

# DILLER PICTURES MOUNTAINS AND NEARBY MINERAL BELTS

Address by J. S. Diller, United States Geological Survey, before the Southern Oregon and Northern California Mining Congress, July 18, 1911.

My work in the United States geological survey has led me to spend a number of summers in studying the geology of northern California and Oregon. The results as far as published, are contained in the reports of which a list is given in a leaflet issued by the survey, together with information as to how they may be obtained. Copies of this leaflet and some of the reports may be seen in the exhibit.

In response to the request of the committee to address the congress, I have prepared a sketch map of northern California and Oregon, showing by colors the general distribution of the geological formations and thus illustrating at the same time the general distribution of the most important belts.

My thanks are especially due to Prof. Fayette A. Jones, the courteous and efficient mining engineer of the Oriole, who kindly placed at my disposal the facilities of his excellent laboratory.

The mountain belt of the Pacific states includes a number of distinct ranges. On the north there are the Cascade range and the Coast range of Oregon separated by the Willamette or Sound valley. On the south are the Sierra Nevada and the Coast range of California separated by the great valley of that state.

About the Oregon-California boundary, where all these ranges appear to meet, there is a group of mountain ranges and peaks extending from Rogue river in Oregon to Mad river in California that constitutes a distinct range, which was named many years ago by Major Powell, the Klamath mountains. Grants Pass is among the hills of the Klamath mountains, quite distinct from the Cascade range east of Ashland and Medford or the Coast range of Oregon farther north. I wish to urge the more general adoption of this useful comprehensive name, Klamath mountains. Their distinction is chiefly geological.

The Cascade range extends from Lassen Peak in California north across Oregon into Washington. The Sierra Nevada extends southeast in California. The Coast range of California from Mad river southward and the Coast range of Oregon from Rogue river near the coast northward, while the Klamath mountains lie chiefly in the drainage of Klamath river in California.

The colors on the map indicate the character and geologic age of the rocks.

Red separates the lavas that flowed from great volcanoes of the Cascade range from Lassen Peak Mt. Shasta and the others to Mt. Rainier in Washington. The red band is the western edge of the great lava field that covers much of California, Oregon and Washington. It is of tertiary age and much of it has flowed out and covered older auriferous gravels in the older river channels of tertiary time.

The yellow color represents the tertiary and later sedimentary formations, which contain the coal about Coos bay and along Rogue river valley, as well as the later deposits, which fill the Sacramento and other valleys.

The green color represents the rocks, chiefly sedimentary, formed on the ocean bed just before tertiary time. They belong to the cretaceous age, and occur at Riddles and Ashland in Oregon and Redding in California.

The tertiary and cretaceous rocks in many places lie flat or dip but gently. They are rarely much disturbed and are not much altered. They are younger than the great metalliferous deposits of the older rocks.

Next comes the blue, which separates the jurassic rocks. They were involved in the crushing and mountain building that formed the Sierra Nevada and Klamath mountains and contain a portion of the valuable metalliferous deposits, formed at that time. The northern side of California was formed then in jurassic rocks and it is interesting to note that jurassic rocks are abundant on the borders and within the Klamath mountains. The belt of jurassic slate at Galice has some of the characteristic fossils that occur in the mother lode region of Mariposa county, California.

The several areas of purple in the

Klamath mountains represent mica schists that occur in the south fork Salmon and Siskiyou mountains. The area on the boundary of Oregon is probably much larger than represented. These rocks are the oldest known in the region, but their age is not yet well established.

The orange color, covering the largest area in the Klamath mountains and the Sierra Nevada, represents rocks which are chiefly of carboniferous and devonian age, but some later ones may be included and with the sediments there are predominating masses of igneous rocks of many types and intrusions.

These rocks have been crushed and highly mineralized, possibly several times, and contain many mineral deposits of economic value, though, perhaps on the whole, of not greater importance than those in the jurassic.

The points to which I wish to call your special attention is that the geological formations of the Klamath mountains are essentially the same as those of the Sierra Nevada, being paleozoic, chiefly carboniferous with some jurassic.

The formation in the Klamath mountains change their strike or course across the country from northwest to northeast.

In the southern part of the Klamath mountains they have the same trend as in the Sierra Nevada, northwest and Southeast, but in Oregon they turn, so as to run northeast towards the Blue mountains of eastern Oregon.

The mineral belts and belts of folding and faulting, in general, follow the same courses. In Trinity and Siskiyou counties of California they run northwest and southeast in Josephine, Jackson and Douglas counties, of Oregon, they run northeast and south west.

The general conclusion is that the Sierra Nevada of California, the Klamath mountains and the Blue mountains of Oregon are all in the same general zone of mineralization

### HAPPIEST GIRL IN LINCOLN.

A Lincoln, Neb., girl writes, "I had been ailing for some time with chronic constipation and stomach trouble. I began taking Chamberlain's Stomach and Liver Tablets and in three days I was able to be up and get better right along. I am the proudest girl in Lincoln to find such a good medicine." For sale by all good dealers.

