

**MINES OF BOHEMIA** 

of the Cascade Range.

ROCKS ARE WHOLLY VOLCANIC

Deposits in the District Are in Part, at Least, Fissure Veins-Several Kinds of Ore.

In response to the petition of a large number of people of Lane and Douglas Counties requesting a survey of the Bohemia mining region, a preliminary ex-amination was made by J. S. Diller, of the United Structure Country in Structure and the United States Geological Survey in July, 1896. There being no topographic map of the region, only a reconnoissance was attempted. The results have been published under the title of "The Bohemia Mining Region of Western Oregon." The publication is chiefly valuable for its official geology of the region, and the struc-ture of the rocks and veins. The data regarding mines and prospects is largely out of date, owing to the extensive de-velopment in the district during the past

two years. The gold output of the dis-trict for 1857 is given at 345,560. Last year the output, according to the best estimate obtainable by The Oregonian. was \$100,000.

The Bohemia mining region was discov-ered, according to Dr. W. W. Oglesby, of Junction City, by himself and Frank Brass, in August, 1858. The region was named from James Johnson, also called Bohemia Johnson, who, with George Ram-sey, reached it in 1863 from Romeburg by way of the North Fork of the Umpqua River, and Steamboat and City Creeks. Free gold was found in a small veln near Free gold was found in a small vehn near the headwaters of City Creek, but gave out at a depth of six feet. This discov-ery brought many prospectors. Bird Far-rier discovered what, by purchase, be-came later the Knoti claim, where a five-stamp mill was put in 1875. It shut down in 1877, and the Bohemia region was al-most forgotten until interest in it was revived by Dr. Oglesby, O. P. Adams and others in 1891. The first ledge of import-ance, located the same year, was the ance, located the same year, was the Musick, which has been running a stamp mill almost continuously ever since. In 1882 the Annie, since renamed the Noonday, was opened. The Champion put in a 10-stamp mill in 1895, and the Noonday 20-stamp mill 'n 1896.

#### Location and Topography.

The Calapoola Mountains extend from the Cascade Range to the Coast Range and from the divide between the Willamand from the divide between the winam-ette and the Umpqua. From the Cascade Range they extend almost directly west, but as they approach the Const Range they turn north and become less promi-nent. The rather low gap which separates them from the Coast Range is passed through by the railroad midway between Drain and Contars Group. This gap was Drain and Cottage Grove. This gap was once occupied by a stream carrying the waters of the Umpqua northward into Willamette, before the Umpqua had found its way through the Coast Range

directly to the sea. The Bohemia mining region is situated at an altitude of between 4000 and 6000 feet above the sea, along the crest of the Calapoola Mountains, and upon both slopes, about 25 miles directly southeast of Cottage Grove, from which point it may be reached by a good road up Row River. The road forks at the mouth of Sharp Creek, one fork leading to the Noonday and Champion mines, and the other leading up Sharp Creek by a shorter route to what is generally known as the Musick mine, at the Bohemia postoffice. The region may be approached also from the railroad at Oakland, on the southwest, by road and trail, but the distance is some-what greater than from Cottage Grove. The slopes throughout the region and its approaches are steep and generally we'l wooded, but offer no special difficulties in the way of road construction.

the Cascade Range. Evidence of earlier trict may be considered, in part at least, igneous eruptions has not been observed in the Cascade Range, but from the rec-ords of volcanic action found in the ords of volcanic action found in the Eccene of the Coast Range at a number of points, and also at points between the Coast and Cascade Banges, it is suspected that the volcances of the Cascade Ranges, may have been active in Eocene time. The same may be true also of the vol-cances in which much of the lavas of the Calapoola Mountains originated.

Calapooia Mountains originated. That the upbuilding of the Calapoola Range belongs to the later Eocene or early Miocene is suggested by the distribution of Eocene and Miocene strata about its base. At the southern have of the Cala-poola Mountains, about 12 miles northeast of Oakland, and also near their western end, in the neighborhood of Comstock, characteristic Eocene fossile are found in characteristic Eocene fossils are found in the sandstones and shales, while at the northern base of the mountains the nearest fossils now known are Miocene, which occur a few miles southeast of Cottage Grove. From their distribution it appears that the Calapoela Mountains were the barrier to the southward extension that deposited the Miocene so widely in the

#### Rocks of Bohemin Region.

Willamette Valley.

