THE WEST SHORE.

Vol. 10. Portland, Oregon, March, 1884. No. 3.

ESTABLISHED 1875.

THE WEST SHORE,

An Illustrated Journal of General Information, devoted to the development of the Great West.

Subscription price, per annum.....$2 00
To foreign countries, including postage..... 2 25
Single copies..... 25

Subscription can be forwarded by registered letter or postal order at our risk. Postmasters and News Agents will receive subscriptions at above rates.

General Traveling Agents—Craigie Sharp, Jr., and George Sharp.

L. SAMUEL, Publisher, 122 Front St., cor. Washington, Portland, Or.

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To MEN contemplating a removal to this region, expecting to depend upon some form of unskilled manual labor for a livelihood, we have but two words of advice to offer: "Don't come." Completion of railroad lines has left us a surplus of that character of labor. Farmers desiring to secure homes, persons with small or large capital, intending to engage in some mercantile pursuit or industry, mechanics, especially those whose trades are in the line of building, and skilled labor in any of the branches of industry which are developing here, will find this country an inviting field; but unskilled labor is not desired. Professional men and those seeking genteel employment must make up their minds to encounter much competition in securing business or situations.

THE artesian well at Miles City, Montana, has been extended a distance of 100 feet further, with the result of securing a strong flow of pure, soft water. The wells at Billings and Helena have not been so fortunate, but there is no reason to doubt their ultimate success. The value of artesian wells to Montana cannot be overestimated, whether for watering stock, for irrigation or for the water supply of the growing towns and cities; and as soon as it is practically demonstrated that they can be successfully bored in a region as extensive as that embracing Miles City, Billings and Helena, many will, no doubt, be undertaken. The Montana papers urge upon Congress the passage of a bill giving title to 160 acres to any settler upon Government land requiring irrigation to make it valuable, who will sink an artesian well. A flowing well, while it might not be sufficient to irrigate a quarter section, would furnish water sufficient for all the stock that could graze upon a township. By this means much land now comparatively worthless could be rendered suitable for agriculture or much increased in value for grazing purposes. Large expanses of land are valueless for cattle ranges, because of their remoteness from water courses, which would otherwise afford grazing for thousands of cattle. The workings of the Timber Culture act have been found to be impractical, and a repeal of the act has been advised by the agents who have investigated them; but there seems to be no practical objection to an artesian well act of a somewhat similar nature. There will be this essential difference: Timber culture filings are invariably made upon land already valuable for agricultural purposes, the more so that it is devoid of timber; and in this way many thousand acres of the most fertile prairie land have been "gobbled." The construction of an artesian well, however, on land otherwise valueless, adds just that much to the cultivable area of the country and consequently to its wealth and resources. Nor is there in this proposition any smattering of the "Desert Land Act," by means of which vast tracts of Government land have been acquired by speculators and capitalists; for the act would limit each individual to 160 acres. Even in case capitalists should acquire title to large tracts through the dishonest means now used to secure extensive bodies of land under the pre-emption and timber land laws, the actual construction of a flowing artesian well upon each quarter section would be necessary to secure title. Some legislation of this character by Congress would no only be of great assistance to Montana, but to certain portions of nearly every Western State and Territory.

NOTICE TO CONTRIBUTORS.

The publisher of THE WEST SHORE invites contributions upon subjects of general interest or essays upon special topics affecting the welfare of the Great West, also short stories, descriptive sketches, etc., particularly those relating to the region to whose development the magazine is devoted. All manuscript should be addressed: "Publisher of THE WEST SHORE, Portland, Oregon," should give the full name and address of the sender, and state the value placed upon it. If accepted, the price will be at once remitted without waiting until the article is published, since the publisher reserves the right to use manuscript purchased at any time. Notice will be sent within a reasonable time of the acceptance or rejection of contributions, and manuscript not accepted will be returned upon receipt of postage for that purpose.

ORIGIN OF "CALIFORNIA" AND "OREGON."

ABOUT the source from which sprung the names of the two great States bordering on the Pacific Ocean there clings an odor of mystery that renders a study of the subject peculiarly interesting. In either case all that is positively known is the work in which it first appeared in print, but beyond that all is mystery; and this perplexing uncertainty has given rise to many theories, ingenious and otherwise, in regard to which it may be said that while each possesses an element of possibility, more proofs can be brought forward to disprove them than to bolster them up.

The word "California" was first printed in a romance issued in Seville in 1510, and entitled "The Sergas of Esplandian, the Son of Amadis of Gaul." This was three years prior to the discovery of the Pacific by Balboa, and at a time when it was the universal belief that the great continent which Columbus had discovered, and the Cabots, Cortereal and others had partially explored, was the Indies, or at least a great southeast and hitherto unknown extension of the continent of Asia, about which geographers then knew so little. Here, perhaps, would be found the magnificent Cathay of Marco Polo and the wonderful island of Cipango. Imagination peopled it with nations of strange civilizations, filled it with precious metals and jewels in profusion, gave to it the fabulous Fountain of Youth, and invested it with every desirable feature that could be conceived necessary to make of it an earthly realization of Heaven, even to giving into its keeping the Terrestrial Paradise from which the great progenitors of mankind had been driven in disgrace. These ideas were seized upon by the author of the romance and embodied in the "Sergas," and the result was that his work became immensely popular, and was universally read in Spain for many years afterwards. In this wonderful book occurs the following passage:

> Know that on the right hand of the Indies there is an island called California, very near to the Terrestrial Paradise, which was peopled by black women, without any men among them, because they were accustomed to live after the manner of the Amazons. They were strong and hardened of bodies, of ardent courage and of great force. The island was the strongest in the world, from its steep rocks and great cliffs. Their arms were all of gold, and so were the caparisons of the wild beasts they rode.

Fourteen years later we find the victorious Cortez writing from Mexico to his sovereign, the great Charles V. of Spain, that he is about to undertake the conquest of Colima, on the South Sea, as the Pacific was then called, and that he had information of "an island of Amazons, or women only, abounding in pearls and gold, lying ten days' journey from Colima." Ten years later a vessel dispatched by Cortez landed its mutinous crew on the peninsula of Lower California, twenty of whom were murdered by the natives, including Ximines, their leader. The remainder escaped and returned to Mexico. The next year Cortez himself landed where Ximines had been slain, and named the port Santa Cruz, though upon the country as a whole, which was supposed to be an island, no title seems to have been bestowed. Here Cortez planted a colony, which endured many hardships, and was finally compelled to abandon the inhospitable region. Writing of this a few years later the historian Gomara said: "Cortez, that he might no longer be a spectator of such miseries, went on further discoveries, and landed in California, which is a bay." Here we find the first specific application of the title, evidently to some port on the peninsula visited by the great Conquisitador; and gradually this name became associated with the entire country claimed by Spain northwest of Mexico, as well as the gulf lying between them. Still later, when more was known of the coast, that portion lying east of the great Colorado, and north of the mouth of the Gila River, was designated as Alta California; and that is the land which the United States conquered from Mexico in 1846, which was invaded by a vast army of gold hunters in 1849, and which in 1850 was admitted into the great sisterhood of States under the name of California.

Many efforts have been made to trace the etymology of the word, and some historians have advocated theories far more ingenious than plausible. One of them advances it as his opinion that the word is derived from the Latin *calix fornax*, which being translated into English becomes "a hot furnace," and that it was manufactured to order by the priests who first planted the Cross of Christ upon the burning sands of Lower California. That the title is peculiarly appropriate, any one who has traversed the wild wastes of sage brush and cactus beneath the scorching rays of a noonday sun will freely admit, but beyond this it can have no support, since the name appeared in the old romance in its entirety nearly two centuries before the Jesuits invaded the peninsula. There is also an unpleasant air of pedantry attached to it, which is of itself a sufficient reason for discarding it; names are seldom manufactured in such a cold-blooded classical manner. Another thinks that *Calida fornalla* may be considered the original words from which the title was evolved; but this, besides being like the other several centuries too late, seems to depend simply upon the euphony of sound, and resembles too closely the idea of the Irish immigrant, who supposed that Oregon was named in honor of his great ancestors, the O'Regans. It has generally come to be admitted that the word has no etymology, and that it emanated solely from the brain of the romancer of Seville.

Though a word of more modern manufacture, fully as much mystery surrounds the origin of "Oregon" as we have found to attend the birth of "California." The theory most generally accepted is thus set forth by Bishop Blanchet in a letter recently published in the *Oregonian:*

> Jonathan Carver, an Eng ish captain in the wars by which Canada came into the possession of Great Britain, after the peace, left Boston June 6, 1766, crossed the continent to the Pacific, and returned October, 1768. In relation to his travels, which were published in 1774, and republished in 1778, he is the first who makes use of the word "Oregon." The origin of that word has never been discovered in the country. The first Catholic missionaries—Father Demers, now Bishop of Vancouver Island, and Father Blanchet, now Bishop of Oregon City—arrived in Oregon in 1838. They traveled through it for many years, from south to north, from west to east, visiting and teaching the numerous tribes of Orego , Washington Territory and British possessions. But in all their various excursions among the Indians they never succeeded in finding the origin of the word "Oregon." Now it appears that what could not be found in Oregon has been discovered by Archbishop Blanchet in Bolivia, when he visited that country, Chile and Peru in 1855 and 1857. The word "Oregon," in his opinion, most undoubtedly has its root in the Spanish word *oreja* (ear), and came from the qualifying word *orejon* (big ear). For it is probable that the Spaniards, who

first discovered and visited the country, when they saw the Indians with big ears, enlarged by the load of ornaments, were naturally inclined to call them *orejon* (big ears). That nickname, first given to the Indians, became also the name of the country. This explains how Captain Carver got it and first made use of it. But the travelers, perhaps Carver himself, not knowing the Spanish language nor the peculiar pronunciation of the j in Spanish, for facility sake would have written it and pronounced it *Oregon*, instead of *Orejon*, in changing j to g. Such, in all probability, must be the origin of the word "Oregon." It comes from the Spanish word *Orejon*.

This is certainly a scientific explanation, and were it only sustained by facts would be a satisfactory one; it will not, however, stand for a moment the light of investigation. At the time Carver wrote his book no Spanish explorer had set foot in Oregon nor had the least communication with its native inhabitants; they were not even familiar enough with the coast line to be aware of the existence of the Columbia River. Consequently they had not and could not apply the title *Orejon* to its inhabitants—people whom they had never seen and of whom they knew nothing. No allusion is made to the natives of this unknown land in the record of any Spanish explorer previous to that date, and the bishop's supposition that they "discovered and visited this country," shows how unfamiliar he was with the history of Spanish explorations on the Pacific Coast. His assertion that Carver crossed the continent to the Pacific is equally at variance with the facts, for the worthy captain, though he claimed to have traveled much farther than historians are willing to admit, never even hinted at having made so extensive a journey. The two great foundation stones upon which the bishop's theory rests having thus crumbled to dust, the whole superstructure falls to the ground, and the natives of Oregon are thus relieved of those enormous ears which must have been so burdensome to them. The facts bearing upon this subject are so scattered and cover so much ground that it is impossible to fully state them all in the compass of an article of this nature, but the most important ones may be briefly given as follows:

In 1603 a Spanish explorer, Martin de Aguilar, coasted as far north as latitude 43 degrees, where, says Torquemada, "the land formed a cape or point, which was named Cape Blanco. From that point the coast begins to turn to the northwest, and near it was discovered a rapid and abundant river, with ash trees, willows, brambles and other trees of Castile on its banks, which they endeavored to enter, but could not from the force of the current." The vessel then returned to Acapulco; and this embraces all the Spaniards knew of Oregon until subsequent to Carver's journey, though it was customary for them to mark upon their charts a great river in the vicinity of the forty-third parallel, some of them uniting it with the Colorado and transforming California into an island.

Prior to the conquest of Canada by the English, La Hontan, Marquette, Charlevoix, Hennepin, La Salle and other French explorers traversed the country about the headwaters of the Mississippi, some of them even penetrating westward nearly to the upper Missouri. In the narrations of many of these French explorers a belief is asserted in the existence of a large stream flowing westward from the vicinity of the headwaters of the Missouri into the Pacific, founded upon information given by the natives; and upon many maps of the eighteenth century, published before Carver's journey was made, such a stream was indicated, bearing variously the names "River of the West," "River Thegayo," "Rio de los Reyes" (Admiral Fonte's mythical stream), and "River of Aguilar." The first definite account of the River of the West was given by a Yazoo Indian to Dupratz, a French traveler, many years before Carver's journey. The Indian asserted that he had ascended the Missouri northwesterly to its source, and that beyond this he encountered another great river flowing towards the setting sun, down which he passed until his progress was arrested by hostilities existing between tribes residing along the stream. He participated in the war, and in a battle his party captured a woman of a tribe living further west, from whom he learned that the river entered a great water where ships had been seen sailing, and in them were men with beards and white faces. In view of the fact that no ships had then visited that portion of the Oregon coast, it is safe to consider the latter part of the account as simply an embellishment by the Indian or Dupratz. Several maps published fifteen years prior to Carver's expedition had indicated upon them the River of the West.

Captain Carver left Boston in 1766, and traveling by the way of Detroit and Fort Michilimacinac, reached the headwaters of the Mississippi. The object of his journey, as stated in his account, was "to ascertain the breadth of the vast continent which extends from the Atlantic to the Pacific Ocean, in its broadest part, between the forty-third and forty-sixth degrees of north latitude. *Had I been able to accomplish this*, I intended to have proposed to the Government to establish a post in some of those parts, about the Straits of Anian, which, having been discovered by Sir Francis Drake, of course belongs to the English. This, I am convinced, would greatly facilitate the discovery of a northwest passage, or communication between Hudson's Bay and the Pacific Ocean." His idea that the Straits of Anian, or any other passage inland from the Pacific, had been discovered by Drake, was an exceedingly erroneous one.

Just how far west Carver penetrated is uncertain, and his claim of a residence of five months in that region is a doubtful one, since the accounts of the manners and customs of the natives given in his narrative (published in London twenty-five years later, at the suggestion of a number of gentlemen who hoped the proceeds of its sale would be sufficient to relieve the author's necessities,) are but translations into English of the writings of the French explorers before alluded to. To him must be credited, however, the first use of the word "Oregon," which seems to be about the only original thing in his book. He says: "From the natives, together with my own observations, I have learned that the four most capital rivers on the continent of North America—viz., the St. Lawrence, the Mississippi, the River Bourbon (Red River of the North) and the Oregon, or River of the West—have their sources in the same neighborhood.

The waters of the three former are within thirty miles of each other; the latter, however, is rather further west."

It will be observed that Carver lays no claim to having visited even the headwaters of the Oregon, or River of the West, and the probability is that all he knew of it was gathered from the same works of the French explorers which supplied the other leading features of his book, though, possibly, like them, he may have heard such a stream spoken of by the Indians. All that is new in Carver's account is the word "Oregon," and of that he fails to give any idea of its meaning or origin. Many theories have been advanced, plausible when given but a superficial examination, but none of them able to endure investigation, and the probabilities are that the word is one of Carver's own invention, or adopted by him from some expression he may have heard the Indians use in speaking of the river. The fact that he stands sponsor for the name of this great region is all that entitles Carver and his plagiarisms to the considerations of the historians of Oregon.

This name was applied indifferently with that of "River of the West" to the supposed great stream until after Gray discovered the mouth of the river in 1792, when it shared the honor for years with the title "Columbia," which was then bestowed by the Yankee captain. Gradually the latter name superseded the former, while Oregon was extended to embrace that vast region through which the river flowed, the possession of which was so long a bone of contention between Great Britain and the United States.

The word "Oregon" was unknown to the Indians until after the country was visited by trappers, and the bishop himself bears testimony to the fact that in all their extensive travels among the natives he and his missionary associates were unable to find authority for its use. Thus we see that the Spaniards had not visited Oregon, and knowing nothing of its inhabitants could not have called them "big ears"; that the word was unknown by the Indians, and therefore could not have been conveyed by them from tribe to tribe until it reached Carver's ears; therefore the bishop's theory is untenable.

Equally so is the idea that Oregon was the Indian name of the Columbia, since if such was the case the early settlers of this region would have learned the name from the natives, instead of having to teach it to them. The same objections are valid to the theory that the early Spanish explorers bestowed the name because of the wild majoram (origanum) found along the coast, since we have seen that the Spaniards had never set foot on the coast of Oregon, and that the name nowhere appears in Spanish records. We are compelled to fall back upon Carver and ascribe the origin of the word "Oregon" to the fertile imagination of that adventurous Yankee.

