THE WEST SHORE.

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ILLUSTRATIONS.

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THE recent decision of the Oregon & California to grant to small shipments of fruit the same low special rates formerly only given to car-loads, shows that the company is willing to take advice when its force is realized.

HARVEST is now well under way, and the indications are that the anticipations of an immense crop will be fully realized. The quality of wheat is very superior, the many ills that grain is heir to having considerately spared the farmers of this region their unwelcome presence. The increased acreage in the Willamette Valley is about 10 per cent., while east of the mountains it is fully 25 per cent. The surplus for shipment will be the largest in the history of the Northwest.

THE section of the State constitution soon to be voted on in Montana, by which mining property is exempted from taxation, appears to be class legislation in its most dangerous form. To place such a provision in the fundamental law, where it is almost impossible to alter it when its injustice is fully realized, is the height of folly. It is hard to understand why a State should deliberately decide that half its property, and its greatest and most prosperous industry, should be exempt from taxation, and all the burdens of government be imposed upon but a portion of the property and the weaker and more embryo industries. The mining interests may be powerful enough to thus throw the burden of taxes from off their shoulders, but the injustice of so doing is so glaring, and the results will be so harmful, that even they will admit the error in a few years.

COLLAPSE OF THE CŒUR D'ALENE MINES.

The mining excitement has reached such a low ebb in the much vaunted Cœur d'Alene gold fields that the *Eagle*, the only survivor of the three papers started there a few months ago with such a flourish of trumpets, has concluded that it is folly to attempt any longer the old trick of making a tallow candle do duty for a parlor stove. There never was a time in the history of the camp when enough gold was taken from the ground to pay for the food consumed by the deluded people in the mines. Under the heading "Some Sound Sense"—a very encouraging title, and one which must realize its lonesome position in a paper which has made the booming of the mines its sole object in life—the *Eagle* says:

Never in the history of mining excitements in Idaho Territory has there been so flat a collapse as now prevails in Cœur d'Alene at this writing. And to what must we attribute the present state of affairs? Is the country a failure? There are many men here who will tell you decisively that towards fall a great many more mines will be opened and producing, and that a large amount of prospecting work will be going on on the creek claims and on the quartz lodes, which will put business on a good footing once more. There is more or less of truth in all these statements. That gold exists in paying quantities in our placer fields, and that there is gold, silver and lead in the quartz leads, there is no doubt. It has been proved that there are at least a score of quartz mines near town that would pay enormously if properly worked. The period of exaggeration has gone by. If the truth had been told from the start there would have been a larger influx of capital seeking investment, and more purchases of claims would have been effected. The truth always pays best. The lack of confidence in mining is caused mainly by the falsehoods of fools and knaves who think they can see millions in a ten-foot hole, and immediately proceed to develop by digging another ten-foot hole. What Cœur d'Alene needs is more work and less talk. There is no necessity for falsehood and exaggeration, and it will not deceive the kind of men we need in this country. There are many good prospects for sale in Cœur d'Alene at prices reasonable enough for any man who desires to develop. We say good prospects, because we know whereof we speak, and we advise those who desire investments to examine. When these prospects pass into the hands of men with money and energy we shall have many good mines, providing these men have some knowledge of the business of mining, and do not expect to get a fortune for nothing.

This confession of previous exaggeration and present realization of the error of such a course is extremely refreshing. Apparently total depravity does not exist, even in the Cœur d'Alene, however firmly hundreds of deluded and financially stranded "pilgrims" may be convinced to the contrary. The closing statement that the only permanently valuable features of the camp are a miscellaneous collection of prospect holes, which are for sale to any one who has money to invest, and that the only hope of prosperity is in a large influx of practical quartz miners, supplied with ample capital for developing the ledges, settles definitely the status of the camp. There are throughout the West at least a hundred good mining districts which are in that condition, and some have been so for the past twenty years. For every man who has capital to invest in developing a quartz mine on an extended scale there is waiting, somewhere, a thousand "prospects," hundreds of them as good as the best which Cœur d'Alene can offer. The supply of prospect holes now on hand will meet all the demands of capital for many years to come. They are a drug in the market. In view of the stupendous fraud perpetrated upon the public by the over-zealous boomers of this alleged bo-

nanza district, the probabilities are that capitalists will be more than usually timid about investing in its prospect holes, and will pass by Cœur d'Alene to place their money in some one of the many older districts, whose ledges have been worked sufficiently to remove the element of speculation—as much as it is possible to eliminate that element from the business of quartz mining. If this very natural result should follow, the owners of this choice collection of prospect holes can lay the blame upon the shoulders of the newspapers published in the mines and adjacent towns, the too eager business men, the cloud of real estate speculators, and every one who, for a financial consideration, or to create a temporary business activity, aided in promoting the gigantic fraud by which so much physical suffering and financial distress were caused to thousands of deluded people. It is to be hoped, but, alas, hardly to be expected, that the history of this excitement will serve as a useful lesson, to be heeded by all who may be brought within the influence of another mining craze. A fatal charm attends it, whose power is almost irresistible when exerted upon those strange to its influences, and is absolutely so with those who have surrendered themselves to it for years. Man is a reasoning animal—so it is said, though there often seems a dearth of evidence to support the statement—but at times this power is manifested in peculiar and unaccountable ways, so peculiar, in fact, that its manifestation at all may well be questioned. Mining excitements and all forms of speculative allurements, where the desire to acquire wealth quickly creates an abnormal action of the reasoning power and diverts it into strange and erratic channels, should receive the prompt and earnest discouragement of every one interested in the stability of business and permanent welfare of the country. We hope to see less of them in the future.

SCIENCE IN THE ARCTIC.

At last the full extent of the sacrifice demanded by the grim Moloch of the North Pole has been made known to the millions who have anxiously waited for the result of Commander Schley's efforts to rescue the unfortunate party of Lieutenant Greely. He has been robbed of five of the victims already in his clutches while yet they had sufficient vitality remaining in their famished bodies to bring them back to health and strength. And what has been accomplished of sufficient value to compensate for the score of lives that were laid down in the effort to gain it? The verdict of the great majority of humanity will be, "Nothing in the least degree worthy so great a sacrifice." On the contrary, the scientific enthusiast will point to what, in his eyes, are glorious achievements. Grinnell Land was found to be a comparatively narrow strip, to the west of which lies another, now bearing the name of "Arthur." North of Grinnell Land they approached within 430 miles of the point where all lines of longitude are supposed to meet, and from an elevation of 2,000 feet on Lockwood Island discovered that to the north and west was a vast sea of ice, while to the northeast the continent of Greenland still extended northward beyond the line of vision. At two points, in 1883, neither of them as far north as Lockwood Island, the open polar ocean was encountered, the sea whose rolling billows had been before observed, though only at a distance, and the existence of which has been a mooted question among scientists for years. Full and accurate meteorological, astronomical and botanical observations and researches were made and the records preserved intact. From a scientific point of view Lieutenant Greely has accomplished much. We know a little more about the geography of a region universally conceded to be uninhabitable by human beings relying entirely upon the resources of the country for subsistence, and valueless to the world for all practical purposes; and this has been learned at the sacrifice of much human life and suffering and the expenditure of large sums of money. Yet it is not to be presumed that these facts will serve in the least to prevent the further waste of life. On the contrary, new interest in the Borean regions will be aroused; the zeal of would-be explorers will be whetted; other vessels will sail Poleward, to be crushed in the ice and engulfed with their load of human beings in the frigid waters of the Arctic; disease, famine and exposure will claim their victims by the score. Thus it has been from the first, and will continue forever among enlightened nations. The desire to accomplish something never before attempted, to achieve success where others have failed, or to discover something "new under the sun," is one of the most potent motives to exertion among a progressive people. When it ceases so to be, stagnation sets in and advancement towards a higher plane ceases.

There is one feature of these latest developments which is of peculiar interest. The open polar sea was encountered by two parties in different longitudes. One of these drifted for a day upon that mysterious ocean, and only regained the land by abandoning nearly its entire outfit. It is evident that the advocates of the "Symmes' Hole" theory will receive fresh encouragement from this proof, not only that an open sea exists in the vicinity of the theoretical pole, but that a current sets in towards that great longitudinal center. The discussion of the question, "Is the earth solid or hollow?" will probably be resumed with much enthusiasm by those who hold opposing views on the subject. This expedition, much as it has learned, has discovered nothing to prove there is not a continuous waterway into the interior of the earth by way of the North Pole; but, on the contrary, has established the existence of that open sea which has been pointed to as one of the greatest evidences that such is the case. The existence of a milder climate and a sea devoid of ice, north of that region which is perpetually bound in icy chains, has yet to be satisfactorily explained. This is now the riddle for future explorers to solve, and there need be no anxiety felt lest there be no one willing to attempt its solution. Sufficient cause for anxiety will appear when the time again comes for half a dozen of these venturesome explorers to be rescued from the perils into which they so eagerly rush.

CORVALLIS AND YAQUINA BAY.

ONE of the most prosperous and populous counties of Oregon, and to which a new and important railroad enterprise, now well advanced, gives promise of a brilliant future, is Benton, lying partially in the upper end of the Willamette valley and extending across the Coast Range Mountains to the ocean. In this combination of valley, mountain and coast, with good routes of travel connecting them, it possesses advantages not enjoyed by any other county in the State. This is the foundation of the railroad project which is doing so much to develop its resources, increase its population and enhance the value of property of every description.

Benton embraces an area of 2,000 square miles, extending from the Willamette River to the Pacific, and lying between Polk and Tillamook Counties on the north and Lane on the south. The eastern end lies within the limits of the Willamette Valley, and includes thousands of acres of the most fertile arable land in Oregon, much of which has been under cultivation for a third of a century. This is divided into three general classes, prairie, bottom and foothills. The prairie land extending for miles north and south of Corvallis, the county seat, lies within the great wheat belt of the valley. This is generally level or slightly rolling, becoming more broken as it approaches the base of the mountains. Wheat, barley and oats are the leading products of the prairie land, the first being the one great staple to which the majority of farms are devoted. Under careful cultivation, by use of the summer fallow method, this land produces from twenty-five to forty bushels of winter wheat to the acre, in exceptional cases even large fields exceeding that limit. Even with such prolific yields, the present low prices ruling in the wheat market are leading to a greater diversity of products, and a rotation of crops, much to the benefit of the soil and the improvement of the farmers' condition, rendering them more independent of the grain market. They thus stand ready to profit by high prices, but not to become impoverished by low ones. The farms are nearly all well improved, with comfortable and pleasant dwellings, commodious farm buildings and good fences. There are, however, many tracts not yet broken by the plow, over which a few sheep and cattle graze. Land will soon become too valuable to be used in that manner. Good farms can be purchased here at from $25 to $40 per acre; though the choice ones, with exceptionally good improvements, cannot be secured at such prices. Comparatively unimproved farms can be bought at much lower rates. A farmer with a little capital cannot do better in Oregon than to purchase land of this character in Benton County, where railroads, highways, good schools and churches already exist. This is certainly better than settling in an entirely new country, where the future must be looked to for supplying home and social comforts and necessary conveniences for reaching market. A farmer in the East who is making a scant living on from 100 to 200 acres of land, valued at from $60 to $100 per acre, can sell his property, move his family to Benton County, purchase twice the quantity of equally good land, and have considerable of his capital left with which to settle himself well in his new home. Many such have located there the past two years, and seem to be well satisfied with the change. A few fruit trees are to be found on nearly every farm, while a considerable number of quite extensive orchards have been in bearing condition for years. Such fruit as pears, apples, plums, cherries, grapes, etc., are of superior quality, and the trees and vines yield abundantly. This is an industry now rapidly increasing in Oregon, under the influence of the extensive markets opened up by the railroads, and in the future much greater attention will be given to fruit culture than formerly.

Along the Willamette there are long stretches of bottom land, some of it overflowed in the spring time, which is extremely valuable. This land was formerly covered with a dense growth of fir, maple, balm, ash, scrub oak, hazel, etc., and was cleared with much difficulty; but it is now well worth all the labor and expense of improving it. Timber and brush still standing here and there give an indication of the former condition of all the bottom lands. The higher portions of the bottoms make splendid wheat land, while the lower become natural meadows where the grass never fails. Dairying is an important and profitable industry along the river; also the raising of vegetables. This low land is especially adapted to the culture of hops, a business which is rapidly increasing and promises soon to become one of the distinctive industries of Oregon. There are a number of hop fields in the county and plenty of excellent land upon which to start new ones. This is one of the most profitable crops a farmer can raise. The price of hops is not regulated by the quantity raised on the Coast; so that it frequently happens that the general supply is short at a time when the producers here have an unusually abundant crop. Fortunes have been made in one season by such a condition of affairs, as was the case in 1882. The price fluctuates from 20 cents to $1.00 per pound, but has never in the history of hop culture here fallen below the cost of producing.

The foothills lie between the prairie land and the mountains. Here is considerable land open to settlement, much of which is very desirable. In its natural state it is covered with oak trees and shrubs, beneath which there is fine pasturage, where sheep, cattle and hogs can be maintained at little expense. This submits readily to cultivation when properly situated, giving the possessor generally a combination of arable and pasture land. Much of this land in its unimproved state can be purchased at a nominal sum, while land with greater or less improvements is held at from $5 to $25 per acre. There is, also, considerable government land, though not so desirable as that which is held for sale.

There are two rivers flowing through the mountains to the Pacific, the Yaquina in the northern end of the county and the Alsea at the southern. The latter flows from the divide which separates it from Mary's River, a tributary of the Willamette, and for four miles is simply a beautiful mountain stream. It then passes out into a

lovely and secluded valley, ten miles long and from one to three miles in width, known as "Upper Alsea Valley." The soil is the rich, deep alluvium common to the bottom lands of that region, and yields abundantly in grain. Grass is excellent and unfailing the year round, and with an inexhaustible supply of fine water it would seem as if nothing were lacking that is desirable for embarking in the dairy business. The population of the valley is about 350, who present the appearance of thrift and prosperity. From there to the coast the mountains are but a succession of high and broken hills. The river descends 1,000 feet in passing from the valley to the ocean, entering the estuary known as "Alsea Bay" ten miles from the sea. Flowing into the lower stream are Five Rivers and Deep Creek, along whose fertile bottoms many families have settled. There is room for many more in this region on the bottom land of the streams. The low land yields abundant crops of vegetables, hay, grain and fruit.

Yaquina River is of considerably greater magnitude than the Alsea, and flows from the summit of the mountains westward to the ocean. In its course it receives the waters of numerous tributaries, some of them of considerable size and draining a large area. It thus acquires a large volume of water. It is navigable on tidal water as far up as Elk City, a distance of twenty-five miles above its mouth. It has a course of about forty-five miles. Along its valley, and for miles on either side, the mountains were swept by great forest fires years ago, and are almost devoid of standing timber. A luxurious growth of giant ferns has sprung up, usurping the place of other forms of vegetation, among which the burned stumps of trees may be seen. So thick is this growth that at a distance the hills present the appearance of being covered with a thick carpet of grass. Under the fern there grows the wild pea, giving nutritious food in winter to thousands of cattle. In the gulches and along the tide sloughs fine timber, both fir and cedar, is found, and considerable lumbering is being done. Four saw mills are at work, the bulk of their product being consumed by the Oregon Pacific Railroad. Yaquina Bay has also sent many ship loads to the San Francisco market the past few years. Along the streams is found a growth of hard woods, such as curly maple and knotty ash.

Farming and stock-raising is carried on in a small way along the river and bay, but not on an extensive scale in any instance. No such broad levels are found as are required for large fields of grain, and though the range for cattle over the hills is very wide, no one has entered extensively into the stock or dairy business. Near the water are narrow and level strips, and small areas of cultivable land are to be found among the hills. The soil has been enriched by the ashes from the burned forest which have mingled with it, and yields abundantly on the bottoms and among the hills when the ferns have been conquered. Potatoes are everywhere a fine crop, both as to yield and quality, and large shipments are made to the San Francisco market. Other vegetables thrive, and the local market is well supplied with as fine vegetables of all kinds as can be produced in Oregon. The advantages offered here for stock raising have been but slightly appreciated. Grass sown broadcast soon attains a thick and vigorous growth, furnishing excellent food for cattle in a region wholly free from lasting snows. The natural meadows, also, along the water-courses, supply excellent grass and clover for dairying purposes.

Fruit culture has attracted considerable attention, and has been entered upon quite extensively by several parties. The largest orchard is on the south bank of the Yaquina, some five miles above its union with the bay. Work in planting the orchard began in 1875, and the trees are now getting into good bearing condition. There are 4,000 prune trees, 500 plum, 1,000 apple, 500 pear and a general assortment of cherries, apricots, chestnuts, walnuts, almonds and small fruits. There are several other fine orchards, some of them quite large. That important fruit interests will be developed here cannot be questioned; and the outlet to market afforded by the Oregon Pacific Railroad and the connecting steamers which enter the bay, gives to the Yaquina region all the needed shipping facilities.

Yaquina Bay, now attracting so much attention as a port, is destined to become a still more important receiving and shipping point for the Willamette Valley than it now is, as soon as the projected improvements, now far advanced, are completed; not only that, but when the harbor is rendered accessible to large ocean sailing ships, and the railroad connections spoken of below are made, it is expected to take rank as a port for foreign commerce, to pass over a transcontinental route of which this will be the deep-water terminus. At present Yaquina Bay can be entered only by vessels of draught up to 15 or 16 feet, but it is susceptible of great improvement. A sand cliff rises abruptly on the north side of the entrance to a height of 200 feet, while on the south the land is comparatively low and flat. In this respect it somewhat resembles the entrance to the Columbia, materially differing from it, however, in width. The channel across the bar outside the entrance is about 2,000 feet long, is narrow and straight, and in rough weather is clearly defined by a line of breakers on either side. All but 600 feet of this distance is comparatively deep, the remainder being shallow and until the Government works now in progress were undertaken was, within certain and regular limits, shifting. In summer the north winds were accustomed to pile the sand in from that direction, gradually pushing the channel to the south, while the southerly gales of winter forced it back again. More properly speaking, there were three channels—"North," "South" and "Middle"—each of which in its turn received the main current. The bar consists of sand resting upon a ledge of rocks, being now 12 to 13 feet below the surface at low tide, and the rocks 24, the rocks being occasionally swept bare by action of the current. To make this action a permanent one is the design of the work now in progress by the government engineers. A jetty is being run from the point south of the entrance, which is to be extended

a distance of 2,600 feet directly west to deep water outside of the bar. This closes up the south channel completely, and by forcing all the water through the middle one tends to clear it of sand and deepen it. Work was begun in 1881, under an appropriation of $40,000 made the year before. The next year an allowance of $10,000 was made, and $60,000 in 1882. In 1883 no appropriation was made, but the present year $50,000 were given by Congress to carry on this work. The work is now well progressed and its effects are already noticeable in an increased depth on the bar at low tide. Another jetty will probably be constructed from the north point, protecting the channel from sands from that direction, and confining the water in one single channel. It is expected that by these means the current will strip the rocks bare of sand, when by blasting the ledge along the channel the proper depth will be attained. The results already accomplished are great, assuring the complete success of the engineers' plans. The bay itself is roughly shaped like an L, with the lower right hand extremity towards the sea, and covers an area of fifteen square miles. The ship channel, which is no where less than 1,200 feet wide, follows the north side of the bay, cuts across the corner and strikes the east side, which it follows to the mouth of the Yaquina, thirteen miles from the ocean. The depth is generally over thirty feet, only in one place being as shallow as twenty-five feet, and the bottom affords secure holding for an anchor. Vessels lying on the inside are protected by the low hills from ocean winds, and are secure in the stormiest weather.

At present the chief town of Yaquina Bay is Newport, lying just within the entrance to the harbor, on the north side. It contains three general stores, three hotels, four saloons, a brewery, two drug stores, a tin shop, barber shop, etc. The railroad company has located its terminus at the northeast corner of the bay, where the ship channel touches the bank. They have car shops, warehouses and large docks there of sufficient size to accommodate several ships at once, with a depth of over twenty feet alongside the wharf, and the custom house of that district and several other buildings stand on the site of the future town, which has been named "Yaquina City." The terminal improvements of the company are extensive and substantial, such as the magnitude of the enterprise of which they are a part requires. All the land bordering the water at this point belongs to the company, and has not been platted, nor is it on the market for sale. The company announces that when it is ready for business it will lay out the town site and encourage the sale of land to actual occupants rather than to speculators. Back of this property there lies considerable belonging to private individuals, some of which has been surveyed and is for sale. Other tracts within a mile or two of the terminus are for sale in quantity. Just below the company's property has been laid out the town of Alexandria, while other tracts, large and small, have been subdivided and are held for sale, lying on both sides of the bay and on the ocean beach outside. Preparation is thus made for the demand for property which is confidently expected to follow the completion of the railroad project and harbor improvements. A mile south of Yaquina City is Oneatta, a sawmill town. Toledo and Oysterville are also small communities on the shore of the bay, and Elk City at the head of navigation on the river.

