

are most abundant has retarded the growth of the lumbering industry in that region. These very necessary adjuncts of development are being supplied gradually, and with them this heretofore dormant resource is being made to yield up a portion of its wealth. One of the first lines to penetrate the fastnesses of the Cascade range is the Oregon Pacific road building eastward from Yaquina bay through the mountains and across Eastern Oregon to a connection with some transcontinental line. The lumber business being opened up by this road has already assumed important proportions, and promises next year to be materially increased. Several new saw mills have been built in that region this summer and others are in course of construction, as also a number of lumber chutes and log ways. The timber along the North Santiam is not surpassed by any on the coast. It consists principally of yellow fir with some white pine, hemlock, oak and maple. Long train loads of lumber are daily shipped from the various saw mills along the road to be distributed to various points in the Willamette valley and for export to California and other markets. This business will admit of almost unlimited expansion as the supply of timber is practically inexhaustible.

At present there is, perhaps no other avocation that attracts so much attention, and creates so much general interest as does the searching for the precious metals. Of course the principal interest rests with gold, and any direct and positive knowledge that helps in the finding of that metal is of great benefit and eagerly sought after. Most of the fundamental attributes of this are well understood, but a constant recurrence to those tests will often save disappointment to prospectors. *Science News* gives the well known tests with other information. It says that many cheap alloys of base metals can be made which very strongly resemble gold in color and luster; but, in the absence of a complete chemical test, the high specific gravity of gold (19.3) is the best test of its purity, though this has been ingeniously imitated by covering the heavy but cheaper metal, platinum, with a layer of gold. Iron pyrites and other yellowish minerals are constantly being mistaken for gold, by inexperienced persons, but a very simple test will show whether a doubtful specimen is really the true metal. Gold can be shaved with a knife, like a piece of wood or horn; while pyrites and other worthless minerals will crumble under the knife. Very few chemicals have any effect on gold. Selenic acid will dissolve it, but few chemists have ever seen this very rare substance. A mixture of nitric and hydro-chloric acids will dissolve it, as will, also, a solution of chlorine gas in water. Any of these chemical reductions, however, are very unstable and as the metal is never destroyed it is easily restored to its solid form. Pure gold is never changed by heating in the open air. The only absolutely safe way of determining the value of metal, however, is to submit it to a practical assayer, who is accustomed to such work, as many details are required to establish its identity which may not be carried out by the novice.

EXPOSITION ATTRACTIONS.

Let it be said to the credit of the city of Portland and her enterprising merchants, that our Industrial Exposition this season is unquestionably more complete and attractive than any similar undertaking on the coast. No pains or expense have been spared by the management or the exhibitors to make the exhibition a pronounced success.

The visitors to the exposition undoubtedly hardly realize how much labor and expense have been devoted to making the exhibits interesting and attractive. The goods displayed were, many of them, largely manufactured especially for the exposition, requiring months in their preparation, while much time was necessary to artistically and attractively arrange the displays; hence, it is undoubtedly due to Portland's enterprising merchants that visitors to the exposition should make more than a passing examination of the various displays; particularly is this true as regards the exhibits of Staver & Walker, the leading dealers in machinery and vehicles on the Pacific coast.

The carriage display of this company occupies the entire south end of machinery hall gallery, and is undoubtedly one of the most artistic and elaborate displays of the entire exposition. The decorations are particularly beautiful, the white and gold blending harmoniously, and, under the brilliant electric lights, setting forth to splendid advantage the stylish "Tandem" outfit and the elegant Coupes, Rockaways, Landaus, Victoria Phaetons, Extension Top Cabriolets and other finely-finished vehicles displayed therein; also the fine exhibit of the celebrated Tompkins & Mandeville harness, robes, whips and horse goods and carriage furnishings.

This exhibit of Staver & Walker is undoubtedly the most artistic and complete display of the kind ever seen in the west, and compares favorably with the elaborate displays in the large eastern cities. The exhibit, as a whole, is in keeping with the acknowledged reputation of Staver & Walker as leaders in fine carriages and harness on the Pacific coast.

Their machinery exhibit occupies the entire northeast corner of Machinery hall proper, and is replete with interesting features, prominent among which will be noticed a splendidly-finished Chandler & Taylor self-contained engine; Snell & Meharg vertical engine, Charles P. Willard & Co.'s marine engines, all in operation; also a Ross feed cutter, Perfection water elevator and purifying pump, Bucyrus brick and tile elevator, Raymond Perfection re-press, with some finely-finished specimens of ornamental tiling. A Pulsometer steam pump, discharging a large volume of water, attracts the attention of all passers by, and is a marvel of ingenuity and mechanical skill. They have, also, displayed a pyramid of the Menasha wood split pulleys, Chicago Rubber Works belting, American leather belting, Ohlen saws, and in fact, a large and varied line of the machinery, vehicles and supplies for which they are general northwestern agents, and which are in general use to-day throughout the entire northwest, being recognized as the standard of excellence wherever introduced.

