sound for the season of 1895 as compared with former years indicate more plainly than any words I might utter that the fishing industry in this important district is receiving greatly increased attention each year. Indeed, the growth of the salmon industry here the past year has been almost marvelous. Means have become known for catching sockeye salmon, a species identical with the blueback of the Columbia, which has been until quite recently considered impossible to do in the waters of the Sound. The spawning grounds of this valuable fish are at the headwaters of the Fraser river, and it is the principal salmon packed by the canneries of that river. Now that it has been demonstrated that the sockeye can be taken in the waters surrounding San Juan islands and in the Gulf of Georgia, great efforts are being made to secure locations for traps—the means by which they are taken—and several new canneries are to be erected. Our cousins across the British line view with alarm the evident determination of our citizens to profit by their newly acquired knowledge concerning the sockeye, and some of the most progressive cannerymen of British Columbia have made arrangements to erect canneries on this side of the line. Some of the criticisms recently expressed by the citizens of British Columbia on our laws are quite amusing. Particularly do they score the constitutional provision prohibiting the holding of real estate by aliens. Our fishing laws also come in for a fair share of criticism.

It is my belief that during the next year will be seen a much greater increase in the salmon industry on the Sound than ever before. Considerable excitement has been produced during the past year in this section of the state on account of the cod and halibut fisheries of Alaska, which are tributary to the Sound cities, and several companies are now in process of forming to look after that business on an extensive scale. If their enterprise proves a success, and I have no doubt it will, it will certainly be a valuable addition to the fishing industry of the state. Following I give a brief summary of the fish statistics for the Puget sound district, incidentally stating that the figures given are for the year ending November 1, and since then several, if not all the companies mentioned, have increased their pack, and one cannery in this district having during the entire season packed 50,000 cases of salmon, the largest pack of any cannery in either Oregon or Washington. This was Myers & Co., of Seattle, which on November 1 had packed 51,000 cases; Island Packing Company, Friday Harbor, 20,000 cases; Alaska Packers' Association, Blaine, 52,118 cases; National Packing Company, Port Angeles, 23,000 cases. Besides which $25,575 worth of salmon were taken by Indians off Point Roberts and sold to canneries of British Columbia. Fresh salmon sold, value, $173,937.50; smoked, $6,000; salted, $4,000. Of halibut $24,000 worth was handled; $17,672.50 worth of codfish, $10,000 worth of small fish, such as soles, tom cod and smelt. The estimated value of trout taken for market is $1,000. Oysters sold, 12,632 sacks at $2.50 per sack, $31,580; clams sold, 17,000 sacks at 75c per sack, $12,750; mussels sold, 1,500 sacks at $1 per sack, $1,500; shrimps sold, 7,520 pounds, value $752; herring sold, 1,000 boxes, value $1,000.

I am pleased to state that a small sardine cannery has been established, and is in operation at Port Townsend, and although the pack was small, consisting of 120 cases of 100 cans each, the quality of the fish was excellent, and I can see no reason why the sardine fisheries of the state should not prove in time an important adjunct of the fishing industry. In conclusion I will say that it is my fixed conviction that with proper laws and particular attention given to artificial propagation, the day is not far distant when the fishing industry of the state of Washington will compare favorably, in remunerative results, with that of any state in the Union.

GRAY'S HARBOR COUNTRY.

Its Advantageous Position as a Seaport Tributary Country.

Dr. O. G. Chase, of Hoquiam, read the following paper, which gives a good exposition of the great Gray's harbor country:

My several years' experience in Hoquiam, on Gray's harbor, when added to at least forty years' experience of prairie, mountain and Pacific coast life, always using all honorable means to induce a flood of self-supporting immigration, is an apology for my intrusion upon your valuable time for a few minutes only. The Gray's harbor country is in its infancy, and until the Fifty-third congress made a parsimonious appropriation of $40,000 or $50,000 it lived and prospered upon its natural resources. How much more important would our shipping become were we to receive congressional appropriations worthy of our position, midway between the Straits of Fuca and the Columbia river, thus making it at once a formidable rival for the future carrying trade of the great Northwest.

A steamboat leaving Gray's harbor at the same time one departs from Tacoma will be half-way to San Francisco bay when the Tacoma vessel has reached a point opposite Gray's harbor. And yet Gray's harbor is but 100 miles west of Tacoma. In case of vessels leaving Portland, Or., and Gray's harbor at the same time, the vessel from this port has a start of the Portland boat of 100 miles—Gray's harbor being but sixty miles north of the entrance to the Columbia river, and the city of Portland being 160 miles from the mouth of that river. Any steamboat that can enter the Columbia river can safely enter Gray's harbor, and tie up at the docks of the city of Hoquiam, if the outer bar was improved.

