Astronomy in the 1840s
Astronomy in the 1920s ("modern astronomy")
From Backyard to Mountaintop:
The Adventures of History’s Best Worst Telescope
Andrew Ainslie Common (1841-1903)
Sanitation engineer, amateur astronomer, London
Eaton Rise, Ealing, West London, 1910
Common’s 18-inch equatorial reflector at Ealing, West London, 1877
Common’s “three-foot” (37-inch) f/5.8 equatorial reflector, 1879*

* Looking east
Andrew Common’s observatory site:
63 Eaton Rise, Ealing, London UK

Photo viewpoint
looking east
Total weight (mirror/tube/mount) 9 tons

- Mirror
- Declination axis
- Mercury-filled polar axis casing
- Counterweight boxes
Movable plate holder with guiding eyepiece at Newtonian focus

\((3^{1/4} \times 4^{1/4}\text{-inch plates, } \sim 1^\circ \text{ field of view})\)
Orion Nebula, Feb 26, 1883 (60-minute exposure)
Etienne Trouvelot, 1876

Henry Draper, 1882
Edward Crossley, Bermerside Observatory, Yorkshire, England, 1885
15-ton(!) iron-ribbed, iron-plated dome
Lick Observatory,
Mt. Hamilton, CA
1890s
Edward S. Holden,
Director
(“The Dictator”)
The Crossley Reflector

“[The eyepiece is so high up,] the dome should be filled with water, so astronomers can observe from a boat.”

“A pile of junk”

“Antiquated as Noah’s ark”

“A monstrosity”
James Keeler succeeds E. S. Holden as Lick Observatory Director, 1898
Orion Nebula, Crossley reflector, Lick Observatory, 1898 (40 min)
M 51, Crossley reflector, Lick Observatory, 1899 (4 hrs)
NGC 4565, Crossley reflector, Lick Observatory, 1901 (3 hrs)
Trifid Nebula, Crossley reflector, Lick Observatory, 1899 (3 hrs)
Crab Nebula, Crossley reflector, Lick Observatory, 1899 (2 hrs)
M 13, Crossley reflector, Lick Observatory, June 22, 1900 (2 hrs)
“Many thousands of unrecorded nebulae exist in the sky. A conservative estimate places the number within reach of the Crossley reflector at about 120,000*. ... Most of these nebulae have a spiral structure.”


* Later upped to over a million.
George Calver (1834-1927)

Telescope maker, Chelmsford, England

4,000 mirrors!

Calver's #2 pedestal observatory equatorial described in the 1877 edition of 'Hints on Silvered-Glass Reflecting Telescopes'.