HARRY L. WELLS.

ELDER SISTER: "Oh, you fancy yourself very wise, I dare say, my dear, but I could give you a wrinkle or two." Younger sister: "No doubt—and never miss them."

NORTHERN IDAHO.

NORTHERN IDAHO offers an inviting field for industrious people of every class—the farmer, miner, manufacturer, stockman and merchant. Its resources are varied, abundant and inexhaustible, of which the mineral wealth of the Cœur d'Alene Mountains is by no means the greatest. It has navigable rivers and lakes, broad prairies, fertile meadows and bottom lands, boundless forests of timber, rich placers, ledges of gold and silver quartz, mica and granite. Nez Perce, the most important county in Northern Idaho, is the second in the Territory in population and property valuation. In it are the two regions rapidly becoming famous for the greatness of their agricultural capabilities—the upper Palouse region and the Potlatch country, both of which offer homes to immigrants.

Two Indian reservations are located in Northern Idaho, and, as is generally the case, embrace within their limits much of the most desirable agricultural land in the Territory, thus serving to greatly retard its development. The Nez Perce Reservation, lying along the Clearwater, above Lewiston, contains nearly three-quarters of a million acres of land, of which two-thirds are susceptible of cultivation. In a mountainous region like Idaho such a vast tract of arable land withheld from settlement is relatively of far greater importance than it would be in a country whose proportion of agricultural land is greater. It is a great incubus on the prosperity of that fertile region. The Cœur d'Alene Reservation, lying about the beautiful lake of that name, is somewhat smaller in area, yet it incloses a large tract of farming and meadow lands, a portion of which is cultivated by the Indians. It may be said that nearly all the arable land lying immediately contiguous to the new mining region is covered by the reservation, and in case large mining camps spring up, of which there seems every probability, the value of this tract for agricultural purposes will be wonderfully magnified. That it should be held in comparative idleness is a shame.

Those who have lived longest in Northern Idaho, and are the best acquainted with its diversified resources, are the most enthusiastic concerning the brightness of its future prospects. The great drawback to its development has hitherto been its isolation from the great routes of travel; but this is now partially remedied, and will be entirely removed ere long. The Northern Pacific now traverses the Pan Handle in its northern portion, while a branch of that line touches it on the west. The extension of the Oregon Short Line down Snake River is confidently expected in the near future, and the construction of a road across the Bitter Root Mountains, by way of the Clearwater, can be looked upon as a certainty, since a practicable route has been surveyed by which the line of the Northern Pacific could be shortened at least 200 miles. The future has great things in store for Northern Idaho.

"BOOTS and gloves that fit and a pretty handkerchief," answered a French woman, when challenged to name three essentials of an elegant costume.

LITERARY NOTES.

The Mandan *Pioneer* is one of the leading dailies of Dakota. In a recent issue its enterprise showed itself in a number of fine illustrations of Mandan, with long descriptive articles of that progressive city and its surroundings. Such a paper deserves well of the community in which it is published.

The *Workman*, "a family journal of Christian activity," published at Pittsburgh, Pennsylvania, and edited by W. A. Passavant, D. D., has just entered its fourth year. This is one of the most complete, entertaining and instructive sectarian journals in the United States and is specially devoted to the Lutheran denomination. The subscription price is but $1.25 per year.

The March *Century* is one of unusual interest, both in its engravings and the character of the contributed articles. The two papers of most general interest are "The Next Presidency," by Wayne MacVeagh, and "Count Von Moltke," by Miss Helen Zimmermann. Aside from these the magazine is filled with essays, fiction, poems and entertaining descriptions.

In *St. Nicholas* for March, that charming writer for the young folks, Louisa M. Alcott, has the third of her "Spinning Wheel Stories," entitled, "Eli's Education." Captain Mayne Reid's serial, "The Land of Fire," increases in interest. There is also an abundance of other stories, sketches, verses, etc., to please the young. The engravings are superb. In every respect *St. Nicholas* is the most interesting juvenile magazine published.

Arthur's Home Magazine is one of the best publications that enter the family circle. It is exactly what its name indicates, a "home magazine," and should be found by every fireside in America. It is from the homes into which healthful magazine literature is admitted, to the exclusion of all that is trashy and immoral, that spring the men and women upon whom we must depend to sustain and perpetuate our national institutions in their original purity.

A crisp and sparkling literary weekly, the *San Franciscan*, has made its appearance at San Francisco, and has met with a cordial reception throughout the Pacific Coast. The publishers are Joseph T. Goodwin, Arthur McEwen and Thomas Flynn, who express a determination to make the paper meet their idea of what an independent literary journal should be. The contents and general appearance of the first number indicate that their mental ideal is a good one.

The Portland *Sunday Welcome* has entered its eleventh year in a most prosperous condition. It is a spicy weekly, well conducted, and enjoys a widespread popularity. The publisher of THE WEST SHORE is especially pleased to notice the *Welcome's* prosperity, because of the fact that he was one of the three originators of the paper. From the time of its founding it has been a journal of much influence in Portland, and especially under the able management of its present proprietors has it become recognized as the leading weekly of Oregon.

NOTES OF THE NORTHWEST.

Professor J. E. Clayton, President of the Salt Lake Mining Institute, in a prospectus of that institution, places the mineral product of Utah since 1870 at the grand total of $71,502,772. Of this $2,150,000 were gold, $45,790,272 silver, $23,220,000 lead, and $300,000 copper. This is an average of $5,500,000 per year, but Professor Clayton, than whom no man is better informed on the subject, states that there are mines enough in Utah to produce $20,000,000 annually. To accomplish this result requires a large investment of capital.

Julietta is a new town situated at the forks of Big and Little Potlatch creeks, in Nez Perce county, Idaho. There are now on the town site a saw mill, hotel, saloon, store and several residences. Machinery for a grist mill will soon arrive. The Potlatch country, one of the most fertile and inviting in Idaho, has been described in THE WEST SHORE. There are many miles of excellent prairie land open to settlement, and numerous locations will no doubt be made the coming season. The prospects for Julietta to become a triving town are good.

The Wallowa Valley, the former home of Chief Joseph and his band of Nez Perces, is one of the most fertile and delightful sections of Oregon, and lies in Union county between the Blue Mountains and Snake River. The three towns which are springing up in the valley, Joseph, Lostine and Alder, doubled their population in 1883, the first named doing even better besides erecting a good flouring mill. Joseph is also to have a planing mill and grist mill the coming summer. Wallowa Valley is attracting many immigrants, and the most desirable land is being rapidly taken up.

The iron mines of Puget Sound are being developed by a stock company with ample capital, and their successful working indicates equal success with other beds of iron ore throughout Oregon and Washington. The ore in Chimacum Valley, Jefferson county, were tested in the spring of 1879, and the test proving satisfactory, the Puget Sound Iron Company was organized, which was incorporated in March, 1880, with a capital stock of $500,000. The company selected a spot near the mouth of Chimacum Creek as the site for their furnace and reduction works, naming the place Irondale. The works, although conducted largely in an experimental way, owing to the ore being somewhat different from any worked elsewhere, produced pig iron of a high grade of excellence. A mine of hard, magnetic ore at Texada, B. C., was leased and bonded, and ore has been transported thence to mix with the brown hematite, or bog ore, of Chimacum. The ore from Texada is taken by vessel to Irondale, where the company has on hand some 2,000 tons, as well as 300,000 bushels of charcoal. The site of the works is beautiful, well watered and inviting. Harbor facilities are the very best, and ocean steamers of the deepest draught easily take on cargoes at the company's wharf extending out from the furnace. Irondale is becoming quite a busy community and a town of considerable size.

The new town springing up on Draton Harbor, the port adjacent to Boundary Bay, on Puget Sound, is called Concord.

A sawmill with a capacity of 20,000 feet per day of ten hours has recently been built at Harrisburg, Oregon, by Smith & Owens.

During the month of February five vessels sailed from Puget Sound to foreign ports with cargoes of lumber, aggregating 893,000 feet of dressed and 2,734,000 feet of rough lumber, 600,000 laths and 88,500 shingles, valued at $51,533.

A new town has been laid out on White River, a few miles south of Seattle and on the Puget Sound Shore Line, which has been christened "Yesler," in honor of the energetic capitalist of Seattle. This is the locality formerly known as Kent, or Titusville.

Messrs. A. McCally & Son are constructing a new flouring mill at Walla Walla, on the site of the one destroyed by fire last fall. It will contain four sets of buhrs and several gradual reduction rollers, thus combining the old with the new process. The mill will be ready to begin work by the first of September.

Seattle is to have a number of imposing structures added to the substantial buildings now adorning its streets. A large three story brick block, which will cost about $200,000, has already been commenced by H. L. Yesler, and the Odd Fellows of the city have incorporated for the purpose of erecting an temple to cost $75,000.

Application has been made to Congress by the business men of Spokane Falls for a charter for the Spokane Falls & Cœur d'Alene Railroad Company, to construct a line from that city into the new mining region of Northern Idaho. The projected road will be about seventy miles in length. The citizens of Spokane Falls are alive to the needs of their city.

The magnificent steamer *Olympian* has reached Tacoma and will at once take her place on the daily fast line between the Terminal City and Victoria. She was built for this purpose by the O. R. & N. Co., costing $285,000. Her companion, the *Alaskan*, will soon arrive, and then Puget Sound travel will for the first time enjoy ample and first class facilities.

The enterprising manager of the New York Jewelry Company, No. 107 First street, has imported several handsome watches which mark time by the twenty-four hour system. They were made by the Rockford Watch Company, of Rockford, Ill., manufacturers of the celebrated Rockford railroad watches. The watches are very handsome, and are the first of the kind brought to Portland.

Springfield, in Lane county, though still a small place, does more manufacturing than some of the larger towns of the Willamette. It has a saw and grist mill, a sash and door factory, a wooden bowl factory, and has in contemplation the erection of woolen mills the coming summer. The water power is second only to that of Oregon City. It is but a few miles from Eugene City, the county seat of Lane and chief business center of the upper Willamette Valley.

Coquille River is one of the most important of Oregon's coast streams. It is navigable a distance of forty-five miles for small steamers, and with some comparatively inexpensive improvements at its mouth could be entered by large ocean vessels. There is much fine agricultural land along the stream, some of which is already in a high state of cultivation, while the supply of cedar and other desirable timber is very great.

Phœnix has become the southern terminus of the Oregon & California road, and shipments of the products of Rogue River Valley are now being made from that point, as well as from Medford and other new stations in the valley. The road is having an extremely invigorating influence in that hitherto isolated region; nor are the benefits to accrue solely to the valley, for our markets will now be supplied with the luscious fruits of that region, and our merchants will enjoy an increased trade with the valley and tributary country.

The following remarks by the *Astorian* apply as well to Portland and other points reached by San Francisco steamers as it does to the bustling city at the mouth of the Columbia: "Next summer (as last) what Astoria has for dinner depends greatly on what time the San Francisco steamer gets in. Vegetables and fruit come to us as though we lived on an island in the Pacific. For poorer produce than is possible for ourselves to furnish we pay fancy prices; the grocers don't make anything; it goes to San Francisco middlemen; it goes for freight. We send away hundreds of thousands of dollars every year just that way, and then when the season is over, and we get up on our high stools at the desk and look over the ledger, we wonder how is it that we haven't got a little balance to our credit in the bank."

The Bellingham Bay and British Columbia Railroad Company has applied to Congress for a charter, and will in all probability be granted the right of way across all government land along the proposed route. President Canfield, with his energy of character and knowledge of the law, is just the man to manage an enterprise of this character. It remains to be seen, in view of the fact that such a road would draw an indefinite amount of the Canadian Pacific's business to the American side of the line, whether the Legislature of British Columbia or the Canadian Parliament will permit it to proceed beyond the international line. If it is extended southward to a connection with the Northern Pacific at Seattle, as is the intention of its projectors, it will be of great benefit to the Whatcom country. The town of Bellingham was laid out less than a year ago, and with Whatcom, Sehome and Fairhaven, which lie almost side by side, will some day form a city of considerable size. A sawmill of large capacity has just been completed, and the old wharf is being extended to deeper water. About fifty houses have been erected, and this number will no doubt be doubled the present year, since the railroad project is attracting much attention towards the bay.

LINKVILLE, OREGON.

THE old adage runs, "Out of sight, out of mind," and I fear it is exemplified in our case, since in the most excellent columns of THE WEST SHORE I learn all about other sections of the Northwest, while of our region they say but little. The Klamath country is a very important part of Oregon, and we are proud of it and our thriving village of Linkville, nestling among the foothills of the grand Cascades and overlooking the beautiful Lake Klamath. The lake abounds in both salmon and trout, a source of pleasure and profit to our citizens, and especially to Poor Lo, who takes them out in the spring by the wagon load, and piles them up like cordwood to dry in the sun for his winter's food.

Our ears are constantly saluted by the roar of the falls of Link River, whose beauty is not surpassed by many of more pretentious size and extended reputation, and though not a St. Anthony, it possesses a wealth of power that will yet draw to us valuable manufactories. This foaming river which edges our town as yet contributes to industry only the power required by one sawmill, which is owned by Judge Moore, and has furnished the lumber of which Linkville and improvements in the surrounding country were built. We are in possession of a new county seat, and we think we can almost see the smoke of the coming train. Like Josiah Allen's wife, it makes us long to put our "shoulder blades to the wheel," with the same energy our neighbors have done, and try to roll the iron horse clear up to our doors.

Connected by Link River, on which our town stands, are two beautiful lakes, known as the Upper and Lower Klamath. A small steamer plies on the former, running between Linkville and Fort Klamath, the military post at the north end of the lake and an adjunct of the Klamath Indian Reservation. Lower Klamath Lake is devoted entirely to pleasure, though it and its tributaries offer great inducements for fish canneries in the great numbers of their finny inhabitants. Within the limits of the town are several hot springs, whose waters are strongly impregnated with mineral, and near by are quite considerable areas of "hot earth," whose curative qualities are wonderful. To this fact hundreds of sufferers from rheumatism, skin diseases and many other afflictions that are the heritage of the flesh, will testify. Those seeking to test this question permit themselves to be nearly buried beneath the earth, and lie for a time clasped in its warm embrace. They all declare themselves much benefited, while many are entirely cured. This valuable property, on which it is hoped a sanitarium will be built, is owned by Major Brooks.

We have many advantages to offer those who are seeking for homes. Our atmosphere is dry and clear. We have broad, fertile fields and "cattle on a thousand hills." Vast tracts of land, hitherto too dry for farming purposes, are being opened to cultivation by irrigating ditches. We have immense beds of chalk and lime and an abundance of timber. In the line of historical curiosities we have in sight the famous Lava Beds, once the stronghold of the dreaded Modocs, but which no longer echo the war whoop of the savages nor the bugle call of the soldier.

If in these few lines I have so excited the curiosity of any of your readers as to prompt him to pay us a visit, I would assure him that the journey hither is by no means as arduous as formerly. The traveler is carried by rail from Portland to Ashland, whence a stage ride of only sixty miles, through as beautiful scenery as can be found in the Western mountains, brings him to the plains and beautiful valley of "sage brush." S. M. B.

SUN RIVER, MONTANA.

THE Sun River country, in Montana, is working its way quite prominently to the front and attracting considerable deserved attention. Sun River is one of the chief tributaries of the Upper Missouri, uniting with that stream in the vicinity of the Great Falls. It forms the boundary line between Lewis and Clarke county and Choteau. Along the stream are extensive stretches of bottom lands already settled upon and bought under cultivation. The higher benches lying back from the river are fertile and excellently adapted to the production of grain when artificially watered. Four great irrigating canals have been surveyed and are under contract for excavating. The largest, a Helena enterprise, will be 140 miles in length and twenty feet in width. It is the design of its projectors to also use the canal as a means of transporting lumber and cordwood from the mountains to the settlements in the valley. It will head in the North Fork of Sun River, and follow the general course of the stream, at a distance of four miles, to its union with the Missouri. The estimated cost of constructing this canal is $250,000, and $300,000 for the other three, which are the enterprises of Eastern men.

