AND STATE OF DEVELOPMENT.

Upper and Lower Nehalem, Yaquin

and Coos Bay Measures-Exploration by Geological Survey.

logical Survey, and a number of reports

on their extent, character and quality have been printed from time to time. The geologist most familiar with those

fields is Professor Joseph S. Diller, who,

Nehalem, Yaquina and Coos Bay, and

yet known, all lie west of the Cascade Range, and north of Rogue River. Most

of them are among the mountains gen-erally known in Oregon as the Coast

"The Upper Nehalem coal field is in Columbia County, within the drainage of the upper portion of the Nehalem River. It extends northeast and south-

west a total length of about 13 miles,

west a total length of about 13 miles, and has a width of one to two miles. The coal of this field is exposed upon the forks of Pebble Creek, the east fork of the Nehalem, and the Clatskanie.

"Beginning at the southwest end of the field, in section 34, township 4 north, range 4 west, there is a bed of coal which has been opened in the main fork of Pebble Creek near the county line. The pit, which once exposed the whole

The pit, which once exposed the whole thickness of the bed, has been filled up by the stream, but I was informed that the bed is 4 feet 10 inches thick, including a parting of soft yellowish sandstone,

which measured four to six inches. At

the time of our visit only the upper 18 inches of the bed could be seen. On a fresh fracture the luster of this coal is brilliant, but soon becomes dull. It has a fine-banded structure, parallel to

the bedding, and upon exposure to changes of temperature and moisture fis-sures develop along these planes in the coal, but much of it does not slack. It

contains a few nodules of pyrites, breaks

contains a few nodules of pyrites, breaks readily into flattish pieces, and burns with a bright yellow flame.

'The coal lies between sandstones. In the gray sandstone above, Mr. F. M. Anderson, who assisted me in the examination of nearly all the coal fields, collected a few forsail shells and fish scales. The sandstone is occasionally hard, but not so firm throughout as to make timbering entirely unnecessary in

make timbering entirely unnecessary in

"About 100 yards farther down Pebble Creek, upon the right bank above the stream, apparently the same coal crops out, showing that the strata dip gently

"The best exposure of the coal seen in this field is upon the East Fork of Pebble Creek, in section 23, where the Great Northern Coal Company has opened sev-

mining the coal.

eastward.

The coal fields of Oregon, so far as

OREGON

THE GALLERIES OF GERMANY

THE OREGONIAN'S HOME STUDY CIRCLE: DIRECTED BY PROB-SEYMOUR EATON

FAMOUS ART GAL-LERIES OF THE WORLD

The principal art galleries of Germany are those of Berlin, Munich, and Dreeden. The Berlin museum is the finest building of its order in the German capital, contains about 156 pictures, and, Ital, contains about 1239 pecures, and, although possessing few masterpieces, af-fords one of the best opportunities in Europe for studying the history of art. It should be visited first of the German t should be visited first of the German sileries, for after Dresden and Munich might prove disappointing. The Dres-en gallery contains approximately 200 den gallery contains approximately 2000 paintings, and, although less rich in German, Fiemish and Dutch masters than Munich, and inferior to Berlin in rks of the early Italians, its collection works of the early stations, in consection of measurepieces of the golden age of Ital-ian painting is hardly equaled in Europe. The galleries are admirably arranged and well lighted, the only drawback to study being the fact that many of the best pictures are covered with glass an arrange-ment necessitated, it is said, by the smoky atmosphere of Dresden. The Old Prinslothek of Manich contains a collection of about 1400 pointings, which are excellently arranged. The building, a rather plain structure, in the Renaissance style, somewhat suggests the Vatican, and is situated directly opposite the large parade ground. It is a fine place to study certain masters, especially Rubens and the sarily Germans. From the works of these three great museums it will perhaps be well to choose such specimens of the great painters of old as best illustrate their individual characteristics, and tion of about 1400 pointings, which are trate their individual characteristics, and