As a summer resort Yaquina Bay possesses many advantages and grows more in favor every year. Both inside the entrance and along the ocean beach on the exterior coast are many attractive spots. The climate is superb and the opportunities for sea bathing numerous. From June to September the hotels are crowded with visitors, while many tents may be observed in the sheltered nooks on both sides of the entrance. At points the coast is extremely rocky and picturesque. Ten miles south of the bay are the famous Seal Rocks, where thousands of seals may be seen sporting in the water or sunning themselves on the rocks. A magnificent drive on the hard wet sand of the beach lies between these points. There is no hotel at the Seal Rocks, but splendid camping places may be found. Four miles north of the bay is the rocky promontory known as "Cape Foulweather," where the government maintains a light house station. The scenery about the cape is worthy the deepest admiration. When the railroad is completed between Corvallis and the bay there will be such an easy route to this attractive spot that it will become one of the favorite resorts of the Coast.

The seat of justice of Benton County is Corvallis, situated on a beautiful plateau on the west bank of the Willamette River and approachable by steamer from Portland. This is one of the oldest and best towns of Oregon, and was for years the head of navigation on the river, which, in view of the immense trade of Southern Oregon, gave it a commanding position. Of late years this element of its prosperity has been wanting, but the development of the magnificent agricultural resources of the surrounding country has served to continue it in the front rank of the commercial towns of Oregon. It has now a population of 1,500, and has its business established on a firm and permanent basis. Excellent schools and churches, two well conducted weekly papers—*Gazette* and *Leader;* a monthly, *Oregon Colonist*, devoted to the development of the resources of that region, and the *Temperance News*, a temperance paper, are features of the town. The dwellings are neat and tasty, and the whole city presents a pleasing appearance, as will be observed by reference to the engraving on another page. Corvallis will in a few weeks become the point of junction between the railroad now being built from Yaquina Bay and the West Side line of the Oregon & California road, of which it has been the terminal point for a number of years. The benefits to be derived are many, and will considerably increase the population, business and value of property. When, as is confidently expected, the Yaquina Bay route becomes the outlet for a large portion of the products of the Willamette Valley, Corvallis will occupy a still more important position and enjoy a still greater measure of prosperity. Other towns in the

western portion of the county are Philomath, which possesses a college of the same name, and Monroe, both of them thriving communities.

The railroad so often alluded to is the one now being constructed by the Oregon Pacific Railroad Company. According to the announced intentions of this company, it will at once construct a continuous line of railway from deep water on Yaquina Bay across the Willamette Valley, Cascade Mountains and Blue Mountains to a connection with the Oregon Short Line, thus rendering Yaquina Bay the ocean terminus of a complete transcontinental road. Work has progressed slowly for several years, but the present season, all financial matters having been satisfactorily arranged, it has been pushed with great vigor. There are now 3,000 men at work on the line, and the road will be completed from Yaquina to Corvallis by the middle of October. Much tunneling and heavy cut work has been necessary in the mountains, and thousands of feet of expensive trestlework have been required, making the cost of construction great and the progress slow. The line is standard gauge and is being laid with steel rails. The distance from Corvallis to Yaquina is seventy-two miles, in which eight stations have been established. The extreme grade is but 100 feet to the mile, and only four or five miles of that, and the greatest curve does not exceed ten per cent. The company has six locomotives already on the line and 500 cars under construction at Yaquina. The passenger coaches were shipped in sections from the East and set up here. In the shops 130 men are employed.

The managers of the enterprise state positively that work will be promptly commenced on the line east of Corvallis, and that it is already located as far as Albany. Its completion will certainly be of vast benefit to Oregon. The projected route traverses the magnificent timber regions of the Cascades Mountains, as yet untouched by the ax, and crosses that vast country lying between the Cascades and Blue mountains, whose value for agricultural purpose is just becoming known. The soil of that great basin, so often represented on the maps as a desert, is extremely fertile, and with irrigation to supply the lack of sufficient rain can be rendered highly productive. Water for irrigating purposes is abundant and so situated that practical irrigation can be had on an extensive scale. This has been, and is now, the great stock region of Oregon. The importance of opening up this valuable country by railroad cannot be overestimated, and there is no greater enterprise now in progress in the State.

The proposed method of improving the harbor entrance at Yaquina Bay, to render it a suitable terminus for such a road and overland route, has been described. When this is accomplished it will, in addition to its advantages spoken of, offer the quickest and most agreeable route of travel between San Francisco and Portland, saving several hours over the present one down the Columbia River. The company owns a fine steamer, the *Yaquina*, a craft of 2,100 tons, with a draught of twelve feet. She has large freight capacity and accommodations for eighty first class and sixty second class passengers, and is rated A1 at Llyod's. Her staterooms are nicely fitted up and contain only two berths.

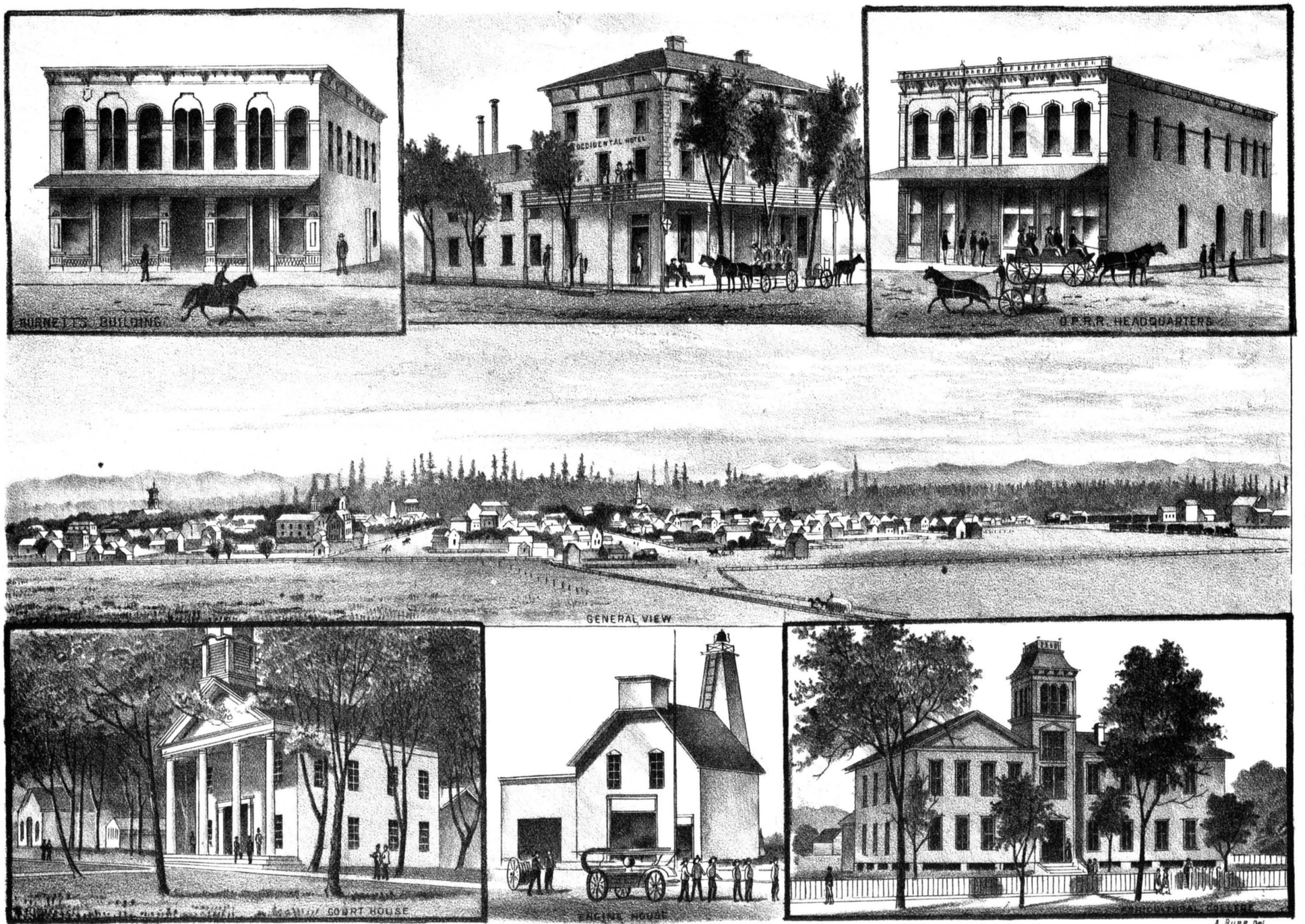
The officers of the company under whose energetic management and personal supervision the work is being done are: President, T. Edgerton Hogg, of New York; First Vice-President and General Manager, William M. Hoag, Corvallis, Or.; Second Vice-President, Wallis Nash, Corvallis, Or.; Third Vice-President and Secretary, Norman S. Beatty, New York; Treasurer, Colonel G. T. M. Davis, New York. These gentlemen have demonstrated by their success the possession of ability to manage this great enterprise, and their past and present achievements are a guarantee that their announced plans for the future will be carried to completion with all possible dispatch.

THE BANYAN TREE.

ONE of the most remarkable trees belonging to the genus Ficus—the 600 species of which comprise climbing shrubs and trees of great diversity of character—is the famous banyan, whose extraordinary habit of growth and enormous proportions so much astonish those whose idea of a large tree has been formed from what we consider giant forest trees. The banyan, whose spreading, bowery roof, beneath which whole villages of huts find shade and shelter, is supported by gigantic pillar-like props, formed by descending ærial roots, which, on reaching the ground, assume the appearance and perform the functions of separate trunks. This tree in many parts of India is held sacred by the natives. Deep twilight always prevails under the shade of the spreading foliage, through which not a ray of bright light can pierce, and the awe and dread with which the Buddhist villagers regard this sacred tree is very intelligible. In the Wood Museum at Kew, England, there is a fine specimen of a palm trunk, upon which the strangling growth of a banyan's roots is well shown. The remarkable way in which the roots become united to each other at every point where they touch is observable in the specimen just named.

A PETRIFIED FOREST.

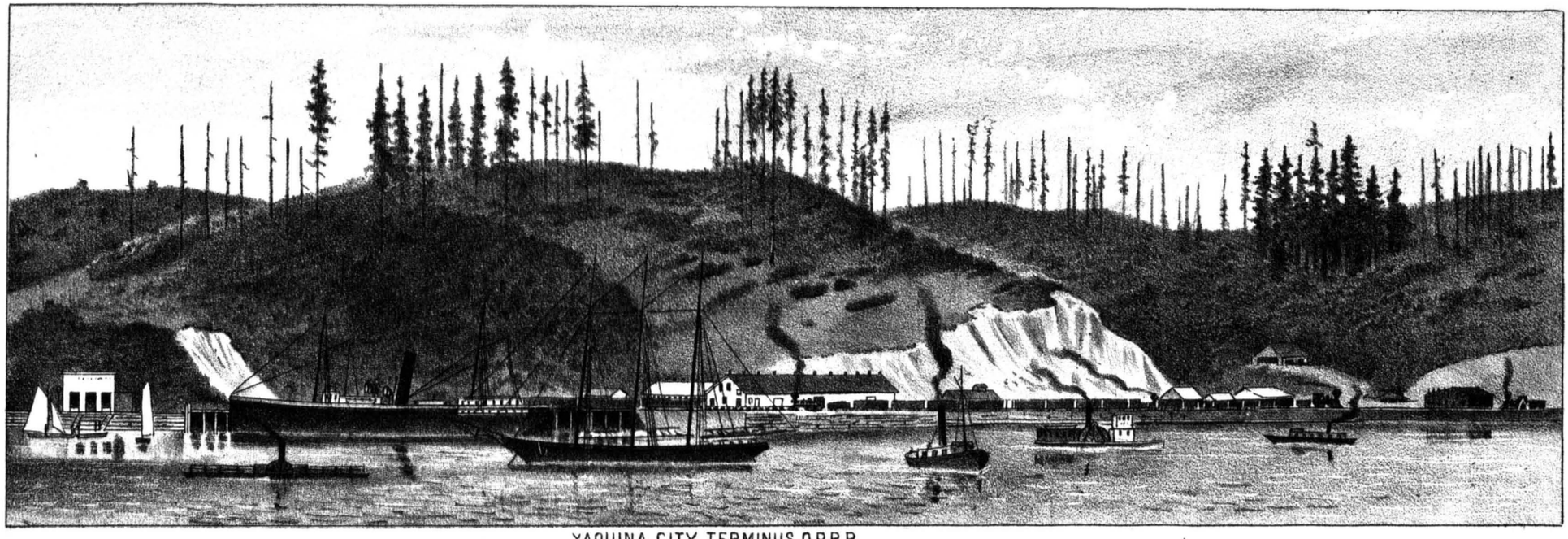
THERE is a wonderful petrified forest at Corrizo, New Mexico. Petrified stumps, limbs and, in fact, whole trees, lie about on all sides. The action of the waters for hundreds of years has gradually washed away the high hills round about, and the trees that once covered the high table lands now lie in the valley beneath. Immense trunks, some of which will measure five feet in diameter, are broken and scattered over a surface of three hundred acres. Limbs and twigs cover the sand in every direction. There are numerous blocks or trunks of this petrified wood that have the appearance of having been just cut down by the woodman's ax, and the chips are thrown around on the ground so that one instinctively picks them up as he would in the logging camps of Puget Sound. Every color of the rainbow is duplicated in the crystals, and those of an amethyst color would pass the eye of a novice for genuine stone.



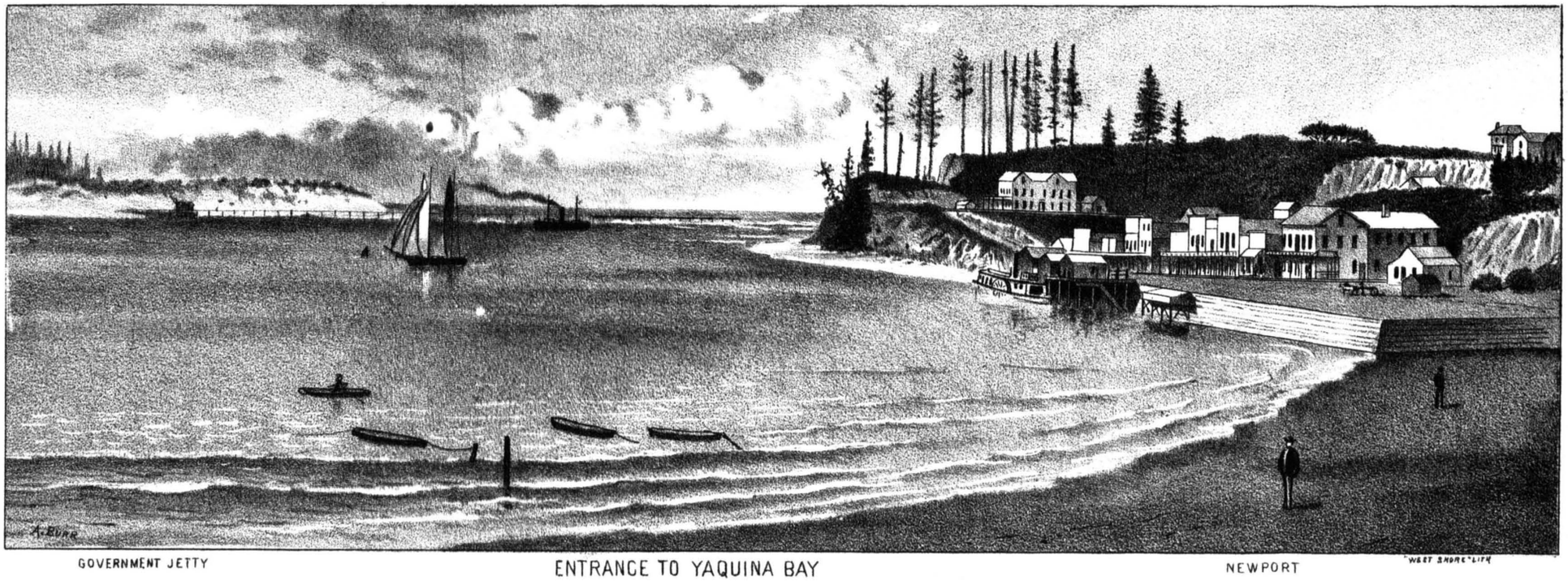
THE WEST SHORE.

CORVALLIS, OREGON.

THE WEST SHORE.



YAQUINA CITY, TERMINUS O.P.R.R.



GOVERNMENT JETTY

ENTRANCE TO YAQUINA BAY

NEWPORT

THE DISCOVERY OF ALASKA.

SPAIN had taken possession of Florida, Mexico, Central America, Peru and Chile, had colonized Lower California and established an enormous trans-Pacific commerce with the Indies; France had colonized Canada; the English, Dutch and Swedes had planted flourishing colonies on the Atlantic Coast, and the great Hudson's Bay Company had become firmly settled in its possession of the country surrounding the great inland sea from which it derives its name, before the first vessel's prow cleaved the waters of the North Pacific. In 1578 Sir Francis Drake had sailed as far north on the coast of "New Albion" as the forty-third parallel, possibly the forty-eighth, and in 1603 Martin de Aguilar had reached and attempted to enter the Rogue, or Umpqua, River on the Oregon coast; but north of that all was blank. For more than a hundred years thereafter not the least effort was made by these rival nations to establish themselves on the Pacific Coast north of the Spanish possessions in California. Not a vessel cast its shadow upon the waters of the North Pacific, nor a Caucasian eye gaze upon the mountain peaks that stand like ancient sentinels along our coast. Suddenly interest in this region was revived, and the initial steps were taken by a Power previously supposed to have no interest whatever in the American question.

The sudden rise of Russia from oblivion to a high rank among the Powers of the world, a revolution wrought by the genius of the enlightened monarch, Peter the Great, is one of the marvels of history. Gradually he extended his power eastward across the snowy wastes of Siberia until his dominions were washed by the waters of the Pacific beating upon the peninsula of Kamtchatka. The fur trade of this vast solitude became a valuable one, and added to the great revenue of the Czar. Having reached the Pacific he became eager to extend his power still further eastward until it touched the western confines of the dependencies of England, France and Spain in America. How far that was, or what was the nature of the region coveted, neither he nor any one else had the faintest glimmering of knowledge. It might be a great ocean of valueless water, a sea filled with islands, a continent of ice, or a land of plenty, "flowing with milk and honey." No one knew, but this powerful autocrat proposed to find out. His first step was to discover a waterway into the Pacific from the Arctic Ocean which washed his dominions on the north, just such a passage as the English mariners had searched for in vain, though he expected to reach it by going east instead of to the west. He ordered vessels to be constructed at Archangel, on the White Sea, for the purpose of coasting in the Arctic eastward along the shores of Siberia until an opening was discovered into the Pacific. Other vessels were to be constructed on the coast of Kamtchatka, which were to take an opposite course and endeavor to pass northward into the Arctic. Peter died before his plans were executed, and the project was held in abeyance for several years.

The Empress Catherine was a worthy successor of her noble husband, and when firmly settled upon the throne she turned her attention to completing the work he had begun. In 1728, in accordance with her instructions, vessels were built on the coast of Kamtchatka, which were dispatched in search of the desired passage between the Arctic Ocean and the Pacific. In command of the expedition was Vitus Behring, a Danish navigator of skill and experience, in whose charge the former exploration was to have been placed by Peter. Russia was not a maritime nation and her seamen were in no manner scientific navigators, hence the selection of this skillful Dane for the command of so important an expedition. Behring sailed on the 14th of July, and followed the coast northerly in his little vessel until he found it trending steadily to the westward. From this fact he became convinced that he had already entered the Arctic and was sailing along the northern coast of Asia; and being unprepared for a long voyage, or the possibility of being compelled to spend the winter in the ice, he returned at once to the port of embarkation. The highest point reached was 67 degrees 18 minutes, but the longitude is not given. Neither going nor returning through the straits did he espy the coast line of America, foggy and cloudy weather obscuring it from view, and consequently he reported upon his return that a great open sea lay to the eastward of Asia, joining the Pacific Ocean with the Arctic. The next year he endeavored to cross this ocean and reach the shore of America by sailing directly eastward. In this attempt he was baffled by head winds and was driven by a gale into the Gulf of Okotsk. He abandoned the effort and returned to St. Petersburg to report his discoveries. During the few succeeding years a number of smaller expeditions were made by Russian subjects, one of these being driven upon the Alaskan coast in 1732, and it was discovered that not an open sea, but a strait, connected the two great oceans. Upon this was bestowed the name of the Danish explorer, the pioneer navigator of the North Pacific.