The town of Sun River lies in Lewis and Clarke county and is enjoying quite a "boom." The *Sun*, a weekly newspaper, was recently established there, and is much above the average in appearance and character of its contents. The vast expanse of bunch grass hills on either side of the stream is covered with large bands of cattle, this place being the center of that industry along Sun River. A movement is on foot to have a new county created, embracing the Sun River portion of Choteau county and Lewis and Clarke county, and the Smith River portion of Meagher county. The last named stream enters the Missouri almost opposite Sun River, and has considerable agricultural and stock interests. The new county would embrace extensive coal and mineral deposits. It would also possess the great series of rapids, cascades and tremendous falls that follow each other in rapid succession along the Missouri for ten miles, and which will inevitably become the seat of large manufacturing enterprises before many years.

HE thought he had married a spirituelle young creature, with esthetic tastes. The first Sunday morning she ate three platefuls of baked beans and two sections of brown bread. He says it was the most enthusiastic esthetic taste he ever met since he saw the lions in the circus fed.

A LARGE NOSE.

AND so, my fair correspondent, you have an unduly prominent nose, and wish to lessen the size of that feature, if possible? I am afraid the evil is beyond human remedy. Expriments with spring clothes-pins and compressors result only in confusion. While an exaggerated mouth may be modified, and an expansive ear concealed, the nose must be left to itself, naked to the eye of criticism and the teeth of the north wind. But take comfort. A prominent nose is not so unlovely a thing on the face of a lady, and Langtry bangs and a plenty of fluffy lace around the neck will materially aid in casting the unduly prominent feature into shade. The pages of history and the records of royal houses are full of deeds of brave men and triumphs of fair women whose noses were as uncompromising as your own. Cæsar, Charlemagne and Napoleon, Semiramis, Queen Elizabeth and Catherine of Russia, all rejoiced in an over-generous nasal prominence. Why should their physical anti-types of lesser fame and broader culture regret the mark of distinction which Nature has placed ineradicably upon their faces? If fashion is at odds with such a feature, then the wise woman will compel fashion to yield to it, and will avoid the straight-haired, straight-collared order of attire which renders her nose too conspicuous. She is bound in justice to herself to do this. The fashionable rage for novely has much to answer for with regard to the desecration of "the human form divine." It has alternately bleached and blackened the hair, and given to deadly poisons a permanent place on the toilet table. It has squeezed the feet, twisted the ankles and prescribed a gait that is half twaddle and all wobble. But so long as no question is made of introducing the board of the Flatheads and the foot bandages of China, it may be assumed that the nose, whether bulbous, beakish, tip-tilted or "sharp as a pen," will be permitted to remain untouched. If you preserve an easy temper, eat wholesome food and exercise properly, your nose need never cause you a moment of worry. Whatever its shape it will be exactly suited to your other features, and your face will present a perfect harmony of outline. Left to itself, and not vitiated by bad blood or a diseased mind, this nose, that nose, or any other nose, will be precisely as it should be. Unvexed Nature never makes a mistake in these matters.

IT is well to answer children's troublesome little questions, even if they do try the patience a little. Children hunger after new things and new ideas. They will learn with pleasure facts of history or of science from the lips of parents or teachers, which would seem like drudgery if learned by rote from books, and they take great delight in listening to the conversation of intelligent people. Many a man owes his success in life to the conversations he has listened to in his father's home, when his parents had not the least idea he was old enough to take any interest in what interested them; but his young mind was drinking in draughts of wisdom which were of incalculable benefit of him.

BE SOMEBODY.

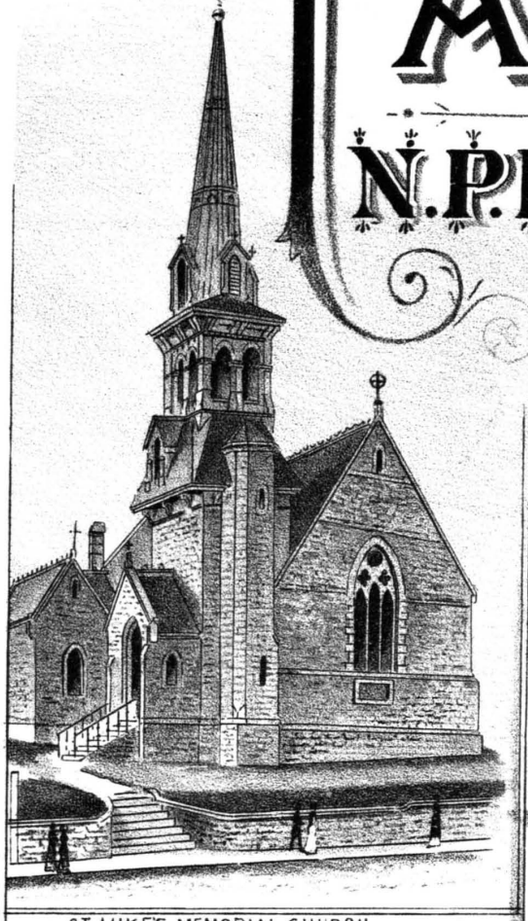
THE following is from one of R. J. Burdette's lectures: "Be somebody on your own account, my son, and don't try to get along on the reputation of your ancestors. Nobody knows and nobody cares who Adam's grandfather was, and there is not a man living who can tell the name of Brigham Young's mother-in-law." The lecturer urged upon his hearers the necessity of keeping up with the every day procession and not pulling back in the harness. Hard work never was known to kill men; it was the fun that men had in the intervals that killed them. The fact was most people had yet to learn what fun really was. A man might go to Europe and spend a million dollars, and then recall the fact that he had a great deal more fun at a picnic twenty years ago that cost him just sixty-five cents. The theory that the world owed every man a living was false. The world owed a man nothing. There was a living in the world for every man, however, provided the man was willing to work for it. If he did not work for it somebody else would earn it, and the lazy man would "get left." There were greater opportunities for workers out West than in the Eastern cities, but men who went out West to grow up with the country must do their own growing. There is no browsing allowed in the vigorous West. An energetic man might go out into the far West, and in two or three years possess himself of a bigger house, a bigger yard, a bigger barn and a bigger mortgage than he could obtain by ten years' work in the East. All young men ought to marry, and no young man should envy old men or rich men. In conclusion, Mr. Burdette said that a man should do well whatever he was given to do and not despise drudgery.

BEEF JUICE VS. BEEF TEA.

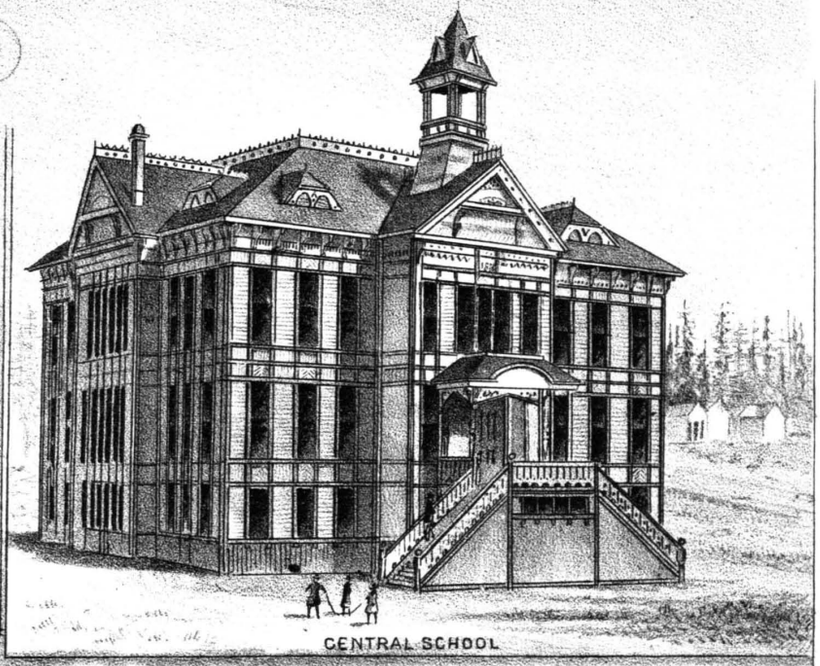
PROF. ROBERTS BARTHOLOW, of the Jefferson Medical College, says: "Nothing has been more conclusively shown than that beef tea is not a food. It is nothing more than a stimulant. The chemical composition of beef tea closely resembles that of urine, and it is more an excrementitious substance than a food. In preparing beef juice the lean part of the beef should be selected. This should be cut into thick pieces about the size of a lemon squeezer. The piece should be next placed upon a hot coal fire for a moment, to scorch the exterior; the meat is then transferred to the lemon squeezer, which has been warmed by dipping in hot water, and the juice pressed out and allowed to flow into the glass, which has also been heated. The juice is seasoned with a little salt and Cayenne pepper, if the patient desires it, and taken immediately. In this way the nutritious elements of the meat are obtainee, and the slight scorching develops constituents which give the peculiar flavor to cooked meat." This is for a diet, the principle of which is the administration of those elements which are disposed of in the stomach, and do not require the aid of the intestines in their digestion.

MORE than $100,000 were spent in new buildings and improvements in Missoula the past year.

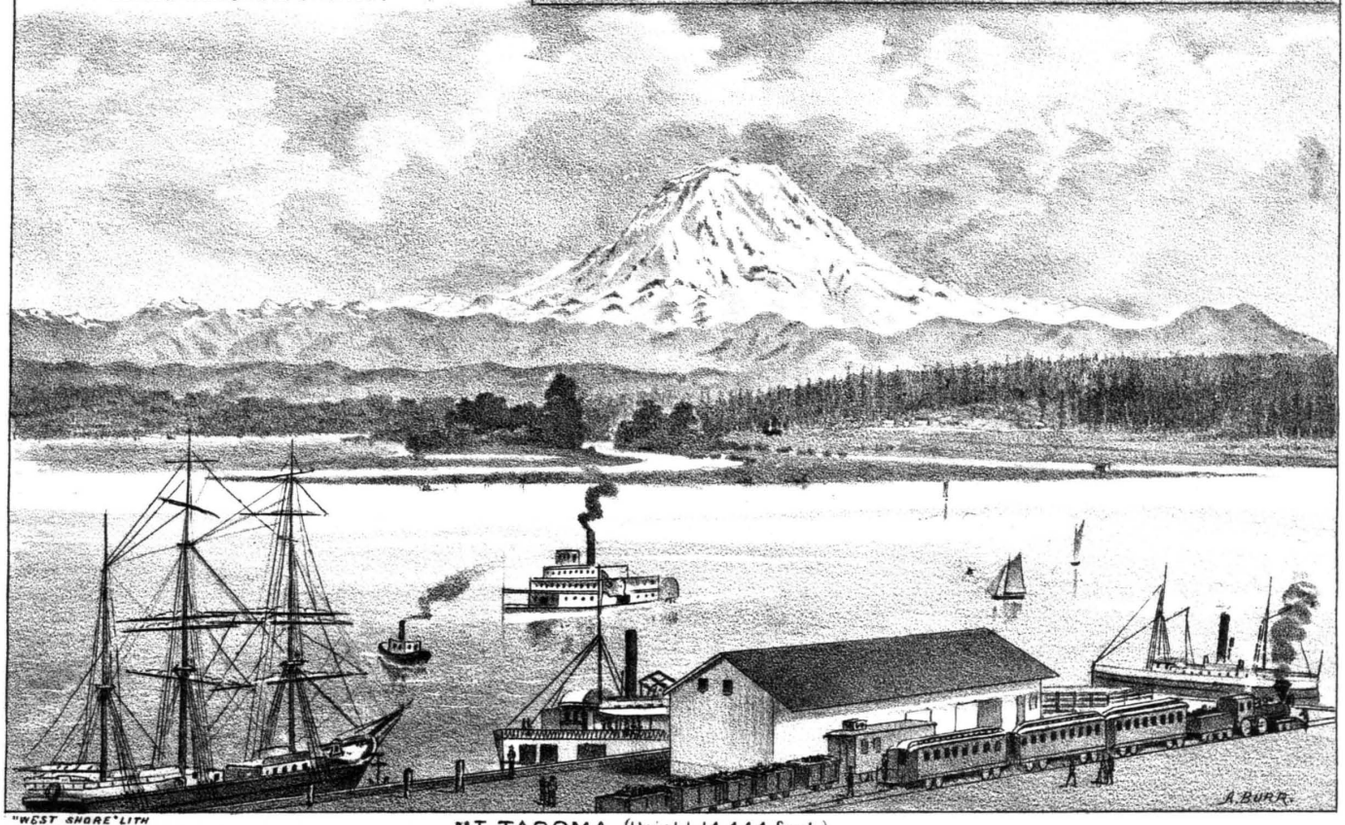
TACOMA THE N.P.R.R. Terminus



ST LUKE'S MEMORIAL CHURCH.



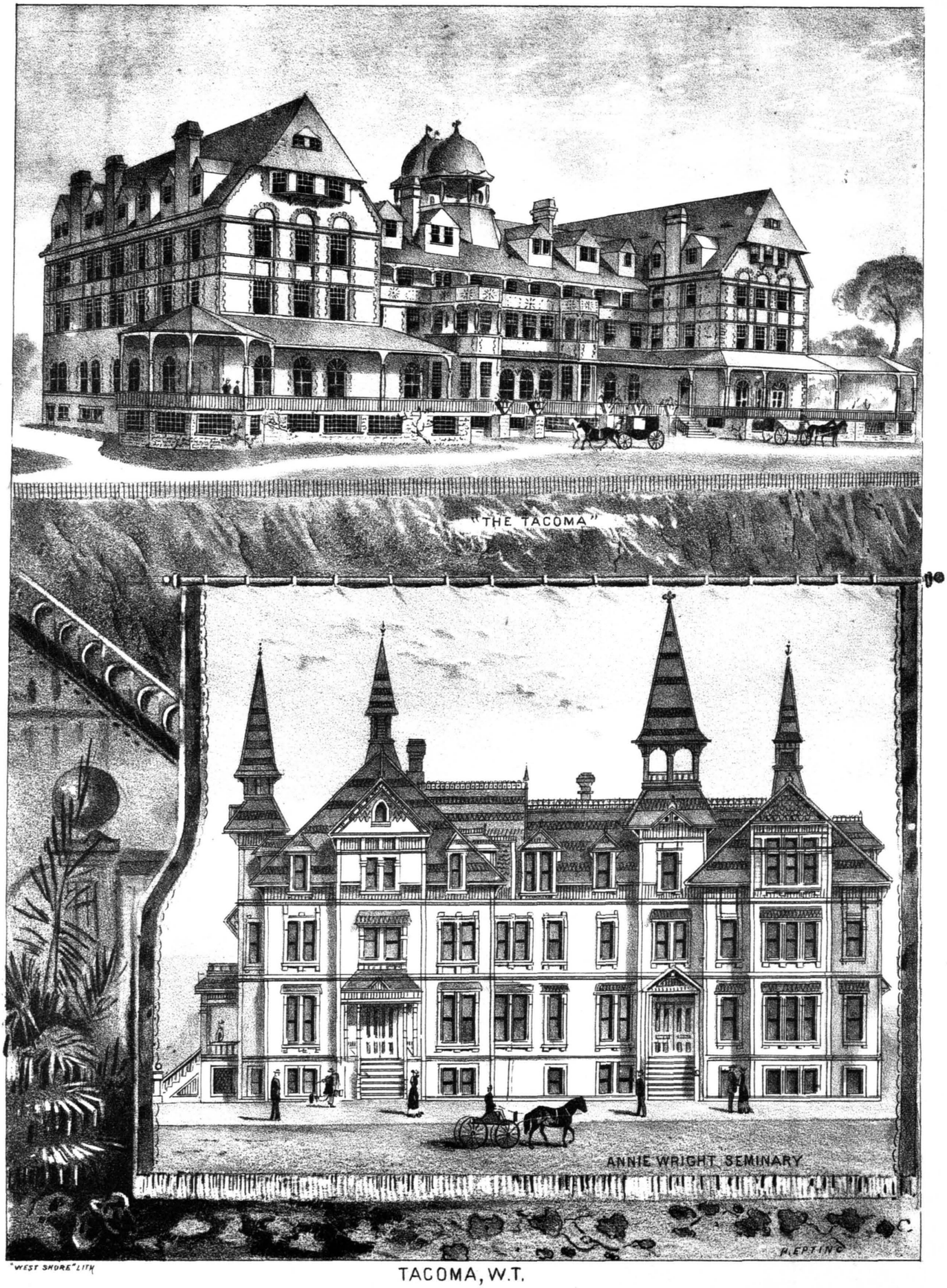
CENTRAL SCHOOL



"WEST SHORE" LITH

A. BURR.

MT. TACOMA. (Height 14,444 feet.)