traits their individual contracteristics, and typity the leading teadencies of the schools to which they belonged. Baphael is strongly represented in the German guileries. The most impressive manifestation of his genius appears in manifestation of his genius appears in Bhome, but as a painter of the Virgin be is seen to excellent advantage in Ger-many. The growth of his style is well illustrated by four examples. The "Ma-downs of Terranuova," in Berlin, shows his early style, at the age of about 21, It is an extraordinary performance for a painter of that use, although it has not the distinctive style that marks his more mature productions. The children's fig-ures suggest the style of Perugino, Ra-Cardgiani Family," in the Muntch gal-lery, shows a decided advance in his lery, shows a decided advance in his art, and is a souvenir of his early Roman period. The figures, including, bestdes the Virgin herself, the infant Jesus, St. Ellisabeth, St. John, and St. Joseph, are bearly life size, and well grouped in the more appropriate to sculpture than to pointing. It is natural, however, that



Raphael, with his careful study of the siral models, should adopt this manner of arrangement. The beautiful "Madona of the Tent." once the property of Spain, stoles thence by the French in Spain, stoles thence by the French in the stoles the stoles and sold to Raphael at the time he began the decrations for the Varieann and is of a little ariler date than the "Sistine Madenna," he "Madenna of the Chair," and the Transfiguration." This, too, shows decided progress in Raphael's art, a freer a broader style of workmanship mosphere, and light and shade, finest Raphael in Germany is, of course, the thrice famous "Sistine Madonna." in the Dresden gullery, one of the most celebrated pictures in the whole world. Concerning such a well-known picture it is needless to say much, and impossible to say anything new. The terms of to say staything new. The terms of eulogy have been almost exhausted in singing the proises of this work, and there is today a tendency among artists and critics to react a little from this ex-Indeed, the modern painter, especially if he be quite and nourished in the stimulating atmos-phere of Paris, looks down upon Ra-phael as altogether too tame for his

The "Sistine Madonna" is the most important of the paintings on canvas that came wholly from Raphael's own hand; for it is to be remembered that the "Transfiguration," its only rival, was un-



Leonardo da Vinci.

Madonna" is by no means beyond criticism, its design being formal and con-ventional, the expression of the child somewhat meaningless and the figure of St. Burbars being superior to that of the Virgin in dignity and charm. Considered a class by themselves. Rapinel's Ma-domass do not show the mulesty seen in Titian's or the vein of human tenderness that marks Murillo's best works As a painter he was limited in his power he shows no deep passion, but he has a very fine and clear intellectual force, a purity of thought and a loveliness of design which grow greatly upon the stu-dent on acquaintance and give him his exalted place in the history of Italian art, not as a faultiess arrist, indeed, but as one whose merits are sufficient vasily to outweigh all his shortcomings. He connot be estimated justly without a proper understanding of his worth as a

link in the long chain of the history of art, a full comprehension of the limita-tions of his time and locality, an ade-quate appreciation of his influence upon those who followed him. Such reputations as his do not rest upon nothing nor are they to be overthrown by the contempt of sophomoric critics.

Note.—This study by William Howe
Downes, of Boston, will be continued on

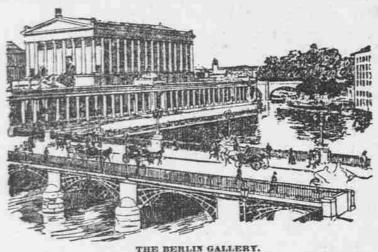
ADVERSE TO HIGH SCHOOLS Education in the Common Branches Favored.

Wednesday next.