The largest tributary to the Chehalis river, or Gray's harbor, is the Humptulips river. This river has sufficient water to assure profitable navigation for flat bottomed steamers for six months in each year, and at this date, several logging camps are just starting in the vicinity of Humptulips city, twenty-five to forty miles from its mouth. The Humptulips river has its headwaters arising in the mountains, amongst timber of the finest quality. The highlands, freed of timber, are of great farming value. Crops of the most diversified kinds, from cereals to roots, and fruit to hops, can be raised in abundance on these lands.

The largest and most important section of this country is the Humptulips valley, drained for fifty miles by a river of beauty and freshness. The land is very rich in character, as only Washington bottom lands can be. These lands, destined to be the garden and granary of the harbor, are sufficient to support a population of 500,000 people. The bottom lands are covered for the most part with a light growth of vine maple and alder easily cleared. A few acres will support a small family in comfort. At present there is a good demand for the products of this fertile region, and high prices can always be obtained. The growth of the lumber interest has been and is so rapid that it has exceeded the agricultural development; and there is therefore good reason to believe that settlers in this region will for some years to come find a highly profitable market for their products. The land up the Humptulips, between the river and the ocean, is owned by large holders, who are dividing it up into small farms of ten to forty acres, and will sell on easy terms. Further on there are squatters on the unsurveyed tract belonging to the government, and still north there is a large unsurveyed area ready for settlement. There is much inquiry as to the Humptulips region, and it is altogether probable that within a few years it will be filled with a thriving agricultural population. Hundreds of miles of rivers will yet be utilized for steamboat navigation where now the canoe is the only means of transportation.

In place of "going to look," emigrants should write. Ask such questions as interest you only. State your age, married or single, how many in the family, former occupation and residence, writing names of persons and places very plainly; state the amount you wish to invest, when you wish to emigrate, etc., always enclosing stamps to secure an answer.

Immediately north of and tributary to Chehalis county, is an immense body of valuable timber lands, very rich, black vegetable mold soil, with innumerable springs of pure, soft, cold water, never failing. Also in the upper Humptulips valley and the Quinalelt lake country we find unlimited water power. Most of this land is surveyed. This land is composed of hills and valleys, like Pennsylvania, Virginia and Ohio, with one difference, viz.: To the very top of the hills—400 to 600 feet above sea level—the ground is very productive in fruits and vegetables. The valleys are not subject to destructive overflows, for it rains here in moderation. Much of the valley lands will produce hops, cranberries, hay and small fruits. Small fruits, strawberries, cabbage, potatoes, etc., do well even to the very ocean's edge. We sometimes see the finest vegetables growing within reach of the swells at high tide, and all of the lands referred to above are within the sound of the Pacific ocean's roar, and the uplands are within sight of the many sailing vessels on this grand body of water.

For health there is no country in the world to surpass it. We are clear of many troublesome pests. No poisonous herbs, berries, snakes, tarantulas, centipedes or bedbugs are found here. Every little brook swarms with trout or other fish, whilst the Chehalis, Humptulips, Quinaielt, Queets and other rivers are alive with salmon weighing from ten to fifty pounds, and the ocean beach sand is always full of crabs and clams, and the salt water contains fish of any dimension you may desire. Cyclones and destructive hail storms are unknown. The same may be said of drouth. Game abounds here in great variety. The cougar and black bear, elk and deer are in abundance, all of which contribute to the support of the new settler.

Houses of the most durable and ornamental kind may be erected with no other tools than the saw, froe, ax, jackplane and drawing-knife. Cedar boards are split from ten to twenty inches wide, one or two inches thick and ten to twenty feet long, so straight and clear of wind that they may be dressed for flooring, shelving, roofing, etc. Cedar shingles can be made for $1 per thousand. Timothy hay is worth from $10 to $15, potatoes $1 per 100 pounds, cabbage, onions, turnips, beats and parsnips about the same. Homesteads are filed at our county seat. Poultry does well; also cattle, horses and hogs can always live well where the elk, deer and bear thrive. The land is hard to clear, but industry will conquer it. The schools are good all over this county. New settlers should always have something to start on. The climate is very mild. No ice in winter; none needed in summer. I answer several hundred letters of inquiry each year, and will continue to do my full duty in cheerfully answering such letters while I possess the ability and money to pay postage.

THE SCANDINAVIAN ELEMENT.

A Paper of Particular Interest to That Nationality.

The address of E. Berrum, of Seattle, on "Immigration, With Special Reference to the Scandinavians and the Scandinavian Countries," was one of the most valuable of the convention. It follows:

As a representative of the Scandinavian element of this county, and as one who is greatly interested in the work now before you, I beg leave to submit a few thoughts on "Immigration, With Special Reference to the Scandinavians and the Scandinavian Countries."

Facts will bear me out when I make the assertion that the vast material resources of this country could never have been developed without the immigrant. Since the foundation of the American republic more than 1,500,000 miles of territory has been opened up and developed, wealth beyond measure has been brought out from the bosom of the earth, and railroads have been built that now span the country in every direction—to use a borrowed expression—This great republic of the West, that a century ago was in its swathing clothes, is today the wonder of the world; the infant of 1776 has become a giant. And this, gentleman, was alone made possible by the wise policy adopted by the founder of this republic and the subsequent influx of population from the Old World.