TACOMA, W.T.

THE GREAT NORTHWEST.

III.

SCIENTISTS declare that Niagara pours 670,000 tons of water over the falls every minute, and Lyell estimates that the limestone ledge over which it flows is wearing down at the rate of one foot a year. Persons who live there, however, and make frequent observations, assert that his estimate is too great. Niagara has cut its way from Queenstown, a distance of seven miles, to the present site of the falls. Accepting the estimate of Lyell as correct, the work has been going on for 35,000 years. On the Colorado River there are canyons nearly one mile in depth, evidently worn down by the water, about one-fifth of the distance being through solid granite.

It seems fitting at this point to call attention to the law which regulates the power exerted by water when in motion, whether slow or swift. According to Hopkins, the force varies so that if the swiftness of the current be doubled the power exerted will be increased sixty-four fold. I will give some examples: A current running three inches a second will move only fine clay; six inches a second, fine sand; one foot per second, gravel. Assuming that a current that is running two miles an hour (which is about three feet a second) would move a stone weighing two pounds, then a current of four miles an hour would move one weighing 128 pounds; eight miles an hour, one weighing over four tons; sixteen miles an hour, over 256 tons; and thirty-two miles an hour, about 17,000 tons. From these data the reader may form some idea of the power of the waves, like terrible battering rams, that battered a passage through the Cascades and, overcoming every obstacle, opened a pathway to the ocean.

To make the matter still more plain to those not familiar with geology, a few words in regard to the effects of erosion and its *modus operandi* are necessary. The first visible effects of erosion may be seen in the imprint of the rain drop. Next the drops unite and form the rill; the rill makes its furrow. Rills unite and form rivulets; rivulets make a gully on the side of a hill or mountain. Rivulets combine and form torrents; torrents excavate deep gorges in the declivities. Torrents unite and form rivers; the rivers transport clay, sand, pebbles, stones, logs, trees, etc., bearing them towards the ocean. By reason of the thumping, scraping and friction there is a constant wear, not only upon the materials thus borne along, but upon the bed and banks of the river. When these materials are ground down fine the remains are called silt, detritus and sediment. The grinding is mainly effected by the friction of one article upon another. Among the incidents of erosion are "pot holes," often seen in the surface of a bed of hard rocks. Any obstruction causes the water to move in a whirl, carrying around stones and pebbles, and grinding basins or "pot holes" in the solid rock. One of these on White River is fifteen feet deep and nearly sixty feet in circumference.

If the swiftness of a river current is greatly diminished towards its mouth, then in accordance with the law regulating the power of running water, the bed of the river will be gradually raised in consequence of the deposit of the silt brought down from the mountains, where the river takes its rise. The Mississippi affords an illustration of this process; also examples of a "delta," a very important factor to be considered in the problem of navigating the Columbia River. The detritus of the river is borne to the ocean and deposited on the bottom, sometimes near the river's mouth and sometimes carried out to sea for hundreds of miles, as in case of the Amazon. No matter where deposited, the action of the flood tide drives the silt back towards the mouth of the river. Extensive flats will in time be formed, and as they rise above the surface of the river several mouths will branch from the river, cutting the flats into triangles, called "deltas," from the fourth letter of the Greek alphabet, *delta*. The Columbia is comparatively a young river, only a few million of years old, and as yet the deltas have not had time to form. It has different "channels," or "passages," to the ocean, and all have heard of the magnitude of the Columbia River Bar. If not arrested by artificial means, it is only a question of time when the Columbia, like the Nile, Ganges, Amazon, etc., will have its delta. Some have suggested dredging. This is about as sensible as the act of a poor idiot who had his boat, which was loaded with stone, sunk in the mill pond, and thought to raise it by dipping up the water over it and emptying it below the dam. The jetty is the only natural remedy.

Other conditions being equal, the size of the deltas depends upon the age of the river—that is, the length of time the region of country around the river has been above the water. Hence the deltas of a river, like the grains of a tree, are indicative of its age. The deltas of the Ganges are the largest, their base on the ocean being 200 miles. Those of the Nile are next in size, and finally the deltas of the Mississippi. We thus perceive that our Columbia, typical of the American nation, is a giant in strength and proportions, yet in years but a youth, the deltas not yet formed.

The great struggle is ended. The Columbia has triumphed over all opposition and is now master of the situation. Standing in one of its deep canyons and gazing upward, almost perpendicularly, along the face of the solid rock, fully 4,000 feet, to where the clouds seem to kiss the summit, one cannot but be amazed at contemplating the eons of time that must have elapsed while our majestic river was cutting its passage from the top of the Cascades to its present bed. Yet it is still in its infancy, as compared with the rivers of the far distant Orient. This rugged gorge, this narrow pathway for the Columbia, the labor of millions of years, is gradually closing up! How gloomy and yet how sublime the thought! Several years ago the Oregon Steam Navigation Company constructed railroads around the Cascades of the Columbia, and more than once the company has been obliged to readjust the rails and repair the road between the upper and lower Cascades, on account of the displacement caused by the closing of the gorge. But

who cares? It will require several thousand years to accomplish the "closing," and long before that time arrives steamboats and railroads will be obsolete; New York city will be at the bottom of the ocean, and tourists will be making trips in air-ships over where Boston now stands.

Imagine that the drama has been played; that for ages Boston has nestled at the bottom of the ocean; that Atlantis has been restored to the surface; that she has had her age of stone, of bronze and of iron, and that barbarism has given place to civilization. America will then be "the lost continent." Perhaps some ancient coin, stamped with the image of our "Goddess of Liberty," thousands of years old, will be found in the cabinet of an enthusiastic archæologist. A few scraps of history, mutilated until the original meaning has been lost, may lead him to the conclusion that the ancient Americans, although somewhat in advance of savages, were but heathen idolators who worshiped a goddess in the form of a woman. Should this happen I am fully persuaded that he will not misjudge us any more than the ancient Orientals have been misjudged by their successors. Let us imagine also that our supposed archæologist has a scrap of history concerning the city of Portland, in the State of Oregon, that shall have been written after Boston has "gone to its last account." He reads of an expedition (to him as mythical as that of Jason in search of the golden fleece is to us) wherein a party of Portlanders, ladies and gentlemen, made a pleasure trip in the beautiful ærial car *Willamette* to the island known as "Washington," supposed to have been in ancient times a mountain belonging to the fabled Appalachian range, once 6,634 feet above the level of the ocean, according to tradition, but now less than a hundred feet. The journey was made in less than a day, as the car flew through the air at the rate of over 200 miles an hour. Attached to the lower portion of the car was a vessel of singular construction, into which the passengers descended by broad stairways. Here was every kind of fishing tackle needed for capturing the finny tribe. The car was so constructed that it could be made to rise in the air like a bird or descend perpendicularly and remain stationary at any desired point. Thus, at any moment, the pleasure party could swoop down, devote an hour to fishing, then rise again and pursue their journey. In one of these descents they found by their reckoning that they were in the exact longitude and latitude of a supposed ancient city called "Boston," where they caught a vast number of codfish.

Having read this our archæologist suddenly remembers that he has somewhere read a fabulous story about people who once lived in this old city that were called the "codfish aristocracy." Then, perchance, he will puzzle his brains to discover the relation between the codfish aristocracy of A. D. 1884 and the codfish caught by the Portlanders, who dwelt in a city of five millions, in A. D. 2884. Were he to conclude, living in A. D. 4884, that the codfish aristocracy were sort of mermaids and mermen, half human and half fish, he would be about as near the truth as we are when we conclude that the ancient Orientals believed those queer legends that have been handed down to us in the literal sense in which they are given. True, we find these legends in ancient literature, but we do not know who first wrote them nor how much has been since added. Yet we may feel sure that a people so advanced in science and philosophy as they were never could have thought these and similar legends true in a literal sense. There must have been a meaning, lost by the lapse of time, clear to them, and no doubt beautiful. We misunderstand their meaning and are too ready to pronounce against their intelligence. Future generations may, and probably will, do us the same injustice.

In this dilemma where is man to look for truth? Where can he read the history of the past? Is there nothing reliable and enduring? Is there no truthful record of the earth's history that can be transmitted throughout all time? Yes, she writes her own autobiography, which can perish only with a perishing earth. She needs no amanuensis, no book of parchment, no historian, to record her epochs serene or catastrophes stupendous. Her great volume lies open before us. Even if not mendacious, man is but finite and imperfect. Nature is Infinite in all that she does. The earth rolls through space, impelled and restrained by invisible and infinite forces. Man cannot comprehend them, much less the manifestations of an infinite power that is exercised alike upon a twilight monad or a whirling planet. The great volume of Nature is open for all. In it we may read, in God's own handwriting, which no man can counterfeit or imitate, the history of the illustrious past. Study it; ponder upon it; believe nothing which man has written unless it harmonizes with this grand history.

I have tried to tell you of the Great Northwest as I read it in the records of the rocks. But do not accept a single statement on my mere assertion. Man is always blundering, and in his proudest estates but a mere worm when compared with the Infinite. I am trying to amuse, hoping that I may instruct, or, at least, to stimulate the youth of our country to study the great volume of Nature.

Alaska is a portion of our national territory and deserves a notice in these papers. Alaska, the infant, the youngest born, in its first stages of evolution. The phenomena now being manifested there is but a repetition of what was visible centuries ago on the coast of Oregon. As the youth lays aside the habits of infancy and begins to assume the manners of a man, so has Oregon, especially at the south, outgrown her volcanic disturbances; but she still exhibits her beds of lava and extinguished volcanoes, as the youth preserves the garments which he has outgrown. But Alaska has not yet done with eruptions, burning lava and smoking volcanoes.

Last October, near Cook's Inlet, there was a volcanic disturbance, accompanied by an upheaval and an earthquake wave, similar to that described in this series of papers as having occurred at Nestucca Bay, in this State. It was first observed by some fishermen who have a settlement at English Bay. On the morning of October 6 they heard a heavy report, and looking in the direction

of the sound saw immense volumes of smoke and flame suddenly burst forth from the summit of Mount Augustine, which rendered the sky obscure for several hours afterward. Soon after the explosion great quantities of pumice dust began to fall. Some was fine and smooth, some coarse and gritty. On the afternoon of the same day, at 3:30 o'clock, an earthquake wave, thirty feet high, came rushing in over the hamlet, sweeping away all the boats and deluging the houses. Fortunately the tide was low at the time, or otherwise the whole settlement would have been in danger of destruction. Two other waves, each about eighteen feet high, succeeded, followed by others, not so high, at irregular intervals. Some idea may be formed of the magnitude of this disturbance when it is stated that the shower of pumice ashes so darkened the atmosphere that it was found necessary to light candles during the day. Moreover, the ashes fell to the depth of five inches. That night the surrounding country was illuminated by flames from the crater.

It is worthy of notice that the summit of Mount Augustine is far above the snow line, and is usually, as a matter of course, covered with snow; but during the past year it has been entirely bare. The inference, therefore, seems to be that there had for a long time been a great increase of temperature within the mountain before there came an explosion. This fact is worthy of some consideration.

W. H. CHANEY.

OUR INDUSTRIES AND RESOURCES.

II.

THE mills of Portland and vicinity saw 75,000,000 feet of lumber per year. Those on or near the Columbia River, west of the Cascade Mountains, saw about 75,000,000 more. The Puget Sound merchant mills saw 300,000,000 feet annually, and the coast merchant mills at least 50,000,000 feet per year. These are the estimates of men in the business, who have means of knowing what they affirm. These estimates do not include the mills of the interior valleys, which supply chiefly their own local markets, as many do on the upper branches of the Willamete, Rogue, Cowlitz, Chehalis and other rivers. Five hundred million feet represent the output for foreign shipment and home consumption. They are sent to the market mostly in the rough sawed condition, except that flooring, rustic and finishing are planed and grooved, which adds 50 per cent. to the value. The average rates of price are from $10 to $30 per 1,000 feet. One lumberman has sold all his product—5,000,000 feet—at $18 per 1,000 feet for several years. Another rates the average sales of 100,000,000 feet at $14 per 1,000 feet, making an income of $1,400,000, less the cost. With the completion of the Northern Pacific Railroad the market is less brisk, but the steady demands will increase, though at lower rates, perhaps, for a year or two.

Spring, summer and autumn are the best seasons for logging. In some camps railroads and steam engines are taking the place of skid roads and teams. One logger paid $1,500 for tallow to grease the skids one year for the haul of 5,000,000 feet of logs, worth $35,000. Steam engines will draw the logs from three to four, and perhaps ten or fifteen, miles to river or bay, at no greater cost than ox teams have done it one or two miles.

The demand has always been for the best clear lumber. Skilled woodsmen select such trees and use only the choice cuts for their booms. Sections of dense, tall yellow firs have been eagerly sought near the river banks and shores of bays, and for twenty-five years they have been the sources of supply. A second culling has been made in the same camps in many places, and a third culling may be made years hence, with good results, ere the land will be cleared of all timber, which would be counted valuable in interior settlements, in the Mississippi Valley or in the Atlantic States.

Forest fires have destroyed in thirty years more than the lumber mills have used. The burned districts along the foothills of the Cascades, on the gravel plains beyond the Chehalis, on parts of the Coast Range in Polk, Benton and Lane counties, are overgrown with bushes and fern, among blackened trunks of former grand forests. Yet on large sections along the Columbia and scores of miles back on both sides, and along the ocean coast for 600 miles, dense evergreen forests of valuable timber cover nearly all the plains and hills to the mountain crests. The supplies along most of the shores of Puget Sound have been cut off only two or three miles inland, while the regions beyond remain mostly unbroken.

Fir ranks all the rest in amount, in grandeur of growth and strength of tension. Cedar commands the best market for all finishing. Spruce is fast coming into use. Hemlock is in reserve for tanning. Ash, maple and oak supply furniture manufactories. The annual sales have increased from a few hundred thousands to 500,000,000 feet. It is easy to overstock the markets of the Pacific, and mills are combined to limit their products to the demands of trade. Full yards in San Francisco, Chile or China call for shorter time at the mills, while clean yards below mean a run day and night at the mills.

The 500,000,000 product of 1883, at $14 per thousand, give $7,000,000 for distribution. Of this annual income it is estimated that—

Labor, logging and sawing, receive one-half	$3,500,000
Stumpage receives 50 cents per M	250,000
Towage or hauling, 50 cents per M	250,000
Interest on mill plant, 10 per cent	500,000
Wear and tear of machinery	500,000
Net gain, $4 per M	2,000,000
Total	$7,000,000

This sum in circulation gives vitality to large business enterprises, builds up cities and makes thriving communities. As a medium of exchange it is worth ten times the amount.

Judging from the past, the foreign and California markets will require larger supplies annually. The treeless plains of the interior, now filling with agricultural settlements, will demand untold amounts of lumber from this western region. New industries of many kinds will add to these demands. The Eastern lumbermen already come to test the possibility of a supply for them. One

from Chicago finds that fir flooring, first grade, finished and dry, can be freighted from Portland to that city and sold at a profit. Puget Sound spars are sold in New York or Liverpool at a fair margin. Large trees, 7 to 8 feet in diameter, formerly wasted, are now sawed into massive beams for railroad or bridge work. Mills that saw plank 100 or 120 feet long are driven to fill their orders. Railroad cars of greatest strength are built of Oregon yellow fir. These special demands will be multiplied as traffic increases.

The preservation of timber differs from timber culture and forest preservation, the care of which belongs to the United States Government for the sake of climate and water supply. Private companies can, and will, take better care of their own timber than Government or small holders will be disposed to do. Their interests require it. It has been the custom for thirty years for farmers to destroy their timber in clearing land for cultivation. Mill companies keep and protect their tracts. Those of Puget Sound, who are said to own 300,000 or 400,000 acres, will preserve it more carefully for future use when needed than owners of a few hundred acres ever would do. They can, and will, hold for a larger profit than it would pay to be forced upon a full market. A monopoly of timber land on this coast may prove the best means of its preservation for future populations.