Catherine died, and after the consequent delay her successor, the Empress Anne, fitted out an expedition for the purpose of exploring on a more extended scale than had previously been done. This consisted of two vessels, Behring being in command of one, and Alexei Tchirikof, a Russian who had been his lieutenant on the first voyage, of the other. Anne died before the expedition was ready to sail, but Elizabeth, who succeeded to the throne, did not interfere with the plans which had been laid, and the two consorts sailed from the Bay of Avatsche on the 4th of June, 1741. They were soon separated in a gale, and were not again united. Tchirikof's vessel, the *St. Paul*, returned on the 8th of October in a sad plight. She had reached a group of islands in latitude 56 degrees, where sixteen of the crew, who landed to make a reconnoissance, were slaughtered by the Indians. Besides these, twenty-one more succumbed to the ravages of the scurvy before the vessel found her way back to port.

Sad as were the misfortunes that befel the crew of the *St. Paul*, they were slight compared with the disasters which crowded upon their comrades on board the *St.*

Peter. Behring steered a southeasterly course for many days, and at last reached latitude 46 degrees without having encountered land. This is the latitude of the Columbia River, but how near the coast of America he approached at that point is not recorded. The mysteries of longitude seem to have been beyond the penetration of the explorers of those days. Captain Cook, nearly fifty years later, is the first explorer who seems to have understood the necessity of locating an object by its longitude as well as its distance from the equator. Behring then turned his prow to the northeast and continued his voyage until he had ascended to the sixtieth degree, where he discovered land, the first thing to meet his gaze being a giant snow-crowned peak. This he named "Mount St. Elias," in honor of the saint whose name appeared in the Russian calendar as patron of the 18th of July, the date of the discovery. The *St. Peter* sailed into a passage leading between the mainland and a large island, when Behring observed that the water was discolored, as though it had been discharged from a large river, the volume indicating the stream to be the water drain of a land of continental proportions. That this was America no one on board doubted. The subordinate officers desired to explore the coast southward in the direction of the Spanish colonies, but Behring, who was in ill health, refused to do so, and started upon the return voyage. They made but slow progress among the islands lying to the southwest of the peninsula of Alaska, and finally, being driven by a severe storm far to the southward, the vessel wandered aimlessly about for two months, the sport of the winds and ocean currents. Horrible were the sufferings of the crew. Scurvy in its most ghastly form preyed upon them unchecked. Famine and disease went hand in hand. The surgeon's journal says: "The general distress and mortality increased so fast that not only the sick died, but those who pretended to be healthy when relieved from their posts fainted and fell down dead; of which the scantiness of water, the want of biscuits and brandy, cold, wet, nakedness, vermin and terror were not the least causes." At last these horrors came to an end. On the 5th of November they sighted a small island lying between the Aleutian Archipelago and Kamtchatka, and running the vessel close in they all landed with the purpose of spending the winter. The island was a small, rocky speck on the bosom of the sea, consisting of a few barren granite peaks thrust up from the water, whose sides were continually lashed by a heavy surf, and upon which the waves furiously dashed when storms swept across the surface of the ocean. Here they lived upon the flesh of fur-bearing animals which abounded in the water and upon the fish they were able to catch. Their house was constructed of the timbers of their vessel, which was wrecked upon the rocky coast during a gale immediately after they disembarked, and whose broken pieces were washed up by the surf. Their sufferings did not end with their removal to this new abode. Disease had taken too firm a grasp upon that afflicted crew. Behring died on the 8th of December, and before spring thirty of his followers also found a grave on those water-bound rocks. The skins of slaughtered animals served them for both clothes and bedding. Had this island been located at the same altitude in the Atlantic Ocean not one of these enfeebled men could have survived the rigors of winter. Here the great ocean river known as the Japan current imparts its general warmth to the islands of the Aleutian Archipelago, and fringes the icy peaks and glaciers of Alaska with a coast line of verdure. Owing to this great modifying element, even floating ice from the frozen Arctic is not seen in Behring's Sea, though on the Atlantic side the ocean is rendered unsafe by floes and icebergs at a much lower latitude. Upon the return of spring the survivors constructed a small vessel from the wreck of the *St. Peter*, and when that long task was finished embarked and sailed directly westward, reaching the Bay of Avatscha in August. That bleak island which had been their winter home, and where were the graves of their commander and many of their comrades, they christened "Behring's Isle," and as such it is known to the present day.

Twenty years elapsed before another official exploration was made, and half a century passed ere the full account of this fatal one was published to the world. Accompanying Behring on the *St. Peter* was a German surgeon and scientist named Steller, and his journal, which was not published until 1795, long after the Alaskan coast had been thoroughly explored by Spanish, Russian, English and American navigators, is the only record preserved of the adventures and terrible sufferings endured by the discoverers of Alaska. The general features of the voyage, however, were well known in Europe soon after its termination. The skins which the survivors wore when they returned to Avatscha were found to be exceedingly valuable (probably seal and sea otter), and several private expeditions were fitted out by Russian traders to visit the islands to the eastward in search of furs. In this way the fur trade of the Pacific began, and before the Government was prepared for another expedition this trade had reached considerable proportions. For years the furs were conveyed to Pekin and St. Petersburg overland on sledges, China being then, as to-day, the greatest fur market in the world. Not until 1771 was a cargo taken directly by sea to Canton, and not until then was it known that the Bay of Avatscha and the Chinese Sea were connected by water. For the first time was realized the immense magnitude of the Pacific—that the same waters which beat upon Behring's Isle washed the shores of the thousand islands of the South Sea, gazed up at the frowning rocks of Cape Horn, and bore the Spanish galleons on their long voyage from Acapulco to the Indies. This innovation was not by any means the result of Russian enterprise. A few of the patriotic defenders of Poland, who had been exiled to Siberia by the Russian czar, made their escape in a small vessel from a port on the southwest coast of Kamtchatka, under the leadership of a Hungarian exile, Count Maurice de Benyowsky. After much aimless wandering among the Aleutian Islands, where they procured from the

natives a large quantity of furs, they sailed southward, and finally reached Canton, where their cargo found a good market. This was the first vessel from the Russian possessions of the Pacific to enter the harbor of a foreign nation; and the spreading of the information that rich fur regions at the north were accessible to Canton by sea was one of the greatest factors in the subsequent rapid growth of the fur trade.

The increasing value of the fur business led the Russian Government to dispatch other exploring expeditions in 1766 and 1769. They found the coast, wherever they reached the mainland at all, fringed with islands, and the sea through which they passed dotted with them. That the land on the east side of Behring's Straits was of considerable proportions was evident. This they called "Alaska," or "Aliaska," and supposed it to be a huge island. In 1774 a map was prepared representing their ideas of the geography of Russian America. Upon this the coast of America was indicated as running northwesterly from California to the seventieth degree of latitude, which was its extreme northern and western limit. Lying between America and Asia, in that latitude, was a vast sea of islands, of which the largest was Alaska, with only the channel of Behring's Straits separating it from the coast of Asia. With this map was published an account of the last two voyages, the book being entitled "Description of the Newly-Discovered Islands in the Sea Between Asia and America." Such was the Russian idea of a region in which four official explorations had been made, and private enterprise had engaged in the fur trade for thirty years. It remained for an Englishman, the celebrated Captain Cook, only a few years later, to reveal to them their error. He commanded the first English vessel to visit the North Pacific, and in one voyage straightened out the geographical tangle the Russians had made in Alaska, and reformed the ideas the Spaniards entertained about the coast they had several times explored further to the south. Such was the difference between scientific navigation and hap-hazard sailing.

HARRY L. WELLS.

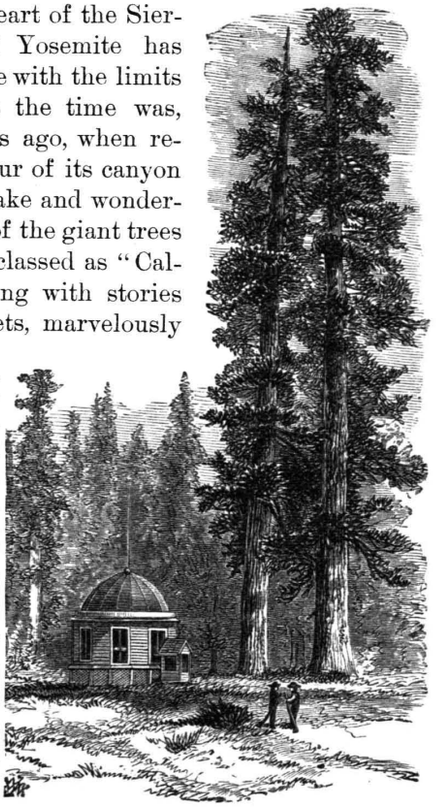
ASCENT OF MOUNT BAKER.

THIS giant snow peak stands in Whatcom County, W. T., a few miles south of the international line between the United States and British Columbia. Exploration of the wilderness of forest, mountain, stream and lake which surrounds it has been limited, so much so that comparatively little is known of that extensive region. A party of five recently returned to Whatcom from a reconnoissance of the country and an ascent of the mountain, the following account of their movements being condensed from the Whatcom *Reveille:* The party, consisting of L. L. Bales, Frank Denehie, V. V. Lowe, Oliver L. Graham and George D. Crossan, left Whatcom June 16, and that night reached Mirror Lake, sixteen miles east. Striking the South Fork of the Nooksack, they continued up that stream, noticing considerable fine timber along the river bottoms, standing on excellent soil. It is unsurveyed as yet, but will not remain long unsettled because of that fact, which many do not consider a drawback as far as actual homestead settlement is concerned. A beautiful waterfall, seventy-five feet high, was discovered on one of the tributaries of the South Fork, near the base of the mountain, upon which they bestowed the familiar name of "Bridal Veil Falls."

On the 28th they began the ascent of Mount Baker from the south, and camped that night at the timber line of a high peak, a spur of the great mountain, which they called "Reveille Peak." From this point the view was grand in the extreme. On the west were the Three Sisters, so familiar to those viewing the mountain from the Sound; but instead of three they were broken up into ten distinct snow-covered peaks. With Mount Baker on the north, a hundred snowy peaks west, south and east, and snow above, below and around them, the scene was one of frigid grandeur. The next day they attempted the summit. At the foot of the main peak they encountered a steep grade of loose rock, up which they clambered with much exertion. When they gained its crest they found themselves on the edge of a glacier a mile and one-half long and one-third as wide, its surface scarred by countless irregular fissures of uncertain depth, from which issued sounds like the muffled report of a cannon, and the cracking, grinding noise usually made by ice in motion, the sound receiving a peculiar resonance by its transmission through the ice and reflection by the cold walls of the fissure. In all five glaciers were observed, each at the head of one of the streams running from the base of the mountain. They continued their upward climb, the angle of ascent varying from twenty to seventy-five degrees. The snow was soft, allowing them to sink to their knees, so that it was almost impossible to ascend the steep grade at the summit. Three of them attempted it—Crossan, Bales and Low; but having overestimated their strength, and having neglected to eat anything at noon, they soon became faint from hunger and fatigue. Crossan turned back when three-quarters of the way up, but Bales and Low persevered, and by constantly encouraging each other and resting every few steps, finally reached the apex of the eastern summit, about twenty-five feet lower than the dome-shaped summit visible from the Sound, and distant from it 150 yards. They were too exhausted by their efforts to attempt the other apex. A grand view lay before them in panoramic continuance on all sides. To the northeast, south and southeast countless snow peaks were thrust up above the rolling summits of the Cascades; to the west Puget Sound stretched out its tortuous length; to the east Baker River wound through the mountains, starting at the base of a glacier on the mountain side. The crater of Mount Baker lies below the summit peaks. It is half a mile across, circular in shape, about 1,000 feet deep, and is filled with a huge glacier, which passes through an opening on the west and forms the head of the Middle Fork of the Nooksack. The explorers suffered great hardships, and it is evident that it will be some time before there will be a royal road to the top of Mount Baker.

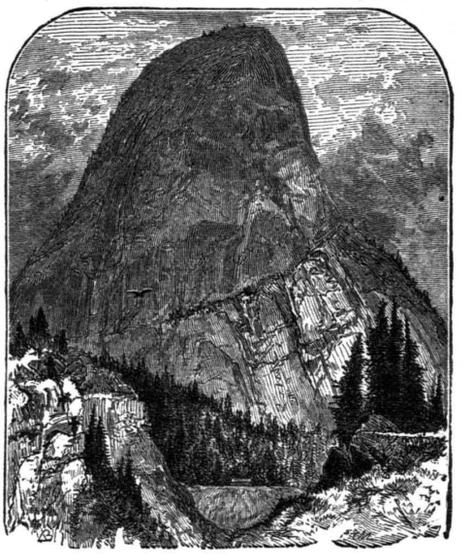
YOSEMITE VALLEY AND THE BIG TREES.

WHEN Dr. Johnson wrote of that Happy Valley of Amhara, in which Rasselas, the Prince of Abyssinia, and his sister Nekayah "lived only to know the soft vicissitudes of pleasure and repose," he must have been granted a mental vision of the great Yosemite of California. The pellucid lake, teeming with aquatic life, and the silvery stream which coursed through the valley, could not have been more enchanting than the watery mirror which mingles the reflected pictures of the fleecy clouds floating above and the towering rocky domes about which they hover, or the dashing Merced, bearing to the ocean the icy waters from the eternal glaciers of the mountain summits; nor did they, in their efforts to escape from this pleasure prison to search the world for the true source of happiness, encounter more unscaleable cliffs or loftier walls of rock than those which encircle this valley in the heart of the Sierras. The fame of Yosemite has become co-extensive with the limits of civilization; yet the time was, and not many years ago, when reports of the grandeur of its canyon walls, its crystal lake and wonderful waterfalls, and of the giant trees of Calaveras, were classed as "California yarns," along with stories of enormous nuggets, marvelously rich quartz ledges, wonderful feats of road agents and bloody Indian fights. It took thousands of visits by travelers, hundreds of written descriptions and illustrations, to convince the world that the Yosemite and Big Trees actually existed as they are revealed in the following pages.



THE SENTINELS, CALAVERAS GROVE.

In November, 1850, the Indians living on the headwaters of the Merced, San Joaquin, Fresno and Chowchilla rivers, combined for the purpose of driving the white intruders from their country, emboldened by their exemption from punishment for frequent outrages previously committed. A number of trading posts and small mining camps were attacked, their occupants killed or driven away, and the property destroyed. A battalion of volunteers was raised to chastise them. A battle was fought, and the Indians were defeated with much loss. To all requests to surrender and end the war they returned a contemptuous refusal, asserting that they had secure retreats whither they could flee, and that one place in particular was such that, should the Americans enter it, they would be caught in a trap from which they could not escape. This only whetted the curiosity of the volunteers, and in January, 1851, two companies of the battalion started upon an expedition in search of this aboriginal stronghold. In March, after many Indians had been captured, the command entered this wonderful mountain locked valley and captured all its human occupants, the last to succumb being the inhabitants of a rancheria on the shore of the now famous Mirror Lake. They were all taken to Fresno and soon after liberated upon a promise of future good conduct. In the spring of 1852 they attacked a small party which was visiting that region, and killed two of them and wounded a third. A company of United States troops entered the valley and captured five braves wearing portions of the clothing taken from the murdered men. These were summarily hanged. Ten-ie-ya, the chief, and many of his braves fled across the mountains to the Monos; but in the summer of 1853, deeming it safe to return, they stole a band of horses from their hospitable friends and drove them to their stronghold. One night the vengeful Monos swooped down upon their rancheria and blotted out the tribe, killing all but eight braves and a few old men, and carrying off the women as the spoils of war. These turbulent Indians were renegades from the various tribes from the Tuolumne to King's River, and called themselves "Yo-Semite" (Great Grizzly Bear). This name, at the suggestion of Dr. L. H. Bunnell, who accompanied all these expeditions and subsequensly assisted in the survey made by George H. Peterson as engineer for General Fremont, was bestowed upon the valley by a vote of the volunteers who



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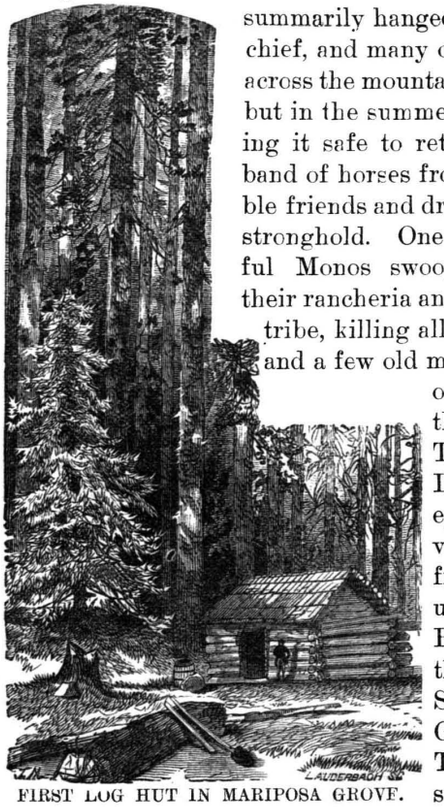


FIRST LOG HUT IN MARIPOSA GROVE.

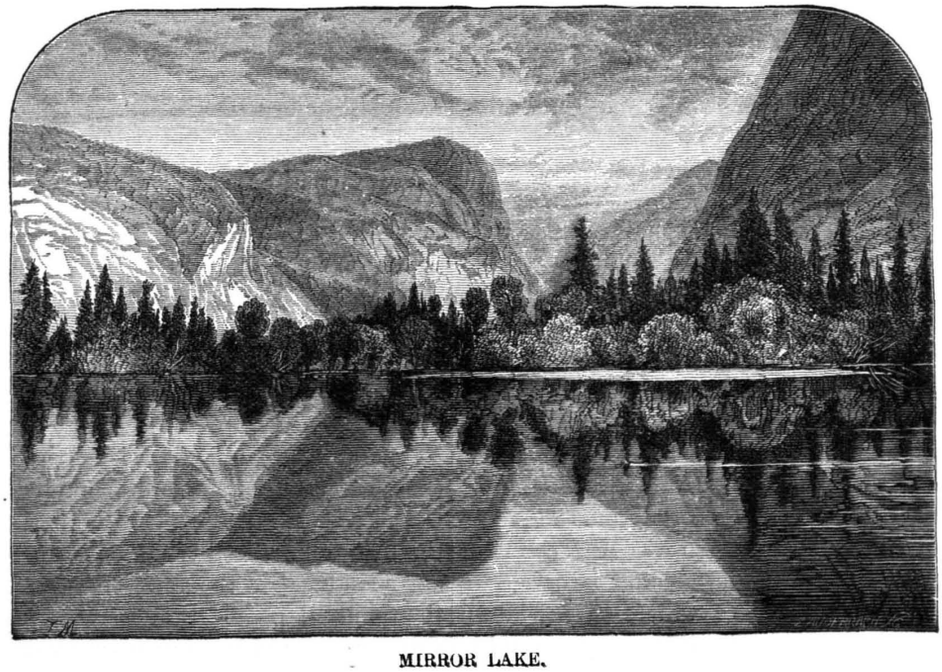
visited it, though it was afterwards learned that the Indian name was "Ah-wah-ne," and the name of its original occupants "Ah-wah-ne-chee." It was first explored in the summer of 1855 by J. M. Hutchings, author of "Scenes of Wonder and Curiosity in California," who took with him Thomas Ayres, an artist of considerable note in San Francisco, to make sketches of the wonderful scenery. It is chiefly through the exertions and writings of Mr. Hutchings that the fame of this marvelous valley was spread abroad, and the name of Yosemite became as familiar to the people of every land as the ancient Rock of Gibraltar. He learned from the Indians that the proper pronunciation of the name is "Yo-ham-i-te," but, undoubtedly correct as it is, it never has, and probably never will, come into general use. In 1864, after the valley had become noted, and was annually visited by sight-seers who were willing to undergo the hardships of travel necessary to reach it, Congress granted it to the State of California, upon the condition that it be forever dedicated to the use and enjoyment of the people. It is now under the control of a board of commissioners appointed by the Governor, who have by purchase of private toll roads and the construction of highways, bridges, etc., rendered a trip to the valley easy of accomplishment. Excellent hotels can be found there, or, if a party prefer camp life, there is no objection to their making the tour of the valley in that manner, conveying their camp equipage and provisions upon the back of a pack animal, and themselves making the journey upon saddle horses.