ROSEBURG, Or., Aug. 20 .- (To the Ed. dron-index, or., and an alternative to be fair-minded-willing to give a hearing to all sides and devoted largely to the educational interests of the state. I take the liberty to pen down a few thoughts upon liberty to pen down a few thoughts upon the stand taken and commented on by has presented 30 specimens of valuable A. P. Armstrong, School Superintendent of plants, which are cuttings from the Gould

Judge Rood yesterday awarded Shute & Foote, the Hillsboro bankers, the issue of warrants in the sum of \$143.05, their bid being the highest of the two filed. The other bid was par. The successful bidders give 1% per cent premium, and this morning paid into the County Treas-ury the sum of \$123.42 and received their warrants. The funds derived from the sale will be at once forwarded the state in payment of tax yet unpaid while the mortgage-tax law was in vogue. The warrants will probably be repaid within nine or ten months,

Toutsey's Case Continued. GEORGETOWN, Ky., Aug. 21.-Colonel R. W. Nelson, on behalf of Henry Youtsey, charged with complicity in the Goe-bel murder, concluded his plea when court convened this morning, supporting his motion that this special venire be dis-missed and a jury drawn in the regular way. Judge Cantrill stated that the mo tion for the continuance had been laid over until Thursday morning, and it would be time to consider the question after that had been settled. Court then adjourned.



tion. I think he is in the right, namely, the greater efficiency of our public schools should be the aim of legislation regarding the educational work of the state. It is the education of the rising generation upon which our liberties are based. It is megs, a wampee tree, of China, and a on the higher-educated few to whom we look to make laws and to lead the lower and humbler class, but to the generally and tolerably well educated masses, able to know and understand their duties as citizens—they are the ones to whom we must look for the best results. It is not to the collegiates we must look for making good laws as much as it is to

a well-informed public-school-taught com-mon people, who will have a regard for and an appreciation of a well-regulated and orderly society, that we are to look for civil blessings; for, in proportion to their numbers, the higher educated furnish as high a percentage of violators of law as do the moderately educated. It is the untaught, the uninstructed in the duties and obligations they owe to society, who are chiefly the violators of law and order. This is the class we want to reach and place upon a higher plane—put the means into their hands to help themselves and avoid becoming a burden upon the state. Tals the state has a right to do as a means of self-protection, but fur-ther than that the state cannot of right go, unless it could serve all alike. I think I am warranted in this position on point of principle. I think the United States census reports will also bear me out in stating that the efficiency of the public school is the only true standard of measuring the efficiency of good society-the hasis of good government. The ability of the individual to read and write and to acquire fair knowledge of what are called "the free-school branches" creates a de-sire in a large majority of public school pupils to acquire more; and if they have the capacity for more, they will find a way to get it. Take care of the many— the few will look out for themselves.

the few will look out for themselves. I am told that no child, rich or poor, is barred out from attending these state supported high schools, but that all and every one may attend if they will—all are welcome. Very well; that is theoretically true. But this is one of the many cases where theory and practice are at variance. For the purpose of high schools by state support, every poor man, in every mock and corner of the state, is forced, noicins volens, to contribute to the support of a school that from the nature of his circumstances he cannot derive any benefit whatever, unless it be the satisfaction of knowing he has helped some rich man's son to become a noted doctor or lawyer or a preacher whose theology he cannot conscientionsly indorse. This doctrine of taxing the many for the benefit of the few is akin to union of church and state.

An inspection of the catalogues of high schools supported in whole or in part by the state shows that about 50 per cent of the students' homes are in the same count of the increased incidental expenses of supporting their child while attending such school. None but meen or women in easy circumstances a can afford to avail themselves of such schools. Such is the case, os far as I can learn. If the Legislature will, when importuned by local interests to appropriate in portuned by local interests to appropriate in portuned by local interests to appropriate. I am told that no child, rich or poor,

schools. Such is the case, so far as I can learn. If the Legislature will, when importuned by local interests to appropriate for high school, add up the several amounts asked for and throw the total amount into the general fund for the benefit of the public school, and provide for at least six months' school in every school district in the state, I for one, will cry, "Well done, noble fellows," and pay my portion of the increase without a murmur. Make our public schools more efficient by increasing the number of months taught in every district, and raise the standard of teachers to the highest point practicable, and no taxpayer will complain, because he will perceive his own best interest is subserved by a corresponding elevation of the character the citizen, his best safeguard against

the citizen, ms lawlessness and crime.