A policy that proved itself to be so fraught with benefits to the country at large should not fail in its ultimate results to the individual state if properly nurtured. We have met here to devise ways and means by which the tide of immigration may be turned from other states and countries towards this young and promising commonwealth of ours. And we have met with hopeful hearts. To the tiller of the soil, to the skilled mechanic and to the man of means no state offers greater inducements nor better rewards than Washington. Its abundance of resources and its healthful climate challenge comparison. Situated as it is in the most favored spot of the Western continent, with its productive soil, magnificent timber belts, immense mineral deposits of coal, iron, lead, tin, precious metals, and with its rivers, Sound and ocean teeming with trout, salmon, herring, cod, halibut and many other fishes, whose food value is incalculable, it cannot help but become the Mecca of the foreign and domestic immigrant when these facts have been placed before him in the proper way and the true light.

In view of these circumstances, the task before us should become a comparatively easy one, and its success to a great extent dependent only upon the zeal and energy we devote to it.

Important, however, as this question of attracting immigration to our state may be, its future welfare is no less dependent upon the class and character of the people who in the future may come here to locate. In this the foreign born citizen, who has come to this state to make a home for himself and an inheritance for his children, is equally concerned with the native born. In this it is a mutual interest that is at stake.

When I now, Mr. Chairman and members of the convention, urge upon you as your imperative duty to lend your support to any wise measure having for its aim the exclusion of all objectionable immigrants, I believe it should meet with your hearty approval. We have a right to demand that the man who comes here to enjoy the opportunities and advantages of American life should give as a compensation reasonable guarantee that he contains the promise and potency of good citizenship. If he does not, we do not want him, regardless of whether he comes from the Emerald isle or the rocky shores of Norway.

As the first step in the right direction, I beg leave to suggest that this convention memorialize congress to pass the bill introduced by the Immigration Restrictive League of the United States, and in which the head tax clause has been omitted. The measure as amended reads as follows:

"Section 1. That section 1 of the act of March 3, 1891, in amendment of the immigration and contract labor acts, be and hereby is amended by adding to the classes of aliens thereby excluded from admission to the United States the following: All persons between 14 and 60 years of age who cannot both read and write the English language or some other language.

"Sec. 2. The provisions of the act of March 3, 1893, to facilitate the enforcement of the immigration and contract labor laws, shall apply to the persons mentioned in section 1 of this act.

"Sec. 3. This act shall take effect three months after its passage."

In support of this suggestion I can do nothing better than quote from the leading Scandinavian newspaper of the country:

"If such a law had been enacted years ago the condition of the country, especially that of the working people, would have been better than it is today. It is time to call a halt to the importation of ignorance. The proposed legislation should receive the active support of all good citizens, irrespective of nationality, and this paper assumes, as a matter of course, that the Scandinavians will take the lead in this matter and endeavor to induce other enlightened classes of adopted citizens to follow in their footsteps."

What we need—to use the words of Archbishop Ireland at the convention in St. Paul—is men who will go to work, plow up the soil, bring out of it produce to feed the nation, and, we may add, the world. We want men who will help develop the great natural resources of Washington, not mere muscle and stomach, but manhood; men of enterprise, intelligence and thrift; men who are not afraid to wrestle with the difficulties, privations and hardships of pioneer life.

If we can succeed in turning that class of immigrants toward our state, then capital will follow as surely as water flows down hill, and the future greatness of Washington is assured.

In order to secure the most desirable class of foreign immigrants I think statistics and experience will bear me out when I say that our sole field of operation should be northwestern Europe, and amongst those nations the Scandinavians are pre-eminently the ones most adapted for this state. In Washington, with her hills and valleys, rivers and lakes, ocean inlets and mighty forests, grand scenery and salubrious climate, the Scandinavian immigrant would feel himself at home as nowhere else in the United States.

And in regard to the Scandinavians as desirable immigrants the states of Wisconsin, Minnesota, Iowa and the two Dakotas will bear ample evidence. Ask wherever you like, and all will admit that the rapid and wonderful development of those states is due in a large measure to the Scandinavian settlers. Through hardship and suffering, through privation and poverty they have cleared the forests, plowed the prairies and built their homes, and today thousands and thousands of them are sitting in cozy homes, surrounded by all that makes life pleasant and comfortable, living like princes as compared with their brethren in the old countries.

Now, a few suggestions in regard to how to attract the attention of these immigrants and to get them to locate amongst us.

If the work is to be successful, it must be systematic and should be carried on by a state organization. The best way, and not the cheapest, should be our only consideration. No matter what it may cost in dollars and cents, to invite and secure a desirable class of immigrants and settlers is undoubtedly the best investment the state can make, both now and for a good many years to come.

To draw the attention of the Scandinavian immigrant, both domestic and foreign, the public press is by far the surest, most direct and hence most effective mode.

