## THE LARGEST TELESCOPE.

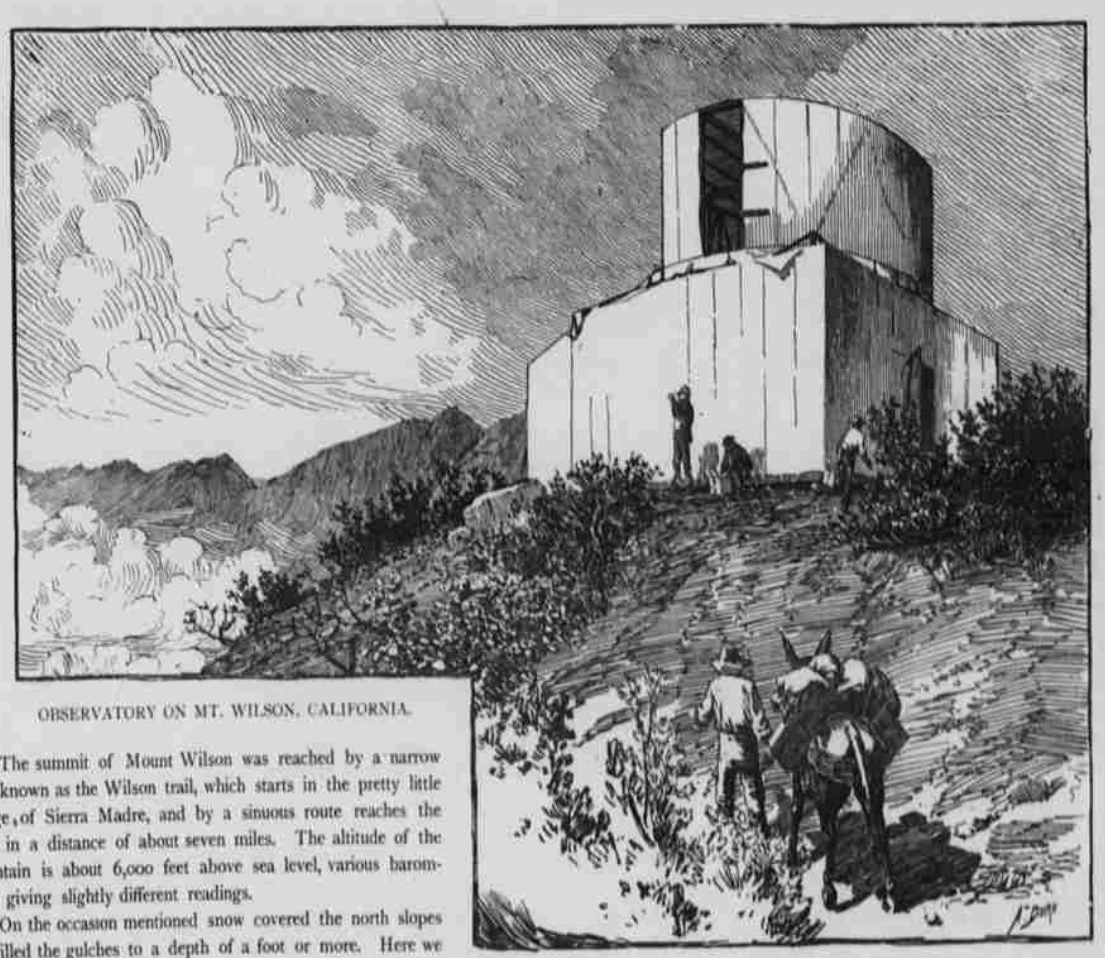
On Mount Wilson, one of the dominant peaks of the Sierra Madre range, and overlooking Pasadena, in the beautiful San Gabriel valley, in southern California, is to be located the greatest refracting telescope in the world. The object glass will be thirty-nine and one-half inches in diameter, and it is calculated that it will have one-fourth greater power than the great telescope now in the Lick observatory on Mount Hamilton.

The prime movers in the great work are the University of Southern California and Harvard college.

