

SCENES IN THE YOSEMITE VALLEY.

Our engraving gives a faint impression of some of the majestic objects in the Yosemite valley, Cal. The scene is in the canyon of the Merced river, which branches out an angle from the Yosemite valley proper. In the foreground is seen the trail leading up the Merced canyon, and which brings the visitor ere long to a near view of the wonders which are peculiar to this branch of the Yosemite. The trail rises rapidly and follows the course of the Merced river. So sharp is the ascent that in two miles an elevation is attained 2,000 ft. higher than the entrance to the canyon. In reaching the lower level the Merced river plunges over numerous cascades and makes two grand falls, which are among the greater attractions of the Yosemite, according to Whitney, not only on account of their height and the large body of water in the river during most of the season, but also on account of the stupendous scenery in the midst of which they are placed.

The first of these two grand cataracts is Vernal fall, which is shown in the center of the engraving. Whitney places the height of this fall, at the average stage of the water in June and July, at 400 ft. The rock behind the fall is a perfectly square cut mass of granite extending across the canyon. The rock near the bottom of the fall is steeply inclined, so that a precise definition of the place, when the perpendicular part ceases, is very difficult amid the blinding spray and foam. Alongside of the headlong roaring stream from Vernal fall the trail leads up to the base of the fall from which the visitor may ascend by ladders. At the summit of the fall the view down the canyon, as well as in the opposite direction, is extremely fine. The system of ladders by which this summit is reached, in the winter time is covered by masses of icicles wonderful to behold.

Aloft in the sky, above the center of the engraving, is the "cap of liberty," a most notable object. It is a mass of rock, isolated, and nearly perpendicular on all sides, rising perhaps 2,000 ft. above its base. The cap of liberty has a striking resemblance to the object its name indicates. It is so marked that it is often recognized as it is viewed from various elevated points about the valley. It is an embodiment of grandeur, and its impress is firmly fixed upon the mind of the beholder.

The visitor who ascends the canyon of the Merced above Vernal fall meets something grand and impressive every time the view changes. About a mile from Vernal fall, but hidden from view by the lofty bluff in the engraving, is Nevada fall, which is pronounced by Whitney as in every respect one of the grandest waterfalls in the world, whether we consider its vertical height, the purity and volume of the river which forms it, or the stupendous scenery by which it is environed.

LONGEVITY OF BRAIN WORKERS.—The great thinkers and hard brain workers are long-lived is asserted, with a considerable array of facts, in a volume by Dr. Beard. He presents a list of some 500 of the most eminent names in history, including a number like Pascal, Mozart, Keats and others, who died young, and finds the average age of the 500 to have been over 64 years. As this is far beyond the average age of farmers, mechanics and business men, he concludes that the wear and tear of brain work is not so exhausting as is commonly supposed. The London *Spectator*, however, reviewing this theory, maintains that excessive mental toil must shorten life, and did evidently shorten it in the case of many of the 500 cited, but they had originally more vigorous constitutions and a larger amount of vital force, and, by virtue of this superior vitality which explains, in part, also, their superior brain power, they were able to continue hard work even to old age, before breaking down under the pressure; though the same vital force would have prolonged life for many years if they had not exhausted it prematurely.

A MOUNTAIN OF OBSIDIAN.—Near the foot of Beaver lake, in the National Park of Yellowstone, a recent party of explorers came upon a remarkable mountain of obsidian or volcanic glass, which rises in columnar cliffs several hundred ft. in height. As it was desirable to pass that way, the party had to cut a road through the steep glassy barricade. This they effected by building huge fires on the glass to thoroughly heat and expand it, and then dashing the cold water of the lake against the heated surface so to suddenly cool and break it

A POWERFUL TESTING MACHINE.—E. and T. Fairbanks & Co. have completed two or three large testing machines lately ordered by the Government to be used in testing the strength of iron and steel. These machines are very compactly built, occupying but about five ft. square on the floor, and about ten ft. high—all of iron and steel, and weighing four tons each. The metal to be tested is clamped securely between two heavy iron collars, which are drawn apart by two heavy screws turned gradually by hand with a combination of gear wheels. The testers are really weighing-machines also, hav-



VIEW IN THE CANYON OF THE MERCED—YOSEMITE VALLEY.

up by shrinkage. Large fragments were in this way detached from the solid side of the mountain, then broken up small by sledge hammers and picks not, however, without severe lacerations of the hands and faces of the men from flying splinters. In the Grand canyon of the Gibson river, the explorers also found precipices of yellow, black and banded obsidian, hundreds of ft. high. The natural glass of these localities has from time immemorial been dressed by the Indians to tip their spears and arrows.

"CHERRIES are high, firm and in demand, with scarcely any obtainable," as the small boy said when he gazed wistfully at Deacon Close-watcher's delicious "Early June's."

ing levers, beams, poise, etc., and as fast as the power is applied to the metal to be tested, the poise on the scale beam is moved automatically, indicating the number of pounds of strain applied. At a trial a bar of steel an inch and an eighth wide and five-sixteenths thick stood a strain of over 41,000 lbs. before it was pulled apart, and before it broke it was reduced in width an eighth of an inch, and in thickness nearly a sixteenth. So heavy and powerful are these machines that there was no perceptible recoil when the steel parted. The one tested as above is going to Cincinnati; and just to test its strength, a heavy bar of steel was placed in its jaws, and 100,000 lbs. strain put upon it without any visible effect.—*St. Johnsbury (Vt.) Caledonia.*