The work of the newspaper, however, must be followed up by a liberal and judicious use of pamphlets, folders and other forms of advertising matter. These should contain a few good pictures representing the most important industries of the state, and a true and dispassionate description of the resources and the many advantages this state offers the prospective settler. Whenever possible the use of reliable and energetic agents should also be resorted to. I would also suggest that arrangements be made with steamship agents in the principal ports in the Scandinavian countries to forward on application to those desiring information such descriptive matter about this state as may be furnished them by the immigration board.

In all our efforts to induce settlers to locate amongst us the organization of small colonies of, say, ten or twelve families, should be encouraged, and the advantage of small farms strongly impressed upon them.

Wherever possible, arrangements should be made by the immigration board to have practical farmers instruct and advise immigrants who may settle in their neighborhood in regard to the peculiarities of the soil and what kind of products it is most adapted for. I will also suggest that the state agricultural college be placed in position to furnish settlers with fruit trees. This would not only prove a source of income to the state by which some of the expenses of the immigration movement may be met, but also save the farmer from becoming the victim of dishonest nursery agents.

Before I close I wish to plead the cause of the immigrants. From personal experience, I know what difficulties confront them when they come into this strange country, and how they are in every way handicapped. They have left their childhood's home and mother country with all that was near and dear to them. Here they stand in a foreign country, without knowledge of its language, surrounded by strange people, new customs, methods and institutions. They deserve your sympathy and good will. Do not give them the impression that they have committed an unlawful act by having availed themselves of the opportunity and decided to cast their lot amongst you. Extend to them the right hand of fellowship, and let them feel that they are welcome, if worthy.

Do this, gentlemen, and I can assure you that the great state of Washington will have no more loyal citizens and the Union no more patriotic sons and daughters than those with Scandinavian blood in their veins.

HOW TO AID ALASKA.

The Convention Should Assist the Rich Northern Territory.

The manifold advantages to accrue from an extension of the work of the convention so as to aid Alaska were presented by A. G. Lane, who said:

"In presenting this subject for the consideration of this convention, I realize that it is not strictly within the scope of its call. But I take the liberty of anticipating that any subject looking to the commercial, agricultural or manufacturing interests of this commonwealth is a proper subject for discussion in this body. I desire to urge upon the members of this convention the importance of taking vigorous and immediate action in favor of some plan of home rule for the territory of Alaska.

"Mother Nature, ever mindful of the necessities of the future, and with an eye always watchful of the progress and industry of her children, left hidden in the rock-ribbed bosom of Alaska's endless mountain chains untold millions of mineral wealth guarded from premature attacks by glistening ramparts of insurmountable ice. She left in the sky-blue seas that lash the feet of the monarchs of the northern world countless multitudes of valuable seal, walrus and whales to clothe and feed the daring mariner or brave woodman and miner who turns his back on the comforts of our civilization to clear out of the new world a civilization and a home of his own. She left in the silent glades of that land of promise nutrition sufficient to feed the plant life for thousands of her children. In fact, true to her mother instincts, she builded up a haven of refuge for those whom she foresaw would be crowded out of the old worlds and driven westward by the march of progress and the fierce competition in dense centers of population.

"For many many years she answered the adventuresome gold seeker who knocked at those mountain sides for admission into her chambers of wealth: 'Stay! the time is not yet.' But at last the day and the hour are at hand, and her store house doors are now open, the barriers swept away and many thousands of courageous and daring American pioneers are in that region laying in indestructible cement an everlasting foundation upon which to rear an empire that will one day astound the world by its greatness; but their efforts are more than half lost, their progress more than half backward, because of the fact that they are denied the right of self government, because they are denied the right of title to the land and the right of policing and protecting their natural heritage. They are so far removed from the seat of government and removed from the centers of power and influence that their demands and prayers, if heard at all, fall upon deaf and unanswering ears. Their possessions are being pillaged, their mines confiscated, their fisheries ruined and their civil rights contracted, their citizens browbeaten and intimidated by foreign powers whose formidable warships, gleaming with instruments of destruction, plow through their peaceful seas that are thousands of miles removed from any commercial water course or land possessions that would give any foreign power any reason but avarice and greed to be there. They have no home government to heed their distress, no one in authority to speak for them or place their grievances before the national government at Washington City.

"This state is the natural gateway to her greatness, and as she progresses and multiplies in population and advances in civilization, so must the demand for the products of our factories, fields and furnaces increase, taking into consideration the vast numbers of people who are preparing in all parts of the United States to migrate to that northern land during the next two years. This convention could, in my judgment, do nothing that would be of greater service to our people than to cultivate a closer and more cordial friendship with the people in that country; and to my mind that can be done in no better way than to make ourselves the champions of their cause, the answering echo of their righteous cry for protection. I do not wish to be understood as in any way reflecting on the integrity of any of the distinguished gentlemen who have accepted the government trust as officers of that far-off territory. On the contrary, I believe that as a rule they have been honorable gentlemen who have endeavored to discharge their full duty to their constituents as they could conceive it to be and as their limited powers and the manner of their appointment permitted them to do; but they have for the most part been men from remote distances, appointed on account of political preferment, who were not long enough among the people to become acquainted with their needs and necessities or who were estopped from a too vigorous proclamation of the same by the interests and source of their appointment.