SOUTH, OR HALF, DOME.

The Yosemite Valley lies on the headwaters of the Merced River, in the very heart of the Sierra Nevada Mountains. It is eight miles long, and varies from one-half to a mile in width, containing about 8,480 acres of ground. It is 3,950 feet above the level of the sea, and is surrounded by an almost unbroken wall of granite rock rising above it to a height varying from 2,500 to 3,300 feet, and overlooked by mountain peaks which pierce the clouds 10,000 feet above the sea level. The scene which

NORTH DOME AND ROYAL ARCHES.

opens out before the traveler's eye at many points, while descending the tortuous trail, is one whose reflection can never grow dim on the glass of memory. Though not as grand a view as is offered from many points in the valley itself, yet being the first revelation of the wonders Nature has hidden in those mountain wilds, the impression made is the most vivid and enduring. In one long sweep the eye encompasses a large portion of the valley, taking in the lofty granite walls, the guardian domes of rock, and the numerous waterfalls pouring over the canyon's edge and plunging down hundreds, and even thousands, of feet to form the Merced River, the crystal stream which meanders so peacefully through its entire length.



MIRROR LAKE.

Entering at the lower end and following up the course of the stream, which flows midway between the opposing canyon walls nearly the entire distance, the first great wonder encountered is the Bridal Veil Fall, the "Po-ho-no"

of the Indians. "The stream itself—about forty feet in width—resembles an avalanche of watery rockets, that shoots out over the precipice above you, at the height of nearly 900 feet, and leaps down, in one unbroken train, to the immense cauldron of boulders beneath, where it surges and boils in its angry fury, throwing up large volumes of spray, over which the sun forms two or more large rainbows which arch the abyss. The gracefully undulating and wavy sheets of spray, that fall in gauze-like and ethereal folds; now expanding, now contracting; now changing into one vast and many colored cloud, that throws its misty drapery over the falling torrent, as if in very modesty to veil its unspeakable beauty from our too eagerly admiring sight." The source of the stream is in a lake some thirteen miles above the fall, across which a strong wind constantly blows. A number of Indians in ancient times lost their lives in the lake and at the fall, and this caused their companions to christen them both "Po-ho-no," meaning "The Spirit of the Evil Wind." So great is the superstitious fear of its evil influence entertained by the few surviving aborigines of that region, that they cannot be prevailed upon to pass the night in its vicinity or even to point towards the fall in passing.

On the opposite side, and but a short distance up the stream, stands the giant Tu-tock-ah-nu-lah, the "Great Chief of the Valley," on whose rocky face is carved the head of the guardian spirit of the valley, Tu-tock-ah-nu-lah, cut by his own hand. About this, as is the case with nearly every distinguished object in the Yosemite, there clings a tale of Indian legend, inspiring either reverence, pleasure or fear in the breasts of the superstitious natives. This is the rock whose outlines have become familiar to all under the title of "El Capitan," meaning "The Captain," bestowed upon it in perpetuation of the Indian idea of its commanding power. Its sheer height from base to crown is 3,300 feet. Almost opposite El Capitan stand the Three Graces, Cathedral Spires and Cathedral Rocks, while on the same side as the "Great Chief," but a short distance further up the stream, are the Three Brothers, tall peaks of rock to which the Indians apply the name "Pom-pom-pa-sus," meaning "Mountains playing leap-frog." Opposite these are three peaks named in contrast the "Three Sisters."

Still continuing up the left bank of the stream, the next object to attract attention is the celebrated Yosemite Falls, universally admitted as the crowning glory of the valley. A stream of considerable magnitude leaps over the edge of the canyon wall 2,634 feet above, and continues in one unbroken descent for 1,600 feet, then leaping down by a series of cascades a distance of 434 feet, it again plunges off into space and falls into a basin formed by huge boulders and large masses of angular rocks, at the base of the rocky wall, 600 feet below, where it seethes and boils like a cauldron. Standing near the foaming mass the visitor is drenched with the cloud of invisible spray, which floats in the air and is carried a long distance by a strong breeze which sweeps down with the fall from the brink above. Shining upon these watery particles, the sun's rays are so deflected as to surround the beholder with a halo of miniature rainbows.

Still further up the valley, and on the same side, rises the rounded top of North Dome, known to the aborigines as "To-coy-ae," or "Shade to Baby Cradle-Basket." It is a mountain of naked granite, rising 3,725 feet above the river flowing along its base, with here and there a tree or shrub sprouting up from some ravine or crevice. For more than 2,000 feet its sides are almost perpendicular, a colossal arch having been formed in it by falling rock, which is known as the "Royal Arch of To-coy-ae." The span of the arch is about 2,000 feet, and the height of the keystone some 1,700 feet above the base. Only a short distance from North Dome, in an arm of the valley branching off to the northeast, in which rises one of the streams which form the Merced River, lies the beautiful and famous Mirror Lake, its crystal waters reflecting so accurately the clouds, canyon walls and the green foliage of its banks, that the dividing line between object and picture is with difficulty distinguished by the eye. It is known to the Indians as "Ah-wi-yah." The chief beauty of the lake, which is only about two acres in extent, is the magnificence of its surroundings, so clearly pictured in its silvery depths. Immense masses of rock, among which have grown up a great variety of trees and shrubs, lie on the north and west banks; the north fork of the Merced comes rushing from a canyon opening out to the eastward, its waters branching out to supply the lake; on the northwest rises the great North Dome, while opposite, to the southeast, is the cleft apex of Mount Tis-sa-ack, known to fame as the "South Dome." One-half of this rounded summit has fallen into the valley, leaving the remainder still towering loftily up to the height of 6,000 feet. This dome is connected with El Capitan by a legend which the Indians relate. Tis-sa-ack was a sweet guardian spirit of the valley, of whom the bold chief Tu-tock-ah-nu-la became so deeply enamored that he neglected to look after the interests of the valley. He forgot the crops of Yosemite, and they, without rain, quickly drooped their heads and shrunk. The wind whistled mournfully through the wild corn; the wild bee stored no more honey in the hollow tree, for the flowers had lost their freshness, and the green leaves became brown. But Tis-sa-ack looked with sorrowing eyes over the neglected valley, when early in the morning she stood upon the gray dome of the mountain; so, kneeling on the smooth, hard rock, the maiden besought the Great Spirit to bring again the bright flowers and delicate grasses, green trees and nodding acorns. Then, with an awful sound, the dome of granite opened beneath her feet, and the mountain was riven asunder, while the melting snows of the Nevada gushed through the wonderful gorge. The lake was formed by the fallen rock blocking up the passage, and a river ran murmuring through the valley. Great was the change. Flowers, corn and trees lifted their drooping heads, and all Nature was vocal with joyous sounds. But the gentle maiden had disappeared, and the thankful people bestowed the name of "Tis-sa-ack" upon the cleft dome in memory of her. It was then that

the mighty Tu-tock-ah-nu-la carved his lineaments upon the rocky front of El Capitan, that the Yo-Semites might ever remember him, and wandered away in search of the lost maid.

At the head of the South Fork of the Merced, in an arm of the valley extending to the southeastward, are to be seen the magnificent Nevada Falls, called "Yo-wi-ye" ("Meandering") by the natives. Ascent from the valley to the base of the falls is accomplished by means of a series of ladder stairways built up the face of the rocks, which had formerly been unscaleable except by the use of ropes. The river pours over the brink 700 feet above, and falls in an unbroken sheet for 500 feet, then, striking upon the smooth side of the rocky wall, breaks into a thin sheet of silvery white fully 130 feet in width, the flying spray filling the air with sparkling sun-wrought diamonds. From here the river rushes tumultuously down through a rocky gorge until it again makes a plunge of 350 feet, reaching then the level surface of the valley. This is the Vernal Fall, whose sparkling drops of spray dancing in the sunbeams, which dyes them with beautiful tints, has won from the Indians the name of "Pi-wy-ack," signifying "A shower of sparkling crystals." A bold mass of perpendicular rock rising above the Nevada Fall on the north is called "Cap of Liberty," from its resemblance to the head-dress of the Goddess of Freedom. From its lofty top, which can be gained only after much patient climbing, is offered a splendid view of the valley and the mountain peaks which hem it in. From the southeastern corner of the summit, by lying prostrate upon the rock and protruding the head beyond the brink, one can gaze down the vertical precipice upon the top of Nevada Fall, fully 1,500 feet beneath, and see the water madly plunging over, to be shattered upon the rocks below. This mountain is called "Mah-tah" by the natives, meaning "Martyr, or Suicide, Mountain," probably from some tragedy enacted there in the days of their ancient progenitors.

There are many other scenes of beauty and objects of wonder in Yosemite, enough to require a week of diligent exertion to see them properly, while even months could be spent there with pleasure to the mind and profit to body. There are other waterfalls to visit and many a dome and spire to ascend before the valley has been seen in all its varied aspects; and when the visitor has accomplished all the feats of climbing required, and seen everything that challenges his admiration, he can depart with the quiet satisfaction of having beheld more grand and beautiful sights than can be found associated together in any other spot in the universe. There are three regular routes into the valley—by Stockton, Milton, Calaveras Grove and Murphy's; by Merced, Mariposa and Clark's, and by Madera and Clark's, the distance from San Francisco being 300, 243 and 275 miles respectively. The trip from San Francisco, the usual starting point to the Yosemite, is now a delightful one, which can be made with comparative ease and comfort, the former difficulties of rough trails, unreliable transportation and uncertain accommodations having been removed by the commissioners. The exact time consumed, best routes of travel and the probable expense can be ascertained at the office of any hotel in that city.

The following is a complete table of the altitudes and nomenclature of the Yosemite:

WATERFALLS.

Indian Name.	*Signification.*	*American Name.*	*Feet above Valley.*
Pohono	Spirit of the Evil Wind	Bridal Veil Fall	940
Lung-oo-too-koo-ya	Long and Slender	Ribbon Fall, or Virgin Tears	3,300
*Yo-Sem-i-te	Large Grizzly Bear	Yosemite Fall	2,634
Pi-wy-ack	Cataract of Diamonds	Vernal Fall	350
Yo-wi-ye	Meandering	Nevada Fall	700
Tu-lool-we-ack		South Ca yon Fall (above base)	600
†Loya	A Medicinal Shrub	Sentinel (cataract)	3,850
†To-coy-æ	Shade to Baby Cradle-Basket	Royal Arch Fall	2,000

MOUNTAINS.

Tis-sa-ack	Goddess of the Valley	South Dome	6,000
		Cloud's Rest	6,450
To-coy-æ	Shade to Baby Cradle-Basket	North Dome	3,725
Hunto	Watching Eye	Washington Tower	2,200
Mah-tah	Martyr, or Suicide, Mountain	Cap of Liberty (above foot Nevada Fall)	2,000
See-wah-lam		Mount Starr King	5,000
Er-na-ting Law-oo-too	Bear Skin	Glacier Point	3,705
Loya	A Medicinal Shrub	Sentinel	3,270
Poo-see-nah Chuck-ka	Large Acorn Storehouse	Cathedral Spires	2,400
Ko-soo-kong		Three Graces	3,750
		Cathedral Rock	2,670
		Inspiration Point	3,200
		Mount Beatitude	2,900
Tu-tock-ah-nu-lah	Semi-Deity and Great Chief of Valley	The Captain	3,300
Pom-pom-pa-sus	Mountains playing Leap-Frog	Three Brothers	4,000
Hum-moo	Lost Arrow	Point E. of Yosemite	3,100

* First fall, 1,600 feet; second fall (or cataract), 434 feet; third fall, 600 feet.

† Run only in the early spring.

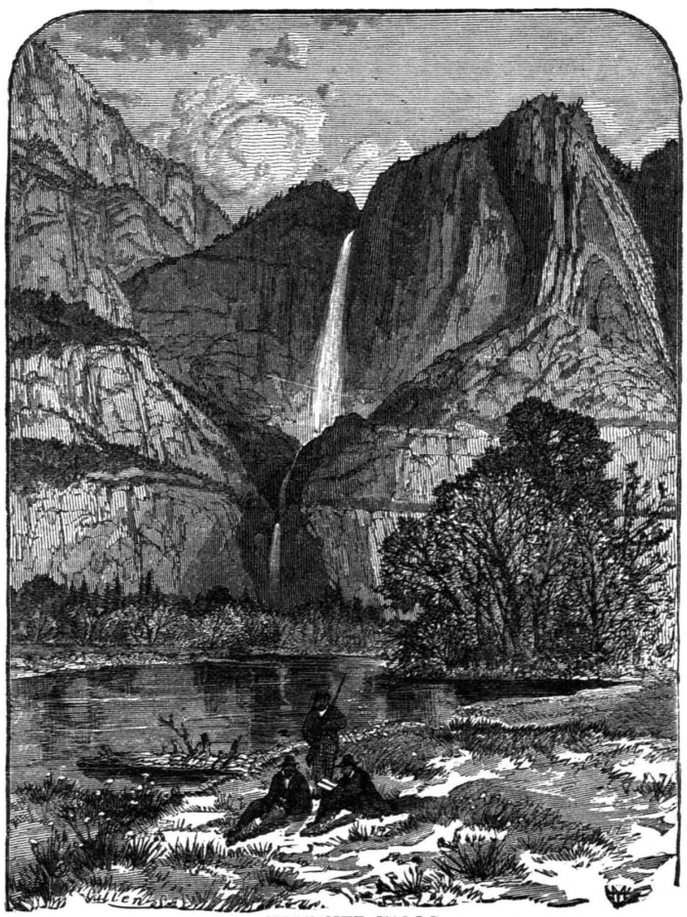
The *Sequoia Gigantea*, commonly known as the "Big Trees," are one of the greatest instances of mammoth growth to be found in the world. With six feet as the accepted standard for the height of a large man, one eight feet tall is exhibited as a giant. How wonderful, then, must a tree seem which is 350 feet high and over 100 feet in circumference at the base, being three times the altitude and ten times the thickness of ordinary trees of a large growth? It is no wonder that it took several years, many certificates, and an actual exhibition of sections of bark in the Eastern cities, to establish the existence of such sylvan giants. There are a dozen groves of these giant trees in California, the most noted being those of Calaveras and Mariposa. Though the groves on San Joaquin and on King's and Kaweah River contain a greater number of trees, there are no individual specimens larger than are found in the former, and they are seldom visited by tourists.

The first recorded discovery of the *sequoia* giants was made in the spring of 1852, by a hunter named A. T. Dowd, who was employed to supply wild meat for workmen engaged in constructing the canal of the Union Water Company, of Murphy's Camp, Calaveras County. He suddenly came upon the grove while pursuing a wounded bear, and instantly lost all thoughts of his chase in amazement at this wonderful forest growth. His story of what he had seen only evoked shouts of incredulity and derision from his companions, which were turned into exclamations of astonishment when he conducted them to the grove to behold the wonder for themselves.

It was not long before lovers of the marvelous began to make pilgrimages to this mammoth grove, sections of its bark were exhibited, the story of their immensity was spread far and wide, and later, when the overland railroad was built, tourists from the East and Europe became frequent visitors to the Calaveras forest and the great Yosemite.

Covering an area of fifty acres are 103 trees, twenty of them exceeding eighty feet in circumference at the base. One of these, known as the "Mammoth Tree," was felled by boring it off with augers, the task requiring five men's work for twenty-two days. This tree was 302 feet high and 96 in circumference at the base. Upon its stump, which has been made as smooth as a floor, four sets of cotillions have danced at one time, leaving plenty of room for musicians and spectators. Other trees which are still standing are equally enormous. The "Mother of the Forest" is 321 feet high, and measured 90 feet around its base before the bark was removed for exhibition. It is 137 feet from the ground to the first limb. A short distance from this lies the prostrate trunk of the "Father of the Forest," the largest of the group. The circumference at its base is 110 feet, and the first branch is 200 feet distant. It is hollow, and persons can readily pass through it walking erect. It is estimated, by the trunks of trees broken when this giant fell, that its height was 435 feet; as it lies it is 18 feet in diameter where it is broken off, 300 feet from the roots. There are many others, some prostrate and decaying, but the majority still erect and sound to the core, the larger of which have received names generally significant of some peculiarity of the tree itself. Through portions of many of the fallen trees one can ride on horseback a distance of fifty to seventy-five feet. There are the "Husband and Wife," "Burnt Tree," "Hercules" (95 feet in circumference and 320 feet high), "Hermit" (318 feet high), "Old Maid," "Old Bachelor," "Pioneer's Cabin" (broken off at a height of 150 feet, and measuring 33 feet in diameter at the base), "Siamese Twins," "Guardian," "Mother and Son," "Pride of the Forest," "Two Sentinels," "Three Graces," etc. Six miles south is another grove of 1,300 trees, some of them of grander proportions than any found in the grove described, reaching a circumference of 130 feet.

NEVADA FALLS.



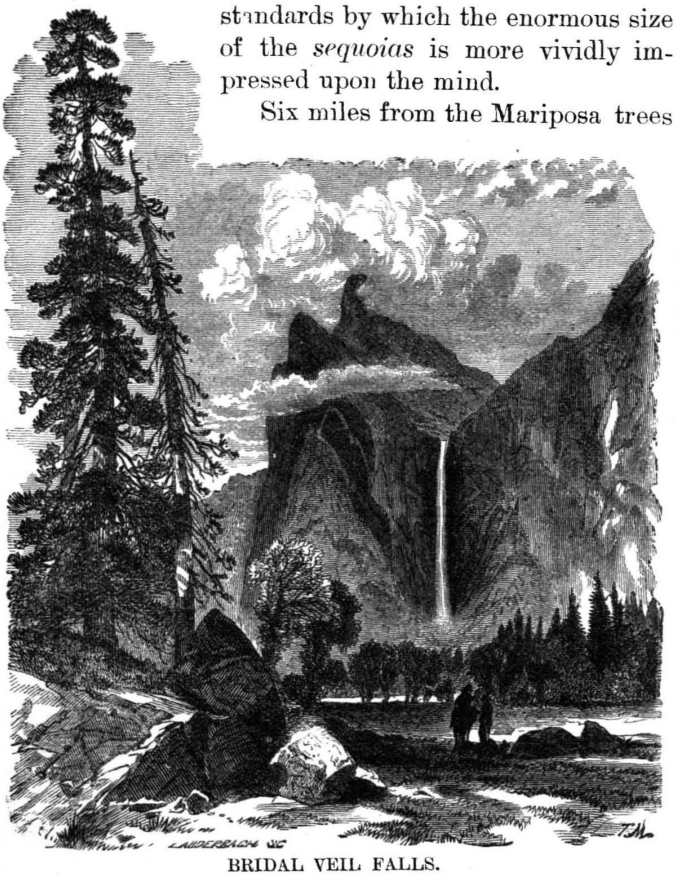
YOSEMITE FALLS.

The other forest most commonly visited is the one in Mariposa County, about sixteen miles southeast of the Yosemite Valley. This was discovered in 1855 by a hunter named Hogg, in a manner similar to the way in which the Calaveras grove was stumbled upon. There are in this vicinity several groves of varying sizes, the one generally visited being known as Mariposa grove. Fire has swept through portions of this magnificent forest, and many of the stricken giants lie prone upon the ground, partly consumed, while others still standing have only their charred trunks to attest their former greatness. Names befitting their various peculiarities have been bestowed upon the larger and more interesting of the trees in this grove, such as "Satan's Spear" (named in fanciful reference to the enormous weapon placed in the hand of the Prince of Darkness by the Blind Poet), "Wanona" (the stage road is tunneled through the base, and a six-horse Concord coach is covered by it from the leaders to the hind wheels), "The Giant's Tower," "Twin Sisters" (82 and 87 feet in circumference), "Beauty and the Beast" (a graceful and slender tree standing beside a knotty and scarred monster), "Queen of the Forest," "Keystone" (19 full grown horses can stand in its hollow end), "Artists' En-

campment," "Rambler" (102 feet in circumference at its base), "Two Friends" (90 and 97 feet around), "Four Pillars," "Washington and Lafayette," "Lone Giant," etc. There are in the grove 365 trees of a diameter of one foot or more, 125 that exceed 40 feet in circumference, and 10 exceeding 70 feet. The greatest of them all is but a remnant of its former self. It lies prostrate on the ground, charred by fire, its bark gone, and its center hollow from years of decay. Across the upturned butt it measures 33 feet. Only 150 feet of the trunk remain, and through this, from end to end, it is easy to ride on horseback. It is estimated that when standing it was 125 feet in circumference and more than 400 feet high. The grove also contains some sugar pines and Douglas firs, which, although giant specimens of their species, are but pigmies by the side of these forest monsters, and serve as standards by which the enormous size of the *sequoias* is more vividly impressed upon the mind.