The rocks of the Bohemia region are known to the miners generally as syenite, but they are wholly volcanic, and are gen-erally lava flows, although tuffs are quite on. Among the lavas, andesites are by far the most abundant. A few of them are more or less conspicuously porphyritic and contain phenocrysts of quartz; they are therefore classed as dacite porphyries

Basalts occur sparingly. The most sharply defined outcrop of da-cite porphyry lies near the eastern border of the mining district, where it occurs it the form of a dike, cutting through a thick set of tuffs near the Buckhorn opening set of turns near the Buckhorn opennia upon the western slope of Hematite Moun-tain. The rock, though not distinctly porphyritic, contains some quartz and feldspar phenocrysts in a granophyric ground mass. The ferromagnesian silicate has been replaced by chlorite and carbonates. The andesite is not often so porphyritic as to warrant its being called ndesite-porphyry, but is so in one case on the northern portion of the divide between Grizzly and Grouse Mountains. The phonocrysts of plagloclase have a symmetric extinction of nearly 25 deg., and probably belong to labradorite. They are larger and much more abundant than the ir-regular grains of augite. The ground mass is granular, chiefly feldspar. Each grain contains numerous smaller ones of different minerals, which render it micropolkilitic, and in some casus granophyric, as in the dacite-porphyrics, but in this case no quartz phenocrysts were discovered.

With very few exceptions, all the rocks of the Bohemia region might be included under the heading of andes tes, for the dacite-porphyries are only porphyritic quartz-bearing andesites. The tuffs, too, and most of the basalts are andesite. In several of the andesites hornblende is present, but generally pyroxene is the only characterizing ferromagnesian sili-cate. Although widely distributed, the

andesites are much altered. Basalts are few and anesttic. One of the best-marked forms the southern edge of the summit of Bohemia Mountain. Microphenocrysts of feldspar, pyroxene and serpentine are abundant, and so de-creased in size that the distinction be-tween ground mass and phenocrysts is not sharply drawn. The serpentine has the net structure characteristic of that derived from olivine. The ground mass is composed chiefly of lath-shaped plagio. c'ase and granular augite, with consid-erable magnitude and a small amount of secondary quartz. These rocks are cut by veins of quartz, and were evidently in place before the development of the auriferous veins. At the northeastern end of Bohemia Mountain the lava sheets are or bonemia adultian the inva sheets are cut by a velo of bright red chert, which looks very much like that of organic origin found at many points in the Coast Range of Southern Oregon and California. Tuffs are abundant, especially in the Eastern part of the region. They are well exposed also at several places in the west-ern and central portions. ern and central portions. Very few, if any, of the rocks of the

region are entirely unaltered, although the alteration is usually so small as not to affect the general appearance of the lavas the way of road construction. The mines cluster about Bohemia Pesk, and lie close to the crest of the Calapoola Mountains, where they form the divide between Steamboat Creek, flowing south into the Umpqua, and Sharp Creek, with teration of the lavas consisted chiefly in the chloritization and carbonitization certain minerals, the changes which were rought about closer to the veins are different in that sericitization and silici facation the most important processes, and these are accompanied or followed by the deposition of sulphides, especially pyrite.

Gangue

The principal gangue mineral is quarts, which is more or less abundant throughout the veins, and is in many of the small veins the sole constituent. Such veins are of milky quartz, fresh, bright and solid, but the larger velns contain quartz that is more or less porous and cavernous, and the larger openings are lined with quartz crystals. While the crystal-lined cavities which occur more or less abundantly in all the large veins are positive evidence that the deposition took place in a cav-lty, yet the absence of banding indicates entire irregularity in the shape and order of deposition in the cavities. By the oxidation of the inclosed iron pyrites near the surface the porous quartz is deeply stained red, yellowish or black, the color depending upon the degree of oxi-dation and hydration of the iron.

Next to quartz, the most important gangue material in the vein is a white, gangue material in the vein is a white, clayey substance resembling knolin, When treated with nitrate of cobalt solu-tion and ignited, it becomes blue, like kaolin similarly treated, but between crossed nicols its interference colors are in part high instead of low, as are those of kaolin, and it has a finely follated structure with parallel extinction, like sericite. George Steiger determined that it contains 6 per cent of water. Kaolin

while sericite contains less than 5, per cent. It is evident, therefore, that the white argillaceous matter contains only a small portion of kaolin, and is made up

# SIBERIAN TRAIN LUXURY HARDLY UP TO THE AMERICAN

RAILWAY STANDARD.