"The form and detail of a system of partial self-government for the territory can best be discussed at some future time, but the land laws of Washington or Oregon should be extended to Alaska at once and the right to legislate on subjects of a domestic nature, to collect a revenue and advance her civilization. In opening up and developing that vast mineral belt, hewing out townships from her forests, delving into the depths of her innumerable seas and harnessing the exhaustless forces of nature, they will need hundreds of thousands of dollars' worth of the products of our civilization, and there is every reason why we should make it possible for the producers and manufacturers of this state to furnish the greater part of it; and if by taking action on this matter we can extend and enlarge the markets for the products of those already here, we shall have made it possible and desirable for many more to locate among us. We must take the broad ground that the state or city prospers best that is in a prosperous region. Fifty thousand consumers in Alaska means 50,000 thrifty producers in Washington.

"These facts, I believe, bring the subject properly within the scope of our deliberations, and I would earnestly urge and pray that this body take this matter up, to the end that our sister territory may enjoy the blessings and benefits of self-government, that she may sooner reach the glorious, triumphal and exalted position that I believe she is destined to assume in this Union."

COAL MINING.

And the Coal Resources of Washington—An Exhaustive Paper.

T. B. Corey, formerly superintendent of the Oregon Improvement Company's mines, presented to the convention in the following paper probably the best and most carefully prepared article on this important subject ever written:

In writing an article on this subject I find that the time given me is so limited that I shall be compelled to draw largely from a former paper written by myself and published some three years ago in the Illinois Mining Institute Journal. It would be a very difficult task to go into a detailed statement of the various coals found in this state, owing to the diversified condition of the coal beds; in fact, I doubt very much if there is any state in the Union where there is such a variety of coal. There has already been found coal from the lowest grade of lignite to the highest grade of anthracite. As yet the coal industry of this state is only in its infancy. Hardly a month passes but what new discoveries are made, and some of them considered valuable. Most of the discoveries so far have been made by accident rather than by any preconceived plan of prospecting.

Commencing at the western portion of the state, the veins as exposed show hardly anything but woody matter; but, as we go east to the Cascade mountains, the coal increases in richness until we find a very good quality of anthracite.

It is also true as we approach the Cascades the strata are more irregular, in fact in the bituminous districts there seems to be no regularity whatever, but the strata being more or less broken up with anticlinals and synclinals. East of the mountains the veins run a great deal more regularly and the angle of the dip is not so great.

Commencing at the northwestern part of the state, there are three or four seams of high grade bituminous coal and a few lignite seams. The coal measures are all underlain with clay schists and metamorphic slates, and this fact shows that they are in an upheaval; the coal measures, consequently, are in a very disturbed condition. The coal does not run regularly, but what is known as "pockety;" that is, the seams pinch to nothing or thicken to abnormal size. The seam nearest the schists, which is sometimes only two or three feet from them, are richest in carbon and lowest in moisture, the higher ones gradually losing carbon as they recede from the schists, and those on the Skagit river yield a coke equal to any made in the United States.

This coal district is in the region of Skagit river, Lake Whatcom and Nooksack river and extends almost almost to the Canadian line. The dips are from 50 degrees to vertical. Around Lake Whatcom to the northwest, Skagit river, southwest, and at Nooksack river the dip is very changeable, although in general terms it may be said to be north or south, depending on which slope of the great anticlinal and synclinal folds the seams are exposed. The area of this section is about 300 square miles. The coal around Hamilton, on the Skagit river, is very rich in carbon. There are four distinct seams, dipping at an angle of about 45 degrees. There are also here large seams of iron ore which are exposed to view on the Skagit river. For miles south of this there are strong indications of coal, and some very good veins have already been discovered. Around Hamilton the coal seams are more regular than in any part of the field in the northwestern part of the state. At Jennings, which is west of Hamilton, are two or more seams of coal. Quite a number of coke ovens have been erected, about one-third of the output being made into coke, and an excellent coke it makes, too, which, as I have before stated, is equal to any in the United States. This coke being so near the iron ore will be accessible for smelting iron. The coal veins run from thirty feet to one foot in thickness and dip at various angles. North and west of Jennings is the Blue Canyon coal mine, which is located on the eastern shore of Lake Whatcom. The vein varies from twenty feet to one foot, and has not the coking qualities of the Skagit coal, but is a good gas coal; dips northwest 30 degrees. The seam rests on the clay slates, which are soft and swell, causing considerable trouble in mining.