UP TO NEVADA FALLS.

Six miles from the Mariposa trees



BRIDAL VEIL FALLS.

is the Fresno grove, containing about 500 trees of all sizes, a large number of them varying in circumference from 50 to 82 feet at the base.

HENRY LAURENZ.

THE MYSTERIOUS CLOCK.

IT had been a stormy day in Circle Valley, and earth and air were blended together in one vast impenetrable tone of monotonous gray. Clouds of flying snow were hurled to the ground, only to be torn up again by the violent tempest and sent bowling away through the

VERNAL FALLS.

pine trees and foothills. Jackson's staunch log house quivered before the blast, and the old man declared he had never seen such a day since he came to the valley. I had arrived just in time. The darkness was already beginning to gather ere I had discovered Jackson's buildings through the blinding snow, and I breathed a sigh of relief when I knew that I was not doomed to a shelterless night under such dangerous circumstances. It was with feelings of great satisfaction that I had followed Jackson into his large sitting room, where a huge fire of pine logs blazing in an enormous fireplace did double service in furnishing both light and heat. The room, though rudely furnished and, of course, carpetless, nevertheless possessed an air of comfort, which to me was greatly multiplied as I thought of my long, cold day's ride. Indeed, it seemed to me I had never before in my life been in such a cheerful apartment, and I quickly settled myself in a nook by the chimney to await supper. Jackson was a generous, hearty old fellow, and gave me a slap on the back that nearly took my breath away, but for some reason or other made me feel very much at home. He presented me to three other men who, like myself, had been forced by the weather to seek the protection of his friendly roof. One was a jolly old miner from Pioche; the second was a tall, thin, gaunt man, an elder in the Mormon Church, and a very entertaining fellow he proved to be, and the third was a rough and ready ranchman

from Grass Valley. The prospect of a several days' sojourn here was more pleasing with such varied company, for I saw at once that they were all men who could relate an interesting chapter or two from their own experience if they chose to; and there is nothing like a snug fireside and a pipe to draw such men out. But the most interesting chapter—in fact, one of the strangest tales I ever heard—came from quite an unexpected source. However, I must not anticipate. When we had partaken of the well-prepared supper, which Jackson's worthy better half finally set before us, we all felt very contented and comfortable, and drew up to the fire with our pipes. The storm augmented with the darkness and swept through the valley with increasing violence.

Jackson ventured out for a final inspection of his stable, and when he returned he closed the door and locked it with a positive air that plainly indicated that he did not expect to open it again before morning. But he was mistaken. For scarcely had he pulled a chair into our group when there was a sudden barking of the dogs.

"Another benighted cuss wants to come in probably," said the old miner, with a grin.

Expressing great surprise, Jackson went to the door to obtain a view, if possible, of the approaching individual, or learn the cause of the disturbance, and out of curiosity I followed him. As he opened the door a terrific blast of cold and snow swept in, so that the men by the fire shouted good naturedly:

"Shut the door—shut the door, old man."

Jackson laughed at this, and stepped outside, closing the door behind us—for I kept beside him. He stood peering into the chaos of storm for some moments unable to distinguish a single object. Then, shouting for the dogs to be quiet, he said:

"I don't believe there's any one or anything; let's go in."

Almost instantly there loomed up before us like a phantom, under the light, a muffled figure on horseback.

"Hullo, the house there!" the person shouted, not perceiving us as we stood shivering beside the door.

"Hullo," replied Jackson, through his chattering teeth, brushing the accumulating snow off his bare head at the same time.

"Can I have accommodation here?"

"Yes, of course; you couldn't go on nohow," yelled the old man.

"No, you're right—you're right. I couldn't go on, for the excellent reason that I wouldn't know where to go, even if I could see a rod ahead of my nose. The truth is I'm lost, and I've stumbled on your place by pure accident. Ugh! I'm cold, and—"

The remainder of his sentence was torn off and swept away by the gale as the stranger dismounted, and shook himself to dislodge the snow which had packed itself in a thick coating all over him.

"Go in—go in," said Jackson, taking the bridle, "you are freezing here."

The stranger entered as Jackson threw open the door, and called his boy Tom to come and put up the horse.

"Good evening," the man said quietly to those inside, as he stepped over the threshold. "No, I'm not so very cold—not so very cold," he replied to my inquiries.

I poured him out a large glass of brandy. He swallowed it eagerly. Then he took off his wraps and hung them on the pegs by the door, stamped his feet to shake off the snow which still clung to his heavy boots, and advanced to the fire. He stood sadly regarding it, and his thoughts appeared to be far away.

"Rough night outside," remarked one of the group, with the plain intention of drawing the stranger into conversation.

"Y-e-s—very—rough—very," he answered, absently.

"Come far?" inquired another.

"Seemed a long way to me with that dreadful thing always confronting me," and a perceptible tremor passed over the stranger's frame.

We looked from one to the other for some explanation of this curious remark.

The stranger meanwhile continued to gaze steadily into the glowing fire. Evidently he was not in a communicative mood, and after his last words no one knew what to say to him, so we said nothing. I occupied myself with examining his appearance more closely. He was dark, and swarthy, and weather-beaten, I noticed, and though his jet black hair was streaked with gray, his face seemed strangely youthful. His eye was roving and restless. His stature was below the average, and his frame was slender—I might almost say delicate. A slight accent in the few words he had spoken seemed to betray a foreign origin, and there was a trace of Jewish blood apparent in the general cast of his features. His whole manner was that of a man wholly absorbed in thought, or brooding over some deep and secret trouble.

As I made a remark he turned his head deliberately and looked me straight in the face for a moment. At the same instant some object beyond me which came in the line of his vision caused him to spring up, and he exclaimed hoarsely:

"That clock—did it stop to-day?"

Every glance was turned toward the clock which rested quietly on its shelf at the further end of the room, and was brightly illuminated by the ruddy glare of the fire. The hands pointed to ten minutes past five, though the actual time must have been about nine o'clock. The clock was stopped.

"Yes," replied Jackson, "the durned thing's stopped sure—but it's the first time for weeks."

The stranger groaned.

"My God!" he exclaimed, and he appeared much agitated.

There was a dead silence, and then Jackson said in a soothing tone:

"Tell us what it's all about, stranger—it'll do ye good."

"Perhaps," the man replied mournfully, with a deep-drawn sigh. "But it's a very strange story."

"All the better," said Jackson.

"Well, well," the man said absently, "it can do me no

harm, and will doubtless interest you; so if you wish it I will try to relate my history."

We all with one voice urged him to proceed, and after a moment's hesitation he said:

"I am not, as you might suppose, suffering the pangs of a guilty conscience, but the fearful oppression of a cruel and relentless fate. In the first place, I am not an American, as you may already have suspected; on the contrary, I was born in the south of France. My father was a banker, of Jewish extraction, and my mother was the daughter of an English consul. Grandfather returned to England, and my mother was then left without a single relative in the country. My father, though generally of an agreeable disposition, unfortunately for us all proved to be a man of strange temper. Many years passed ere his peculiarities began to exhibit themselves. If my mother discovered them before she was successful in disguising her knowledge of them, though it is probable that they were for the most part latent till the tide of fortune turned against him, and he suddenly beheld his wealth slipping surely and rapidly from his possession. He had resort to alcohol to buoy up his spirits and brace his nervous system. But this soon had no effect, and he sought a more powerful and deadly stimulant. He began to drink absinthe. Each day he took larger and more frequent doses, until his nerves were completely shattered by the seductive and extraordinary liquor. From opulence we sank to the very threshold of poverty. Happily we succeeded in saving our home from the general wreck, and we were not turned into the street, as seemed so probable at one time. I was by this time old enough to turn myself to account, and with the remainder of the family—four brothers all older than myself—succeeded in earning enough to supply our daily needs. I fortunately secured a place as assistant in the post office; two of my brothers already had employment in a bank, another had just finished a course in pharmacy and compounded prescriptions at an apothecary's, while the oldest was private clerk to a wealthy wine merchant. We might have obtained money by selling some of our furniture, much of which was of curious workmanship and great antiquity, but nothing short of actual starvation would have induced us to part with it. Among other rare articles we possessed a complicated and elaborately constructed musical clock. The devil himself must have designed the infernal thing. It had been made specially for one of my father's remote ancestors, a vicious and cruel old duke, by a celebrated clockmaker of that period, who was said to be also an alchemist and magician of extraordinary power. He must have been Satan himself. It was always supposed that this man had invested the clock with strange powers and properties, but we had never up to the beginning of our misfortunes remarked in it anything out of the ordinary. There were vague traditions that had been handed down with it from generation to generation. Chief among them was one that hinted that the time-stained dial had looked down on several deeds of darkness. These in some mysterious way it possessed the power of recording, and if one held the secret he might have them pictured before him; in fact, he could bring up in a sort of panorama all that had ever passed at any time in front of the dial. We did not believe any of these things; if we had we might have rid ourselves of the diabolical machine and our family history might have run differently. But the mysteries of the future are sealed to us, and we continued to regard the old clock with that reverence and affection which one always has for things of that sort that have been handed down from father to son for many generations. The clock was an exceptionally large one—so large, indeed, that a person of average height could easily enter the case and close himself in behind the massive carved door. Once, when a lad of goodly size, I happened to be left alone in my father's bedroom where the clock always stood, and I was suddenly seized with an uncontrollable desire to enter the case in search of the secret springs which I imagined must exist there. I boldly opened the door, and had almost closed myself in, when I felt a dreadful pricking sensation all over my body. This pricking sensation grew each moment more intense, and I was oppressed by a feeling of faintness and heat. I was also horrified to discover that the ticking had stopped. Much frightened, I hastened to get out, and the instant I did so the pricking sensation disappeared and the pendulum resumed its monotonous swing. My brain reeled and I was glad to make my escape from the room. I never dared to repeat the experiment. I knew if I were discovered tampering with the clock my father would be very angry, and his anger was a thing to be dreaded, as the caravan dreads the simoon.

"My father at length began to have occasional attacks of a peculiar and violent delirium, and during these attacks he was extremely unmanageable, though he showed no inclination to do any one bodily harm. Sometimes, however, he injured himself more or less, and we considered the feasibility of placing him under some sort of constant surveillance, but my mother thought it best to permit him, at least for a time longer, his full liberty. One morning, however, he was discovered insensible in his bed, and my mother was nowhere to be found. A window which opened into the garden bordering the river was ajar; clothing, jewels and articles of furniture were strewn about the apartment in wild confusion. On my father's brow was a frightful gash which had bled profusely, dyeing the bed and carpets crimson. There had evidently been a commotion and a struggle; but as all the walls of the old house were exceptionally thick, not a soul had heard a sound. So soon as my father's insensible form could be removed to another room a search was instituted for my mother. All the closets and every place where she could possibly have been concealed were carefully examined, but with no success. We were about to conclude that she had been carried off by brigands, when I happened to notice that the old clock had stopped, and remembering my old experience with it I rushed to it and tore open the locked door. There before me, insensible and apparently lifeless, lay the form of my poor mother. We tenderly took her out, but all

attempts to resuscitate her were unavailing. She was dead. There were no marks of violence about her. Her color was fresh and life-like; but some blue spots on her throat were discovered, and it was then thought that my father had perhaps dealt foully with her while he was in one of his fits of delirium. But on recovering sensibility he declared he had been suddenly attacked—he supposed by robbers—and he knew nothing more. He was arrested, and the case was tried before the magistrate, but there was absolutely no proof that he had committed the crime. He, too, had been seriously injured, and the whole affair was finally dropped, and regarded by many people as the work of a band of clever brigands that infested the neighborhood, and which, it was surmised, had some special grudge against him. My father's first care after the matter had been decided was to start the old clock, the hands having remained in the position they were in on the morning of the tragedy—they still indicated ten minutes past five. For many years the clock had not been stopped for so long a time, and my father for some reason was much exercised because it had been neglected. He appeared to have now a greatly increased desire to guard it and keep it going, and he watched it with intense solicitude. It had always been astonishingly regular, and it was expected to continue as before when it was again started; but it failed to do so. I was standing close to my father's side when he opened the door to touch the pendulum the first time after the mournful tragedy, and I observed a tremor pass over him. His hand shook as he reached out to push the rod. When he touched it the clock immediately resumed its regular beating, but there was an instant stirring of the musical apparatus, and the deep notes of a requiem vibrated on the air of the silent chamber. As the pipes poured forth the melancholy strain my father started back, bowed his head, and remained in this attitude silent as a statue. He was deeply moved. Since that fatal night he had changed for the better, and not a drop of absinthe had passed his lips. He was feeble and nervous, but I believed he had resolved to abandon his stimulants entirely. I prayed he might have the strength to adhere to his resolution, and it gratified me to see that the solemn music affected him. The tears rolled down his pale and haggard cheeks, and as silently as I could I stole out of the chamber and left him alone. When the next fifth hour came round the clock stopped at ten minutes past, to the great annoyance of my father, and it continued in this way for ten days, stopping at ten minutes past five as often as it was started, and occasionally playing the requiem. My father watched it with eager anxiety, and each time so soon as it stopped he started it again. He seemed to have a special horror for the position of the hands at ten minutes past five, and constantly feared the very thing which happened—the stopping of the clock at that hour. Finally he declared something must be wrong with the works, and though when the ten days were over the clock went on as usual, he had an expert mechanician come to overhaul it thoroughly. I watched this man with almost breathless interest as he examined the clock preparatory to taking it apart. At last I thought I was to know something about this strange machine which had, since earliest childhood, been such a great mystery to me. Even in my later years I could never conceive by what means the clock contrived to execute its manifold duties, and I followed the mechanic's movements with, as I said, almost breathless interest. He first took out the pendulum and the weights and then removed a large upper case which enclosed the principal works. This brought to light a square mass of intricate brass and wood work, and numerous wires of copper that seemed to extend to all parts of the case. The time-measuring apparatus was immediately in front, and connected with it was a series of wheels and cylinders. Next came the long cylinder, with its innumerable little brass pins, which, operating on a key-board, admitted the compressed air from a bellows arrangement into the pipes. The latter were all of fine wood, over seventy in number, of varying size, and constructed with admirable precision. But the strangest part of the machinery was discovered immediately below the pipes. It was a box-like cavity containing numerous sheets of beaten silver attached to copper frames, and several hermetically sealed glass cylinders partly full of different colored liquids. The whole of this was connected by wires with the rollers and wheels adjoining the time apparatus. Besides these curious things, there were on both sides, and also connected by wires with the rest, a number of parallel rods of copper and zinc. The man refused absolutely to touch anything but the time portion, and this differed very little from that of other clocks of the period except in the excellence of its finish. There was nothing out of order, and the mechanic expressed great surprise that the clock had stopped. He replaced the few wheels he had taken out and went away. The clock was left to itself. My father appeared to dread the sight of the room in which it was—his old bedroom—and never slept there. Strangely enough he invariably visited it several times each day to see if the clock was still going. There was never a more faithful time-piece, and as faithfully did my father now abstain from all intoxicating drinks. With so much energy did he devote himself to his business that it was not long before he began to recover his lost ground. Before three years had passed he was once more in comfortable circumstances, and seemed to have entirely forgotten the dreadful occurrence which had been the cause of his reform. In the fifth year after the tragedy he was in excellent health—in the full enjoyment of returning wealth. He had actually begun to pay his addresses to a rich and handsome widow of our neighborhood, when suddenly the old clock took another freak and halted at ten minutes past five, thus vividly recalling the melancholy affair of five years before. It was faithfully started, but behaved precisely as it had behaved the first time, stopping each day at exactly ten minutes past five. My father was extremely troubled. He grew pale and haggard, and was evidently suffering deeply from the unhappy memory. He kept to his room and sat long hours with his face buried in his hands, hearing nothing, seeing

no one. When he looked up his eyes had a vacant, glassy expression that gave us much alarm. On the morning of the tenth day after the first stopping of the clock we discovered him dead, with an expression of intense agony on his features and strange blue marks about his throat. We found also that the old clock had again stopped at ten minutes past five, and when it was started the pipes sounded the solemn notes of the requiem.

"After this it continued with its customary regularity, but my brain was haunted by its extraordinary performances. I tried to shake it off, but I could not. I beheld looming up before me everywhere I went a tall spectral clock, the hands of which were fixed on what I now began to regard as a fatal hour, ten minutes past five. Besides this the slow notes of the requiem rang constantly in my ears, and my every motion seemed in cadence with it. At length I thought I saw a connection between the stopping of the clock at the time of my mother's death and the later one. There suddenly appeared to be meaning in it. I recalled the fact that my father had died precisely five years after my mother, and I believed the stopping of the clock was some kind of a premonition. The matter worried me for weeks, and then, unable to form a solution of it, I gradually forgot it amidst the distractions of other affairs. About a year after my father's death the clock stopped a third time in the same mysterious way, at ten minutes past five, and persisted, as before, in stopping at that hour as often as it was started. Out of respect for my father's fondness for the clock, a servant was instructed to keep it going. I believed the stopping to be a harbinger of misfortune, and my thoughts on the subject after the death of my father now returned to me with double force. When I divulged my ideas, however, I was ridiculed, and, being the minority, I was obliged to refrain from further expressing my views on the subject. The clock continued to stop exactly for ten days at the same hour. On the morning of the tenth we were shocked by the discovery of our eldest brother dead, his throat marked with blue, and a dreadful expression of fear on his countenance. The clock hands pointed to ten minutes past five. I was now certain that the stopping was full of horrible significance. I hated and dreaded the diabolical machine. I wanted to crush it out af existence. I longed to destroy it to the very last wheel and pinion, but my remaining brothers regarded me as one demented when I suggested it. They appeared to inherit from my father the singular reverence for the hateful clock, as well as the desire to have its motion uninterrupted. I said nothing more, but began a close analysis of its peculiarities. I discovered that my brother had died one year after my father, almost, if not exactly, to the minute, and my naturally superstitious nature was thoroughly imbued with the idea that there was some mysterious and fatal connection between this curious clock and our family life. I felt sure the ten minutes past five so persistently adhered to on the different occasions was a symbol of destruction for us. I reviewed the whole matter. My mother had been foully murdered by some person or persons unknown. The clock had been found stopped, with her corpse within its huge case. No doubt, I thought, the clock had stopped at the very moment her spirit fled and her poor body was crushed into the case. My father had died precisely five years after my mother, and the clock had stopped in its singular fashion, apparently giving him ten days' warning of the approach of the fatal hour. The five years, I decided, after much consideration, must correspond to the number of hours recorded on the dial at the moment of the murder. So I concluded that this meant that five years after the murder there was to be another death, with as many days' warning as there had been minutes on the dial, *i. e.*, ten. Who was to die? was the next question I put to myself. There could be but one answer, it seemed to be—the murderer. Could it be possible, then, that my father was actually the murderer? In one of his fits of delirium he was irresponsible and capable of anything. It was a horrible thought, yet it was the natural sequence of my investigation.

"I resolved not to quail, and accepted it as philosophically as possible. He had doubtless done the deed in a delirious moment. The gash in his head I explained by supposing that he fell against some hard object when the frenzy was spent. It was highly probable that he afterwards had no recollection whatever of the matter. I remembered the pricking sensation I had experienced on attempting to enter the case when a boy, and it occurred to me that the clock might be so constructed that when an object was placed inside it, and the door completely closed, that object would be subjected to a violent galvanic shock that in most cases would produce death. Then I thought my father had only imprisoned my mother in the clock without knowing its dreadful power, though, even had he known, he would not have hesitated in his madness. The constructor of the machine had responded to the demands of the duke by giving him a clock by which a mysterious death might be produced, but it was evident that he had also invested it with properties that would avenge the murder by making the life of the perpetrator miserable just at the time when he considered the crime a thing of the forgotten past. The old duke, so the tradition ran, had died in a sudden and mysterious way, and considering all these circumstances, I believed that if I could only secure the clue to the secret machinery, I might know not only all about my mother's death, but everything that had occurred in the same room with the clock since the day of its completion. I was confident that it was telling the time in its singular way when our blood-stained family should be extinct.

"I racked my brain for the meaning of the 5:10 symbol, and I finally found it. In order that you may better understand it, I must recall the fact that my eldest brother died exactly one year after my father, and that I had four brothers. Counting myself, we were therefore five; and supposing that one of us should die with each succeeding year, five years after the death of my father, and ten after the morning of that dreadful occur-

rence which had left an eternal stain on our family name, would find every one of us in the grave. Evidently, then, the five figure of the symbol indicated the five years that had elapsed before the death of the murderer, and the ten years that should pass away before the whole family would be annihilated.