#### Excellent Sleeping Accommodation but the Dining-Car Service Is Quite Indifferent.

ON THE SIBERIAN RAILWAY, Sept. 4.—For the last stage of the long railway journey from the Urals to Irkutsk, which is the present terminus of the line, I am traveling in luxury, which is to say. on the famous Siberian express. Until now, between all the towns which have Until broken my journey in the search for in-formation, I have depended entirely on the service of the daily mail train, which speeds across the continent at the rate of 13 miles an hour, including all stops, and which includes no such conveniences as dining and sleeping-cars for the ride of one week. There are no regrets, however, for I am sure the trip by the post train has been far more interesting than the other would have been.

the coat of arms of the Russian Empire. The porter cut the strings with unction and shook out from the loosened paper a pair of sheets and pillow cases to fit the bed that he was making. I was impressed profoundly with the paternalism of a Government that would include thus in its functions the certification of fresh linen for the sleeping-cars on its railway, and it occurred to me as a distinct omission that the same practice is not in effect as to the table linen used in the eating sta-tions on some of the railways, and notably tions on some of the railways, and notably in the hospices of the Georgian military road through the Caucasus, which like wise is operated by the Government. This Siberian express would be noted a

a fine train in any country, including the United States, although it could not be named as the finest of trains. Its through service is between Moscow and Irktusk, service is between abore and irkusk, a distance of 3400 miles. The train starts from Moscow at 8:46 every Saturday even-ing, runs by way of Tula, Riajsk, Samara, Chellabinsk and the Siberian railway and reaches Irktusk, on Monday, the ninth day after departure, at 7 o'clock in the morn ing by the St. Petersburg time, on which all trains run, or noon by the actual time of the Irkutsk meridian. The average running speed for the whole journey, including stops, is consequently not quite 17 miles an hour. The portion of the dis-tance over the Siberian railway proper. from the Ural mountain terminus to Lake Baikal, about 2039 miles, is covered at a speed of less than 15 miles an hour. And his is the "flyer" across Siberia.

The through train westward leaves Ir-kutsk each Friday at 3:15 in the morning, according to the schedule, but that is not as bad as it seems, for the schedule is St. Petersburg time. The actual time is 8:11 in the morning, and the train reaches Mos-In the morning, and the train reaches Mos-cow at 7:30 the next Saturday evening. Four trains are required to keep this service in effect, and they are not all alike. Two are Russian trains, built after the latest fashion of the Russian shops for this particular use. One is an older train, made up of ordinary Russ'an sleep-ing-cars and the fourth is a train owned and operated by the International Sleep-ing-Car Company. It seems strange to find the "train de luxe Siberien" listed in the pamphlet of the latter company. the pamphlet of the latter company, along with the expresses from Paris to St. Petersburg, Vienna, Nice, Berlin, Con-stantinople and other European points to stantinople and other European points to which that famous service is in effect. Here in Siberia the people differ in their opinions as to the respective comforts of these trains. Some declare the train of the International Company to be the best, but the greater number stand for the Russian trains and name them as here the trains and name them as by all means the finest in service.

"There was another procession of Jap-anese from the outer dock to the board-The traveler has no option or choice in the matter unless he wants to wait a week for a favorite train, and fortunately for my own interest in the matter it was the best and newest of the Russian trains which happened along when I wanted to leave Krasnolarsk. Its equipment is exceedingly comfortable in every way, and even luxurious in many things. The train is composed of two sleeping cars of the first class, one of the second class, a dining car and a mail and equipment car, all specially built for this service. The locomotives are the regular ones used by any train on the line that needs an engine. The sleeping cars are of the corri-dor pattern, found on almost all European cars in use on a few American lines. The corridor extends down one side of the car, from end to end, all the compartments opening from it by means of sliding doors. Some of the compartments are arranged with two berths and some with four. of them extending across the car. The seats themselves make the lower berths, and the backs of the seats raised and sup-ported by brackets form the upper ones. Each compartment has a little table at-tached to the wall, just under the window. For light, each compartment has an electric lamp in the ceiling, and another on a movable stand, which may be hung on a movable stand, which may be hung on the wall for a reading light in either berth or may be stood upon the table. Each compartment, too, has a mirror covering the whole of the inner side of the door, which serves almost as well as 1 pierglass.