The company operating at this place has expended large sums of money in erecting bunkers and a large boat to transfer railroad cars across the lake, at the foot of the mountain, to a railroad which carries the coal to New Whatcom. From thence it is conveyed to the coast towns by ships. New Whatcom is located on Bellingham bay. Near this bay the first coal in this state was discovered and mined for the Hudson Bay Company's steamers some forty years ago. The vein is from ten to twelve feet in thickness, and is found in the upper measures of the cretaceous; it is a lignite, and is not underlain by metamorphic slates. It dips to the northwest. On the west side of Lake Whatcom there are several small seams of coal, but not in sufficient quantities to make them workable. South of this is Chuckanut bay, where the coal measures crop out for miles, showing an enormous thickness, but no veins as yet have been discovered which are considered to be of any value. The measures end abruptly in the northwest corner of Skagit county. Going north of New Whatcom the country is flat, and consequently no exposures are to be seen. The coal on the Nooksack river is all high grade, but the seams are thin. The productive part of this field is nearly all on the eastern range, or nearest to the mountains. All through almost the entire northwestern part of Skagit county the country is very mountainous and broken, and is densely covered with timber, fir, cedar and hemlock—the finest in the world.

Farther west, near Port Townsend, coal measures are to be seen, and several small seams of coal, but as yet nothing to justify starting a plant.

In Snohomish county there have been several veins discovered, but from the best information I have no developments have been made to justify an opinion as to their worth.

Next is King county, which is the largest and most developed coal field in the state. There are two classes of coal in this county, one a high grade of lignite, which has an area of about 120 square miles; the other a bituminous, which covers about 300 square miles. They no doubt belong to the cretaceous epoch; the lignites being in the upper and the bituminous being in the lower; the bituminous coal lying in closer proximity to igneous agencies, which by their heat and pressure have driven off volatile gases and moisture, resulting in a higher grade of coal. For this reason the quality of bituminous coal is improved as it approaches the mountains, and is often of strong coking quality, but the regularity of the seam is destroyed. The lignites of this county must not be confounded with the lignites of the tertiaries found farther to the south, from which they differ as wood fuel materially as oak does from cotton-wood for heating purposes. These lignites have great heating qualities, while those of the tertiaries are not much better than "brown coal." The general dip of the lignites is apparently to the north, then again a little west of north, while in the bituminous district there seems to be no regularity whatever; but the strata are more or less broken up with anticlinals and synclinals, and in this part of the field, as they run into or approach the mountains they become very much distorted; the coal becomes much richer (in some cases almost coke), yet so broken as to almost discourage any one from attempting to utilize it. No better place in the state of Washington can be found where the measures are so exposed as to show the peculiarities of contracted strata than in section 8, township 21, range 7 east, Green river canyon. At one point the seam is seen emerging from the river and rising into the exposed side of the river bank, then it turns over again and disappears in the river in the opposite direction, all in a distance of a little over 100 feet. At the point where it turns over, in the fissures at the top of the seam and by the squeezed and contracted condition of the bottom, can be distinctly seen the crushing it has been subjected to.

Nearly the whole of King county is covered with drift carried down by glaciers from the Cascade mountains during the glacial epoch of the quarternary period, which in some instances covered the ground to a depth of 300 feet. Thus were it not for the rivers and water courses beds rock would seldom be seen.

In journeying closer to the mountains the erupted rocks become plentiful and the coal measures gradually disappear, only to be seen again in small, isolated, barren patches.

The mines at Durham and Kangley are on the eastern edge of this field.

At Issaquah (formerly Gilman) there are five seams of coal varying in thickness from three feet to eight feet, between walls, dipping at an angle of about 35 degrees. This is a lignite. The mine is forty-two miles from Seattle by rail and fifteen miles in a direct line.

Newcastle is four miles west of Issaquah; is a new mine, the old one having been abandoned. There are here four lignite veins, which are being worked, averaging about five feet in thickness. Dips to the north about 40 degrees.

Renton is about five miles southwest, is working the mine (lignite) about seven feet thick, dipping 12 degrees east. This mine has just been started after a shut down of some years. There is also another mine just being started at this place, but as yet coal has not been reached.

Cedar Mountain, which is some six miles east of Renton, has just been reopened, after lying idle for three years. There is here a twelve-foot vein of lignite coal.

At the next town east of this, which is Maple Valley, the Danville Coal Company has begun development work on a six-foot vein, which bids fair to become a good mine.

At Black Diamond, still farther south and east, there are three workable bituminous veins, respectively five, six and seven feet in thickness.

There is also a new slope being sunk to a first-class vein of coal.

Three miles south of this on Green river is located the Denny mine. It is a six-foot vein, and is used exclusively by the Denny Clay Company at Seattle.

Next we come to Franklin, also located on Green river, where there are three mines, one having just been opened. They have a three and a six-foot vein of bituminous coal, which are being worked. There is also a forty-foot vein, which is being worked to a small extent.

The Black Diamond and Franklin coal is an excellent steam coal, most of it finding a market in San Francisco.

Beyond this is Kangley, Cokedale, Alta and Durham, at which places there are six or seven veins of coal ranging in thickness from three to ten feet; the last three places named are not working at present. There has been more development work done at Kangley than at any of these places. It has the longest slope in Western Washington, is about 1,500 feet in length.