"Arriving at this conclusion, I resolved to destroy completely the infernal machine, with a hope of averting the catastrophe, but fearing the wrath of my brothers, I decided finally only to disable it, so that it could not be set in motion again without great difficulty. With this intention I stole into the room where it stood. Having some mechanical dexterity, and remembering the construction of the clock from the time when I had watched the man examine it, I determined to injure the peculiar escapement so that the injury would be barely perceptible, and yet would effectually prevent the ratchet wheel from performing its revolutions. To make doubly sure I meant also to remove some minute pinion, so that any but the most thorough attempts at repair would be baffled. I confess that a nervous thrill passed over me when I found myself alone and face to face with the mysterious machine which I now considered the cause of all our ill-fortune. I paused to regard it for a moment, and I plainly heard the regular ticking of the huge pendulum, which seemed to me be repeating solemnly the words—five—ten—five—ten—five—ten. Suddenly there was a swift buzzing of wheels and the clock began striking. Instinctively I counted, though with an indescribable sensation of dread—one—two—three—four—five—six—seven—eight—nine—ten! I glanced at the dial. The hands pointed to half-past six, yet I had counted ten strokes of the bell. 'Was it premonition?' I asked myself. At first I thought it must be a mistake on my part, but some further consideration showed me that it was indeed a repetition of the ten figure of the symbol. Being the youngest son, my hour, as affairs were going, would come last, or, according to my interpretation of the symbol, in the tenth year after the murder. It was a warning to me in person that my days were exactly numbered. As I fully realized this, the angry blood flew to my temples, and I lost all self-control. Enraged and desperate, I forgot everything but the infernal machine before me. I grasped a heavy oaken chair, and concentrating all my fury into one tremendous, crushing blow, I shattered the clock into a thousand fragments. At the same instant I received a peculiar and violent shock as from an electric current of intense power. The chair was stricken from my hold, and a strange, tingling sensation, first perceptible at the ends of my fingers, spread almost instantaneously over my entire person. I fell back and sank, as it seemed to me, into a bed of the softest down, with an indescribable sense of comfort and delicious languor. My body appeared to have lost all weight, and was wafted gently off into ethereal space. A delightful feeling of eternal rest and tranquillity pervaded the whole universe as I drifted airily on and on. My will-power had forsaken me, but after a time I succeeded in concentrating my thoughts enough to wonder what had befallen me. Whither was I drifting? Was I dead, and was this my spirit only that was thus drifting—drifting? Would I—could I—remain forever in this blissful condition, drifting without time, without care, through all eternity? Suddenly a sweet voice whispered in my ear: 'Prepare thy soul; ten minutes past five is the hour, and the year is not far hence.' The voice died away, and darkness fell in place of the glorious light. A cold, chilling sensation swept over me, and I strained my eyes into the deep gloom. I found myself on earth, and recognized the outlines of my father's old chamber, with the fragments of the clock scattered about me. The tomb-like stillness frightened me. I sprang to my feet and rushed in terror to my own apartment. My brothers soon discovered that I had ruined the clock, and they were very angry. When I attempted an explanation they said I was a fool, and refused to listen. At this I lost my temper and we had a great quarrel, the result of which was that I decided to take my share of the estate, or rather its equivalent in money, and depart from the wretched place altogether. I breathed easier, however, because the clock was in a condition beyond the possibility of repair, and I had a faint hope that with the destruction of the odious thing the remainder of our family might escape the fate which I firmly believed had been marked out for them. I went to Paris, and tried to forget the whole of our unfortunate history and lose sight of the hateful symbol in a mad whirl of pleasure. But to no purpose. I had been there only a few months when I received news of the sudden and peculiar death of the eldest of my remaining brothers. I made a calculation, and found that he had died just two years after my father, and therefore seven after the day of the murder. I was now sure that I was not the victim of an absurd superstition or a diseased imagination. Indeed, I was positive that my solution of the clock-symbol was the correct one, however strange it might seem. Accordingly I knew I had but three more years of this life left to me, and I again warned my remaining brothers that they had respectively one year and two years more to live. For my own part I was driven half mad by the vision of the old clock, which was constantly before me, the hands fixed at ten minutes past five, and the dial sometimes presenting the outlines of ghastly heads. Every clock I saw intensified this hideous vision, and I soon grew to hate the very sight of one. I longed for some desert land or mountain fastness, away out of the world, where there should be no clocks. At last in my despair I resolved to flee to America, and somewhere in the vast solitudes of the Great West find some lonely vale where I could live secluded and alone. I would spend the remainder of my days there, regardless of time, in reckless adventure and careless ease.

"Having learned to speak English from my mother, when a child, I found no difficulty with the language on my arrival. I made no haste to reach the mountains, for I tried to banish entirely all thoughts of time. I strove to consider myself still in that outer world that had appeared to me in my vision, where time and distance

were banished. But I could not forget that dreadful haunting symbol. O God, what misery! You cannot realize it, my friends. It clung to me and followed me everywhere—everywhere—everywhere. Then it received fresh emphasis; I received notice of the death of one of my brothers. He died exactly a year after the last. I immediately severed all communication with the remaining brother, so that I should not know the date of his death, and I retired into complete solitude in a wild and unknown canyon in the vain hope of escape, but the symbol came up more vividly than ever. Every rock took the shape of a curious clock, striking over and over again the fatal number, and the dismal cawing of the ravens fell like mockery on my ears. I felt that I should go stark mad if I remained in that place, so I quitted it and wandered ceaselessly from valley to valley and from crest to crest, seeking diversion. I staid in one town or in one habitation only long enough to rest and learn the road to another. Still the apparition followed me, and even to-night as I pushed my way through the snow, I heard the same ten strokes of the bell. I felt that the fatal hour was not far off. I was becoming benumbed and my horse found his own path. I knew not where to go, but suddenly I found myself face to face with this house and almost under the glowing window. As soon as I became warm the stagnant blood coursed through my veins and life appeared beautiful to me. For the first time in many weary years I almost forgot my fate and the hateful symbol. Imagine, therefore, my despair when my eyes fell on that clock and beheld its awful warning. My heart stood still and the blood froze in my veins. I knew that my hour was nigh. I know, I feel, that the tenth year is done, and that to-morrow morning at ten minutes past five my soul will take its flight into the mystery of mysteries. The deed of blood will be avenged. So be it."

He ceased and stared despondently into the fire. No one spoke for some time; then we did our best to console the poor man, assuring him he was merely the victim of his own imagination, and urging him to shake off his melancholy. But it was unavailing. He retired sadly to the chamber assigned to him, and in the morning when we opened it to wake him and chaff him about his fears, we found him cold in death, an expression of the most intense agony still resting on his contorted features and on his throat some curious blue spots, looking as if some bony hand had clutched long and hard around his neck. We buried him under a pine tree, and it was many months before I could rid myself of the disagreeable sensations produced by this extraordinary occurrence. F. S. D.

A PROCESS for coloring and bronzing leather has been patented by Lorenzo Klopfer, of Munich, Germany. The leather is wrapped in a cloth moistened with water and milk, washed with a mixture of white of egg, glycerine and water, covered with a varnish, and then a flexible collodion compound, followed by a coating of size of similar mixture, to which the metal coating is applied before the mixture has become dry.

SALMON FISHING ON LABRADOR COAST.

ONE of the most important of the Labrador fisheries next to the cod is that of the salmon, though they are by no meansa s extensive there as in the lower Canadian provinces, especially of Restigouche and the Bay of Chaleur, on the south side of the River St. Lawrence. The salmon go up the river to spawn; returning, they are found in the adjacent waters of the river along the coast in the late summer and early fall. The number of fish annually captured is immense. The best, and in fact only real, season for capturing these fish is a few weeks in the early autumn. They are caught in gill nets, large or small, with a regulation mesh of six inches. The nets are placed along shore at the mouth of the river, or across some channel of the stream, and visited every day. The fish entangle themselves in the meshes, which are made sufficiently large to allow the young to escape by passing entirely through them, and are held until the fisherman comes and secures his catch. The fish are then cut open from head to tail, and carefully cleaned inside and out, all the black skin being peeled off the backbone. They are then soaked in fresh water, then in salt brine and finally packed in barrels. There are seldom more or less than twenty-three fish to a barrel. As each barrel brings about $12 cash, each fish is valued at fifty cents. This is, of course, the first cost of the fish. Salmon fishing is only in its prime for about four weeks, between, say, July 25 and August 25. This fishing is plentiful all along the rivers on the coast, and there is seldom one that has not several fisheries upon it. I should say that a barrel of salted salmon will average about two hundred pounds in weight. Salmon are, other than above, preserved by drying, smoking and canning. The latter process is rarely, if at all, employed in Labrador; the other two seldom. They are smoked much as herring are, and dried in the sun much as codfish on fish-flakes. Salmon are caught with the hook and line by those who care to angle for them, and as the rivers and bays are quite full at the proper season, it is a work of pleasure and profit to practice the rod with this king of fish in his native element and at home when he is most abundant.

THE dredgers of the machine Arctic, of Wilmington, Del., in removing the six ice piers off Port Penn, which were built by the English before the revolution, have made a remarkable find. The ice piers had become dangerous obstructions to navigation, as the upper portions had crumbled away and the treacherous bases were hidden by the water. During the tearing up of the timber of these old piers the dredgers found the hull of an old vessel. In removing this hull there were found some barrels of flaxseed in an excellent state of preservation, the grain still retaining perfect germs. The barrels were plainly but rudely marked in burned letters: Samuel W. Flintham and Lambert & Company. There has been a tradition at Port Penn and Delaware City that seventy-nine years before the Revolution a vessel was cut through by the ice freshet. This is supposed to be the old hull.

THE CARVINGS AND HERALDIC PAINTINGS OF THE HAIDA INDIANS.

EARLY in the spring of 1883 I was instructed by Professor Baird, chief executive officer of the Smithsonian Institute of Washington,* to visit Queen Charlotte Islands, British Columbia, and further investigate the subjects indicated by the heading of this article. I accordingly proceeded to that group of islands in June, 1883, and remained all summer, making collections for the United States Fish Commission the National Museum and the Bureau of Ethnology, and was enabled, by the assistance of a very intelligent young Haida, who acted as interpreter, to decipher the meaning of the carvings on the heraldic and mortuary columns and totem poles, and the hieroglyphic paintings and drawings of those interesting natives.

Careless and casual observers term all Indian carvings as idols or objects of worship. But the Indian is not an idolator; he does not bow down or worship the image of created things. His worship is secret, and performed in seasons of retirement in the depths of the forest. His ideas of the existence of a Deity are vague at best; and the lines of separation between it and necromancy, medical magic and demonology are too faintly separated to allow him to speak with discrimination. The Indian's necessities of language at all times require personifications, and his carved columns are picture writings readily understood by all. They are legends of adventures of giants and dwarfs, and while he amuses with the tales of the conflicts between monsters and demons, fairies and enchanters, he also throws in some few grains of instruction in the form of allegory and fable, which enable us to perceive glimpses of the heart and its affections. The mythical belief of the Haidas is similar to the Algonkin. The Raven, or Nekilstas, of the Haida is like Manabozho of the Algrics and Hiawatha of the Iroquois. He has all the powers of a deity, and can assume any shape he pleases; and so of the Hoorts, or Grizzly Bear, the Skana, or Killer (orca), the Helinga, or Thunder Bird, etc. This play between the zoonic and mortal shapes of heroes must constantly be observed in high as well as in ordinary characters. To have the name of an animal, or bird, or reptile, is to have his powers. The ordinary domestic life of the Indian is described in plain words and phrases; but whatever is mysterious or abstract must be brought under mythological figures and influences. Birds and quadrupeds must be made to talk, and even the clouds, which chase each other in brilliant hues and constantly changing forms in the heavens, constitute a species of wild pictography which he can interpret. The phenomena of storms and meteorological changes connect themselves, in the superstitious mind, with some engrossing mythos or symbol.

Figure 1, which, as drawn by my Indian assistant, Johnny Kit Elswa, represents cirrus clouds, or, as sailors term them, "mare's tails and mackerel sky," the sure precursors of a change of weather. The centre figure is T'kul, the wind spirit. On the right and left are his feet, which are indicated by long streaming clouds; above are the wings, and on each side are the different winds, each designated by an eye, and represented by the patches of cirrus clouds. When T'kul determines which wind is to blow, he gives the word and the other winds retire. The change in the weather is usually followed by rain, which is indicated in the tears which stream from the eyes of T'kul.

Figure 2 represents the raven (hooyeh) in the whale (koone). The Haidas are not whalemen, like the Makahs of Cape Flattery, and I never knew of their killing a whale; but occasionally a dead whale drifts ashore, having been killed by whalemen, or sword fish, or killers. The Haidas do not care to look for natural causes, but adopt the mythological dogma that the raven goes into the sea and is swallowed by the whale, and assuming another shape causes a dreadful griping in the whale's belly, which, frantic with pain, rushes ashore, while the invisible hooyeh walks quietly out and is ready for another adventure.

Figure 3 represents the killer (orca ater), which the Haidas believe to be a demon who is named "Skana." He can change into any desired form, and many are the legends about him. One which was related to me was that ages ago the Indians were out hunting for seals. The weather was calm and the sea smooth. One of these killers, or black fish, a species of porpoise, kept alongside of a canoe, and the young men amused themselves by throwing stones from the canoe ballast and hitting the fin of the killer. After some pretty hard blows from these rocks the creature made for the shore, where it grounded on the beach. Soon a smoke was seen and their curiosity prompted them to ascertain the cause; but as they reached the shore they discovered, to their surprise, that it was a large canoe, and not the Skana, that was on the beach, and that a man was on shore cooking some food. He asked them why they threw stones at his canoe. "You have broken it," said he, "and now you go into the woods and get some cedar wythes and mend it." They did so, and when they had finished the man said, "Turn your backs to the water and cover your heads with your skin blankets, and don't you look till I call you." They did so, and heard the canoe grate on the beach as she was hauled down to the surf. Then the man said, "Now look." They looked and saw the canoe just going over the first breaker and the man sitting in the stern; but when she came to the second breaker she went under it and presently came up outside of the breakers as a killer and not a canoe, and the man, or demon, was in its belly. This allegory is common among all the tribes of the Northwest Coast, and even with the interior tribes, with whom the salmon takes the place of the orca, which never ascends the fresh water rivers. The Chilcat and other tribes of Alaska carve figures of salmon, inside

*In 1873 I commenced the study of the meaning of the tattoo marks, paintings and heraldic columns of the Haida Indians of the Queen Charlotte group, which was published in a memoir, No. 267, of the Smithsonian contributions to knowledge, January, 1874. The late Professor Joseph Henry remarks of this memoir that "it is a valuable contribution to our general knowledge of anthropology and archæology, while yielding besides a special contingent to the ethnology of the North American continent. Under the latter of these heads it raises some questions which seem of great significance, and which it is to be hoped will lead to further investigation."

CARVINGS OF HAIDA INDIANS

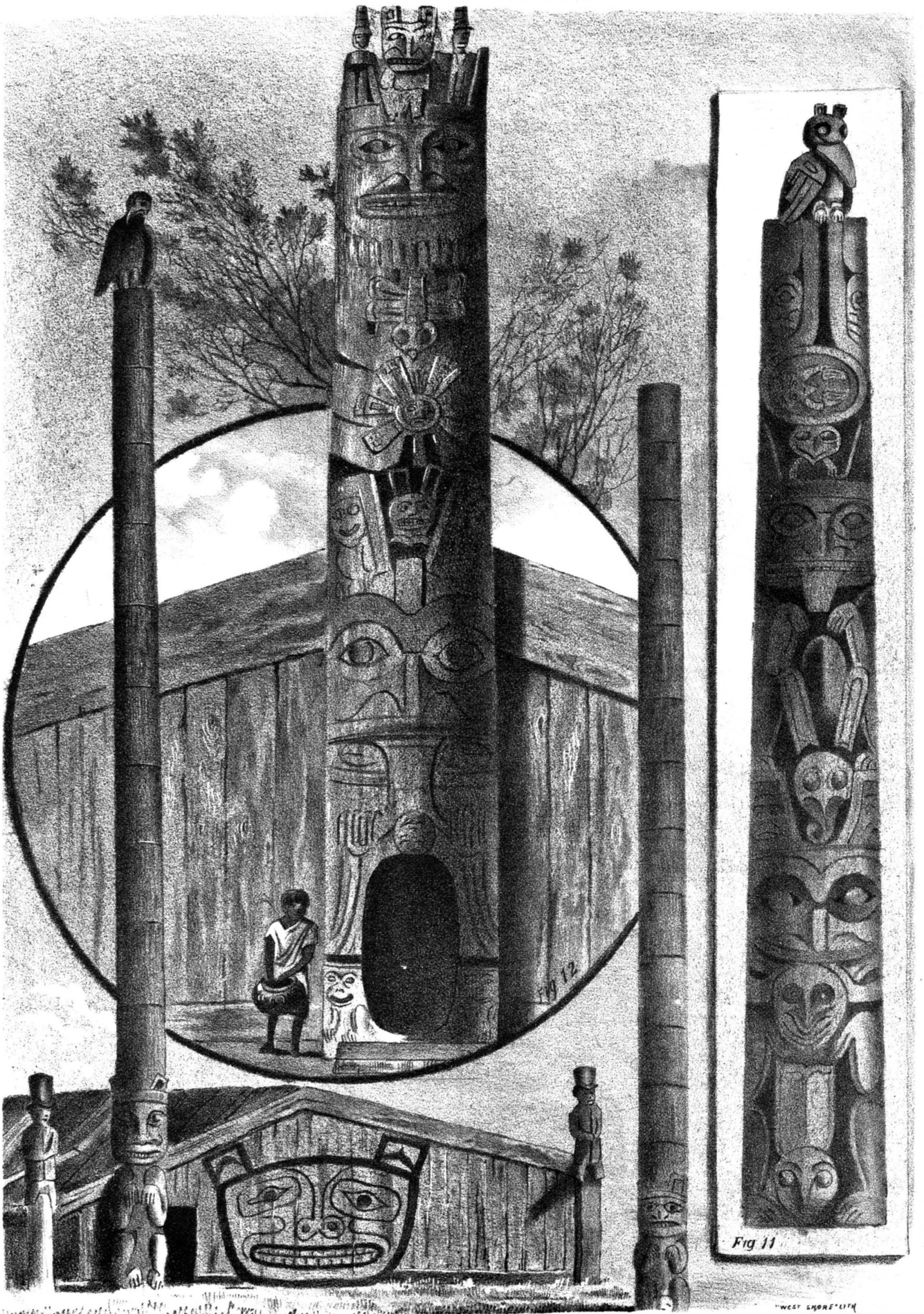


Fig 10
CARVINGS OF HAIDA INDIANS

of which is the full length figure of a nude Indian, which represents the Skana of the Haidas. Casual observers without inquiry, will at once pronounce it to be Jonah in the fish's belly, but the allegory is of ancient origin, far ante-dating the advent of the white man or the teachings of the missionary.

Figure 4 represents the raven and the fisherman. Hooyeh, the raven, had the mischievous propensity of descending into the ocean and investigating the fishing lines of Houskana, the fisherman, and stealing both bait and fish. At last Houskana, tired of this work, put on a magic hook to ascertain who his enemy was at the bottom of the sea. The raven was caught, and when the fisherman hauled in his line the raven resisted by pressing his feet and wings against the bottom of the fisherman's canoe. But Houskana was the strongest and pulled the raven's beak entirely off, and seizing the raven took him ashore to find out who he was, for as soon as his beak was pulled off he changed to a man, covering his head with his skin mantle so that nothing but his eyes could be seen. The fisherman tried in vain to make him uncover his face. At last one of the young men took a handful of filth and rubbed it in the raven's eyes. This made him throw off his mantle, and then they saw that it was the Hooyeh. This made the raven so angry that, in revenge for the indignity, the raven and his friends, the crows (Kaltzda), have ever since annoyed the Indians by soiling their canoes with their filthy droppings and eating all their fish.

Figure 5 is the "Man in the Moon." Koong, the moon, discovered Eethlinga, the man, about to dip his bucket in the brook for water, so it sent down its arms or rays and grabbed the man, who, to save himself, seized hold of a big salal bush (Gaultheria shallon), but the moon being more powerful took man and bucket and bush up to itself, where they have ever since lived and can be seen every full moon when the weather is clear. The man is a friend of T'kul, the spirit of the winds, and at the proper signal empties his bucket, causing rain upon the earth.

These five allegorical sketches were drawn in india ink by Johnny Kit Elswa, who explained to me their meaning as I have given it above.