The most notable novelty about the arrangement of the sleeping cars is the "so-cial hall," as it probably would be called on a steamer. This is a space in the cen-ter of each car, occupying as much room as two or three of the compartments, which is fitted up as a lounging place, Of course there is no special smokingroom on the train, for every place is a smoking-room in a Russian railway car. Smoking-room in a Russian raiway car. Instead, this central room serves as a reception hall for the passengers of the car, both men and women. It has a ta-ble for cards and books, a few shelves and a couple of couches and a big electroller. Altogether it is a most attractiv may be brought to the table, and som ady may serve tea to all the passenger on the car. Games are available, peop who want after-dinner coffee order talk over the situation, with a view to here, writing materials are at hand and all the natural equipment of such a place. The dining car on the train is a combi horticulturists of this neighborhood have to sell and the Astorians would be glad nation of several different institutions. It is furnished with a plano at one end and to buy. If the Astorians furnish reciprocal freight for the up-river trip, bookcase at the other. The library includes many books of travel relating to ought to be business for at least one boat to start with. the various countries of Asia, some them in English. At the tables which oc-cupy the rest of the car a table d'hote The new steamer Cornella Cook was yesterday inspected by Mesars. Edwards and Fuller, and in the afternoon left down dinner is served in the afternoon, and at other times meals may be ordered at will from a liberal menu. The food is very good, and hardly as typically Russian as at the railway station eating-houses and the hotels at which I have been living. 1 am sure that I am inclined to be ger in my judgment of such things just now, after the experiences I have been hav-ing, but it is impossible to consider the service and quality of things on this car as equal to those found on every Ameri-can dining car. The car is far cleaner than most of the Siberian hotels, but it would not be tolerated in the United States, with its dust, cigarette ashes all about, doubtful table linen and unkempt waiters. All day it is a lounging place for the people of irregular meals and irreg-ular habits, and that does not attract an American who likes to find a dining cat always clean and quiet. Prices of meals are moderate, and the steward of the train has the authority to buy fresh things along the way whenever they are to be had. As our steward on the train is a good one, he exercises the authority and the passengers profit thereby. TRUMBULL WHITE

FREIGHT RATES TOO HIGH Messrs. Edwards and Fuller will inspect the Alaska packers new steamer Kvichak, which took a preliminary spin down to the coal bunkers Tuesday. They will also inspect the United States lighthouse tender Manzanita today. The later part of the week, they will leave for Coos Bay to inspect the steamer Dispatch on the Coquille River and the steamer Hazel on TAKERS FOR THE BRITISH SHIP ALLERTON.

Owner's Ideas Above Those of Exporters-The Braemar in Port--Sebastian Bach Sold.

The British ship Allerton is still on the free list, and an accurate quotation on a of  $\theta$  men, and will make two stops on the spot grain ship is still unobtainable. The way out. She will engage in the trading spot grain ship is still unobtainable. The men who keep the wolf from the foreign shipowner's door by paying 40 shillings for freights were all out playing golf yes-terday, and probably made more money than they would have made by falling over each other in an effort to charter the only disengaged ship within 600 miles of this port. The Allerton's owners are de-manding 41s 3d to 42s 6d, but the present attitude of farmers present attitud of farmers regarding the wheat market does not justify exporters paying such rates. At the same time there is not much in the outlook that precludes the

possibility of the Allerton securing the rates asked-providing she holds off long enough, A 3409-ton grain-carrier now nearing the Japan coast has been offering for new-

crop loading from Portland or the Sound at 41 shillings. She was declined with thanks at that figure, and yesterday was reported as chartered for lumber from Puget Sound to Valparaiso at 65 shillings with a certainty of securing a nitrate freight to the Uinted Kingdom or the At lantic coast at a rate better than 30 shillings. This business is admitted even by wheat men to be much better than 40 shillings for wheat, and as long as it holds up there will be no cheap ships for wheat. That the nitrate end of it is expected to hold up is evidenced by charters as far ahead as September, 1901.

BRAEMAR IN PORT.

## Big Oriental Liner Brought 1056

Japanese to Victoria. The big Oriental liner Braemar arrived In at 11:30 yesterday morning, and left up at 5:30 last evening. She will reach Port-land early this morning, and will com-mence discharging today. The Braemar brought to Victoria over 1000 Japs, and the advent of so many of the little brown men is commencing to arouse misgivings in the minds of the British. The Victoria

Colonist in its Tuesday issue says:

The Railroad Equipment.

ing-houses last night, the total arrivals of immigrants from Mikadoland since January 1 being brought to 7006 by the arrival of the Northern Pacific steamship Brae-mar, while the Empress of China (due today) will further augment the total, as she is known to have 600 Asiatic steerage passengers. The Braemar's contribution is 1666, and passing these through the purification process kept the steamer all yesterday at the quarantine station. It is only to land Japanese that the Braemar comes here, her destination being Portland, to which city she proceeds this morning. Although British Columbians have been congratulating themselves that this province is not to be the abiding-place of the incoming Japanese hordes-that all would soon find their way across the boundary line, there to work on the American rairoads—there is danger of a disap-pointment in this connection. The United States immigration officers have taken alarm at the numbers of Japs coming in, and are proceeding to extreme measures to prevent their settling in the States. Strict attention is being paid to the en-forcement of the alien labor law, and as ulation of this province. More than half of the little army of Japs brought by the Goodwin have, according to telegraphic reports, remained in this province to find work in the cannerles and for the cannerles; while at least 100 of the Milos'

tribution are going into the mines of Yale and Cariboo. Dispatches from Helena, Mont., state that the influx of Japanese by way of Victoria is exciting serious consid-

Shiplond for the Orient. TACOMA, Wash., April 25 .- The North Pacific Steamship Goodwin will sall early in the morning for Yokohama and other Oriental ports with 6000 tons of freight and a lot of heavy timbers.