Taking all along from one mile south of Palmer to as far north as Grand Ridge are dozens of holes and tunnels, on some of which considerable work has been done, especially on those at Sherwoods, Raging River and Niblock.

Franklin about three miles, on the Northern Pacific railroad are the Eureka and Navy mines. The latter has from four to five feet of bituminous coal, which they are working, and have two or three veins on which some prospecting has been done. The Eureka has about the same number of veins. The Navy mine has four or five workable veins, which average about four feet in thickness.

These mines have made considerable improvement during the last three or four years.

In Pierce county we find a field small in area, not over 100 square miles, but rich in the number and thickness of its seams. The coal is of an excellent quality, of which the numerous mines situated in the belt ship large quantities to San Francisco and the cities of Puget sound, besides the great amount made into coke at Wilkeson, which is shipped as far East as Helena, Mont. This field commences at Burnett and extends south line to the Nisqually river, a distance of about twenty-six miles, It is known as the Wilkeson coal field. A portion of this district is broken up by dykes, there are nine or ten workable seams, dipping from 35 degrees to perpendicular.

Commencing at the southern end of the county, the coal is exposed, overlooking the valley of the Nisqually river. From this point northward to Wilkeson it is an unbroken wilderness. The coal crops out from the flanks of the steep mountain side, dipping usually to the east at heavy angles. The ground is covered with a magnificent growth of pine, fir and cedar trees. Over all stands Mount Rainier, 14,444 feet high, and about twelve miles distant.

At the northern end of the field several branches of the Northern Pacific railroad have been built up to the mines at Wilkeson, Burnett, Pittsburg and Carbonado shows great signs of disturbance, but the seams are so numerous and aggregate so great a thickness of coal that large outputs can easily be kept up. This is the largest producing mine in the county, if not in the state.

In the county there are two mines opened on opposite sides of the anticlinal fold. The Wilkeson coal is used as a standard by the United States government in making comparisons of coal in this Western country.

At Burnett, which is four miles farther north, at which place the South Prairie Coal Company is operating, there are two or more workable seams, dipping to the west. The coal is of great value, producing about 10,000 cubic feet of gas per ton, and used extensively at all the Pacific coast cities for making gas.

At Burnett and Acme, which are farther east from Burnett and situated on the same creek, considerable work has been done. I think it can be said beyond a doubt that the Burnett seams are the same as those at Wilkeson and Carbonado. The veins vary in thickness from three to nine feet.

We now come to Lewis county. Its coal fields are divided about as follows: Anthracite, 72 square miles; bituminous, 216 square miles, and lignite, 130 square miles. In the western portion of this county the veins appear dipping at an angle of 45 degress. Very little as yet is known about the lignite seams. One opening has been made at Bucoda, three at Centralia and one at Chehalis. Nothing south of this has been discovered worth mentioning. As we go east we find a rich bituminous field of coal, as yet undeveloped, owing to lack of transportation. This is no doubt a continuation of the Wilkeson coal field, and the coal is considered equally as good. There are quite a number of veins exposed, varying from two to fifteen feet between walls. This coal makes excellent coke.

Further east is the anthracite field, which is undeveloped for previously mentioned lack of transportation. These deposits are very much mixed, and it is at this time a difficult matter to place any estimate to their utility; but there will, no doubt, at some future time be consider-

One of the Strangest

THINGS we know about is the wrong impression some people have regarding the cost of Groceries and Household articles in the state of Washington.

This applies more particularly to folk coming from the Eastern states and who have an idea that everything costs double the price out here in Washington that it does back East.

If you will glance over our Monthly Price List, which quotes ever so many articles, this idea about high prices will be dispelled. Not alone do we sell very many articles as cheap as they are sold in New York, Philadelphia or Chicago, but actually cheaper.

This may look strange, but the figures can not be disputed; they are BLACK ON WHITE AND NO GETTING AROUND THEM.

We will be very much pleased to send our Price List to any part of the United States. We are not afraid of comparisons. We publish the most complete Price List west of Chicago and would like you to see it, just to show you how reasonably Groceries and other goods are sold by a live concern in Seattle, Washington.

COOPER & LEVY,

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ble coal produced in this section of Lewis county.

In Cowlitz county, which is south of Lewis county, there are two small mines in operation, one at Castle Rock and the other at Kelso, both mining lignite coal.

Crossing the Cascades into Kittitas county, we come to Roslyn, where the Northern Pacific company's mines are located. Here over a quarter of a million tons are mined annually, and they could produce half a million if demanded. This vein is about five feet in thickness and dips from 8 to 17 degrees south; it is a splendid steam coal and used mostly by the railroads. There are three mines at this place, and there is also one, perhaps two, small mines, adjoining this field. At Cle-Eum there is a mine which is working a seam overlaying the Roslyn, and is about four and a half feet in thickness. To my knowledge all the coal discovered east of the Cascade mountains is in this county, and comprises an area of about 300 square miles.