Figure 6 shows a spoon, which is a very common household implement. It is made from the horn of the mountain goat—Aplocerus Montana—which is found in the mountainous regions of Alaska and British Columbia. Some of these spoons are elaborately carved and bring high prices from tourists to Victoria, and the same remark will apply to the silver bracelets, finger rings and ear ornaments made by the southern tribes. Even their food dishes are carved to resemble a totem or family coat of arms, and some of this work is beautifully executed.

Figure 7 is that of a peculiar rattle, and represents the raven, the tail being the handle. On the belly is carved the sparrowhawk; on the back is an Indian with a frog, and, generally, a bird's head. The Indian is a mythological personage, called by the Haidas "Ka-ka-hete." He was a demon who lived in the mountains and was once traveling in his canoe, when he was capsized and nearly drowned. He swam ashore and ran into the woods for shelter, and would occasionally descend to the village and steal children, which he took into the woods and ate. The frog is supposed to possess a subtle poison in its head, and when the medicine men wish to work bad spells they eat a frog's head. The carving represents Ka-ka-hete sucking the poison from the frog's tongue. The Ka-ka-hete afterwards turned into a land otter. This peculiar form of rattle is used in all the northern tribes, and the explanation given varies with the different localities, but has a general significance.

Figure 8 shows one of the numerous styles of carved wooden combs. These implements are quite fanciful, but are simply scratchers, illy adapted for the removal of dirt or vermin. In respect to combs the Indians who have come the most in contact with the whites have learned to appreciate the superior practical utility of the civilized product, and these native implements are only found in use among the older persons living in the more remote villages.

Figure 9 represents a halibut hook which is used by the northern tribes, and is a very clumsy affair when compared with hooks made by the Makahs of Cape Flattery. They are, however, very effective, and immense quantities of fish are annually taken with them and cured by the Indians for food. Fish constitute one of the most important articles of diet for all the coast tribes, and they take much interest in fishing; but as a general thing they prefer their ancient implements to the more modern styles of civilized nations.

Figure 10 is interesting as illustrative of the grim humor of an Indian in trying to be avenged for what he considered an act of injustice a number of years ago. Bear Skin, a somewhat noted Haida chief, belonging to Skidegate village, Queen Charlotte Islands, was in Victoria, when for some offense he was fined and imprisoned by Judge Pemberton, the police magistrate. Bear Skin felt very much insulted, and in order to get even with the magistrate he carved the two figures, which are said to be good likenesses of the Judge, who in this dual capacity mounts guard at each corner of the front of the chief's residence. The gigantic face on the front of the house and the two bears on the two mortuary columns seem to be grinning with fiendish delight, while the raven on top of one of the columns has cocked his eye so as to have a fair look at the effigies beneath him. Bear Skin is dead, but the images still remain. It has been suggested that they be removed to Victoria and be placed over the entrance to the police barracks, to keep watch and ward like Gog and Magog at the gates of entrance to old London city.

Figure 11 is a heraldic column and picturegraph which I sketched at Kioosta village on Graham Island, at Parry Passage, Queen Charlotte group. The totem at the top is the hooyeh or raven, sitting on a fissure on the top of the column. This represents the raven's uncle, Kaga, with whom he had a quarrel and lit down on top of his head with such force that he split it open. Under the

Kaga's head may be seen the keetkie, or young crow, in a medallion-shaped carving. Under this and seated between the ears of the bear is the kootkoonese, or owl. Then comes the large figure of the hoorts, or grizzly bear, holding between his hind paws the stlakumma, or butterfly. This surmounts the lower figure, which is another grizzly bear, having in his mouth a frog and between his hind legs the mamatonthlona, or dragon fly, the devil's darning needle. I could make out all the figures but the butterfly, which I thought at first was an elephant with its trunk coiled up, but on inquiry of old Edinso, the chief who was conveying me in his canoe from Massett to Skidegate, he told me it was a butterfly, and pointed one out which had just lit near by on a flower. I was curious to know the legend, which he related as follows: Ages ago the hooyeh, or raven, visited the north end of Graham's Island to look for good land, as the southern portion is mountainous and rocky. The butterfly, an immense creature, hovered over the raven's head and when he saw any good land he pointed to it with his long proboscis. "In fact," said Edinso, "the butterfly showed the raven round the country just as Johnny is showing you." The idea of being compared to a butterfly so amused Johnny that he told me if I would sketch the column he would carve one like it in stone when we would arrive at Skidegate, where the soft argillaceous slate stone is found which the Haidas carve with such consummate skill. This he subsequently did, and presented me with a stone model of the butterfly column to commemorate the event. This I have in my office in Port Townsend, and mention the incident as an evidence of Indian humor, and to show that the man talks and laughs like the rests of the human family.

Figure 12 is a column in front of a house at Skidegate village. The opening at the bottom is the door or entrance to the house. A boy was standing in the door at the time I made the sketch, and I drew him to show the comparative height. The lower figure of this column is the hoorts, or grizzly bear, with a hunter in his mouth whom he has just killed. On each ear of the bear may be seen the owl, and between the ears is the mouse. The figure above the mouse, which looks like the sun with branching rays, is the kelp bulb and the rays are kelp leaves. Above and including the kelp is the tchimose, a mythological animal, holding the dragon fly. The tchimose has on its head the totem of the chief, supported by two friends. The tchimose is a demon who floats in the salt water like a drift log, one end submerged and the other projecting above the surface. When the Indian approaches this supposed log it suddenly throws out its long arms, seizes the canoe, drowns the occupants and devours them leisurely in its home in a dark cave at the bottom of the sea. The origin of this fable was a common natural occurrence of a tree torn from some river bank by a freshet and borne by the torrent to the deep water or some sound or inlet, where it would drift about with its broken top above the water and its roots, heavy with earth or stones, submerged. A tree of this description is very common, and may often be seen drifting about, and when carried by the tide to some swift current or tide rips, the submerged part striking against the bottom would cause it to revolve and bring down its long branches with great energy upon the surface, and a canoe that might be in the way would surely get smashed, and the superstitious Indians, never at a loss to clothe every unusual occurrence with mysterious phenomena, would be sure to attribute the accident to supernatural agency. The mouse shown in the drawing is the judge by which the Haidas detect the persons who work bad magic and cause sickness or death. When a person is taken sick, or a sick person dies, three men are selected who prepare themselves by pulverizing a dried frog and mixing it with salt water, which is drank. This decoction produces vomiting and purging, and when their systems are thoroughly cleansed, their minds are supposed to be clear and better able to judge of the merits of the case about to be submitted to their decision. They next catch a wood mouse and put it in a little cage, which is set on a raised platform in front of the judges. The little mouse, sadly frightened, retires to one corner of his cage and eyes the judges with fear and trembling. They then commence naming over suspected persons, and presently the little mouse nods its head, and the name it nods to is that of the guilty person, who has to pay money or blankets to get clear. I saw an instance of this kind of trial at Massett, where an old blind man was charged with having worked bad spells to kill a chief in whose house the blind man lived, and but for the interposition of Mr. McKenzie, J. P., residing at Massett, the Indians would have handled the blind man pretty roughly. Subsequently my interpreter, Johnny, told me that all the Haidas believe in the trial by a mouse.

The dragon fly, or mamatonthlona, was sent by the hooyeh to kill the mosquitoes, which grew so big in ancient times that they would light on an Indian and suck out all his blood. The dragon fly got after the big mosquitoes and killed them all, and their successors, the present kind, are so reduced in size that they can only annoy the Indians by their songs and stings, but they cannot suck out enough blood to do any harm.

The hunter in the bear's mouth illustrates a legend which, in some of the carvings I have seen, is sometimes depicted by a bear erect with a hunter in his arms and tearing open the hunter's bosom with his powerful claws. The story is that the hunter, Toivats, on one occasion visited the house of the king of the bears, who was absent, but his wife being at home, Toivats made love to her. When the bear returned he found his home in confusion, and charged his wife with infidelity, which she denied. The bear pretended to be satisfied, but kept a secret watch on his wife, and soon observed that she went out regularly every day at a certain hour to get wood and water. One day he fastened a magic thread to her dress, and after she had gone out he followed up the clue and found her in the hunter's arms. This so enraged him that he seized the destroyer of his happiness and tore open his breast with his sharp claws.

There seems to be a great variety of stories which are

recorded by these picturegraphs. Some are grotesque, some disgusting and some instructive, but whether they are orally related around the lodge fire, in the family circle or depicted in their carvings or rude paintings, the *dramatis personæ* are true transcripts of Indian life; they never rise above it, or express a sentiment or opinion which is not true to Indian society, nor do they employ words which are not known to their vocabulary. It is in these legends that we obtain their true views of life and death, their religion, their theory of the state of the dead, their mythology, their cosmogony, their notions of astrology, and often of their biography and history, for the boundaries between history and fiction are vaguely defined. Some of the ancient legends of the Haidas are prophetic, and told by these ancient skagas, or medicine men, to the Indians, then dressed in robes of furs. They were told of the strangers with white faces who would come and buy their furs and give them in exchange other articles of clothing and other kinds of food to eat, and they were warned to treat the strangers well when they came, as they would bring with them many things new and strange which would be of great benefit if they would learn and adopt what was good of the white men's ways. Schoolcraft says in his "Myth of Hiawatha:" These stories are often told, in seasons of great severity in the depth of the winter, to an eagerly listening group, to while away the hour and divert attention from the pressing claims of hunger. Under such circumstances to dole away time, which has no value to him, and to cheat hunger and want, is esteemed a trait of philosophy. If there is a morsel to eat in the lodge it is given to the children. The women imitate this stoicism and devotion of the men. Not a tone of the narrative tells of dismay in their domestic circumstances, not an eye acknowledges the influence of grief. The dignity of this position is worthy of remembrance. The man, it may be, shall pass away from the earth, but these tributes to the best feelings of the heart will remain, while these simple tales and legendary creations constitute a new point of character by which he should be judged. They are at least calculated to modify our views of the man, who is not always a savage, not always a fiend.

The Haidas seem to be advanced in their works of art in carvings in wood and stone, in silver, gold, copper and iron, and their carvings in the soft argillaceous slate stone, which is found among the coal measures of Skidegate, and worked by them into various shapes, such as caskets, placques and miniature columns. Their bracelets, rings and ear ornaments of gold and silver, their copper shields and emblematic daggers, bows and arrows, and their iron daggers and war knives all richly carved, and their wooden and horn dishes, spoons, masks and toys are all eagerly sought after by tourists; and when properly explained and understood are of great value, for every carving has a meaning, and each illustrates a story or a legend, read and understood by the Indian as easily as the white man understands the printed book.

Marchand, a French navigator who visited Queen Charlotte Islands in 1791, says of them: "The taste for ornament prevails in all the works of their hands; their canoes, their chests and different little articles of furniture in use among them are covered with figures which might be taken for a species of hieroglyphics; fishes and other animals, heads of men, and various whimsical designs, are mingled and confounded in order to compose a subject. It undoubtedly will not be expected that these figures should be perfectly regular and the proportions in them exactly observed, for here every man is a painter and sculptor, yet they are not deficient in a sort of elegance and perfection." * This taste for the fine arts seems to owe its origin to some ancient state of society which is lost to us in the obscurity of antiquity. Marchand, who had recently seen the Mexican sculpture and paintings, was of the opinion that the Haida works of art could be distinctly traceable to Aztec origin, an opinion with which my own observation has induced me me to fully coincide.

The few illustrations I have given of the carvings and drawings of these interesting people may be of some future value in enabling the student and man of science to ascertain something of the truth concerning the origin of the Indians of the Northwest coast; and the Queen Charlotte Islands present a rich and hitherto but partially explored region, where the man of science may find much to add to our knowledge of the North American Indian, who in a comparatively brief period of time will wholly disappear as a distinctive race. JAMES G. SWAN.

AN EARLY WRITING PAPER.

MANY centuries before Christ, Numa left writings upon the papyrus, whence our name, paper, is derived. This plant, which was revered as sacred by the old Egyptians, grows abundantly in shallow streams and marshes in upper Egypt and Syria. Bruce found it growing in the River Jordan, and noticed a curious fact, that it always presented the sharp, angular side of its pear-shaped stem to the swift current. The stem is eight or ten feet high, two inches in diameter, and crowned with a fringe of hair-like leaves, which circle a blossom of slender spikelets. Beneath the brown sheath which envelops the root-stalk of this dark-green plant lie other sheaths which are very transparent. These, when split into thin leaves and dried in the sun, were glued together, and formed the roll of papyrus on which many of the ancient writings have come down to us. This paper was both flexible and durable. Specimens from Pompeii can be seen in the museum at Naples. In the fifth century papyrus paper, of which many varieties existed, was largely manufactured at Alexandria, and ranked high in the commerce of nations. Its use continued until about seven or eight centuries ago.—*St. Nicholas.*

A SQUAW refused to marry a Canadian Indian, and he took her scalp—a lock of her hair, as it were. She then married him, and it wasn't long before he hadn't hair enough for a scalp lock.

* Marchand's Voyages, vol. II. p. 232.

A WORD FOR THE MECHANICS' FAIR.

THE sixth annual exhibition of the Mechanics' Fair will be held in this city in October, commencing on the 9th and closing on the 25th. The President of the association is Mr. J. B. Congle, one of Portland's oldest and most respected business men, and the Superintendent Mr. E. W. Allen, whose services in that capacity rendered the fair of last year so successful. The association was wise in again selecting a gentleman who has demonstrated his peculiar fitness for the position. The value of these annual exhibitions of the products and industries of the country, not only to this city, but the whole Northwest, is not sufficiently realized. It is not the desire of the association to confine the exhibit to Portland, but to embrace all the varied industries and resources of both Oregon and Washington Territory; and they earnestly urge the people of every section to make a display of the products, manufacturing industries and resources of the region in which they reside. The benefit to be derived from this is great. Thousands examine the display, among whom are great numbers of strangers, who do so for the purpose of gaining information. The apathy displayed by those who should give earnest support to this institution was commented upon in our review of the exhibit last year, and we cannot do better than to quote the language then used:

> There are a number of features that could be considerably improved upon, and would be if more general interest were displayed by the business men. In particular the display of manufactures could be made more interesting and beneficial. Instead of such an endless array of completed articles, much of them imported, there should be shown, as completely as the limited space will permit, the process of making the article from the raw material. In one or two instances this is done, as in the pottery exhibit and the rope-making display, and the crowds that surround those places are but an indication of how much more attractive to the visitor and beneficial to the exhibitor is such a showing. Then there is the omission of some of our most important industries. Our great lumbering business is practically unrepresented; the immense canning industry of Astoria is conspicuous by its absence. No one would imagine from a visit to the pavilion that this is a State rich in minerals, and that thousands are engaged in wresting from the bowels of the earth their hidden treasures of gold, silver, coal and iron. There is a display of elegant furniture; but how is one to know that it is not imported, and that the Oregon wood can be and is daily being made up into as elegant furniture as one can wish for? What is there to impress upon the stranger the idea that we manufacture a score of articles that are displayed simply in their completed form or not exhibited at all? We certainly hope to see an improvement in this respect another year.

It was only by the use of all the persuasive powers he possessed that the few manufacturing exhibits of last year were secured by the Superintendent. Mr. Allen is now vigorously canvassing the field, with a determination to make as complete a display of those manufactures and products hitherto unrepresented as it is possible to secure, and if he is half as successful as he deserves to be, the fair this year will be of far greater interest to the people, and of infinitely more value to the exhibitors, than any of its predecessors. His office is at No. 6 Washington street, where he will be pleased to meet the people and give all information desired. He invites correspondence from those without the city who desire to make a display, and earnestly urges the live business men of every county or manufacturing community of Oregon and Washington to appoint a committee to see that the industries and resources in which they are interested are properly represented. In this way the country can reap the full benefit of the exhibition.

NOTES OF THE NORTHWEST.

A new sawmill is being erected near Columbia Center, Garfield County, W. T.

Gas works are being constructed at Tacoma. There will be four retorts, with a capacity of 100,000 feet.

The copper mine on Guemes Island, Puget Sound, will soon be reopened and operated. The old shaft is down 400 feet. Numerous veins have been found assaying 25 per cent. copper, $5 gold and $10 silver per ton.

A large silver mill, with power for 100 tons of ore daily, will be immediately erected in the Ten Mile District, eighteen miles from Helena, Montana. The mill will be operated in connection with the Caplice and Tatham mines.

Wheat fields, covering an area of two by six miles, were burned July 25, near Waitsburg, W. T. The loss, $100,000, falls heavily upon the farmers, who have been counting upon the large crop to place the balance on the right side of their account.

The Depot and La Grande Street Railway Company has been incorporated, with a capital stock of $25,000, for the purpose of constructing a street railway from the business portion of La Grande, Union County, Or., to the depot of the O. R. & N. Co.'s Baker City branch, located on the outskirts of the town.

Mr. G. Davies, the enterprising book dealer of Seattle, W. T., has just returned to that city from the East, where he purchased a large stock of goods. He is now fitting up an elegant store in the Opera House Block. Seattle will soon boast of possessing the handsomest and most complete book and stationery store in the Northwest.

The lime manufacturers of San Juan Island have wisely concluded that the true interests of that growing industry require a cessation of strife and a united action in business matters. To this end they have constituted the Tacoma Lime Company of this city their sole agents, from whom only any desired brand of San Juan lime can be procured.

A number of gentlemen owning 7,000 acres of land at the Three Forks of the Missouri, in Gallatin County, Montana, and two cattle ranges in the vicinity, have laid out a town called "Missouri Forks." Besides the valuable agricultural and grazing land surrounding the new town, there is a mining district within four miles, which contains many promising ledges.

Cumberland coal is sold in Kittitas County, W. T., at $80 per ton. A vein of good coal was opened on Teanaway River recently, and as its product can be laid down in Ellensburg for $50 and in Yakima for $60, it will probably drive out the more expensive article. That is certainly a high price to pay for coal, but such are the disadvantages of being several hundred miles from a railroad.

A new town has been laid out in Whitman County, W. T., on Willow Creek, and on the line of the Palouse

branch of the Northern Pacific. The town site is eighteen miles from Texas Ferry, and so situated as to command the trade of Lower Union Flat, Upper Willow Creek, Alkali Flat and the country south and west to Snake River. In harmony with its prairie surroundings it has been christened "Pampa."

The firm of L. F. Dearborn & Co., who are large owners of real estate in Seattle, W. T., where they may be addressed, have been instrumental in securing the investment of a large amount of capital in the Northwest. They possess the confidence of moneyed men in New England, especially in Massachusetts, for whom many investments have been made. Parties desiring to purchase real estate are advised to correspond with them.

Colonel Wilson, who has located several irrigating ditches in the vicinity of Yakima, W. T., has located a large ditch in Kittitas County. It is proposed to take water from the Swauk or Cle-el-um in quantity sufficient to irrigate the whole of that large body of excellent land lying in the northern and eastern portions of Kittitas Valley. Every ditch built by capital opens thousands of acres to the occupation of settlers, and, in return, each settlement made adds to the revenue derived from the ditch.

The Southern Oregon Improvement Company has begun work on an extensive scale at Empire City, the Coos Bay terminus of their road. Four pile drivers are being used at one time in driving 4,000 piles to form a foundation for docks, warehouses and a large sawmill. The mill will have a daily capacity of 120,000 feet of lumber, and will be 72x400 feet and two stories high. The company is making preparations for extensive operations in Coos County, and will materially aid in developing the timber and coal resources of that region.

The movement of cattle from Texas and the East to the ranges of Montana is even greater this year than it was last season, when more than 30,000 head were thus added to the herds of that Territory. A few weeks ago a single drive of 6,500 passed through Miles City on their way from Texas to the North Yellowstone. They had been taken by rail as far as Cheyenne, and then driven the remainder of the distance, only 500 miles, and were in prime condition. Much fear is expressed that the ranges will become overstocked, and that new cattle will suffer in the winter, having a limited range, and not being as skillful as the native stock in "rustling" for bunch grass in the snow. This seems, however, confined chiefly to the old stockmen, who do not desire to be crowded by new-comers.

The city of Blaine has been laid out on Semiahmoo Bay, adjoining the boundary line of British Columbia. This is another candidate presented by Whatcom County for the position of metropolis of Puget Sound, and has been laid out on a scale commensurate with its aspirations for future greatness, the platted area covering a tract of 2,000 acres, or three square miles. It is announced that a syndicate of capitalists has been organized to construct a railroad from that point to a connection with the Northern Pacific in Eastern Washington, following up the valley of the Nooksack, crossing the Cascades north of Mount Baker, and following down the Wenatchie and across the Big Bend country to the Northern Pacific. This route traverses a magnificent timber, mineral and agricultural region, and furnishes a much needed outlet to a country of great resources now rapidly settling up. It will be far more interesting to hear of work actually commenced than to be regaled with a rehearsal of great things projected by an indefinite syndicate.