It is

ing.

tons.

the Umpqua River.

To Go in the Alaskan Trade.

NEW YORK, April 25. - The steamer Dolphin, owned by the Alaska Steamship Trading Company, leaves here today for Seattle, Wash. She is expected to reach

her destination in 65 days. She has a crew

way out. She will engage in the trading and passenger business on arrival at Se-attle, making three trips a month be-

tween there and Skagway. The steamer

has been equipped with engines of more

than ordinary power, and carries a com-plete outfit of sails. She is a vessel of \$40

Several Collisions at Vancouver,

VANCOUVER, B. C., April 25 .- Incom-

ing steamers were unfortunate here to-day. The Yosemite from Victoria, when attempting to dock, ran into a pier, tear-

ing off a number of timbers. She then backed out and collided with the steam-er Capilano. The Yosemite capped the

cilmax by running down a Japanese fish-ing boat, cutting the little craft in two.

A Japanese fisherman, who was thrown into the water, was rescued. Later in the day, the steamer Capilano collided with

the Islander, Slight damage was done.

Sebastian Bach Sold.

HONOLULU, April 17.-The bark Se-bastian Bach was sold at auction on the lith and brought \$2800. The Sebastian

Bach put in here in distress on her way from Hong Kong to the Sound, having

been over 20 days in maxing port after a storm that almost foundered her. A board of surveyors condemned her and

reported that she was not worth repair-

M. and left up at 5:30 P. M., British steamer Braemer, from Yokohama, by way of Victoria. Arrived-At 11:30 A. M. and left up at 3 P. M., steamer State of California from San Francisco. Condition of the bar at 5 P. M., rough; wind,

northwest; weather, squally. San Francisco, April 25,—Arrived-steamer Columbia, from Portland; Bar-kentine Tam O'Shanter, from Willapa Harbor; steamer Tellus, from Comax; bark Germania, from Seattle; steamer Ar-cata, from Coos Bay. Sailed-Schooner

Ralph J. Long, for Siuslaw. Seattle, April 25.-British bark Battle Abbey, from Falmouth. Sailed-Japa-nese steamer Riojun Maru, for Japan; British steamerAthenian, for Manila. Honolulu-Arrived April 11-British steamer Port Stephens, from Seattle; bar-kentine Klickitat, from Port Gamble, Arived April 15-Ship Charmer, from Taoma.

British steamer St. Irene, from Portland, Sailed April 25-British steamer Empress

for Southampton; Teutonic, for Liver-pool; Kensington, for Antwerp, Southampton, April 2.-Arrived-Lahn,

from New York, via Cherbourg, for Bremen. Hong Kong, April 3 .- Arrived previous-

a result some thousands of coolies who quito intended working in the Uinted -Gaelic, from San Francis States may soon be forced upon the pop-Cherbourg, April 25.-Arrived-Pennsyl-

Sydney, April 25 .- Salled-Aorangi, for

Vancouver.

Domestic and Foreign Ports. ASTORIA, Apil 25.-Arrived-At 11:30 A.

Hong Kong-Arrived prior to April 25-

of India, for Vancouver, New York, April 25.-Satled-St. Paul,

vania, from New York. Gibraltar, April 25.-Arrived-Werra, from New York, for Naples.

Boulogne, April 25.-Arrived-Maasdam, from New York, for Rotterdam.

Southampton, April 25.-Sailed-Kaises Wilhelm der Grosse, from Bremen, for New York.



ferred to as kaolin, partly because some of it is kaolin and partly because the miners will more readily recognize it by that name. Mr. Lindgren showed the importance of sericite in the veins of the mining districts of Idaho Basin, and at the same time called attention to the scarcity of kaolin under such conditions. One of the vein minerals of rather local distribution and of little importance is epidote. In some places, as, for example, the southern end of the Mystery, it forms considerable masses and contants large

scales of red hematite. Another mineral which should be considered with the gangue minerals is carbonate of lime. It is rare and of but little importance. There was found at the mouth of the Helena a large fragment of would of the relevant a large fragment of yellowish and pale green, somewhat sta-lactitic mineral, which upon investiga-toin proved to be allophane. It is said to have come from the tunnel on the vein. Although allophane was seen at only one close the states of the place in the mining district, it is not of rare occurrence elsewhere in mines con-taining copper ores.