All visitors to Portland will undoubtedly find it to their interest and advantage to call at the headquarters of Staver & Walker, at the New Market Block, where they will find displayed the most varied and complete stock of machinery and vehicles handled by any one house in the United States.

They carry everything required by the farmer, stockman, millman, and orchardist in the pursuit of his labors, and by the introduction of their improved machinery they have done as much as any other one factor for the development of the industrial resources of the northwest.

Much credit is due Staver & Walker for the completeness and attractiveness of their displays at the exposition, which clearly indicate that no labor or expense have been spared in their preparation, while the individual exhibits throughout the exposition indicate that Portland is a great jobbing center and that her merchants are public spirited and desirous of extending the trade and commerce of the city.

WALKER BROS.
SOLE AGENTS
SUPERIOR STOVES & RANGES
48 WASHINGTON ST - 107-109-111-113-115 ST.
PORTLAND-OR.

BISHOP SCOTT ACADEMY,
PORTLAND, OREGON.
A Boarding and Day School for Boys and Young Men.
Thoroughly equipped for good work in every department. Send for new 64-page catalogue. J. W. HILL, M.D. Prin.
BY REV. B. WINTAR MORRIS, Rector.

BORTHWICK, BATTY & CO.,
2 Washington St. Portland, Or.
INVESTMENT AGENTS AND DEALERS IN REAL ESTATE.
Agents for Woodlawn, Highland Park and Portsmouth Villa.
Send for our Investment Contract, yielding ten per cent. net. Mention West Shore.

A. H. JOHNSON,
Stock Broker, Wholesale Butcher and Packer.
And dealer in all kinds of Fresh and Cured Meats, Bacon, Hams and Lard. Special attention given to supplying ships.
First St., near Ash, PORTLAND, OR.

RAND & DOW,
Architects,
SPOKANE FALLS, WASH.

WELL OUTFIT - ELEM.
Write for Catalogue.
ELECTRIC GOODS
Dayton, Hall & Avery,
304 Front St., Portland.

WALTER BROTHERS
PAPER HANGINGS
UPHOLSTERY GOODS
PORTLAND-OR.

Z. T. WRIGHT,
Foot of Morrison St., PORTLAND, OREGON.
ADVANCE THRESHERS AND ENGINES,
Farm, Church and School Bells,
Inspirators, Injectors and Food Pumps, Coal Oil Engines, Traders Pumps, Kriebel Engines, Boilers and Steam Generators.
Laundry Machinery, Marine Machinery.
CHEMICAL FIRE ENGINES,
Blacksmith Forges and Drills, Best Axle Grease and Compound in the world, Powell's Brass Goods and Iron Pipes.
SEND FOR CATALOGUE.

City of Ellensburg,
WASHINGTON.
Ellensburg, county seat of Kittitas Co., is a town that takes its growth since four years ago. Population 5,000, half of whom came the past year. Its resources are, first, agricultural; second, stock, the tributary ranges now feeding 150,000 head. Minerals well developed are gold, silver, copper, lime, marble, but the greatest is iron, all kinds, ore assaying 40 to 60 per cent. Kittitas county is the geographical center of Washington. The valley is the center of the county, the town the center of the valley. Abundant resources to support a very large town. The universal belief is that the population will equal 15,000 in a few years. Property has doubled in value annually, and investments made now will bring four-fold returns. 177 89 92

PORTLAND & WIL. VALLEY Ry.
TIME TABLE-AUG., '90.
PORTLAND.
ARRIVE DEPART
7:35 a.m. 7:45 p.m. 7:25 a.m. 7:40 p.m.
8:40 " 8:15 " 8:30 " 8:30 "
10:40 " 4:50 " 11:00 " 8:30 "
11:45 " 6:07 " 11:30 p.m. 8:55 "
7:45 " 8:00 " 8:00 "

* Through Mail Oregonian B. H. points. Suburban Trains-Oswego; Riverside. Saturday night leave 11:30 for Oswego. Ferries connect with all trains for Bellwood and Milwaukee.
Excursion parties for Spring Brook or Camp Washington at reduced rates.
B. KOEHLER. E. A. BOARDMAN,
Manager. A. G. P. A.

C F CLOUGH JAY F GRAVES
CLOUGH & GRAVES, REAL ESTATE INVESTORS.
CORRESPONDENCE SOLICITED.
SPOKANE FALLS, WASHINGTON.