It is stated by Engineer Phillips (late of the Northern Pacific Railroad) that no fewer than 20,000 elk, antelope and mule deer are slaughtered every winter in Minnesota, Montana and Wyoming alone. There is every prospect that three of the noblest game animals on the American continent will soon be extinct. Elk, which formerly ranged from the Middle States to the Pacific, are now never found east of the Missouri River. Twenty-five years ago they were plentiful in Nebraska and Kansas, but civilization has driven them into the dense and uninhabited regions of Minnesota and the northern Territories. The hide hunters effect the most sweeping destruction. The average price of an elk skin is $3. The hide hunters use repeating rifles, and frequently kill from six to twelve elk in a herd before they get out of range. Mr. Phillips affirms that besides the slaughter of the animals named, in the year 1882 more than 25,000 buffaloes were killed for the traders between the Yellowstone and the headwaters of the Little Missouri.—*Ex.*

The freight war in the Black Hills has finally been terminated in favor of the shippers, who have found relief through the Northern Pacific. Formerly all goods for that region were taken to Pierre by the Northwestern and Milwaukee roads, and forwarded from that point by wagons controlled by a combination. By monopoly of the only route open freight was forced up to four cents per pound from Chicago to Deadwood, and as the annual traffic amounted to 40,000,000 pounds, the total freight charges were simply enormous. The merchants organized the Black Hills Shippers' Association and looked for another outlet. This has been found in the Northern Pacific and Chicago, Rock Island & Pacific, the latter reaching St. Paul from Chicago over the Albert Lea route. The Northern Pacific Forwarding Company was organized, which established a through rate of $2.75 per hundred from Chicago to Deadwood. The reduction was met by the old combination, and this producing no effect a cut to $2.25 was made. Even this tempting bait found no biters, the association being determined to adhere to the new route under all circumstances as the only permanent guarantee of reasonable freight charges. There has been a lively war in progress between the towns of Dickinson, Medora and Belfield to secure the trans-shipping business, which has finally been settled in favor of Belfield. The distance from the successful town to Deadwood is 178 miles. It lies just east of the Bad Lands (Pyramid Park), ninety miles from Glendive and 130 miles west of Mandan.

TEXAS VS. OREGON.

A LETTER recently published in a Texas paper drew out a statistical reply in the Eugene City *Guard*, written by Mr. George Belshaw, one of the most prominent and successful agriculturists of the State, from which a few comparisons are selected: "The first place he says the land is poor and so are the people. Oregon is not a corn country; but I see in the statistical report for last year that our corn crop averaged 23.9 bushels per acre, while Texas averaged only 19.8 bushels. The average for Oregon wheat per acre was 16.7 bushels; Texas, 8.5; Oregon wheat production, 13,122,400 bushels; Texas, 4,301,000. Of oats Oregon's average was 24.6; Texas, 22.8. So you see that Oregon leads her in wheat 8 bushels per acre, and produces over three times as many bushels. Barley, Oregon, 27.4 per acre; Texas, 18.8. Potatoes, Oregon, 110.6 bushels per acre; Texas, 60.9. Hay, Oregon, per acre, 1.39 tons; Texas, 1.15 tons. Now about the great Willamette Valley not making more than five good farms in Texas. I am at a loss to know what he calls good farms, but suppose he means size in place of good soil and well cultivated ones, so I will take size as his meaning. The trouble is, nearly all the farms are too large, my own being 1,280 acres, and my neighbors' on three sides averaging as large, and there are thousands of such farms in the great Willamette Valley, and larger. It would be much better for the country if they were made smaller. Cash value of farm products per acre in 1882: Oregon, corn, $19.12; Texas, $11.19; wheat, Oregon, $14.19; Texas, $8.92; rye, Oregon, $14.85; Texas, $11.68, and so on. Value of farm animals: Oregon horses, average price per head over three years old, $80; Texas, $42; Oregon mules, $91; Texas, $66; Oregon milk cows, $31; Texas, $22; the average difference in price being the same with sheep, hogs and other stock. Now about this bacon being shipped from the East. I am aware that some have tried the experiment and have shipped small amounts, but they have generally suffered a loss by so doing. Now about our exports, as the writer intimates that we ship nothing abroad. In 1882 the Columbia River exports amounted to $15,560,930, including a large amount of bacon. I could name all the articles separately, but they are too numerous. I will now show the difference in value of all farm products sold, exported, consumed or on hand by each agriculturist, value per capita, made annually: Oregon, $485.52, while Texas is only $181.47, cash value. Average value per acre of farms, Oregon, $13.50; Texas, $4.70. How the health of Oregon compares with that of Texas: From an official report of the Surgeon-General of the United States Army the deaths at the military posts in Oregon are 1 to a population of 529; frontier of Texas, 1 to 67. What the State debt of Texas is I am not informed, therefore I will not mention any estimate; at any rate, the State debt of Oregon is small. At the Centennial Oregon received more premiums from her agricultural productions than any other State, and at the two world fairs, held at Philadelphia and Paris, received a gold medal and diploma for the best wheat of all nations. This wheat was all from the great Willamette Valley of which the gentleman speaks so disrespectfully. Difference in weight of 100 grains of wheat weighed at Washington at the Department of Agriculture: Oregon's heaviest 100 grains, 5.745 grammes; lightest, 4.253; Texas' heaviest, 4.740; lightest, 2.409. The Willamette Valley soil and climate is adapted to raising all varieties of white wheat, while Texas only grows three, having to be satisfied with the red-bearded low grade varieties."

ERRATA.—In the list of officers of Oregon Pacific Railroad Company, on page 232, read T. Edgenton Hogg for T. Edgerton Hogg, and Norman S. Bentley for Norman S. Beatty.

CHRONOLOGY OF EVENTS.

July.

1—Egyptian rebels defeated, with loss of 2,000, by the Mudir of Dongala.... W C. Squires, of Seattle, appointed Governor of Washington Territory.... Allan Pinkerton, the great detective, died in Chicago.
2—Fitz John Porter relief bill vetoed by the President.
3—Revere rubber factory, Chelsea. Mass., burned; loss, $400,000.
4—Bartholdi's statue of "Liberty Enlightening the World" presented to the United States, through Minister Morton, at Paris.
6—Accident on Atlantic and Pacific road, near Needles, Cal.; conductor killed and 6 wounded.
7—Forty-eighth Congress adjourned....Steamer *Sarnia* ashore on Rattelein Island, Ireland; passengers and crew saved.
10—Two fires in Portland, Or.; loss, $22,000.
11—Grover Cleveland and Thomas A. Hendricks nominated for President and Vice-President by the Democratic National Convention at Chicago.
15—$45,000 fire in Billings, Montana.
16—Railroad accident near Penniston, England; 25 killed and 40 wounded.
17—Rescue of Lieutenant A. W. Greely and four companions in Smith Sound by Commander W. S. Schley, of the ship *Thetis*.
21—Belknap, Montana, nearly destroyed by fire.
22—Death of Jane Gray Swisshelm.
23—Collision in Atlantic between Spanish steamer *Gitian* and English steamer *Laxham*; both sank; 150 people missing.
24—Death of Rear-Admiral George F. Emmons, at Princeton, N. J....John P. St. John nominated for the Presidency by Prohibition Convention at Pittsburg.
25—Thirty-two frame buildings burned at Tacoma, W. T.; loss, $40,000.
27—Forty buildings burned at Devil's Lake, Dakota; loss, $200,000.
28—Train fell through a bridge at Bloomfield, Ind.; 1 killed and several injured.
29—Propeller *J. M. Osborne* sank in Lake Superior; 8 persons drowned.

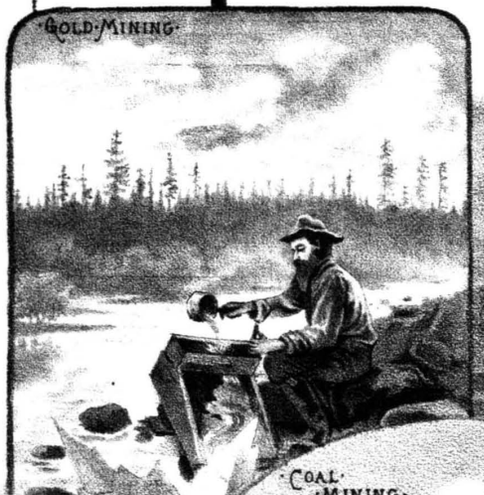
Scenery of the Pacific Northwest.

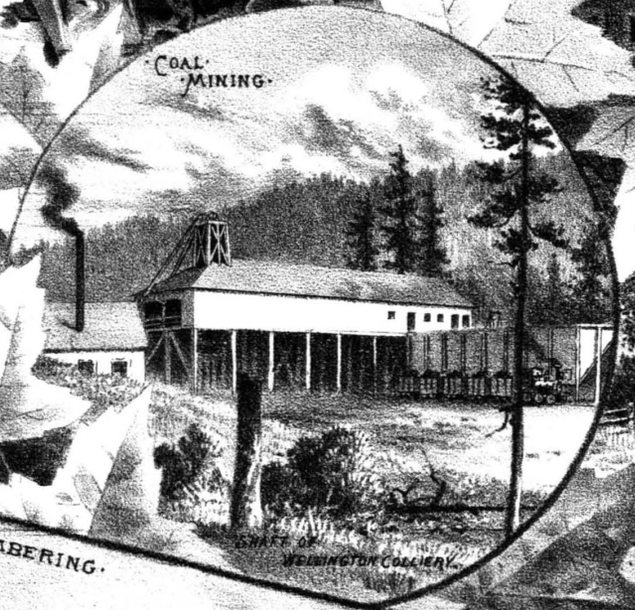
The desire to possess artistic pictures of the scenery of the Pacific Northwest is a feeling shared in common by the residents of this region and the thousands of tourists who annually travel great distances to behold it. To make a satisfactory collection of photographs is almost impossible, and is only accomplished at an expense far greater than the majority of people are willing or able to undergo. To meet this urgent want a "Souvenir Album of the Pacific Northwest" has been issued, containing 35 art photographs of the most prominent and representative scenes of Oregon, Washington, California, Idaho and Montana. Among them are excellent pictures of Pyramid Park, Lake Cœur d'Alene, Mount Hood, Multnomah Falls, Yellowstone Park, etc. The album is neatly bound in cloth, embossed with gold, and makes a neat ornament for the center table. The price, 75 cents, only represents the cost of three ordinary photographs, and brings this collection of 35 beautiful scenes within the means of all. Sent postage paid upon the receipt of 75 cents. L. Samuel, Publisher, Portland, Oregon.—*East Oregonian*.

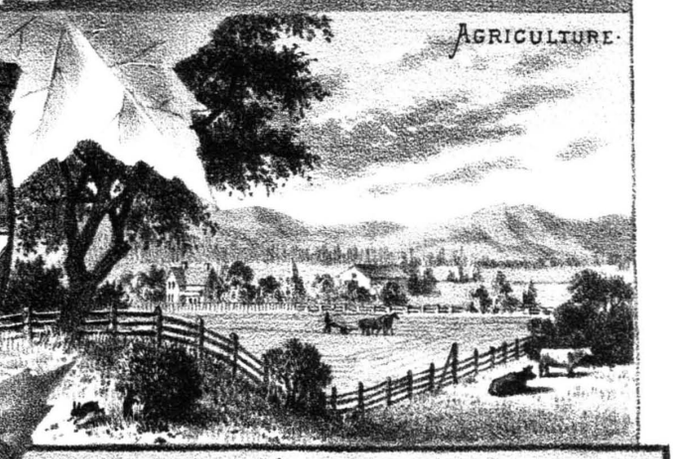
There is a general desire among people acquainted with the enterprises in progress about Yaquina Bay to invest in property at that favorite resort and future great commercial port. Those desiring to learn more of that region are referred to the description and illustrations on another page of this number. Some of the best property about the bay now in private hands is owned by Mr. J. W. Brassfield, an old and respected business man of the Willamette Valley. He has for sale forty acres not more than 1,800 feet above the O. P. R. R. Co.'s terminal wharf; thirty-five acres near the custom house, about 800 feet from the water line; sixty-three acres within three-fourths of a mile of the custom house, and adjoining the town of Alexandria on the east; also some valuable lots in Buford's addition to Alexandria. Mr. Brassfield is owner of the famous Seal Rocks, lying at the end of the drive on South Beach, which is destined to become the favorite resort for pleasure-seekers in the Northwest. Any of this property can be purchased at reasonable rates. His terms and any further information desired can be had by addressing him at Newport, Benton County, Or.

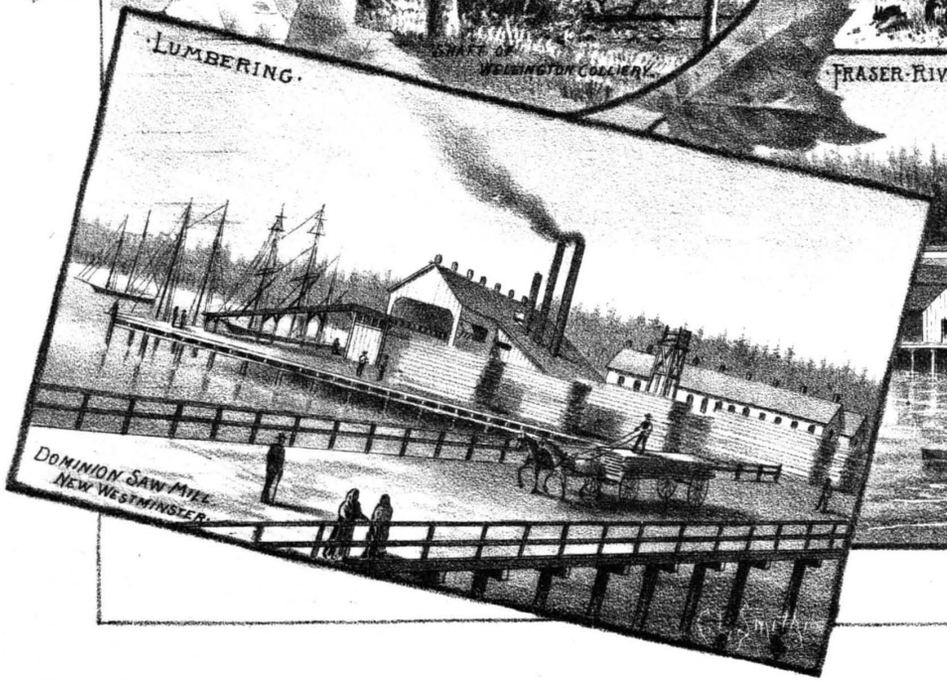
Real estate transactions in Tacoma do not seem to be seriously affected by the hard times prevailing throughout this region in common with the whole Union. On the contrary, there seems to be a disposition to take money from hazardous enterprises and invest it in real estate, where it cannot take to itself wings, but must rest quietly and safely until it has largely increased in amount. Tacoma offers such investments to those who desire to thus place money, either in large or small sums. Bargains of all kinds, suitable to the means of all, can be secured by dealing with Messrs. Traver & Colburn, leading real estate agents of that city. These gentlemen are thoroughly acquainted with the character and value of property of all descriptions, and their advice in the matter of investments is extremely valuable and reliable. Letters of inquiry will meet with full and prompt response, and their office is always open to those seeking information. They make a specialty of attending to the business of non-residents, who can rely upon a careful and judicious investment of all moneys placed in their hands.

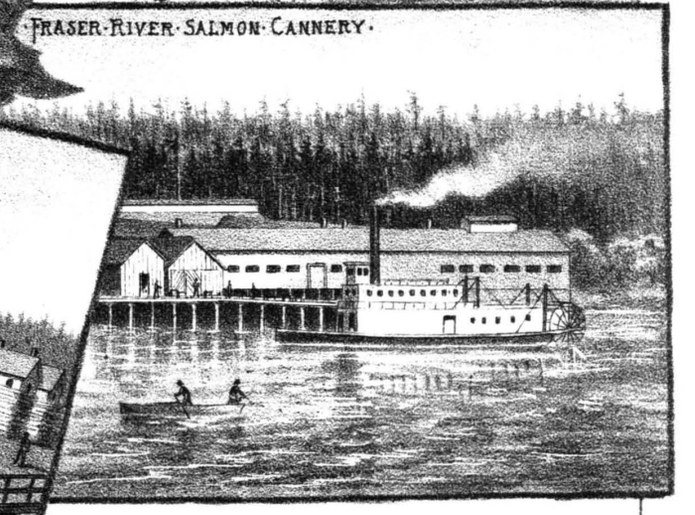
BRITISH COLUMBIA











WEST SHORE - LITH

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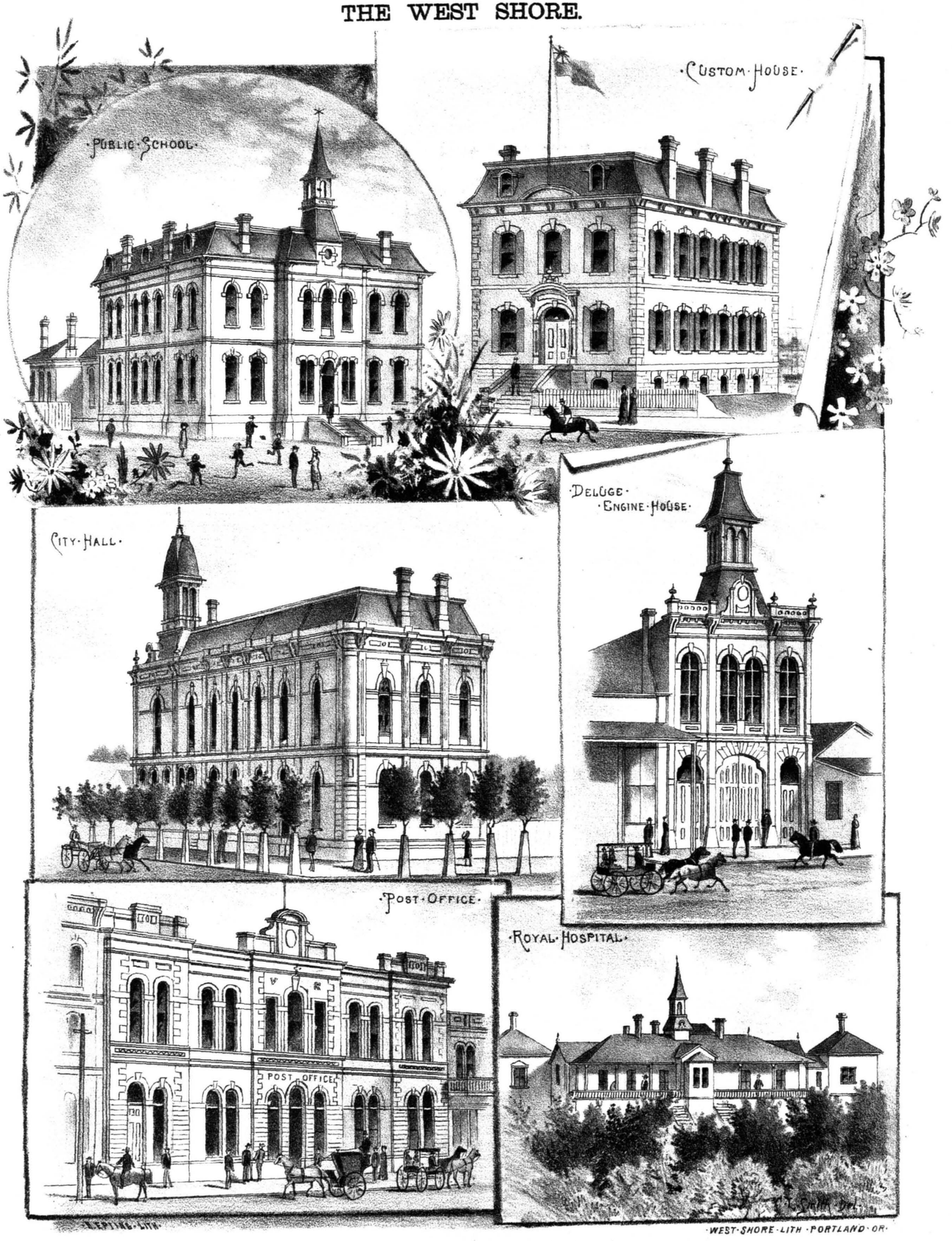

VICTORIA. B.C.