of sericite. The material is re- would be impossible to deny a feeling of satisfaction that for the last and longest continuous stage of the railway journey that much-heralded comfort was to be available, instead of the wearing trains of rougher sort that had become so familiar and so tiresome. All the droshkies had retired from the street corners before I finished a pleasant evening at the Keigh-

ley homestead, so after much difficulty I induced the hotel porter to find a cart for me. The drive to the station was nearly two miles, and the time long after midnight, with darkness most profound, but the rough peasant's cart brought me and my baggage to the train at last, after

a breakdown or two on the way to relieve the monotony of the trip. The station was crowded. It was divided into three rooms of considerable size, the center one devoted to the checking and storage of baggage and the office of the ticket agent. On one side was the big ticket agent. On one side was the big room occupied as a waiting-room and buffet for third-class passengers, and on the other side a corresponding one for the first-class and second-class travelers. All the rooms were full. The first two were crowded with private soldiers and noncom-

Frank Brass Creek, flowing north into Row River, and the Willamette. The Umpqua and the Willamette have long struggled for supremacy in their head-water region. In this unequal contest the Umpqua, having the shorter course to the sea, has the advantage, and as a re-sult has captured the original headwaters of the Williamette, first in the neighbor hood of Drain, and later the outlet of Dismond Lake, which was once the source of the middle fork of the Willamette. The divide between this stream and the north fork of the Umpqua is comparatively low, so that Bohemia Peak and the other peaks in that vicinity are separated from the crest of the Cascade Range, 40 miles to the eastward, by lower ridges and hills. The Cascade Range may often be seen from the Bohemia region, above the clouds, which lie over the interval. Seen from the Cascade Range, the Bohemia peaks of the Calapoola Mountains stand out prominently in the distance. Next to Bohemia Peak the prominent elevations of the Boia region are Fairview, Grouse and Grizzly Peaks, each of which stands at a marked bend of the serpentine crest of the Calapoola Mountains.

#### Geology.

The Calapoola Range, throughout its whole extent, is composed of lavas like those of the Cascade Range. They are arranged in sheets, radiating from the volcances whence they came, and are piled up to a great thickness. The walls of the canyon along the middle fork of the Willamette toward its source illustrate this feature at a number of points, and it may seen also in the summits of some o sent peaks. Generally the sheets of lava are very irregular, and no parallel arrangement on a large scale is visible. The lava filling the throat of a once active volcano may make a prominent peak, as in Cougar Rock, or may stand on end with conspicuous columnar structure, as in Bear Bones Rock, a short distance east of the Bohemia mining dis-trict. The region has lost much by ero. sion. Its streams have carried the material away and cut deep, narrow valleys, almost narrow enough to be called can-yons. They expose rocks to a depth of over 2000 feet-lavas, veln matter and stratified fragmental volcanic material. The composition and structure of the Bohemia mining district are essentially those of the Calapoola Mountains as a e. Upon the northern slope of the divide within the district the lava sheets northward, and upon the opposite side they incline southward, apparently; but in Grouse Mountain, as well as along part of the upper course of Horseheaven Creek, they swing around and dip east-ward, as if emanated from a volcanic center about the head of City Creek. Such may have been the case, but the distribution of the fragmental volcanic material is opposed to this view. It is possible that this divergent dip is due to uplifting by mountain-building forces.

#### Age of the Calapoolas.

The age of the Calapoois Mountains has not been positively determined, because no fossils have yet been found in the rocks of which it is composed. It is supposed, however, that, being a spur of the Cascade Range, and being composed of similar volcanic rock, they are cesentially of the same age. As to the age of the Cascade Range, evidence is found in the plant remains that the tuffs on the Columbia River near the middle of the range, and on Coal Creek near the sumthe range in Lane County, as well as the sandstone upon the western slope of the range near Ashland, are of the Mib; ene the range near Ashiand, are of the Milvere age. The stratified tuffs containing the fossil plants were evidently laid down in lakes developed among the lava flows, and show that during the Milvere age there was extensive volcanic activity in

### Veins of Bohemia

The veins are rarely well defined. Gen-erally they are narrow but irregular mincralized belts, or zones, in which there has been much crushing of rock material. The crushed mass, as well as the adjacent country rock, sometimes for a dis tance of 12 feet or more, may be impreg-nated with pyrite. The veins are irregular and vary from a mere film to sheets 12 feet thick. A vein may be simple or it may be composed of several parallel veins only a few feet apart. When simple, the attain a thickness at times feet, but when compound they are as much as 12 feet thick.

