

Steps were also taken to improve the bay-oil industry and to reestablish the growing of cotton.

### A NEW HARVARD OBSERVATORY

ACCORDING to an article in the *Harvard Alumni Bulletin* the Harvard College Observatory will have in the near future a new astronomical observing station on Oak Ridge in the town of Harvard, Massachusetts, 27 miles northwest of Cambridge. The station will be on a ridge at an altitude of 600 feet, the highest point between Mt. Wachusett and the sea. The site is the gift of Mr. and Mrs. Alfred C. Fuller, of Belmont.

At this station the new 60-inch reflector telescope, the largest astronomical instrument in the eastern part of the country, will be the most important part of the equipment, but five or six of the observatory's photographic telescopes will be moved from Cambridge to the new station. Four photographic telescopes and the visual telescopes will be retained and operated at the headquarters on Observatory Hill, Cambridge.

It is estimated that telescopic power will gain on Oak Ridge a whole magnitude beyond that obtainable at the present site in Cambridge. This difference in brightness corresponds to a doubling of the number of stars within the reach of the various photographic telescopes.

The construction on Oak Ridge will include the building and turret for the 60-inch reflector, three buildings for the other telescopes, and a central building containing dark room, clock room, working library, storage and quarters for one or two observers. Also two or three separate cottages will be constructed for those members of the staff who will remain permanently on Oak Ridge. The architects are Coolidge, Shepley, Bulfinch and Abbott, of Boston.

The new site for the Harvard Observatory has been made imperative by the decision that the northern-hemisphere station should be equipped with a large reflecting telescope comparable to the one almost completed for the southern station in South Africa.

A dozen possible sites have been examined by the Harvard astronomers during the past six months, and the Oak Ridge station was selected as the best in eastern Massachusetts. The land comprises more than thirty acres of woodland; the woods will provide protection against wind, dust and stray light from neighboring villages, farmhouses and highways.

Some of the equipment will be in position at Oak Ridge and systematically operated on the regular photographic observing programs before next July. The three patrol cameras, which nightly photograph large sections of the sky to record the positions and brightnesses of the million or more stars that are

within their reach, will be part of the Oak Ridge equipment.

It is probable that the 60-inch reflector, which should be ready for installation in fifteen months, and for operation a few months later, will be operated in part by members of the staff living in Cambridge, who will drive to the country for their observing assignments.

Beside the 60-inch reflector, the instruments at Oak Ridge will include the 24-inch reflector and the 16-inch Metcalf doublet; the 16-inch is employed steadily on the photographing of faint variable stars in the Milky Way.

### A JUNIOR NOBEL AWARD

THE stimulation of research by engineers under thirty years of age is the main purpose of the Alfred Nobel prize granted this year for the first time in honor of the illustrious civil engineer. The prize-winning paper, "Arsenic Elimination in the Reverberatory Refining of Native Copper," is the production of Mr. Corbin T. Eddy, assistant professor of metallurgy at the Michigan College of Mining and Technology, who has conducted most of the first part of that institution's research into the copper-cuprous oxide system, with the ultimate aim of evaluating various methods of eliminating from native copper such impurities as arsenic, silver, iron and oxygen, and of formulating more precisely than has yet been done the effect of each impurity on the physical properties of copper. Study of the copper-silver system, the second step of the program, has begun under the general direction of Professor A. T. Sweet, department chairman, with Professor Eddy, Professor Drier and Research Engineer Tolonen participating.

The process of copper elimination analyzed in the prize-winning article, which was delivered before the 1931 meeting of the American Institute of Mining and Metallurgical Engineers, was for decades an unregarded method, until revived by Michigan copper men some years ago. It is the method now regularly used by them in the reverberatory refining of native copper.

Papers eligible for the award included all those written by men under thirty years of age which were published in the journals or transactions of the American Institute of Mining and Metallurgical Engineers, the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, the Western Society of Engineers and other similar organizations. The offering of this junior award is intended to stimulate the increasing production of reports which are both theoretically sound and also valuable to key industries.