W. F. BENJAMIN.

An Early Missionary Church. ALBANY, Or., Aug. IL-A meeting of he synod of the United Presbyterian church, at Cakville, in this county, on September 12, 13 and 14, promises to be of importance from a historical standpoint in connection with the early missionary work in Oregon. The Williamette Church, at Oakville, was organized July 9, 1850, by Rev. T. S. Kendall, D. D., and the late Rev. S. G. Irvine, D. D., was the first pastor. Several papers will be devoted to the early missionery work in the Valley, and particularly in connection with

Killed in Tacoma Switch-Yard. TACOMA, Wash. Aug. B.-Gustave Knab was instantly killed this morning on the Northern Pacific tracks. He was walking along the second track in the direction of an approaching freight train. and did not hear a switch-engine behind which struck him squarely in the back, tearing a great hole in the man's body and hurling him several feet from the track. He died instantly. Letters found on the dend man show that he has a sis-Emma Knab, living at Armor, Eric

Warrant Issue Awarded. HILLSBORG, Or., Aug. II.-County

your county, and ask for them a place in conservatories at Irvington, to the botan Four excellent papet.

As I understand Mr. Armstrong's position. I think he is in the right, namely, the greater efficiency of our public schools

duplicated anywhere else in the United calibash tree.

Columbia River Scenery. Regulator Line steamers, from Oak street dock daily, except Sunday, 7 o'clock A. M. The Dailes, Hood River, Cascade Locks and return. Cail on, or 'fone Agent for further information.

er, Or Smith, Palm er, Or Mrs Fred Pelton, Troutdale R J Ginn, Moro, Or T R McGinnis, Moro Mrs Mand Cooper, Union, Or

Troutcase
R J Ginn, Moro, Or
T R McGinnia Moro
Mrs Maud Cooper,
Union, Or
H R Dale, Crook Co
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T C Samin, 60
L E Crowe, Dalles
W O Hill, Lexington,
Mo
H Hayes, Forest Grov,
Hugh McGreen, Antelope, Or
Geo. G Richardson,
Astoria
H T Prince, Dundee,
Or
Geo. G Richardson,
Astoria
H T Prince, Dundee,
Or
Thomas Prince, do
Mrs W Ford, do
Mrs W Goren, Berbok
Geld, Or
Thomas Crone, Go.
W Knowles, Malanger,
J S Book Aberdeen
Mrs M Mannon, Salem
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H T Prince, Dundee,
O'R Geo, G Richardson,
W H Doliman, Si Helns
Er Dirking, San Fran
Jene, W G Gouste, Lina
Mrs M J Lutz, Seattle
E F Dirking, San Fran
Jene, W G Howell, Ashoria
G N Lyman, Chicago
Mrs Lyman, Chicago
Mrs

Hotel Brunswick, Senttle, European; first class. Rates, 75c and up. block from depot. Restaurant next door. Tacoma Hotel, Tacoma. American plan Rates, \$3 and up.

Donnelly Hotel, Tacoma.

European plan. Rates, 50c and up.

AT THE HOTELS.

eral drifts along the croppings of the principal coal bed. From any elevated position affording a good general view of the upper portion of the Nehalem Valley it may be seen that the streams all flow in canyons cut in the broad upland platform, which is almost a plain—a pene-plain. The general level of this pene-plain bordering the canyon of the East Fork of Pebble Creek is from 1250 to 1340 feet above sea level. The canyon in sec-tion 23 has a depth of 430 feet, and the

steep slopes of its lateral guiches afford some good exposures of the coal beds and associated sandstones. "Nearly midway down the western slope of the canyon, at an elevation of 1660 feet, two small coal beds occur. The upper contains about 12 inches and the lower 14 inches of impure, dull, platy coal. The beds are 10 feet apart, and both are en-

closed in soft sandstone.