#### Course of the Veins.

None of the veins has been followed to a greater depth than about 230 feet beneath the surface, and they have been traced on the surface for comparatively short distances-the Musick for about 90 feet, the Champion for 570 feet, and the Noonday for nearly the same distance. There is a wide range in the course of the veins-from north 40 degrees west, to south 70 degrees west, although for short distances the local trend may fall outside of these limits, as for example, the Ophir, whose strike is north 15 degrees west. The average course of 31 observations is north 72 degrees west, approximately the general course of the Calapoola Mountains, and it seems probable that the for-mation of the veins may have been con-nected with the axil uplift of that crest. The dip of the veins is always at a high angle, and generally to the southwest, although in a number of places it is to the northwest. The same vein, as, for ex-ample, the Noonday, is inclined in differ. ent directions in different portions of the

The veins follow sets of joint planes, which there are two-one lying between north 30 degrees west and north 70 degrees west, and the other nearly at right angles to this, a little west of south. The joints of the first set are most abundant, and occur generally in the neighborhood of the veins. Those of the second set are not The best examples are seen about Grouse Mountain,

#### Fissure Veins.

It is evident from the relations of the joints and veins that the joints deter-mined the position of the veins and aided in affording an opportunity for the circu-lation of the mineral bearing solutions by which the ores and gangue were deposited The development of the veine, however cannot be ascribed to the presence o simple joints alone, but to a crushed and porous belt of rock in which there may be many irregular joints. The crushe condition of the rock is well displayed in condition of the rock is well displayed in the faces of some of the drifts. Occas-ionally the walls or inclosed fragments show well-marked polish or striae of slickensides due to faulting. These ap-pear more abundant about the Noonday pear more abundant about the Noonday mine than anywhere else in the district. The existence of faulting of at least small extent cannot be doubted. It is possible that the evidence of faulting was once more general, and that it has been to some extent obscured or obliterated by subse-quent deposition of vein matter. The country rocks are wholly volcanic and much alke, so that it was not possible in a preliminary study to determine the amount of displacement. From the fore-going considerations and others which follow, the deposits in the Bohemia dis-

ation to the work of the public schools.

In the deeper portions of the veins the ores are pyrite, sphalerite, galenite, chal-copyrite, oxide of iron and cerusite. Excepting the last, they usually occur irreg-ularly intermingled. When found toularly gether, they are in general of approxi-mately equal quantities, although there is much variation. Pyrite is the only one which occurs alone, and is much more widely distributed than the others, extending far into the adjacent country rock. The iron oxide intermingled with the sulphides is red hematite, and its presence is generally considered an indication that the ore is rich in gold. The dark-brown to black oxide of iron is sometimes associated with a partially weath-ered form of good sulphide ore. The sphalerite (zinc sulphide), galenite (lead

missioned officers, with their equipment, sleeping on the floor as closely together as they could lie. The other one was shared between the commissioned officers and a miscellaneous collection of passengers who overflowed the benches and sat upor their baggage or on the floor itself. Alto-gethe it in and as if the experiences of the past were to be repeated, and I was to have another struggle for a place or the train.

frost lying thick on the platforms outside, but the rooms were too stuffy for com fort, so I sought the outer air. When I saw that the ticket window was about to open I was early in line, but the agent re-fused to sell me a ticket to Irkutsk, ex-plaining that there was lots of time, that sulphide) and chalcopyrite (copper and the train was late, and that the passe ron sulphide) are almost absent from the gers for the train which was to pass car-

The night was clear and cold, the hoat

Classification of Boxers PORTLAND, April 25.-(To the Editor.) Will you kindly define what weights hould each be to be eligible in their respective classes? Feather, bantam, light, welter, middle, heavy. The above reerring to boxing according to Marquis of Queensberry rules.

Feather-weight, 118 pounds or under: bantam, not exceeding 115; light, not exeeding 133; welter, not exceeding 142 or 148, according to the mutual consent of the principals; middle, not exceeding 158, and heavy anything over 158.

#### Cornus Serices.

EUGENE, Or., April 25.-(To the Edi-or.)-In your issue of yesterday, "F. E. B." wants to know the botanical name of "kinnikinic." In Gray's "Field and Forest Botany," page 168, he can find name and full description. "Cornus sericea, silky dogwood or kinnikinic (the dry bark smoked by the Indians W.); in wet places has dull, red branches, the shoots, cymes and lower face of the narrow ovate or oblong pointed leaves sliky-downy; fruit bluish. R. E. DAVIS

466 HOURS TO ST. PAUL AND MINNEAPOLIS"

Via the Great Northern Railway. Train leaves Portland daily at 6:20 P. M. Connects at St. Paul Union Depot for Chi. cago, St. Louis and all points east and south. For tickets, rates, etc., call at tied with a succession of strings. Where the strings crossed the knot was sealed with a leaden seal, on which was stamped south. For tickets, rates, etc., call City Ticket Office, 122 Third street.

way of Victoria is exciting sectors that state, and action toward restraining their entry j into the United States will be taken theorem concentrations to Congress. The Great Northern Rallway is looked upon as filed in the Walla Walla land office withthe prospective employer of a majority of the new arrivals, and the labor organizaing the last two days: Charles H. Arra-smith. Pampa, 163 acres; James F. Coch-ran, Puliman, 40 acres; Joseph C. Kidder, tions are watching closely to see that the contract labor law is not evaded by this corporation.'

