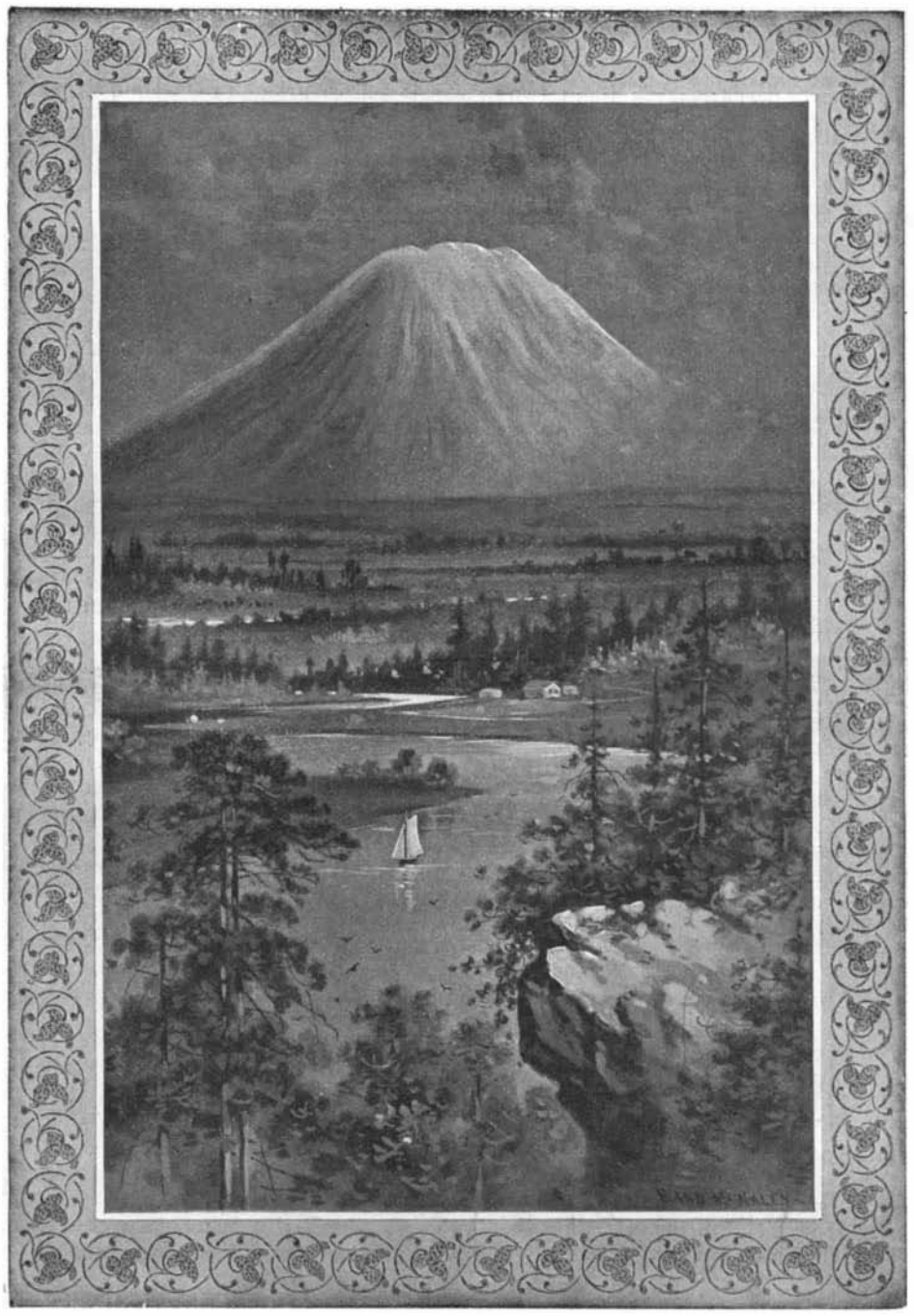
MOUNT RAINIER, WASHINGTON.