### Fine Showing Alameda Ore and Matte.

R. C. Kinney, secretary and treasurer of the Alameda Consolidated Mines Company of Alameda, has been in the city looking after business since the arrival of the morning train. He reports that a fine showing of 360 or more pounds of the Alameda ore and matte reached Merlin last night and is now on the way to Grants Pass and will be here in time to be placed on exhibition before the delegates examining the exhibits tomorrow morning.

### CATARRH CANNOT BE CURED

With Local Application, as they cannot reach the seat of the disease, Catarrh is a blood or constitutional disease, and in order to cure it Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials free. F. J. CHENEY & CO., Props., Toledo, Ohio.

Sold by druggists, price 75c. Take Hall's Family Pills for constipation.

### FINE HAIR GROWER

Also Cures any Case of Dandruff or Money back at C. H. Demaray's Parisian Sage will stop itching scalp and falling hair in two weeks, or money back.

It refreshes the scalp, gives it a delightful, comforting feeling, and is not sticky or greasy.

It puts the radiance of sunshine into women's hair, and women who use it regularly are sure to have fascinating hair. It makes hair grow profusely; yet silky and lovely.

A large generous bottle of Parisian Sage only costs 50 cents at C. H. Demaray's. Girl with the auburn hair on every bottle.

H. S. Woolley of Woolleyport is spending a few days here on business.

## HONOR TO MAN WHO DEVELOPS MINING

By W. J. Wimer, for 30 years a successful placer mining operator in Josephine County.

A stranger, dropping into Grants Pass and noting the permanent buildings, substantial street work, cluster lights, modern depot buildings and the immense stock of goods in all lines, naturally wonders what there is back of it all to justify such evidences of permanency.

The visitor sees machinery of every kind, also furniture, flour, feed and potatoes en route for the interior, and he looks in vain to see what the country is selling to create a balance of trade. There is some lumber, some fruit, hops, livestock, and a few smaller items, but he feels certain that from anything visible on the surface the splendid growth of the country and the city of Grants Pass is not based entirely upon its marketable produce.

The best opportunity for the stranger or any one else to form a correct idea as to the main source of our money is now an open exhibit for the public in the Albert building, opposite the postoffice, on Sixth street, viz: The mining exhibit under the auspices of the Mining Congress.

The mines of Josephine county more than any other resource, have been responsible for the country's prosperity and steady growth, and the satisfied appearance of its metropolis.

Silently the miner digs away in his claim and at certain intervals he steals away to town and sells his "dust." Delivery of his crop attracts no attention, since very few know of it. His output does not loom up like a load of hay, wood, hops or wool. He does not have four horses to pull it to market. He has made no public noise trying to "drive" a bargain on a low-freight rate with his neighbor. He does not go up and down the streets venting his disgust at the way commission men have unjustly robbed him in the market centers, both in price and condition of shipment. That old miner, who so quietly drops into town, lugs his gold to the bank, drops it on the counter, as if he was about worn out carrying the mean stuff around, gives a sigh of relief, and the cash market seeking it, swallows it up. The railroad officials mop their brows because the gold output represents so many thousands of dollars of business with so little freight on it, and the scene is closed.

The quiet miner now wends his way back to his diggings and again the search begins for the "precious metal," until such time as it becomes necessary to carry it to the banker or country dealer, who for many good reasons, helps him to keep his secret from the public. Placer gold, in paying quantities, was scattered all over the southern Oregon, and, as a result, the placer mines attracted more attention in the past than the quartz because easier and more cheaply handled as a means of getting ready cash. The extent and richness of the placers surely have proven the existence of rich quartz deposits deeper in the ground. If the disintegration of the outcrops of the ledges have yielded millions of placer gold, what about the main bodies of ore, as yet remaining untouched?

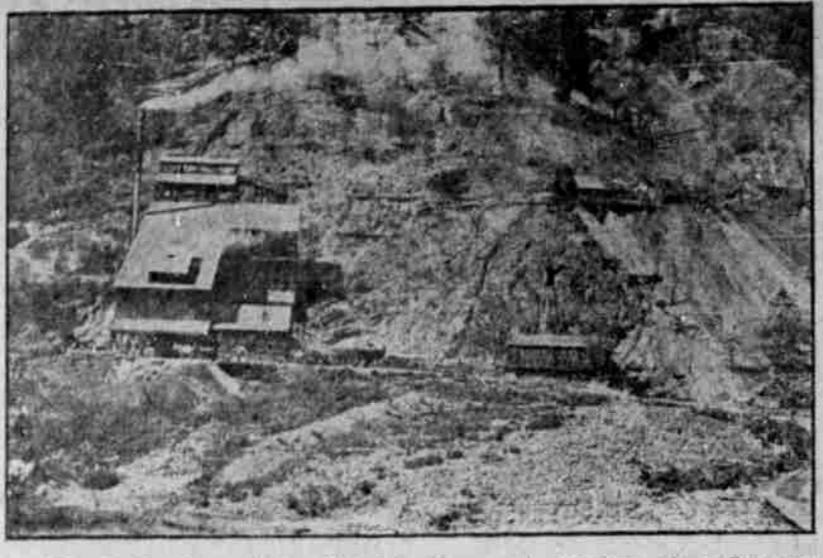
The farmer is enabled to trade his produce for general merchandise, so long as the miners dig out the money with which to buy the merchant's stocks. When the small rancher needs cash to pay taxes or other debts he or his boys or all of them go and mine or work in the mines and square up accounts.