"Fifty feet lower upon the side of the cenyon, and a short distance farther up the stream, are three tunnels, run in a few years ago by the Great Northern Coal Company upon a bed of coal nearly 9 feet in thickness. The longest tunnel follows exposure of the coal. The coal is generally compact and fine banded, splitting most readily parallel to the bedding. Near the bottom of the bed the woody structure of the lignite is well preserved. On a fresh fracture the luster is often brilliant, but, with the exception of oc-casional thin, irregular bands, it soon secomes dull brown, and upon exposure becomes dull brown, and upon exposure falls to pieces more or less readily. It lies between beds of rather soft sand-stone, which may in places be firm enough to support the roof without timbering. The coal dips gently to the southeast, and a large portion of it lies above drainage, so as to be ecor mined. The canyon would afford an easy line for a railroad to the Nehalem River, along which the easiest grade for a railroad toward the coast could be obtained. "Eighty feet below the tunnel already

mentioned, by a stream at the bottom of the canyon, another bed of coal crops out. It is from six to eight feet in thickness, thickness, contains several sandstone partings, and is overlain by soft sandpartings, and is overlain by soft sand-stone. The quality of the coal is much the same as that in the larger vein above. It has been prospected by the Great Northern Coal Company, but for only a few feet beneath the surface. This bed is inclined at an angle of about 10 degrees in a direction between south and southeast, "About one-third of a mile northeast of this locality, in the next sulch, two beds

this locality, in the next gulch, two beds of coal appear. The upper bed is about 19 feet in thickness, but it is impure below and contains two sandstone partings. Farther down the same guich is ings. Farther down the same guich is an 18-inch coal, and near it occur numerous fossils similar to those found in the same bed at the lower drift of the Great Northern Coal Company. They resemble the fossils which occur close resemble the fossils which to the coal in section 34.

'The position of the strata on Pebble "The position of the strain on teach Creek and the east fork of Pebble Creek suggests that the coal in section 34 is Creek and the east fork of Pebble Creek suggests that the coal in section 34 is probably continuous with that in section 23. If so, it should crop out in the ravines in section 27, and the adjacent corners of sections 22 and 26. This view is supported by the fact that the Eocene fossils at the two localities are clearly related, and yet the striking differences in chemical composition tend to show in chemical composition tend to show

that the beds are distinct 'The thickness of the beds is sufficient to suggest considerable lateral extension, and for this reason the same coal might be expected to appear upon the east fork of the Nehalem River. In fact, two coal beds have been discovered upon one of the forks of that stream. Mr. A. H. Poweil has prospected them in section 27, T. 5. N., R. 3 W. At this point the general elevation of the peneplain is about 220 feet, and the canyon is over 400 feet deep. The coal is about five feet in thickness, and lies between horizontal beds of sandstone. It is shaly, and, judging from its looks alone, appears to be inferior in quality to that of the

east fork of Pebble Creek "Fragments of coal have been found on the Clatskanie, showing that the coal beds occur within its drainage. It is most probable that they outcrop near the head of the stream, where it is near-est the coal on the east fork of the

Nehalem.
"The Upper Nehalem coal field, while it has a length of over 10 miles, is, as far as yet known, not over 20 miles in width, so that the whole area of the field is less than 20 square miles. Nev-ertheless, with two beds of ceal, one six

and the other nine in thickness, it ought to yield a quantity of coal of commercial importance. If upon practical tests the coal is proved to be good enough to create a demand for it, and if facilities are provided for cheap transportation. At present the best outcrops are not reached by even a poor road. WHERE LOCATED, CHARACTER

Lower Nehalem Coal Field. 'The Lower Nehalem coal field is att-uated north of the Nehalem, near the county line between Clatsop and Tilla-