So it is seen that the combined coal fields of the state of Washington cover an area of 1,650 square miles, as far as is at present known. At the rate of the present consumption this will not be consumed for several hundred years.

There are at present only thirty-two mines in operation, giving employment to about 5,000 men, and they could give employment to more, as there is a scarcity of miners at the present time.

The Blue Canyon, Fairhaven, Black Diamond, Franklin, Kangley, Navy, South Prairie and Roslyn coal has all been tested by the United States navy, and on the whole has proved to be satisfactory.

All Washington coal is brought into competition with that of England, Australia and Vancouver island, and compares very favorably, and were it not from the fact that this foreign coal is to a great extent brought over as ballast (consequently landed on our shores very cheap) and the low tariff, it would not be long before Washington would supply the whole Western country.

There never has been a geological survey made of this state, consequently many errors may have slipped into this article, but on the whole I think it to be correct. It would be a life's task to arrive at the true geological formations of the state. The mountainous country, the heavy timber and undergrowth, the wash or superficial deposits, completely cover up the strata, making it a herculean undertaking. This being the condition, the mineral wealth of Washington has only begun to be discovered.

There can be no doubt that the time is fast approaching when Washington will be the greatest state in the Union for its various and vast mineral resources

THE EVERGREEN STATE.

Glowing Eulogy of His Climate, and Its Natural Wealth.

J. H. Schively, of Fairhaven, took the whole state for his subject, and on broad, general lines discussed the features which other papers had dealt with in detail as far as the limit of time would permit. Under the title of "Washington, the Evergreen State," he read:

The papers which have preceded and which are to follow the one now submitted to your consideration have been written by specialists in their various departments and cover a wide and varied field of investigation into the resources and advantages of the splendid state of Washington, which make it a favored arena for the capitalist and investor and the ne plus ultra of all locations in which to seek a home. Fearing lest some points of advantage might be overlooked in the more learned and dignified discussions of the specialists, the pleasing task has been assigned me by the committee of covering the entire field in a cursory manner and of giving a general recapitulation of all that may be said during the convention. That is, while others have devoted themselves to an examination of some special feature or resource which goes toward the majestic composite of this glorious commonwealth, to me has been assigned the duty of standing upon some elevated pinnacle and, passing by the individual points already urged upon your consideration, gather in my hand the golden chords thrown out by others, and drawing them together, present to your admiring eyes the surpassing beauty and grandeur of the Evergreen State of Washington.

The first feature of advantage to which I call your attention is the immense area of this great state—the dimensions that are ours in which to grow and widen; the room we offer to our over-crowded friends in the older states of the East who may come to our borders and find a home with us free from the fear of taking a full breath of air, lest in so doing a more needy brother is robbed of his share. The Evergreen State of Washington consists of an empire of 66,880 square miles of land and 3,114 square miles of water, which can best be understood with the comparison that there is not so large an extent contained in the entire area of all the New England states put together. King county alone is only ten miles less than the state of Delaware, and the area of this county is small as compared with Stevens, Okanogan, Kittitas, Whatcom, Whitman and Yakima.

Travel from Philadelphia to Washington City, a distance of 140 miles, and you have crossed a good part of Pennsylvania, the entire breadth of Maryland or length of Delaware, with the District of Columbia thrown in as a balance. Travel 140 miles in the width of Washington and you yet have a hundred to go before reaching its limit. Travel 140 in its length and 220 miles yet stretch before you ere you cross its borders. So that in the important item of size, the Evergreen State is a royal giant in the sisterhood of the Union, standing high towards the van and claiming imperial honors.

I next call your attention to the favorable location of this sturdy giant and the consequences which result therefrom. First—Out in the Pacific ocean flows a great and mysterious river known as the Japan current, from whose generous bosom wafts a warm and healthful breath of soft air, prolific with life-giving properties. Sweeping towards it with cyclonic might come the fierce and biting winds from the north and east, carrying devastation and despair in their track. These, the first born of jack frost, meet the shy mermaid whose cradle is rocked in the warm waters of the Japan current, and they wed each the other. The offspring of this mating forms a climate the like of which for all that gives to cheer and strengthen—to develop and give comfort to—the human family is to be found nowhere else on the broad domain of earth, and the adopted home of these great physical factors in the creation of a new generation is the Evergreen State of Washington. Go where you will in search of that subtle and intangible stream of life in which the old renew their youth and the sick gather back their strength and health. Go to staid Italy or the orange groves of Florida. Travel north and journey south. Climb the mountains of the Swiss or cross the sunny plains of Hindustan, and I prophecy a hunger of body for a rest yet in the future and a satisfaction of repose still unfound. Come ye, at last, to our hospitable state of Washington, live its seasons through, and I predict the words are yet unformed which can express the praise you would pour at its feet in the glad delight of your new found joy and wealth.

Others will have told you of the climate as reduced to figures on the scale of a thermometer; it is only for me to