In February, 1893, a tract of fifteen huudred square miles of mountain and forest land surrounding Mount Rainier was, by Presidential proclamation, set aside as a forest reserve, under the title of the Pacific Forest Reserve, although a portion of this reserve, on the south side of the mountain, has become quite widely known as Paradise Park. The mountain is a volcanic cone, a portion of the Cascade range, over 14,000 feet high. Radiating from the summit is a system of glaciers, varying in size from four miles long and a mile in width to those only half a mile long and a quarter of a mile wide, these glaciers being the fountain heads of the Carbon, White, and a half dozen other rivers, the drainage being entirely westward into Puget Sound and the Columbia River. For a vertical distance of about 8,000 feet down from its summit the mountain is covered with a glittering coat of ice and snow. The beautiful park surrounding the mountain attracted more that 700 visitors last year, and it is safe to say that. when its marvelous attractions become generally known, it will vie with the famous Yellowstone Park in attracting sightseers and pleasure seekers. Our illustration is from a handsome volume entitled "Sketches of Wonderland," by Olin D. Wheeler, published by the Northern Pacific Railroad Company. This road passes through many scenes of great beauty and wonder, of which Rainier is but a single example.



MOUNT RAINIER, WASHINGTON.

A Novelty in Optical Lanterns.

An English inventor has recently brought out a new style of optical lantern in which, with the aid of an assistant, the lecturer standing near the screen can manipulate the slides, thus avoiding the possibility of a slide being shown at the wrong time and the wrong way up.

In connection with the slide shifting and dissolving devices, he has a wooden box containing fifty cells divided by thin metal partitions, with an open transverse slot in the bottom of each cell half the length of a slide. When a slide is placed in a cell, it bridges over the open slot.

The box of fifty slides, each placed in proper position, is pushed in under the lantern. To manipulate, the operator turns a crank, which in turn operates a piston, causing the latter to rise vertically through the slot in the bottom of the slide cell and push the slide upward, holding it in position to be shown on the screen. When the lecturer desires to change, he presses a pneumatic bulb connected by a pipe to a small air pump on the lantern. which releases a device and permits the piston and slide to drop, the slide falling into the original slide cell, at the same time the entire box of slides is automatically pushed backward a distance equal to one slide cell, bringing slide No. 2 into position to be pushed up and shown, which movement is repeated for each slide. A celluloid eclipser is also moved automatically between the slide and the lens when a change is to be made.

Such a contrivance will be appreciated by lecturers desirous of economizing and of having pictures shown in the right order. The attachment is capable of being put on any lantern.

The New Torpedo Boats.

By an act of Congress approved March 2, 1895, provision is made for constructing three torpedo boats, the cost not to exceed $175,000 each. The act providing for the building of these boats places them subject to the bids of contractors of the Pacific slope, Mississippi River and the Gulf of Mexico only, unless the bids show that they cannot be built at these places at a fair cost, in which case the secretary is at liberty to either build them at any of the government navy yards or ask for bids from any of the well known shipbuildingfirms. The time limit for construction being fifteen months from the date of signing the contract, the vessels will be ready for use by the end of 1896.

The speed called for in the contract is 26 knots per hour, which is 3 knots slower than the latest British torpedo boats. The dimensions of the new boats are to be as follows: Length on load water line, 170 feet; beam, extreme, on load water line, 17 feet; mean normal draught, 5 feet 6 inches; normal displacement, 180 tons; indicated horse power, 3,200.

Photographing Oil Paintings.

We have lately had the benefit of the experience of a photographer who has been commissioned to copy oil paintings in various parts of the country, and we think that a few hints, as to his working and manner of meeting the various difficulties in which this kind of work is so fertile, will be interesting and useful to many of our readers. Naturally, the first query we put to him was as to the actual value in practice of isochromatic plates. "They are invaluable," we were at once told. It is not found necessary to use them in all cases, but, as so many unexpected results are liable to crop up, there is no harm, and much possible benefit, from using them solely for the work. A little practice will soon show when a screen is needed, and to get the best results it is desirable to have two or three of different tones and depths of yellow, according to the predominance of yellow, green or red, or the extent to which they are present in proportion to the rest of the picture. It is an open secret that the process block makers, who obtain such beautiful and apparently impossible transcripts of most difficultly photographable pictures, do not produce a negative with the desired effects at once. More frequently a negative, as good as can be, with the aid of yellow or other screen, is first obtained, and a good print made from it. This print is then worked up, by a skilled hand in black and white, in such a way as to suggest the exact effect of the chiaroscuro and of color value of the original. It is then an easy matter to make a grain negative. from which to make the block. This, however, being treatment of a subsidiary nature to that which we are specially illustrating, a passing allusion to it must suffice.