G. H. Atkinson.

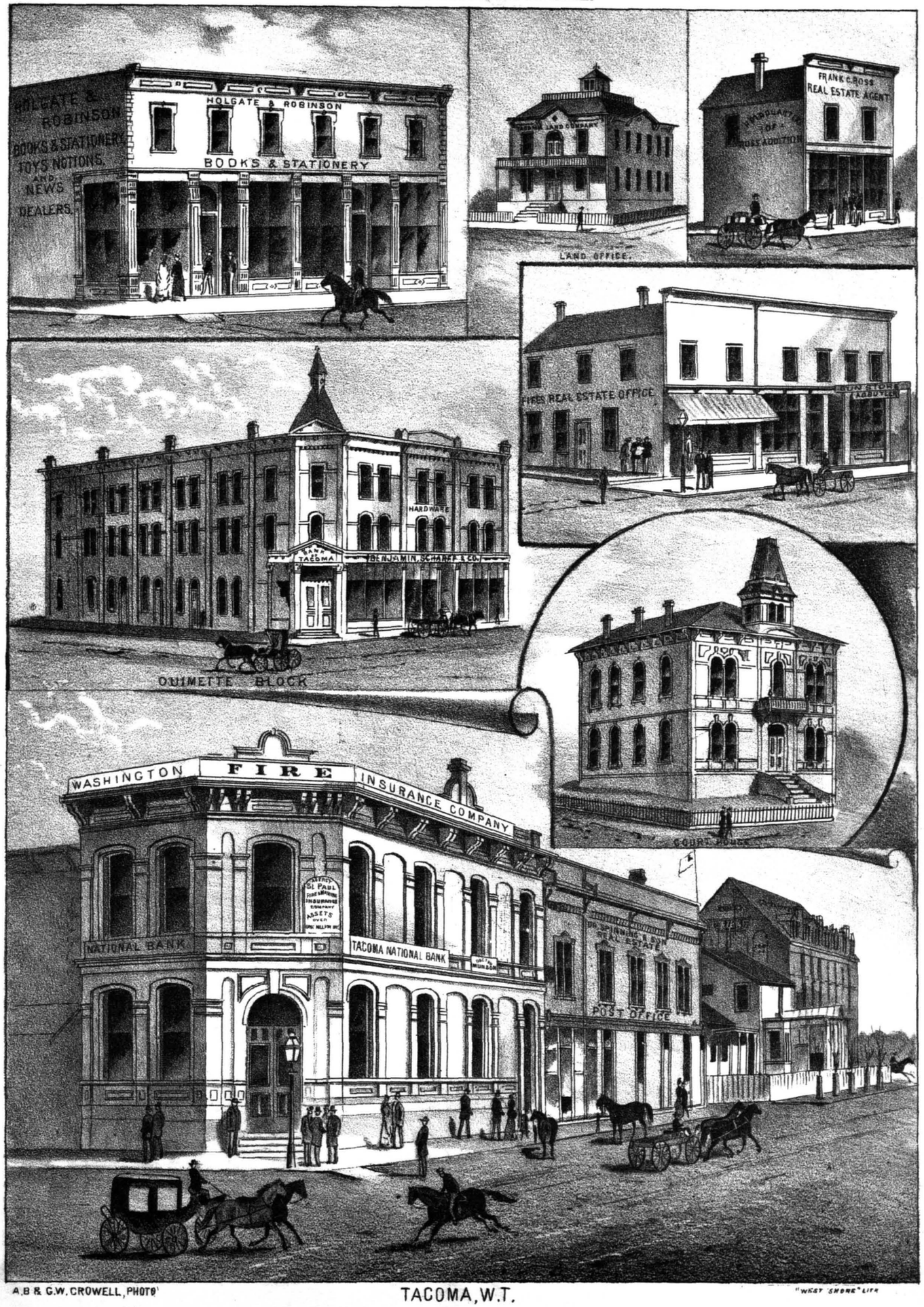
CASTELLATED ROCKS OF THE MISSOURI.

NOT only in the grandeur of its rugged canyons and the power and beauty of its waterfalls does the Missouri command the admiration of travelers. Among its many peculiar attractions are the quaint forms and unique carvings of Nature seen below Fort Benton and near the Judith, known as the Castellated Rocks. No better description of them can be given than that by Captains Lewis and Clarke, who viewed them in June, 1805, while passing up the stream on their great journey to the mouth of the Columbia. Their report says: "These hills and river cliffs exhibit a most extraordinary and romantic appearance; they rise in most places perpendicularly from the water to the height of between two and three hundred feet, and are formed of very white sandstone, so soft as to yield rapidly to the impression of water, in the upper part of which lie imbedded two or three thin strata of white freestone insensible to the rain. * * * In trickling down the cliffs the water has worn the soft sandstone into a thousand grotesque figures, among which, with a little fancy, may be discerned elegant ranges of freestone buildings, with columns variously sculptured, and supporting long and elegant galleries, while the parapets are adorned with statuary. On a nearer approach they represent every form of ruins; columns, some with pedestals and capitals entire; others mutilated and prostrate; some rising pyramidically over each other till they terminate in a sharp point. These are varied by niches, alcoves and the customary appearances of desolated magnificence. The illusion is increased by the number of martins who have built their globular nests in the niches and hover over these columns, as in our country they are accustomed to frequent large stone structures. As we advance there seems no end of the visionary enchantment which surrounds us. In the midst of this fantastic scenery are vast ranges of walls, which seem the productions of art, so regular is the workmanship. They rise perpendicularly from the river, sometimes to the height of 100 feet, varying in thickness from one to twelve feet, being equally broad at the top as below. The stones of which they are formed are black, thick and durable, and composed of a large portion of earth, intermixed and cemented with a small quantity of sand and a considerable proportion of talc or quartz. These stones are almost invariably regular parallelepids of unequal sizes in the wall, but equally deep, and laid regularly in ranges over each other like bricks, each breaking and covering the insterstice of the two on which it rests; but though the perpendicular insterstice be destroyed, the horizontal one extends entirely through the whole work; the stones, too, are proportioned to the thickness of the wall in which they are employed, being largest in the thickest walls. The thinner walls are composed of a single depth of the parallelepid, while the thicker ones consist of two or more depths. These walls pass the river at several places, rising from the water's edge much above the sandstone bluffs which they seem to penetrate; thence they cross in a straight line, on either side of the river, the plains over which they tower to the height of from ten to seventy feet, until they lose themselves in the second range of hills; sometimes they run parallel in several ranges near to each other, sometimes intersect each other at right angles, and have the appearance of walls of ancient houses or gardens."

While floating down stream on a calm, moonlight night one can readily imagine himself on the ancient Euphratres and passing through the ruins of the mighty city of Babylon. The lights and shadows of the moon conspire with these eroded cliffs to form the most grotesque shapes and peculiar images, constantly changing and blending, until one loses all sense of time and place, and surrenders himself completely to the most vivid and curious fancies his imagination can conceive. In going to or from Fort Benton by steamer these castellated rocks are passed, and the tourist who can spare the time for such a trip will find it one of the most interesting on his journey across the continent, not only for the peculiarities here described, but for many other attractive features of the river scenery.

Make a Beginning.—Remember in all things that if you do not begin you will never come to an end. The first weed pulled up in the garden, the first seed in the ground, the first dollar put in the savings bank, and the first mile traveled on a journey are all-important things; they make a beginning, and hold out a hope, a promise, a pledge, an assurance that you are in earnest in what you have undertaken. How many a poor, idle, hesitating outcast is now creeping and crawling on his way through the world who might have held up his head and prospered if, instead of putting off his resolution of industry and amendment, he had only made a beginning!

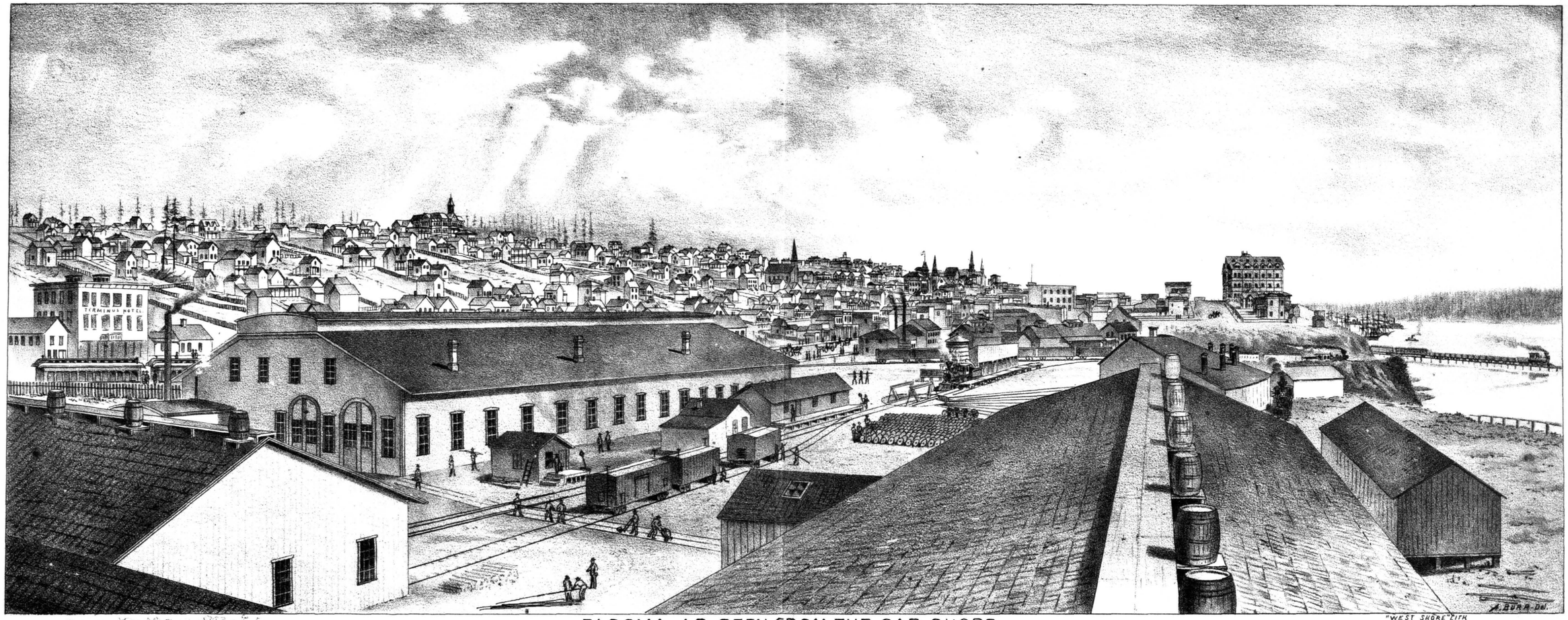
THE WEST SHORE.



A.B & G.W. CROWELL, PHOTO'

TACOMA, W.T.

"WEST SHORE" LITH



TACOMA, AS SEEN FROM THE CAR SHOPS.

TACOMA is no longer a "City of the Future," an "Embryo City," "The Coming Metropolis," or any other of the many titles by which people have been accustomed to designate it, but is now an actual, thriving, commercial and manufacturing center, and is still advancing with even greater strides than the most sanguine have ventured to predict. It has ceased to be the proposed terminus of an incompleted railroad, and has become the actual terminus of a great overland trunk line, the only direct avenue of communication between the East and the deep waters of the Pacific Northwest. Wherever the Northern Pacific Railroad is known Tacoma is a familiar word, and the fame of the one has become so bound up in that of the other that they have become as inseparable companions as are San Francisco and the Central Pacific. So widespread has become its fame that thousands are seeking for definite information, and for the benefit of these inquirers THE WEST SHORE will state as succinctly as possible what the city has been, what it is now, and what, with a reasonable certainty, it is destined to become.

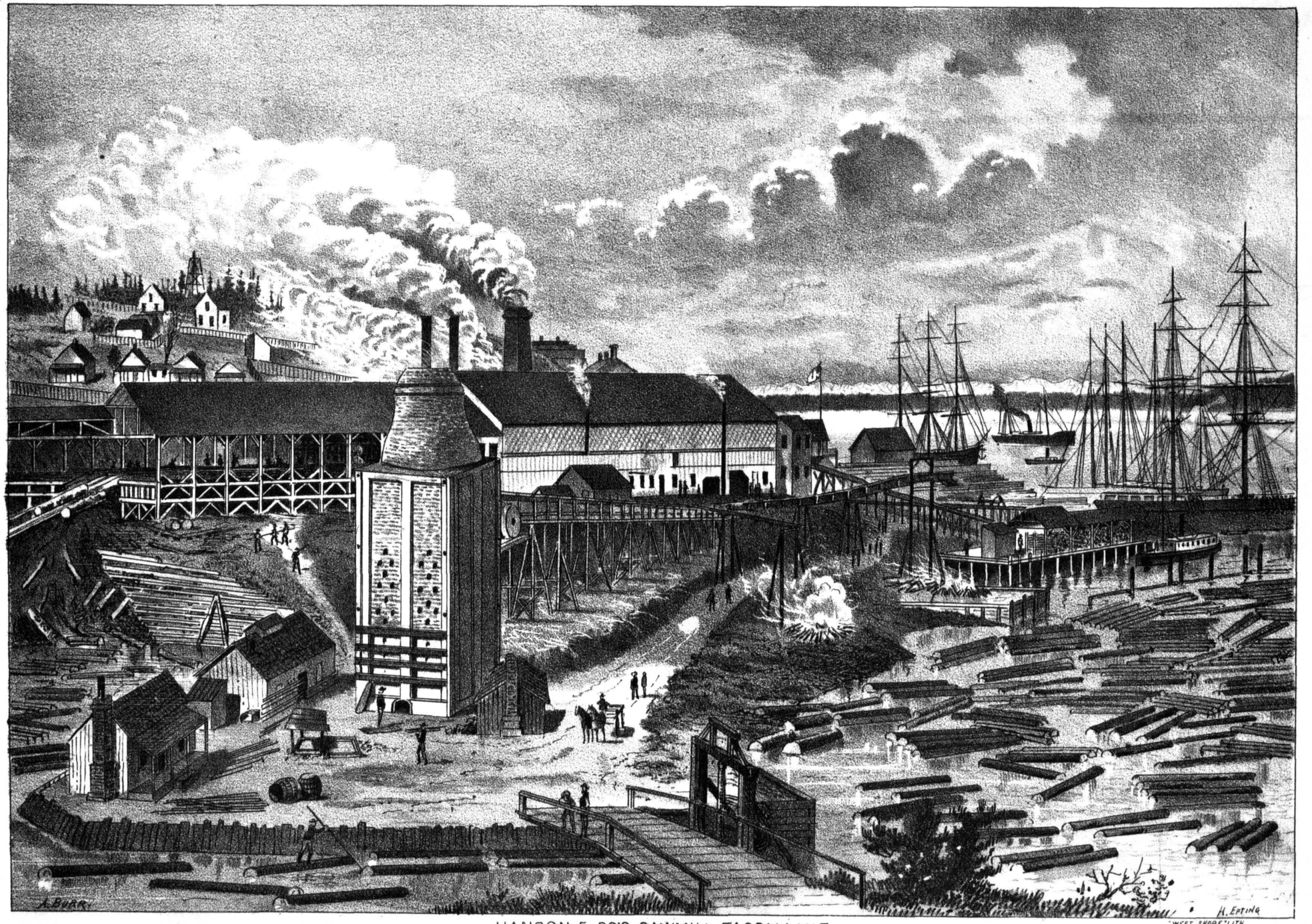
Tacoma lies at the head of Commencement Bay, the extreme southeastern harbor of Puget Sound, that great inland sea, which has been so appropriately designated as the "Mediterranean of the Pacific." The site is both salubrious and beautiful. It rises by successive terraces to a height of 300 feet above the water's edge, rendering the drainage of its surface by natural means complete, and a thorough system of sewerage easy and practicable. The prospect from these higher benches embraces a wide and varied landscape, including the beautiful, timber-fringed shores of Puget Sound, the fertile valley of the Puyallup, the foothills and summit ridges of the Cascade Mountains, and towering above all in its grandeur the white peak and snowy sides of Mount Tacoma. Beautiful and enticing as its site is from an artistic standpoint, other considerations than those of a love of Nature moved the far-seeing men who laid here the foundation of a great city.