'In section 16, T. 3 N., R. 10 W., occur an 18-inch bed of coal lying between beds of clay. It is near the south foot of Ne ah kah nie Mountain, and is in-clined at an angle of 20 degrees south-westward. A short distance farther down the slope is another exposure of coal. It can be traced for 50 feet along WASHINGTON, Aug. 16.—The coal fields of Oregon have several times been explored by representatives of the Geo-It can be traced for 50 feet along the strike and ranges from five inches to 14 inches in thickness. It dips at an angle of 30 degrees to the northwest, nearly at right angles, to that in the othby the way, is now making researches in Oregon. One of the reports of Pro-fessor Diller dealt with the coal fields of Western Oregon, including those of of coal here, but considering the soft-ness of the associated strata and the difference in position of the coal out-crops, it is not improbable that the lower exposure is only a silde from the upper. from this report the following extracts "On another branch of Hodge Creek, about 250 yards to the eastward from the locality just noted, two tunnels have been driven by Mr. J. G. Gerritze for Mr. S. F. Pearson. In one of them a 2-foot pocket of brilliant, homogenous. fineerally known in Oregon as the Coast Range, but others occur at the western foot of the Cascade Range. Four fields will be noticed—the Upper Nehalem coal field, in Columbia County, the Lower Nehalem coal field, in Clatsop County; the Yaquina coal field, in Lincoln County, and the Coos Bay coal field, in Coos County. Traces of coal have been found in many other parts of the state. The Upper Nehalem Coal Field. "The Upper Nehalem Coal field is in

pocret of oriniant, nomogenous, intellooking coal, was found.

"On Old Creek, in section 2. T. 1. N., R. 10 W., is an 15-inch bed of coal which lies between shales and strikes northeast and southwest, dipping to the northwest at an angle of 50 degrees. The coal resembles that from section 16, of which the coal resembles that from section 16, of which it may be a continuation, for a coal of the same character, 22 inches in thickness, is reported by Mr. Frank Steinhauer, from section 10, which lies be-tween, and a similar if not identical lustrous, black 19-inch coal occurs in section 36 of the next township to the north, It lies between sandstone (above) and shale. "Sections 16, 10, 2, and 25 are all in a line extending northeast and southwest, and the coal exposed in them may all belong to the same bed. The coal field, so far as known, has a length of about five miles. The quality of the coal is good, but its thickness, so far as yet known, nowhere exceeds 22 inches. It anown, nowhere exceeds a inches. It occurs in strata so soft as to render timbering generally necessary, and is inclined at a considerable angle. In view of these facts, notwithstanding its good quality and nearness to tide water, above which it rises only a few hundred feet, it can not be regarded as promising com-mercial importance.

The Yaquina Coal Field. The Yaquina Coal Field.

"This field is in Lincoln County, north
of the Yaquina River, and six miles
from the coast. It borders Depot Slough
upon the west, and has its greatest ex-

"A few miles west of Toledo, in section is, T. II S., R. II W., coal has been found in a number of guiches. At one place the coal is exposed in a tunnel nearly 200 feet in length. It is greatly fissured, and the cracks contain a yellow ish coating that makes the coal look muddy. The bed it the end of the tunnel is about 20 inches in thickness. It becomes thinner to the northwest, as the bottom rises in that direction, and it lies between soft sandstones, the top one of which contains marine shells.
"In sections 36 and 30 of the next two

townships, to the north, several outcrops of coal have recently been prospected with the diamond drill by Dr. J. H. Bryant. One bed having a thin parting of sand is reported to average three feet

"The Yaquina coal field has a length from north to south of about five miles, and a breadth of not over a mile. It contains, apparently, several beds of coal, which belong to nearly the same horizon. Although not very far from marine transportation, it does not promise to be of mercial importance,

The Coos Bay Coal Field. "The Coos Bay Coal Field.