But for our mines a good many of our citizens would have to deny themselves many luxuries now common, and they would have to get one-half of their profits from their own economy. Produce more of the necessities of life or go without them.

With proper development of our vast mineral resources, consisting of gold, copper, iron, tin, chrome, platinum and other values too numerous to mention, here we may go on indefinitely in our extravagance. In the fall we may go to the springs and in the spring we may go to the falls. We may go to all the picture shows in automobiles and we may, and doubtless will, go to all of the centennials.

And the mines of Josephine county will pay for it all.

Indigestion and the resulting bowel trouble are usually fatal to the little child unless treatment is given without delay. Conkey's Cholera Remedy should be given before it is too late. It is quick and positive. Sold on the "money-back" guarantee. Cramer Bros.



Alameda Smelter, Galice District, New and Modern Ore Treatment Plant of the Big Alameda Mine, Grants Pass Territory.

### AMOS BIXBY DIES FROM SCARLET FEVER

Amos Bixby, aged 14, son of James Bixby of the Angelo Studio, died Saturday morning at 2 o'clock after an illness of three weeks. The lad was just recovering from a severe attack of typhoid fever when scarlet fever symptoms developed Friday evening.

A funeral service was held at the Granite Hill cemetery at 2:30 Saturday afternoon by Rev. F. C. Lovette and was attended by the father, two sisters and one brother. A mother, two other sisters and another brother survive.

The dead boy was a member of the Grants Pass high school and has lived in this place a little more than one year.

### BOYS SENTENCED TO YEAR IN REFORM SCHOOL

Five Grants Pass boys, ranging in age from 10 to 14 years, have been sentenced by Judge Jewell, to one year in the reform school, and the sentences suspended during good behavior. In mercy to the parents the names are not printed.

The youths were convicted of theft, having filched money from companions' clothes while the owners were sporting in the river, for stealing a watch and money from an automobile and for other thieving.

The court stated that the first infraction of the law proved on any one of the culprits would send the offender to the prison, which now bears the soothing name of "training school."

### INDIGESTION GOES.

#### C. H. Demaray Sells Best Prescription on the Money Back Plan.

Almost everybody knows that sick headache, nervousness and dizziness are caused by a disordered stomach. Upset stomach and indigestion happen just because the food you eat does not digest—but lies in the stomach and ferments or turns sour.

You can stop fermentation and stomach distress in five minutes by using MI-O-NA stomach tablets, a prescription that has done more to cure indigestion and put the stomach in fine condition than all the specialists on earth.

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If you have heartburn, belching of gas, heaviness or any stomach trouble no matter how chronic, try MI-O-NA stomach tablets on money back plan. Sold by C. H. Demaray and leading druggists everywhere.

Never leave home on a journey without bottle of Chamberlain's Colic, Cholera and Diarrhoea Remedy. It is almost certain to be needed and cannot be obtained when on board the cars or steamships. For sale by all good dealers.



### Electric Rubber Hose

costs a little more than ordinary hose. It lasts three times as long.

It will not crack, split, kink or burst. Processes of making Electric Rubber Hose are protected by U. S. patents. Imitation has to cease where durability and efficiency begin.

Don't buy your garden hose until you let us demonstrate to you the wonderful qualities of the hose that can't be duplicated or equalled.

ROGUE RIVER HARDWARE CO. (The Big Red Front)

### VALUABLE AGENCY.

C. H. Demaray of this city has just closed a deal whereby he will continue to be agent of ZEMO—the well known remedy for Eczema, Dandruff, and all disease of the skin and scalp.

The extraordinary leap that this clear liquid external treatment for skin affections has made into public favor in the last few years proves its wonderful curative properties and makes it indeed a valuable addition to the fine stock of remedial agents carried by the C. H. Demaray Drug Store.

They have a limited supply of samples, one of which will be given free to any skin sufferer who wishes to test the merit of the medicine. A booklet "How To Preserve The Skin," will also be given to those interested.

TACOMA, July 20.—The brown-tail moth, a pest for whose destruction the government is spending annually \$300,000, has been discovered in the Rainier valley, near Seattle. F. A. Huntley, state commissioner of horticulture, was notified and today laid out a campaign to fight the pest. Quarantine of the infested area, embracing 20 acres, was ordered. A crew of men under the leadership of an inspector will begin today to clear the vegetation within the affected quarter.

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of Hartford, Wash., for the counties of Josephine and Jackson. I am in a better position than ever before to give my customers satisfaction. They are the originators of certified pedigree nursery stock, and growers are finding that certified pedigree is as necessary in nursery stock as in dairy stock. I also handle common stock of the best grade. All kinds of grapes a specialty. Also agent for the Frost Prevention Co.'s orchard heater.

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