About the middle of January, 1889, a large party went to the summit of Mount Wilson for the purpose of making preliminary tests to determine the practicability of locating an observatory at that point. Among the members of the party were Prof. M. M. Bovard, president of the University of Southern California; Prof. W. H. Pickering, one of the most noted astronomers of the day, representing Harvard college; Mr. Alvan G. Clark, the world-famous lens maker, of Alvan Clark & Sons, of Cambridgeport, Mass.; Capt. Thos. E. Fraser, the constructing engineer of the Lick observatory, and the writer.

Alvan G. Clark, the great lens maker, who is also an authority, unhesitatingly said it was the finest spot for the location of an observatory he had ever seen. Capt. Fraser said that in his opinion the location was an excellent one, and in most respects was superior to Mount Hamilton. Later in the evening, in the course of a speech, Capt. Fraser said: "It is only a few years ago that Mount Wilson was the home of the painted Indian. Here the bandits made their rendezvous, and formulated their plans to make incursions into the valley below; but a great change has come, and here the sentinels of science will stand and watch the procession of the stars as they pass. Here the world will come to learn of that which is grand and sublime in the universe, and the comets as they go down through the milky way will sound its praise through the remotest years."

Before making this trip it had been planned to place a twenty-four inch double-acromatic lens for photographic purposes, and a great visual telescope with a forty-inch objective, on Mount Wilson, if the point was found to be a good one, and it has since been demonstrated that no place possessing superior conditions could be desired. Even as early as the time of the scientific expedition referred to, Prof. W. H. Pickering said in a speech: "The climate here is far superior to that in the east, and for that matter, to any other portion of the earth, and I consider this the point of all others to place the finest and largest telescope in the world."



OBSERVATORY ON MT. WILSON, CALIFORNIA.

The summit of Mount Wilson was reached by a narrow path known as the Wilson trail, which starts in the pretty little village of Sierra Madre, and by a sinuous route reaches the peak in a distance of about seven miles. The altitude of the mountain is about 6,000 feet above sea level, various barometers giving slightly different readings.

On the occasion mentioned snow covered the north slopes and filled the gulches to a depth of a foot or more. Here we were 'mid scenes of winter, a strange and unnatural contrast when gazing down into the beautiful valley far below, which we knew was being made melodious with the sweet songs of birds, while the air was redolent with the perfume of flowers and orange blossoms.

The party went into camp, and later in the evening mounted a splendid four-inch glass which had been packed up on the back of a burro. During the night a large number of stars were made subjects of study, some of them being "test" stars, and it was most gratifying that in every instance the result of these trials was entirely satisfactory.

The scientific gentlemen of the party were very pronounced in their expressions of satisfaction. Mr. Pickering, who was eminently an authority, said: "In locating an observatory there are two important considerations, the transparency of the atmosphere, and what is technically called by astronomers, "seeing," that is, a good steady sight of the heavenly bodies. A single night's observations in any locality is not a fair test of its fitness for astronomical work. The seeing here is better than is usual at Cambridge, but is extremely irregular. The transparency is extraordinarily good. The view of the moon obtained to-night is the finest I ever saw, which is due to the transparency of the atmosphere."

The plans have progressed a great deal since the time of that mid-winter visit to Mount Wilson. Through the influence of Prof. Bovard, of the University of Southern California, and the financial aid of the citizens of Pasadena, a thirteen-inch photographic telescope belonging to Harvard, was packed by horses and men to the summit of the mountain; a temporary observatory was built, and the fine instrument mounted, where it remained nearly a year and a half, in charge at first of Prof. W. H. Pickering, and later in charge of Prof. Black. With it many hundreds of photographs of the northern heavens were taken and much additional knowledge gained. Among other things of great interest is the photographing of the progress of a snow storm on Mars, during which successive photographs, taken on two succeeding nights, show a great enlargement of the white polar spot on that planet.

Concerning the present condition of the establishment of the observatory it may be said that the great lens for the forty-inch telescope has arrived from Paris and is now being ground by the Clarks in their laboratory in Cam-