"The Coos Bay coal field is the most important one in the state. It is situated in Coos County, upon the borders of Coos Bay, with a length northeast and southwest of at least 20 miles, and a breadth of five miles, so that its area

is not less than 100 square miles.
"At the southwestern end of the field, near Riverton, a 35-foot bed of coal has been opened by T. H. Timon. The writer's information concerning this coal has been derived from Mr. Timon and from been derived from Mr. Timon and from Mr. E. C. Barnard, of the United States Geological Survey, who examined the mine. A tunnel is driven in the coal for several hundred feet. Mr. Timon same material, and rests upon The compact character of the coal permits it to be mined in large fragmenta. The good quality of the coal and the economy with which it can be mined and shipped, combine to render this a promising portion of the field. The shallow bar at the mouth of the Coquille is, how-ever, a serious impediment to commerce. Mr. Timon says there are a number of persons prospecting for coal in that re-gion, and that several other veins will be worked when the entrance to the Co-

quille is improved sufficiently to allow free entrance of ships.

"A bed of coal is found near Riverton with an average thickness of 33 inches. Its outcrop is about 100 feet above the river, and the dlp of the bed is 8 degrees to the northwest. It has been developed by an open pit and a tunnel about 20

feet in length. "The dip of the strata on the Coquille near Lampers Landing, is northward at an angle of \$5 degrees. They are full of fossils, like those near Marshfield, and suggest that the coal of Iowa Slough which overlies them, may be of the same horizon as that of the Newport mine. "Sharpless and Winchell report an im-portant bed of coal about four miles northwest of Riverton,

"At this point a tunnel is found running into a hill for 150 feet on the strike of a coal seam. This coal bed has a thickness of at least 7 feet, and perhaps 9 or Four feet of coal lies above a part ing, which is four inches thick, and three feet of it below this main parting. There is another shaly parting of two inches three feet above the main parting. The dip of this coal is east 25 degrees, would rapidly lead to a considerable depth in mining conditions. The hill rises about 100 feet above the tunnel, and could be easily drained for 50 or 75 feet below it. Other coal seams are said to occur in the same hill, but were not ex-

"Six miles north of Riverton, and about 314 miles northeast of the occurrence last

described, is the Beaver Hill mine, op-erated by R. A. Graham.

"The coal is brilliant black, with ho-mogeneous structure. The large force of men is employed chiefly in developing. and the mine has not yet entered fully upon its career as a producer. During 1896, 12,000 tons were shipped. The only coal mine of Oregon which has been continuously operated for a considerable time is the Newport. It has been worked for over 40 years, and it owes its success not so much to the quality of the coal a-to economical mining and management The bed of coal is about five feet eight inches in thickness, and has two small sandstone partings of six inches each, leaving four feet eight inches of solid The slopes of the ravine in which the mine opens afford a convenient means for utilizing gravity as an aid in stiting,

CASTORIA For Infants and Children. The Kind You Have Always Bought Bears the Signature of Chart Hilthir.

the cars, which carry it by a compare tively gentle grade down Coal Slough t large bunkers on Coos Bay near Marsh-field, where it is easily transferred to vessels. The position of the coal bed and its situation with reference to the sea are very important factors in the cheap production of coal from the Newport n

duction of coal from the Newport mine. The coal of this mine is brilliant black, breaking into small cubical blocks.

"Five miles directly north of Marsh-field and between North Slough and Jordan Point, or Kentuck Slough, is the Glasgow mine, which has been operated, and much money has been devoted to prospecting and developing it. The mine is not open now, but Mr. William Sharp informs me that there are two beds of coal, one 199 feet above the other, reached. coal, one 180 feet above the other, reached by separate tunnels. The upper bed has about five feet of coal, with two part-ings; while the lower bed has about nine

feet of coal, with four small partings.
"In section 3, township 25 south, range
13 west, a few miles from the head of
1sthmus Slough, the Utter mine was operated about 20 years ago, and produced. according to Mr. Utter, about 10,000 tons of coal. The coal bed is said to have been six feet in thickness, with a small parting of shale near the middle. The lower half of the coal is soft and of little value, but the upper half is of much bet-ter quality. On account of the quality of the coal and the cost of production and transportation, the mine has been closed for years.

