Selected Pictures of G. W. Cook’s Instruments
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Background

An extensive history of astronomy at the University of Pennsylvania was published by Robert H. Koch (2010). This narrative includes many pictures and associated history of the astronomical instruments owned by Gustavus W. Cook (1867-1940) of Wynnewood, Pennsylvania.

The family of deceased University of Pennsylvania astronomer William Blitzstein gave many of his astronomy-related possessions to fellow Penn astronomer Robert H. Koch. Subsequently, upon the passing of Professor Koch in 2010, the Koch family gave those possessions, and the astronomy-related possessions of Professor Koch, to Bruce D. Holenstein, a former graduate student of Professors Koch and Blitzstein, and to Richard J. Mitchell, the long-term department electro-optical technician and caretaker of the Flower and Cook Observatory. These possessions comprise a volume of approximately thirty-five banker boxes\(^1\). Most of the contents are books, files, photographic plates and prints, blueprints, and miscellaneous astronomical materials. Inventorying the contents is underway, however, some requests for early access to historical materials have a timely need so an initial search was conducted for pictures of certain instruments. In particular, what was requested were early pictures of Gustavus W. Cook’s 8-inch Alvan Clark refractor, and of his spectrohelioscope.

Photographs

The remainder of this text comprises selected pictures of Cook’s instruments and some brief commentary. Some pictures of historic interest are included even though they were not direct targets of the initial search. Note that the authors have not done an extensive search of the literature to know which photographs might have been published already where not already noted.

\(^1\)About six boxes of Koch’s modern books (published after 1970) were distributed to attendees of the August, 2011 conference *Stars, Companions, and their Interactions: A Memorial to Robert H. Koch.*
Fig. 1. 15” Fecker Siderostat flat, mount, and Brashear objective. Listed on the back of the picture: “13” Siderostat Refractor in use at Wynnewood, Pa. Moved to Flower and Cook Obs. 1956. Ca. 1935? Note that in this picture the original objective has been changed to accommodate the photographic corrector lens.” This photograph was taken at about the same time as Figure 35 of Koch (2010).

Comparison of the sizes of the two objective lenses in the photograph suggest that the smaller finder lens has about a 7-inch aperture. The siderostat finder is not separately listed in Cook’s 1926 will, although the Koch (2010) history cites other sources and lists it as having a 6.5-inch aperture with the flat being 8.625-inches.
Fig. 2. Fecker siderostat prime focus. The finder on the left was not installed at Flower and Cook Observatory in 1956.
Figure 3. 28.5-inch Fecker reflector. The 8-inch auxiliary scope is by Alvan Clark according to the 1926 Cook will. The picture above is a new copy of the original photograph also shown as Figure 33 of Koch (2010).
Fig. 4. Back of picture reads, “28.5” Fecker reflector at Cook Observatory. G.W. Cook left, J.W. Fecker right. Spectrograph mounted. Moved to Flower and Cook Observatory 1956. Date? Sometime in the 1930’s.”
Fig 5. One of many pictures of the 28.5-inch Fecker scope in the collection. The 8” Clark auxiliary scope and the 6” Fecker finder scope are visible.
Fig. 6. Page 201 from Mohler (1935). The finder is on the west side of the 28.5-inch reflector. The finder was on the east side when it was installed at the Flower and Cook Observatory in 1956.
Figure 7. This chapter, “A Simple Solar Telescope and Spectrohelioscope” from a book entitled Spectrohelioscope, is presumed to be by G. E. Hale (19xx). It was found in a folder entitled “Spectrohelioscope” along with Figures 8 and 9 below. Figure 11 from the chapter represents the optical path for the Cook spectrohelioscope. The rest of the chapter features pictures of Hale’s spectrohelioscope in Pasadena. One of the authors (RJM) notes that many of the parts in the illustrations match the parts used in the Cook spectrohelioscope.
Fig. 8a. Photographs of the Cook spectrohelioscope found in the before mentioned folder. The picture above shows the rotating prisms in front of the entrance and exit slits of the spectrohelioscope.
Fig. 8b. This picture shows the rotating prisms from a different angle. There are light baffles around each slit and prism.
Fig. 9. One of many solar images in the collection taken with the Cook spectrohelioscope. The back of this image is stamped in block capital letters, “The Cook Observatory, Roslyn House, Wynnewood, Penna.” The caption for Figure 41 of Koch (2010) lists it as having been made by Levitt.

References


Koch, R. H. 2010, *Observational Astronomy at the University of Pennsylvania 1751 – 2007*,

Mohler, O. 1935, PopAstr, 43, 199