That the terminal point of the Northern Pacific on Puget Sound was destined to become a city of great commercial importance was evident even to the most unreflective mind, and therefore the exact location of that point became early in the history of the road a matter of much importance. For this reason the Board of Directors of the railroad appointed two commissioners to make a thorough examination of the harbors of Puget Sound, with a view to selecting the one offering the most advantages for that purpose. These gentlemen—R. W. Rice, the Vice-President, and Captain J. C. Ainsworth, the Managing Director for the Pacific Coast—made a most careful examination, aided by comprehensive surveys of able engineers, and fixed upon the shore of Commencement Bay as possessing more fully than any other locality the features desirable for the terminal city of the road. In accordance with this report the Board of Directors passed a resolution on the 10th of September, 1873, fixing the city of Tacoma as the great Western terminus of the Northern Pacific Railroad.

The Tacoma Land Company was incorporated with a capital stock of $1,000,000, divided into 20,000 shares, of which 51 per cent. were held by the Northern Pacific Railroad Company and 49 per cent. by individual preferred stockholders of that company. This organization acquired from the railroad company 3,000 acres of land, which the latter had purchased immediately upon deciding upon the location; also 13,000 acres of the odd-numbered or railroad sections within a radius of six miles, paying for the entire tract $250,000. Upon this property, and a short distance south of the original location at Tacoma, the company cleared a tract about a mile square and laid out a city which was christened "New Tacoma," where the railroad company immediately erected a large building for its headquarters.

The Pacific Division, extending from the Columbia River to the Terminal City, was nearly completed when the failure of Jay Cooke & Co. blocked the progress of

[CONTINUED ON PAGE 89.]



HANSON & CO'S SAWMILL, TACOMA, W.T.

FREMONT AND THE MODOCS.

I.

THOUGH one of the smallest tribes with which our people have come in conflict, none have exhibited a more determined hostility or displayed greater courage than the Modoc Indians, and few have cost the Government more in blood and treasure to subdue. They were but a small tribe when first discovered by the whites, less than 200 warriors, and occupied a comparatively limited section of country, much of it barren and worthless. In that inhospitable region lie the graves of emigrants, volunteers and soldiers by the score, while the bones of old men, helpless women and tender babes lay for years in their tule marshes, and found no burial save that vouchsafed by the hand of pitying Nature.

The Modoc, or, as properly pronounced, Mo-a-dok, Indians were an offshoot from the Muk-a-luk, or Klamath Lake, tribe, inhabiting the country to the north and east of Lake Klamath, and took their name from Mo-a-dok-us, the chief under whom they seceded from the parent tribe. They were, to a degree, a tribe of Ishmaelites, living by the plunder of their neighbors on every side, and finding a secure retreat from their wrath in the marshes of Tule Lake or the rocky and mysterious caverns of the Lava Beds.

The region dominated by them was circumscribed, embracing a small strip of country along the Oregon and California line. The east and south shores of Klamath Lake, the Butte Creek country to the south of it, the sterile Lava Beds to the south of Tule, or Wright, Lake, and Lost River on the north, were their country, though the general headquarters were at Tule Lake. Upon the little islands among the tules they built their wickiups, where they retired in times of danger, the caves of the Lava Beds forming their last retreat when driven from their island homes.

Such were the Modocs when first visited by the white man—a band of hardy and unscrupulous marauders, courageous and daring, living chiefly by plunder, and occupying a country apparently designed by Nature for the home of such a band of savage buccaneers. Among them were many renegades from other tribes, and the whole tribe was, in fact, but the descendants of a number of independent Indians who had gathered about Mo-a-dok-us and his little band of Muk-a-luks. Formed like the Romans, they adopted the Roman plan of procuring wives, beginning thus their habit of stealing squaws from their neighbors, which was never completely abandoned even after they came under the control of the whites.

In the spring of 1846 Lieutenant John C. Fremont entered California on his third exploring expedition to the West and his second trip across the continent. His party consisted of about sixty men, many of them old and tried mountaineers, and all of them hardy and daring men picked by their commander for the arduous service expected of them. After exchanging international compliments with General Castro, which at one time appeared certain to result in blows, Fremont started north to visit the Columbia. The regular Hudson's Bay Company trail passed up the Sacramento, along the western base of Mount Shasta, through Shasta Valley, and thus across Klamath River and Siskiyou Mountain to Rogue River Valley. This was many miles to the west of the Modoc country, while the route of trapping parties who crossed from Snake River to the Sacramento, by the way of Pit River, passed to the eastward. It thus happened that while they knew of the white man and his dealings with surrounding tribes, it is more than probable that Fremont was at the head of the first party of whites to pass through the country of the Modocs and partake of their bloody hospitalities.

Fremont's party turned off the regular trail to Oregon, at the mouth of Pit River, and followed up that stream, which was then called the east fork of the Sacramento. He proceeded by the way of Clear and Tule lakes to the west bank of Klamath Lake, just above the Oregon line, where he went into camp for a few days. On the 9th of May Samuel Neal and M. Sigler rode into camp with the intelligence that a United States officer was on their trail with important dispatches, which he had crossed the continent to deliver into Fremont's own hand. This was not all; the messengers had only escaped from the hands of savages by the fleetness of their animals, and they feared the officer and his companion would not be so fortunate unless they received immediate aid. Away dashed Fremont to the rescue—four trappers, five friendly Indians and the two messengers riding at his side. Back across the California line they rode, round and along the southern shore of the lake, until, at sundown, sixty miles from the camp of the morning, they met Lieutenant Gillespie and brave old Peter Lassen, unconscious of the danger from which they had been rescued.

That meeting was an important one to California and to America. The messenger of the Government informed Fremont that war had been declared with Mexico. The instructions he then imparted have remained hidden in the Pathfinder's breast to the present day, and can only be inferred from the conduct of that dashing officer, who returned at once to California, inaugurated the Bear Flag War (carried on by his counsel and inspired by him), and organized the California Battalion, which played so prominent a part in the conquest of California.

Late into the night those young officers, on whose shoulders such weighty responsibilities had been thrown, sat by the smoldering embers and counseled about their future course. Around them lay their companions, wrapped in profound slumber, their weary limbs stretched upon the ground. Fatigue and the excitement of the news had made their leader incautious. He forgot that he was in a country where the natives had shown signs of hostility; that he had ridden sixty miles that day because of such hostility. Filled with the great projects of the future, his limbs weary with fatigue, he, too, lay down by the fire and closed his heavy eyes in sleep. In that silent camp lay the sleeping forms of Richard Owens, Lucien Maxwell, Kit Carson, Alex. Godey, Steppenfeldt, Basil Lajeunnesse, Denne, Crane, and others of those hardy mountaineers who had trapped the whole Western

wilderness and fought the savage denizens for years, and never before been guilty of lying down to sleep in an enemy's country without posting a guard.

Slumber's chains bound the camp, but around it stole the sinuous forms of savage enemies. Nearer and nearer they crept, until they stood among the sleeping men by the fire. The Modocs were ready to claim the first white victims of that band of murdered ones who have fallen in that sterile land.

Even in his slumbers the sensitive ear of Kit Carson caught the sound of the dull thud, as a blow fell upon the head of a sleeping companion. Leaping to his feet he kicked the smoldering embers of the camp-fire, and by the light of the upshooting flame saw the dark forms of the Modocs. Springing to one side to avoid the light of the fire, the bold trapper cried "Indians! Indians!" and in an instant the camp was aroused. Crane, a Delaware Indian, sprung to his feet and endeavored to discharge his gun, which was unfortunately unloaded, and received five arrows in his breast. Remembering that his gun was also unloaded, Carson cast it aside, drew a single-barreled pistol and discharged it at the savage who was slaying his friend, but the brave was dodging about so continually that the bullet missed him and cut the string of his tomahawk. All but this Modoc were now in full retreat, and as he turned to flee two bullets from the now thoroughly aroused camp laid him dead upon the ground. He was the only one of the attacking party who remained long enough to be hurt, and had they all been as bold as he it would have fared badly with that unprotected camp.

With rifle in hand they kept close vigil till morning, but no enemy appeared to molest them. Lajeunnesse and Denne, an Iroquois, had been killed in their sleep before the alarm was given, and the brave Crane had died in the struggle. Bearing their inanimate forms the sorrowful party started back along their trail to meet the main body, but after progressing about ten miles decided to bury them among the willows of a small stream. This was Hot Creek, in Siskiyou County, California, discharging into Klamath Lake from the south. Having performed this painful duty, and having driven their horses backwards and forwards across the spot to destroy all traces of the grave, so that the savages would not exhume the bodies, they continued their journey and soon met their friends, and the company, once more united, went into camp for the night, cherishing thoughts of revenge.

On the morrow, when the party commenced its journey towards the south, fifteen men remained concealed near the camp, and were soon rewarded by the appearance of two Modocs, whose scalps were quickly taken. Skirting around the end of the lake, Kit Carson was sent out the next day in the direction of Tule Lake to search for the Indian village, accompanied by ten picked men. They came suddenly upon a rancheria of fifty lodges, and having no time to send for reinforcements, charged boldly upon the astonished Modocs. The Indians fought desperately for a time, but the noise of the guns and the great execution they made were so novel and so terrifying that they soon fled in a panic, pursued by the avengers, who killed several of them before they disappeared amid the intricacies of the Lava Beds. The deserted wickiups were found to be artistically and beautifully woven of the tules from the lake, but the torch was applied to them, and the whole rancheria, with a large quantity of dried fish, was destroyed.

The main party soon arrived and then the journey was resumed. Twenty men stole back to the burned village to see if the Indians would not return, and though fifty were seen they disappeared before the party was prepared to attack them. In riding into camp one brave was discovered, who was ridden down by Fremont just in time to save Kit Carson's life. They soon passed out of the Modoc country, and though they had a little more trouble with Indians, it is probable that the Modocs were not responsible for it. A few days later they reached the Sacramento Valley, and Fremont began the conquest of California, changing a savage for a civilized foe.

Years later, in speaking of this affair to the Hon. Lindsay Applegate, a Modoc chief said the reason for making this attack upon Fremont was that these were the first white men who had ever come into their country, and they wanted to kill them to prevent others from coming.

On the 4th of July, 1846, but two months after this affair, a party of fourteen men from the Willamette Valley came upon that grave among the willows of Hot Creek. They were exploring an emigrant route from Fort Hall to the southern end of the Willamette Valley, the one since known as the Southern Route to Oregon, the Northern Route to California, or the Applegate Trail. Leading spirits in this party were Jesse and Lindsay Applegate, well known to all old residents of Oregon. They saw pieces of paper and other evidences of the presence of white men, and surmised that some one was buried where the ground was so badly trampled by the horses—a surmise which they verified by probing the ground with poles. The Modocs were much excited and apparently alarmed by this second invasion of their country, and signal smokes arose from the hill tops to apprise all members of the tribe of the presence of an enemy. The cause of all this was explained afterwards, when they learned of the attack upon Fremont and the chastisement he had administered. By keeping careful watch they passed through the hostile country without exposing themselves to attack and reached Fort Hall in safety. Upon their return that fall with a party of emigrants one of these loitered behind the train, near Tule Lake, and fell a victim to the Modocs. That was the first train of emigrants to pass through this inhospitable country, and no more followed them till 1852, that year of death at Bloody Point.

HARRY L. WELLS.

IT was a stranger in Montana who ran away with a Montana man's red-headed wife, and when the Montana man caught up with him he said: "Wimmin is skeerse out here, stranger, derned skeerse; but I'd rather have rest than fun. Gimme yer horse so's to legalize the thing, and take her along."

CHINESE, OR INDIA, INK.

MANY articles are found in the extensive literature of China written by their learned men about the paper, ink and brushes that they use for writing, but unfortunately very little is said about the technology of their inks. It is quite otherwise in the recent book written by Chen-ki-souen, for he describes every stage of its preparation with great accuracy and in detail. According to the Celestial author, a kind of pigment ink was discovered 2697 to 2597 B. C. It was employed for writing on silk with a bamboo rod. Afterward an ink was prepared from a certain stone (encre de pierre), which is still known in China as che-hei. It was not until 260 or 220 B. C. that they began to make an ink from soot or lampblack. The soot was obtained by burning gum lac and pine wood. This ink was made at first in round balls, and very soon supplanted the stone ink. For a while the Province of Kiang-si appears to have had a monopoly of ink making. Under the dynasty of Tang, in 618 to 905 A. D., there was a special officer, called an inspector, who had charge of its manufacture. He had to furnish the Chinese court with a certain quantity of this ink annually. Some of the factories seem to have been "royal Chinese" factories." The Emperor Hinan-Tsong (713 to 756 A. D.) founded two universities, to which he sent 336 balls of ink four times a year. The most celebrated ink factory in China is that of Li-ting-kouei, who lived in the latter part of the reign of Tang, and is said to have made an excellent article. He made his ink in the shape of a sword or staff, or in round cakes. The test of its authenticity consisted in breaking up the rod and putting the pieces in water; if it remained intact at the end of a month, it was genuine Li-ting-kouei. Since the death of this celebrated man there seems to have been no perceptible advance made in the manufacture of India ink.

In the manufacture of lampblack nearly everything is used that will burn. Besides pine wood we may mention petroleum, oils obtained from different plants, perfumed rice flour, bark of the pomegranate tree, rhinoceros horn, pearls, musk, etc. Nor does fraud seem to have been entirely wanting. According to Chinese authorities, the principal thing is the proper preparation of the lampblack; the best smells like musk, and the addition of musk not only serves to give poor goods the resemblance of fine ones, but really makes it worse. The binding agent plays the chief part next to the lampblack; ordinary glue and isinglass alone are now used. In old times glue made from the horns of the rhinoceros and of deer was employed. Good Chinese ink improves with age, and should not be used for a few years after it is made. It is not easy to keep it, as it must be protected from moisture. Some persons, in rubbing it up, make circular movements that soon ruin it. It is better to rub it in straight lines back and forth with the least possible pressure.

"NEVER mistake perspiration for inspiration," said an old minister in his charge to a young pastor just ordained.

RAM'S HORN CAVE.

IN a detached range of mountains about five miles east of White Sulphur Springs, Montana, there is a subterranean cavern of immense size, called "Ram's Horn Cave" by the fanciful and "Bandit's Retreat" by the melo-dramatic. The convulsions of Nature have so filled the chambers with masses of rocks that they do not present the beautiful array of stalagmites and stalactites, carved walls and level floors, stairways and open passages, so usual to these earthy caverns; but the very roughness has a peculiar attraction, and gives one the fancy that he is walking amid the buried ruins of a city. Passing from the outer world beneath a huge arch one finds himself first in a chamber about 60 by 50 feet, with a ceiling 30 feet over his head. From this he follows a descending passage, inclined at a very steep angle, for a quarter of a mile. The passage varies in width from 50 to 100 feet, and in height from 20 to 50 feet, and is strewn with masses of broken rock, evidently detached from the ceiling and walls by internal convulsions of great force. These at places nearly choke the passage-way, and at one place the visitor passes beneath an arch made by the wedging of two immense blocks of stone that mutually support each other, and look as though they were but waiting for him to come beneath to fall upon and crush him. From where this passage forks the descent to the right is made a short distance with difficulty to where several smaller passages lead off in different directions—one to a chamber in which are found beautiful stalagmites and stalactites. The left fork offers several routes of travel, all of them difficult; one passes through a small crevice in the solid wall; another follows circuitously around jagged rocks and rugged masses of stone, and the third is a small meandering tunnel, very small and dividing into forks. In following the main passage from this point one must let himself down a precipice a distance of fifteen feet with ropes, when he enters a chamber undisturbed by the throes that have so disrupted the upper portion of the cavern, and full of many curious and interesting formations. This is the practical ending of the cave, though one tunnel, too small for a man to enter, leads towards the bowels of the earth, and many small passage-ways strike off in different directions, but all heading upwards and gradually "pinching out." The mountains of that region are full of these interesting rocky caverns.

IF you would be happy, try to be cheerful, even when misfortune assails you. You will very soon find that there is a pleasant aspect to nearly all circumstances—to even the ordinary trials of life. When the hour of misfortune comes, whether it appears in the form of disease or pecuniary loss, face it manfully and make the best of it. Do not nurse your troubles to keep them warm, and avoid that useless and senseless habit of constantly referring to them in your conversation.