"In the next section to the westward (22) the North Pacific Coal Company be gan operating apparently upon the same bed that occurs in the Utter mine, but with no better success.

"Farther north, but upon the east bank of the Isthmus Slough, near the line t tween sections 34 and 25, township south, range 13 west, a mine known the Henryville mine was expensively opened and outfitted. The plant is new practically in ruins. An incline was practically in ruins. An incline driven for a distance of 1000 feet or m at an angle to the dip, upon a thick containing much carbonaceous material, but without finding coal sufficient to pay

Hindrances to the Development. The coal fields of the Coast Range are covered by a growth of vegetation so dense as greatly to interfere with the coal prospector. A luxuriant undergrowth of vines and shrubs amid large numbers of fallen trees in the forests, especially in the ravines, where abundant moistur ingers throughout the Summer, complete-ly covers the slopes. The soft sandstone and shales readily crumble to soil, and thus contribute to the more complete covering of the underlying strata. The coal-bearing strata are all soft, like the coal itself, and crop out at the surface only along the lines of most rapid erosion -that is, along streams. In the guiches and ravines of small streams, where the force of the water in floods is not suf-ficient to sweep away the miss of logs and other rubbish, the outcrops are very few, and prospecting is especially tedious but along the larger streams, as, for example, the Nehalem, which during freshets sweeps its bed, the rocks are well exposed.

"The longer axes of the coal fields are more or less nearly parallel with the trend of the Coast Range, upon whose flanks they occur, and it would be ex-pected that the streams descending from the range across the fields would give fine exposures, but the streams are generally small that they afford meager out-

"While the dense floral covering, by ob-scuring outcrops, hinders the prospecting of the coal fields, after the mines are once opened the presence of abundant timber is an advantage in supplying the demands of the work.

"The greatest hindrancs to the devel-opment of the Oregon coal fields is the lack of transportation. All the navigable rivers and bays of the Oregon Coast are obstructed by bars, which greatly inter-fere with navigation. Formerly the depth fere with navigation. Formerly the depth of low water on the bar in front of Coos of low water on the bar in front of Coos Bay varied in different seasons with the shifting bar from nine to 13 or 14 feet. Since the jettles have been built, the channel has been improved. In the four years 1831-1835 the number of vessels crossing the bar was 1113, of which 25 drew more than 13 feet of water. The entrance to Coos Bay is regarded as one of the best along the Oregon Coast, the obstacles interposed to navigation by obstacles interposed to pavigation bars at other unimproved places being

great,
"In the case of the Upper Nehalem coat 'in the case of the Upper Nenalem coat field, however, development is not hin-dered by marine obstruction, but by lack of proper facilities for land transporta-tion. Although the coal field is less than 30 miles from Portland, there is a divide for several hundred feet. Mr. Timon estimated the output for 1836 at 4000 tons. It is said to be good steam coal. The bed is only about 100 feet above the tide water, one-fourth of a mile away, and dips to the northeast at an angle of about 18 degrees. The coal is overlain by sandstone, has a small parting of the same material, and resis upon shale.

Nehalem coal field is less than tion. Although the coal field is less than tion. Nebalem coal field must remain undeveloped."

> Collapse of Dancing Floor. CARTHAGENA, Spain, Aug. 21.—While a dance was in progress in a floating bathhouse here, the flooring gave way. One hundred and fifty persons, mostly children, were precipitated into the sea. Many of them were injured and bruised, but no one was drowned. It is believed to be the work of a miscreant, as the screws of the flooring are found to be

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