In 1671 the Royal Society heard that Isaac Newton had designed and built a reflecting telescope, and they asked to see it. It arrived at the end of the year, and caused an immediate sensation. This is a copy of the drawing that the Secretary of the Society sent to Christiaan Huygens in Paris. The two crowns are the same object, an ornament on a weathervane 300 feet away, as seen (left) through Newton’s reflector and (right) through a refractor 25 inches long.

Newton was overly pessimistic in thinking the problem of chromatic aberration insoluble. In 1729 a London barrister, Chester Moor Hall (1703–71), devised an 'achromatic' lens by combining two glasses of different refractive properties, a concave of flint and a convex of crown glass. But Hall did not pursue the idea commercially, and this allowed John Dollond (1706–61), a leading London instrument maker, to revive the idea in a paper to the Royal Society in 1758, and to patent it. Thereafter 'Dollond achromatics' (see page 202) became much sought-after among observatories and amateurs alike.

This reflector became known only to a handful of Newton’s Cambridge acquaintances, but in 1671 he made a similar instrument, which he presented to the Royal Society. Neither of these reflectors survives, but parts of a third instrument, which he made in the winter of 1671/72, are believed to be incorporated in a reflector that was presented in 1666 to the Royal Society.

Because it called for only one curved mirror, the Newtonian design was widely used in the eighteenth and nineteenth centuries, especially for the study of faint objects for which a mirror with large 'light-gathering power' was required.