### New Steamboat Route.

Steamboat Inspectors Busy.

Hay, 100 acres, all in Whitman County; James F. Hallet, Lind, 165 acres, and John F. Irby, Cunningham, 160 acres, in Ad-ams County; William F. Sigroves, Waltsburg, 169 acres, and Sara O. Here, Chard, 80 acres in Columbia County. A. Scherneckau, of Astoria, arrived here from Astoria last evening, says The Dalles Chronicle, to remain about a week and

#### Army Orders.

having a line of boats put on the run be-tween here and Astoria. Astoria needs a whole lbt of stuff that the farmers and WASHINGTON, April 25.-Acting Hosbital Steward Welcome N. Powell, of the Hospital Corps, has been detached from duty at Angel Island, CaL, and ordered to Seattle, where he will be assigned to duty with the Department of Alaska. First Lleutenant Curtis W. Otwell, Adjutant of the Seventh Infantry, has been

ordered to Seattle, where he will be as signed to Company G, of the Seventh, for duty in Alaska.

PIC-HANDSOME MOVING TURES.

the river in charge of Captain W. H. Whitcomb, who will be relieved at Astoria by Captain Carr, who will take the steamer around to the Sound, where she will be used as a cannery tender. Today office, 135 Third street. ria by Captain Carr, who will take the

# HUDYAN ALLAYS PAIN

In Need, In Back, In Side, In Joints, in Face, In Muscles, In Liver, In Kidneys, over Bowels, Dragging Pains, Bearing-Down Pains.

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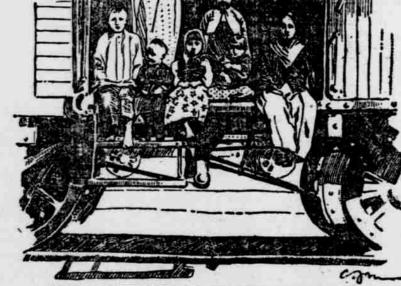
GET HUDYAN from your druggist, 50c a package, six packages, \$2.50. If your druggist does not keep it send direct to the HUDYAN REMEDY CO., corner Stockton, Ellis and Market streets, San Francisco, Cal.

Consult Hudyan Doctors about your case, free of charge. Write.



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For sale by Aldrich Pharmacy, Sixth and Washington streets, Portland, On



RUSSIAN IMMIGRANTS ON THE SIBERIAN RAILWAY.

the pyrite is most abundant and lead carbonate (cerusite) derived from the galen-ite occurs in a few places. The metal sought is gold, which near the surface is native, finely filamentous, and distributed through iron-stained, quartz; but at greater depths, about 200 feet, beyond the reach of surface influences, the gold is largely contained in the sulphides,

## SPOKE OF BIRDS.

Rev. Wm. R. Lord Addresses the Pupils of Failing School.

William R. Lord addressed the ouplis of Failing School on the subject of birds vesterday afternoon. The showed their appreciation ing a little bird song, after which Mr. Lord talked to them in a most happy vein, Later, Mr. Lord spoke to 175 pupi's as-sembled in Miss Barlow's room, from Miss McCarthy's, Miss Peterson's, Mirs Micheter's and Miss Crane's rooms. istened with rapt attention to Mr. Lord's instructive and humane remarks. The speaker carried away with him the admir-ation of every child of Failing School,

and made many friends for the birds. Professor I. W. Pratt and his teachers greatly appreciate Mr. Lord's kindness in adding a practical feature in humane ed-

rock in the zone of oxidation, where yei-low to black oxide of iron derived from plained the crowd and relieved the situation. The Siberian express, for was hoping, which should appear at about 1 o'clock in the morning, was to be more than three hours late. Before it came the post train eastward had arrived and was drawn to a sidetrack to await the possage of its speedler rival, and the post train westward had been gone an hour. These two trains cleared out the crowd amazingly, and left me the only passen-er waiting to join the "flyer." I was

ger wanting to join the "flyer." I was able to get some hot tea and breakfast by early daylight before the express came, and the sun was just rising when we drew out of Krasnolarsk for Irkutsk, 670 miles to the southeast.

Comfort on the Train.

With a beautiful stateroom containing four berths all for myself, I wasted not time investigating the other comforts of the train, but turned in for a long sleep before extending my examination. That test of the sleeping accommodations of the train was eminenetly satisfactory. The beds were ample in size and exceedingly comfortable. The linen was immaculate, and proven so by a process that I have never seen equaled elsewhere. When the porter came to arrange the berth for me he bought with him a neat bundle wrapped in heavy blue paper and carefully