

NAUTICAL ALMANAC OFFICE, NAVY DEPARTMENT,

Washington, D. C., January 20, 1884.

SIR: In pursuance of orders from the Department I visited certain of the leading observatories on the continent of Europe during the past year for the purpose of collecting information respecting the most recent improvements in astronomical instruments and methods of observation. I now have the honor to submit the following report upon the knowledge thus gained. The heads of this report are not arranged with respect to the different establishments visited, but with respect to the different kinds of instruments, all that relates to each instrument being collected together, even when the material was gathered at various places.

The establishments visited from which valuable information was gathered, were the observatories of Paris, Nenchatel, Geneva, Vienna, Berlin, Potsdam, Leyden, and Strassburg, and the workshop of the Messrs. Repsold at Hamburg. At the latter place I enjoyed the opportunity of meeting Director Struve, of the Pulkowa Observatory, and of discussing with him and the Repsolds the plans of the great 30-inch refractor, the objective of which had just been completed by the Messrs. Clark.

It is both a duty and a pleasure to acknowledge the very cordial reception I met from the directors and astronomers of the various observatories, and the facilities which were everywhere afforded me for the execution of the mission with which I was charged. In every case the fullest liberty was accorded me to make as critical an examination of every point as circumstances permitted.

In this report it is not practicable to present that exhaustive discussion of the subject of recent instruments which might have been expected, for the reason that within the limited time at my disposal it was not possible to prepare the detailed drawings and make the tests which would have been necessary for that purpose. I shall therefore confine my report to such special points as appear most important to persons who may intend to found new observatories, or to design or purchase new astronomical instruments.

THE GREAT VIENNA TELESCOPE.

Among the instruments which I have examined, that to which most interest now attaches is the great telescope recently completed for the Imperial Observatory at Vienna, by Howard Grubb, esq., of Dublin. It is the largest refracting telescope in actual use at the present time,