William P. Stewart (1931-1933) retired on June 30, 1933

Foy N. Hibbard (1934-1945)

Stanley S. Schworm (1946-1953) The Weather Bureau Building was closed in 1953 and the last observation was taken June 30, 1953 from this location.

The precipitation records were taken at the request of Major Edmund Trewbridge Dana Myers, (b. 1830 d.1905) president of the Richmond Fredericksburg and Potomac Railroad Company. The employees making the early observations were Mr. W. M. Burke, until 1887, inclusive, and then Mr. J. T. Roth.

Foy Nunn Hibbard was also an amateur telescope maker and describes experiments on various types of telescope tubes, made with J. C. Vaughan of Petersburg, Va. The late Professor Willis I. Milbam, an astronomer-meteorologist, studied a radiation effect, which hampers meteorologists by causing thermometers to give readings from 1 to 7 or 8 degrees too low on clear nights.

Meteorologists reduce this error by placing their thermometers in shelters having diagonal sloping slats like Venetian blinds that admit the air but obstruct radiation to the sky.

In an article in *Monthly Weather Review*, for July 1905, Professor Milbam described long painstaking experiments which proved that two matched thermometers only 20 feet apart register 3, 4 and sometimes more degrees difference.

One was exposed to the clear sky; the other was within an unheated, unprotected but radiation-stopping thermometer shelter.

The metal radiating heat caused a chilling effect that has a direct relation to the selection of materials for telescope tubes.

Hibbard and J. C. Vaughan, a Virginia telescope maker, tested telescope tubes of different materials.

They found that lining the tube with cork, asbestos or paper improved this performance and produced a regular refraction of light and resulted in better images.

Hibbard and Vaughan's final experiment was to line a solid metal tube with cork a quarter-inch thick and cut a 20-square-inch hole in the tube just above the mirror.

This opening, adjustable in area, ventilated and cooled the mirror and gave excellent results, especially if the hole was covered to steady the air inside just before actual observation.

Hibbard stated that to build any telescope tube of aperture up to 24 inches he would use sheet metal lined with cork, balsa or Douglas fir.

"The 24-inch limit," he added, "came from the late J. W. Fecker, who said he had known for many years that skeleton tubes produce troublesome images that decrease as that aperture is approached.

At that point the tube effects are hardly noticeable, especially since telescopes that large are placed in domes.