THE farmer should make experiments himself as well as note the result of those made by others.

AMBER AND ITS USES.

THE value of amber, familiarized as the substance is in "smokers' requisites," is far greater than the majority imagine. Small pieces of indifferent quality suffice for the mouthpieces of pipes and for isolated ornaments, and though the prices charged for even such specimens as these are far above their actual worth, they are comparatively cheap. In necklaces, however, where every bead has exactly to match its fellow, or in the larger articles, requiring to be cut from a single piece of considerable size, the cost and real worth of the fossil gum rises so rapidly that in certain cases it deserves, if the money charged for it be any criterion, to rank with the "precious" minerals, and many pieces of amber in the rough state are worth more than their bulk in gold. Yet even this does not approach by a long way the esteem in which antiquity held electron; for not only was amber the oldest of gems, and therefore, in a measure, magnified by traditional reputation, but it was supposed to possess amazing occult properties. It was worn all over Northern Italy as a preventive of goitre, just as it is worn to-day by the people of Arabia as a talisman against the evil eye. More powerful than sorcery and witchcraft, it was an amulet that made poisons harmless; ground up with honey and oil of roses, it was a specific for deafness, and with Attic honey, for dimness of sight. Nor is the claim of medicinal virtue altogether without foundation in fact, for "its efficacy as a defence of the throat against chills"—owing probably to "the extreme warmth when in contact with the skin and the circle of electricity so maintained"—has been tested and substantiated. The ancients, however, were not content with mystic curative powers in the solid substance, for they ascribed valuable properties to it in combustion, admiring the perfume that resulted not only for its resinous fragrance, but for its healthfulness, thereby innocently detecting in the fossil pine gum the same virtues that modern physic attributes to the living pine trees. In many parts of the East, especially in China, where prodigious quantities of Prussian amber are consumed, this substance is preferred to all others for incense; and thus the Buddhist shrines in the palaces of Pekin and the holy palaces of Mohammedan Mecca alike owe the fragrance of pious fumes to the same strange, beautiful source—the dead fir forests of a pre-historic Europe. Nevertheless the chief charm, both for the past and present, lies in the positive beauty of a mineral.

RECEPTACLE FOR SOILED LINEN.—Take an ordinary flour barrel, line it with paper muslin, and on the outside cover it with cretonne laid in box plaits. Around the top finish with a lambrequin made of turkey red, with cretonne flowers transferred on the center of each point. Cover the lid with cretonne inside and out and put a full plaiting of the same round the edge. The tassels are made of worsteds corresponding with the cretonne. By leaving the handle off the top and having the lid made large enough to fit over, instead of the ordinary way, the barrel can stand in a room and be used for a table.

ELECTRIC WATCHES.

A RUSSIAN Jew, Solomon Schisgal by name, and only nineteen years old, son of a watchmaker in Berditschen, has invented a watch which goes by electricity, and which is declared by Herr Chwolson, Professor of Physics at the University of St. Petersburg, to be an instrument of wonderful simplicity and value. In an article in the *Nowosti*, describing the invention, which he believes will revolutionize the manufacture of watches, Professor Chwolson says: "The watches are without any springs and consist solely of two wheels. Besides being true, they have the advantage of the second hand moving in single momentary leaps, as is usually the case only in very costly watches, and which is of the utmost utility for astronomical observations. These watches can also set in motion a certain number of watches of the same construction, so that they all keep exact time. The invention has convinced me that watches can be used for the purpose of telegraphy."

SULPHUR LAKE.

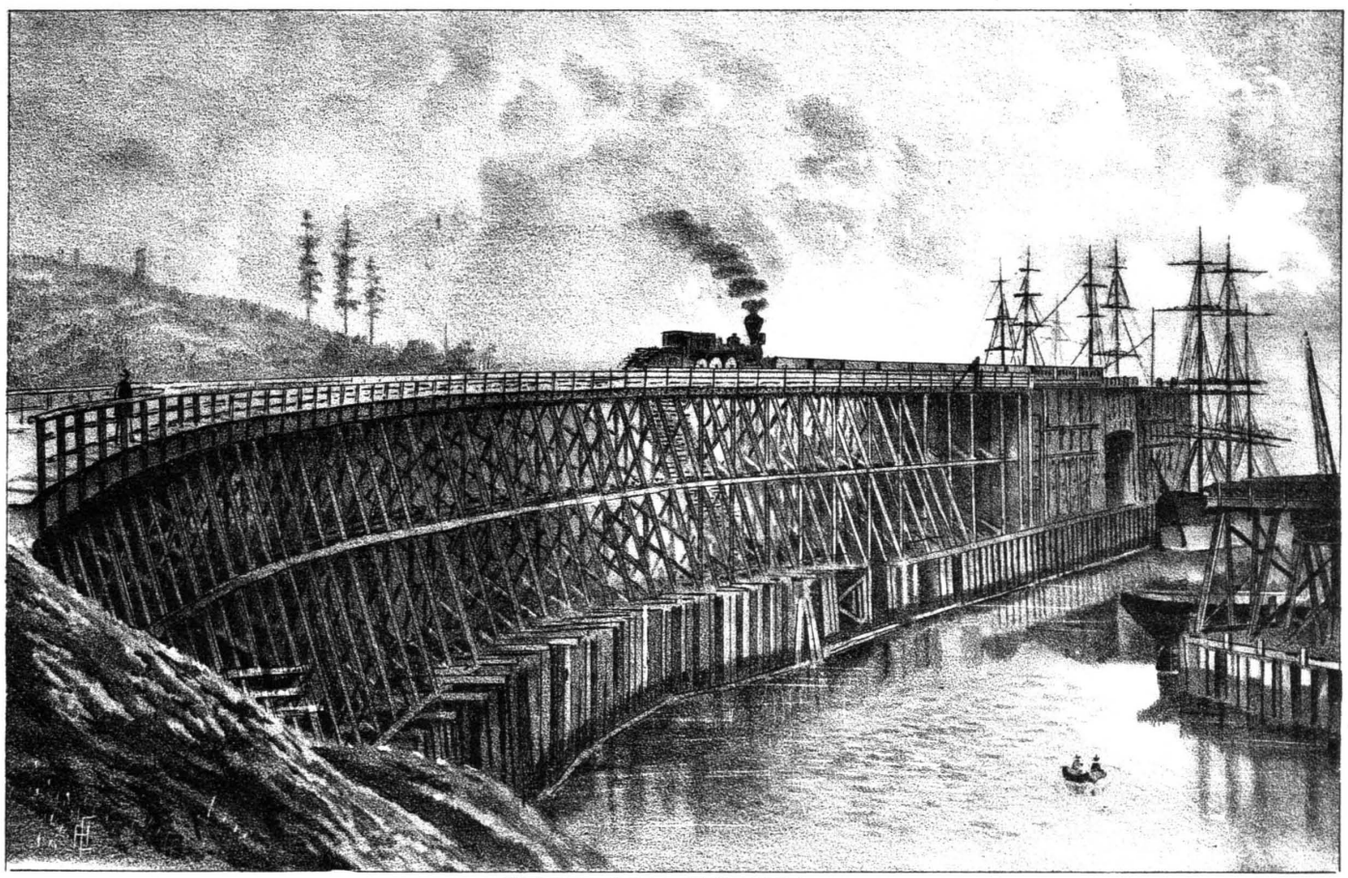
IN the Washtucna Canyon, eight miles from Palouse Junction, W. T., and six from Snake River, lies a small, shallow body of water, which has received the name of "Sulphur Lake." Though separated from Snake River by a hill 1,000 feet high, it is only twenty-nine feet above that stream. When the water has been much evaporated in the summer a spring of white sulphur is disclosed, which at other seasons is entirely submerged. From little depressions in the soft mud at the bottom of the lake arise bubbles of sulphurated hydrogen gas, and are driven across the surface by the wind. It was after the aristocratic nostrils of the stockmen in that region were saluted by the scent wafted from these by the passing zephyrs that they bestowed the name upon the pool. The railroad from Palouse Junction to Colfax and Moscow passes by this odiferous body of water.

CLOTHING MADE OF GLASS.

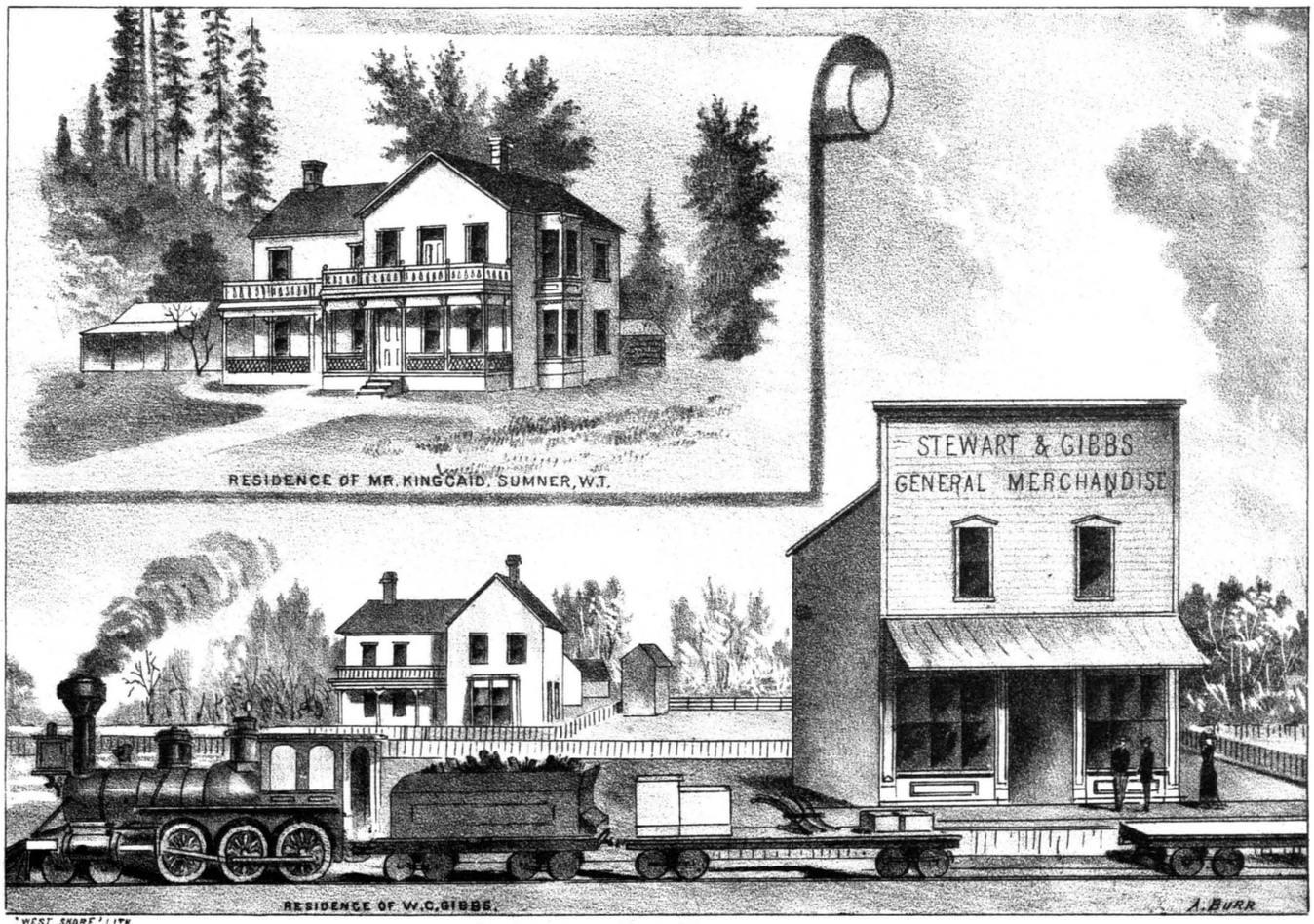
AT Gaudenfrel, Germany, the artist and glass spinner, A. Prengal, of Vienna, has established his glass business, offering carpets, cuffs, collars, etc., made of glass. He not only spins but also weaves glass before the eyes of the people. The otherwise brittle glass he changes into pliable threads, and uses them for making good, warm clothing by introducing certain ingredients, which are his secrets, and thereby changing the entire nature of the glass. He makes white, curly glass muffs; also ladies' hats of glass, with glass feathers, which are lighter than real feathers. Wool made of glass, it is said, cannot be distinguished from the genuine article. Glass is a non-conductor, and the time may not be distant when it will cause a revolution in dress materials.

PROMPT CURE OF RINGWORM.—R. W. Taylor, M. D., in the *Journal of Cutaneous Diseases*, reports the best results from the use of a paint composed of a tincture of myrrh and four grains to the ounce of bi-chloride of mercury. Other skin affections are cured by the application of this remedy.

THE WEST SHORE.

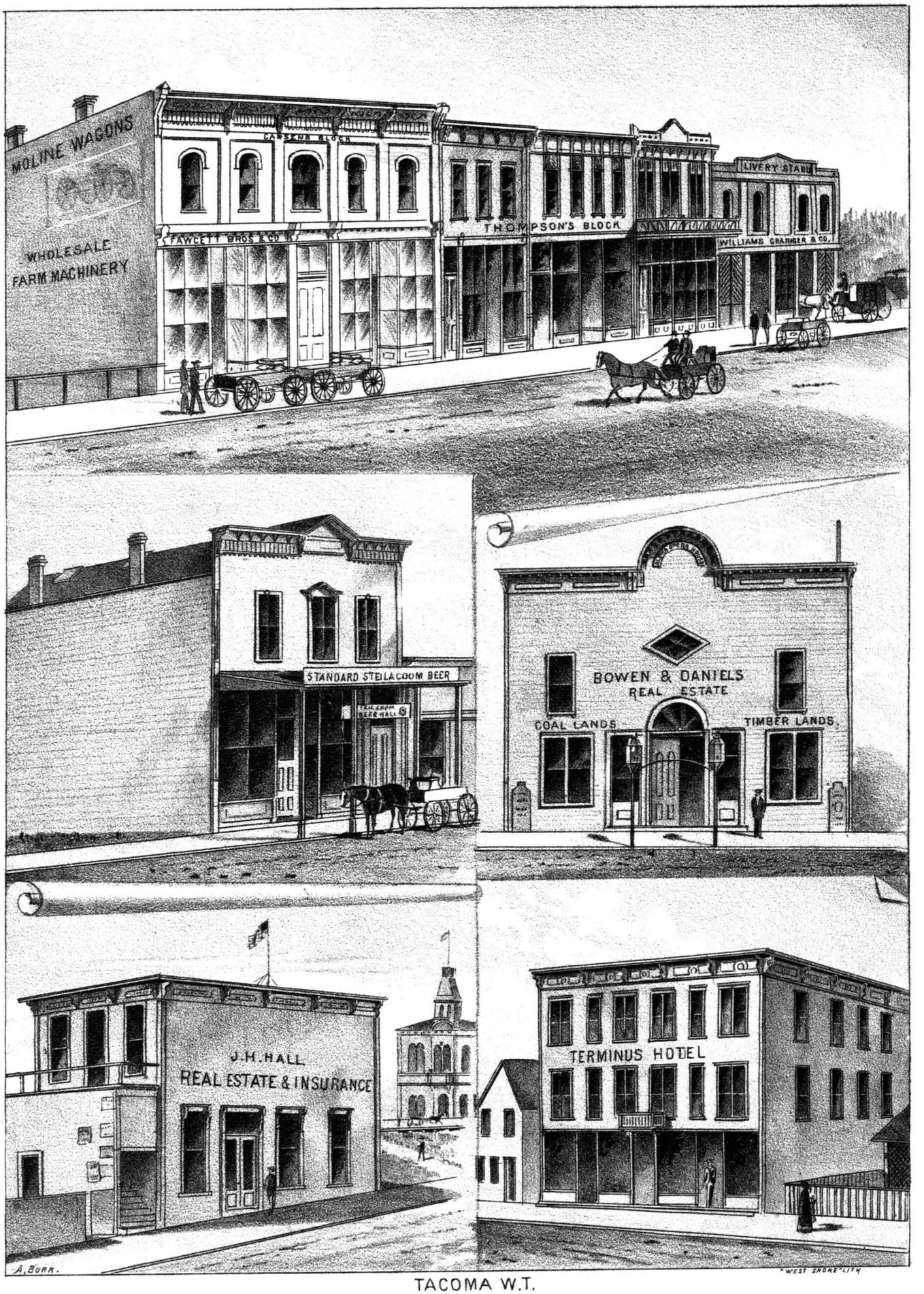


TACOMA COAL BUNKERS



PUYALLUP, W.T.