"What is the greatest difficulty you have to contend with?" we asked. "Reflections and dirt," was the ready reply. As to the latter, we were told that the amount of actual dirt on the surface of the average oil painting was surprising. That it must interfere with the brilliancy of the negative is self-evident. Every owner of oil paintings ought to have his pictures periodically—not less than once a year—subjected to a simple sponging with clean rain or distilled water by an experienced hand. Most pictures would be uninjured by any amount of judicious cleaning of this kind, but an occasional one might be met with which, if at all cracked, would suffer from the application of water.—British Journal.

Retouching Surfaces.

There are many different methods of treating negatives previous to retouching. We have varnishes, ordinary and special, for retouching, retouching mediums, and preparations of one sort and another for bringing the surface of the negative film into a proper or comfortable condition to "take" the pencil, but we never, or hardly ever, hear anything of any attempt to bring the film itself into apt condition in the course of development; yet, to any one who has tried the experiment, it must be very quickly palpable that a very great power lies in the hands of the operator or developer of plates to assist or retard the retoucher in his work. As most of our best retouchers prefer to work first upon the film itself and to "finish" after varnishing, it may very well repay to give some little attention to the preparation of a suitable retouching surface by chemical means or by treatment of the film during or after development.

To illustrate what we mean, let a comparison be made between the surface of two negatives, taken upon precisely the same kind of plate, one of which has been simply developed, alumed, and washed, the other intensified with mercury. The one will present a hard polished surface, upon which it is absolutely impossible to produce any practically useful impression without having recourse to a retouching medium, or, more probably, to varnishing first. The other, while exhibiting an equally hard film, will offer a "tooth" to the pencil and a surface for working on that throws any retouching medium or varnish that we have ever met with far into the shade for any but very hard work; in fact, we question whether on a fairly good chemically prepared film such as this, more "lead" cannot be got on than on any varnish or medium now in use.

The surface, in fact, presents an actual "grain," fine, it is true, but sufficiently marked to take the lead and to go on taking it after the first application, which is more than most of the varnishes and mediums will do, as with them the first touch, light or heavy, settles the whole business, and, short of revarnishing, nothing more can be done. Grain varnishes have been tried, but, so far as we are aware, have not proved a very marked success, owing to the difficulty of getting a sufficiently fine and, at the same time, pronounced grain. We speak now of a mechanical grain, formed by the addition of some pulverulent material to the varnish; but in the old collodion days a different class of grain was obtained by adding chemical substances to the varnish, a practice not now permissible, owing to the comparatively tender nature of the gelatine film. The so-called matt "retouching varnishes" come under one or other of these heads, but they are really more fitted for application to the reverse side of the negative than to the film side for ordinary retouching.

But by suitable treatment of the gelatine film before drying, or it may be simultaneously with development, it seems to us that a far better result may be arrived at than by any of the methods in common use. It is true we cannot resort to mercurial intensification of all our negatives, though that treatment, when admissible, affords every satisfaction the retoucher could desire, and unfortunately the beneficial action of the mercurial salt cannot be secured without its other effects. There are, however. other means which may be resorted to for producing a fine grain without in any way injuring the negative. —British Journal of Photography.

A Golden Brick.

The government assay office at Helena, Montana, is receiving a great deal of gold from the mines of the Northwest, and lately cast a brick eleven and one-half inches long by five and one-half inches wide and three and one-half inches deep. The weight was 1,437 ounces, or nearly 120 pounds troy, and the value, at $20 per ounce, was $28,740. The question being asked why the gold is cast into such large and unwieldy masses, the answer given is that if it were run into small ingots for transportation to the mints, in case of a hold-up of the express, the road agents could not get away with and conceal a large brick so readily as they could the smaller bars or ingots.