THE WEST SHORE.



TACOMA W.T.

THE THREE SWANS.

[From the German.]

AMONG the mountains near Wimpfen on the Neckar is a little lake, of which this story is told:

A boy sat alone on the shore of the lake playing with flowers. He had often looked out upon the water and wished for a boat that he might float about here and there over the smooth surface, but he had only the plank which lay beside him that would serve to float him. Again he looked out on the lake, and see! there were three white swans upon its bosom. With proud mein they glided about on the water and finally came toward him. The boy was delighted with their appearance and quickly hunted some crumbs from his pockets with which he fed them. The swans seemed so tame, looked at him so friendly and came so close to the shore that he thought they must want to know him. But when he put out his hand to catch them they sped away, just out of his reach. The tamer they appeared and the oftener he failed to catch them, the more he wished to bestride one of them and flit about over the water on its back.

Finally he seized the plank beside him, pushed it into the water and placed himself upon it. It bore him. With a loud hurrah! he pushed away from the shore, and using his hands to propel him carried himself forward. The swans were always in front of him, but never could he touch them. Now they were in the middle of the lake. A feeling of anxiety and weakness came over the boy, and he was forced to let his tired arms sink by his sides and rest. Wherever he could see was an expanse of water, and he trembled with fear as to how he should ever again reach the shore. The swans gathered about him as though to comfort him. The boy forgot his danger, reached suddenly with his hand toward the prettiest swan, but ah! the uncertain plank turned, and he sunk into the blue depth.

When he awoke from unconsciousness he found himself upon a couch in an elegant palace, and before him stood three wonderfully beautiful maidens.

"How came you here?" asked one of them, taking his hand with a friendly air.

"I know not myself," answered the boy, "how it happened, but I wanted to catch three white swans on a lake, and fell into the water."

"Will you remain with us?" the maiden continued. "You will be welcome; but you must know that if you pass three days here you can never again return to your home, for you will not be able to breathe its air, and must die."

The kind friendliness of the sisters filled the boy with confidence. His young heart knew no harm, and he rose from the couch and said gladly: "Yes, I will remain with you."

The sisters led him through their fairy palace; they showed him its magnificence and splendor, each thing richer than the last, and the bewildered boy gazed upon the beauty all about him with unsated eyes. Everything glittered and sparkled. There were pearls like walnuts, diamonds large as eggs. Gold lay about in long bars; every wall was covered with silver and all the floors were laid with silver tiles. In the gardens were fruits more inviting than he had ever seen—apples like a child's head; plums the size of ostrich eggs; cherries as large as billiard balls; grapes like those brought to Joshua; and other fruits just as rich, and all of the most beautiful colors. The boy had often read of paradise. "This," cried he, "is it, indeed. Here I am well satisfied."

Weeks and months passed, but he took no note of time; for new objects constantly appeared to draw his attention and claim his thoughts; and as he lay beneath the trees and ate of the beautiful fruit he never once thought of his home.

Finally, however, a year may have passed, when suddenly there came upon him an irresistible longing for his little village. Nothing pleased him—he enjoyed nothing any more. The knowledge that he could never leave the fairy palace was an inward sorrow, and when the bushes of the garden hid him he cried bitterly. When the sisters were by him he tried to appear pleasant; but they saw plainly written in his face the traces of the grief that was in his heart—the red eyes, the pale cheeks, these he could not hide—and they soon divined the cause of his trouble. They often asked him confidingly what ailed him, but he always evaded the true cause and tried to elude them with the excuse of sickness.

One evening as the sun went down he laid himself upon the soft, green grass by the side of a little stream that ran laughingly on. All nature about him was so charming, so luxuriant, so glorious and beautiful. Everything invited to happiness and enjoyment. Sweet perfumes filled and refreshed the air. The birds sang their evening songs, while in the meadows before him was a happy medley of merry, laughing workers. It brought before him the picture of his home, his beloved village, his little playmates, his mother mourning for her son. The boy groaned aloud and wept bitterly. The happiness and beauty about him served only to make his own condition more wretched, and to bring upon him by comparison an overflowing sense of his own unhappiness. Covering his face with his hands he buried it in the high grass; and the hot tears dampened the earth under him as he moaned and wept in anguish and despair. As he lay thus he heard his name spoken. Suddenly starting up, he saw before him a woman bent with age, withered and hideous. Her face was brown and covered with deep furrows, her eyes dim, and the wasted form leaned heavily on a thick staff for support. Never before had the boy seen so horrible a creature. A cold chill crept over him. He attempted to cry for help, he tried to run away, but he could do neither.

"What do you want?" he finally asked, in a trembling voice.

The object of horror grinned.

"If you will come with me, dear child, I will return you to your home."

"Leave me, monster!" cried the boy, full of anger. "Leave me! Never will I part from my benefactresses

without their consent; and rather than follow you, I will stay here and die without ever seeing my home again."

Scarcely was the last word spoken when the figure disappeared in mist, and the three sisters stood before the boy.

In his astonishment he could not utter a syllable. Then spoke one of the sisters:

"As you act so honestly toward us, your secret wish shall be gratified; you shall return to your home."

The boy knew not how to speak his pleasure and thankfulness. He cried for joy that he would be allowed to go to his home; he cried for sorrow that he must leave the kind sisters. He wanted to go back to his parents, yet he wished to remain where he was. He could do nothing but weep. Restlessly he laid himself on his couch, and the night was far spent when he fell asleep. When he awoke in the morning he found himself on the shore of the familiar lake. He looked up, saw the three swans as he had seen them before, and stretched out his arm toward them; they dived out of sight in the blue water and he saw them no more.

In the village his friends were greatly surprised at his reappearance. They gathered about him, and with open mouths heard the boy's wonderful story. But no one believed a word of it. After the first pleasures of again seeing his home, came a desire to be once more in the unknown land he had left. The feeling grew with each day. Then came frequent visits to the lake, but the swans never came more. He cried with regret at having left the three loving sisters. Wherever he went he grieved. Nowhere found he rest. He ever longed for his fairy paradise, and ever in vain. The bright eyes dimmed, the plump cheeks again became pale and sunken. Slowly he went to the lake one day, laid himself feebly on its pebble-strewn shore and slumbered, never to awake again upon earth.

SECOND HAND FOOD.

IN one of New York's shabbiest streets, in the basement of a large tenement house, a German and his wife deal in second hand food, which is eagerly bought by the neighboring poor. The writer recently visited this unique establishment. In the front room a crowd of purchasers were waiting, cans and money in hand. The German was in the back room emptying barrels upon a big, bare pine table. Occasionally a box or barrel proved too heavy, and his wife joined her strength to that of her husband's. She is a big, jolly German woman, rosy and neat. On the table was a constantly growing heap of meat. Some was cold and some was steaming. The heap was made up of fragments of everything that is included under the terms fish, flesh and fowl. It was not pretty to look at, but a moment's study of the heap showed that every fragment in the mound was of good origin, and had been well cooked. Ribs of beef with clumps of meat attached to the bones; skeletons of turkeys, ducks, geese, chickens and game birds in the same condition; chops of veal, mutton and pork, whole and cooked to a turn; slices of cold corned beef, cold roast mutton and beef, cold ham and tongue—all this and probably as many other things beside were in the heap. The foremost little ones in the impatient crowd had to crane their necks around the door frame to see the nature of this second heap, and were charmed to see iced cake, jelly rolls and tapioca pudding. The man filled the deep and broad sill of the window with cans. Some were full of mashed potatoes, some with potatoes and turnips mixed, and some with cabbage. The woman was heaping up slices of bread, ends of loaves, little cakes, tea biscuits, rolls, slices of costly cake, boiled and baked potatoes in their jackets, crullers, gingerbread, doughnuts, Boston brown bread and crackers. Her heap grew so tall that an avalanche formed and food rolled on the floor. She was obliged to leave some barrels similarly stocked without emptying them. Suddenly she faced the troop of children, and they began to shout and scramble for the doorway, demanding to be waited on. There were plates in some of the baskets and tin pails in others. The man tossed in the meat and the woman shoveled bread, rolls and cake in until the baskets were loaded. Both used their hands. "You see," said the German, "that the food is clean and good. I buy it from the hotels. First-class houses never carve a rib after it is impossible to get nice-looking pieces from it. They never heat things up the second day or serve them the day after they are cooked. These potatoes I took out of the kettle in the Fifth Avenue Hotel. That's where the pudding came from. I am expected at a certain time, and I go right in and clean out the warming pans, all this is what are called 'cold pieces' and 'middlings' in the hotel trade. In some houses the help is fed on this. It is not what is left from the plates of the guests. That goes to the swill man. The bread and rolls and cake you see here were all baked to-day, and are as fresh as my customers could get at the bakeries for five times the price I sell it for. I get it in slices, ends, and quite often in whole loaves. I get, in addition to what you see here, stewed fruit and cold tea and coffee. I get a great deal more than you suppose—at least fifteen barrels of bread a day. In selling, I calculate to give enough for twenty-five cents to keep a family of four or five a whole day. I sell as little as ten cents' worth. I charge about four cents a pound for the meat, ten cents a gallon for the vegetables, and I sell as much bread for three cents as I can buy in a bakery for fifteen. For twenty-five cents I give meat enough for three meals for four people, with half a gallon of some vegetables, and then bread and cake enough for all day. Some of my customers are very particular, and want things nice. I pick them out nice things. Some want more cake and pudding, some want only meat, and so it goes. For a quarter they not only get as much weight of food as a dollar will buy, but they get the very best that can be bought—quality as well as quantity. It is also cooked in the best manner. I have nothing left over. I don't open this place till I finish collecting and drive up with my load. It is always after eight o'clock at night. In a very little while I have sold it all."

A WOMAN'S OPINION.

WHAT is my opinion of women kissing each other? I don't like it, and don't see any very good reason why they should do it. Sometimes, where women or girls really like each other, and adopt the kiss as the strongest mode of expressing their preference, it is excusable, but this business of women kissing each other because custom permits it, is, I think, not only nauseating to the women, but is a slander on the proverbially dainty taste of the sex. There is truth in the old saying that women kiss each other because they can find nothing nicer to kiss, but the truth in this instance does not warrant the practice to the extent that all women must kiss, because, when it comes to that, women can find something nicer to kiss—men, for instance. Outside of any personal feeling, and merely as a matter of form, I know plenty of men I would much rather kiss, than lots of women I know, and whom I am compelled to osculate, and there are thousands of women just like me. I know the women have brought it upon themselves, and, since they have, I think it incumbent upon themselves to take decisive action against it, and instead of having it as a tyrant, make it a servant and use it as they see fit. Women, more than men, are the creatures of fashion, and they endure all sorts of torture, from the physical agony of a tight corset or a tight shoe to the mental agony of unbecoming clothes, rather than tresspass upon style, but I see no honor or credit to them in it, and until they are strong enough to throw off this yoke, they will be deserving of the title, "the weaker vessel," which they have shown themselves through all the ages, not only willing, but fitted to bear.

A MEAN MAN'S THOUGHTS.

SOMETIMES I wonder what a mean man thinks about when he goes to bed; when he turns out the light and lies down; when the darkness closes in about him, and he is alone and compelled to be honest with himself. And not a bright thought, not a generous impulse, not a manly act, not a word of blessing, not a grateful look, comes to bless him again. Not a penny dropped into the outstretched palm of poverty, nor the balm of a loving word dropped into an aching heart; no sunbeam of encouragement cast upon a struggling life; the strong right hand of fellowship reached out to help some fallen man to his feet—when none of these things come to him as the "God bless you" of the departed day, how he must hate himself! How he must try to roll away from himself and sleep on the other side of the bed! When the only victory he can think of is some mean victory, in which he has wronged a neighbor. No wonder he always sneers when he tries to smile. How pure, and fair, and good all the rest of the world must look to him, and how cheerless, and dusty, and dreary must his own path appear. Why, even one lone, isolated act of meanness is enough to scatter crumbs in the bed of the average ordinary man, and what must be the feelings of a man whose whole life is given up to mean acts? When there is so much suffering, and heart-ache, and misery in the world anyhow, why should you add one pound of wickedness or sadness to the general burden? Suffer injustice a thousand times rather than commit it once.

HOW SHEEP WINTER IN MONTANA.

THE manner in which the sheep of Montana pass the winter in such excellent condition has been a puzzle to those not familiar with the country and the climate. It is thus summarized from statements made by an experienced sheep man of that Territory: Snow to the depth of fifteen inches, provided it is not incrusted by a rain or checked thaw, does not retard their feeding in the least, as they can easily nose around in that much of the fleecy covering for their daily bunch grass. Then, again, when the ground is bare and grass easy to get the frisky animals are doing more racing around than eating. They will nibble a bite, and then seeing a tall, waving bunch a rod ahead, off they start for that, and so they spend the whole day, when they ought to be filling their stomachs, in looking at the country, and only sampling the feed as they go along. With snow on the ground they would make a clean up as they go along, the cold snow not being near as inviting for a run and a frolic as the grass-covered plain, so that the animals really seem to get more to eat when there is a liberal sprinkling of snow over their fodder. There are always little points and knolls which the wind has blown bare, and the flock soon make clean work of a patch of that kind. The inevitable cold, stormy days, with the wind in the north and lots of snow flying will find the sheep of the good shepherd peacefully nibbling away on some hay within the shelter of the corral and sheds. Shelter and some food besides that which is rustled for on the range are now provided by all intelligent wool growers, as it is a "penny wise and pound foolish" policy when they try to save a few dollars and do without.

WHAT CHINAMEN HAVE DONE.

CHINA is nearly as large as Europe, and contains a much larger population, every third man in the world being, it is calculated, a Chinaman. Their progress in the past has been most marked; thus the Chinese appear to have been among the earliest, if not the very earliest, of the human race to emerge from barbarism. They have a literature older than the days of Moses, and astronomical observations that go back at least to the days of Abraham. Comparing their early progress with that of European nations, they were clothed in silk robes when our savage ancestors still painted their naked bodies. They invented printing, and had printed books about the middle of the tenth century, five hundred years before the time of Caxton. Gunpowder and the mariner's compass were Chinese inventions long before they were known to Europeans. Lieutenant H. N. Shore pointed out, in a recent paper read before the Society of Arts, that in the matter of canals, the utilization of carrier pigeons, the artificial culture of oysters, fish and poultry, and in the satisfactory solution of the great sewage question, the Chinese have been before us in time.

INTELLIGENCE OF ANTS.

SOME warm day, when you do not know what else to do, find an ant hill under a shady tree and watch the little fellows at their work. That is what I have been doing. The ring of earth around the hole, like the wall of a fort, is familiar, but the most interesting part of their home is under ground. See them drag the pebbles out of the hole in the center. If you could follow it down you would find the way irregular, and at the end a number of galleries each supported by pillars of earth. The young ants are kept on these shelves, and, in fact, it is their city. Here the chief men meet to talk over the matters of the colony. But how can they talk? Put an ant under the microscope and you will see two little projections on the head called mandibles. The ant converses by touching its mandibles to those of its neighbor. Ants are very strong, persevering and industrious, some working all night, and I have seen an ant carrying a stone two or three times its size. I once laid a piece of sugar near a hole. An ant soon found it, and though the piece was many times as large as itself, it lifted the sugar above its head and started for the hill. It attempted to drag the sugar up the hill, but when the first pebble was struck it would roll over and over. At last, by leveling a place so as to get a start, by the occasional help of a passing ant, the sugar was pulled over the hill. I noticed a spider one day stop to rest near an ant hill. Four or five ants came out. They took hold of his legs and swarmed on his back. He was dragged into the hole and the rest flocked out to help eat him up. The ants carry their young out every pleasant day to lie in the sun, and at the first sight of rain they hurry them into their houses. These little creatures have good memories, and never forget their friends. If an ant be taken out of an ant hill, kept for two months and then put back into the same hill, it will be received; but if placed in another it will be killed. In Texas there is found the agricultural ants, that clear a place from weeds and grass for about two feet around their home. They then drop the seed of a kind of grass whose grain they like very much. The ants take care of the young blades, protecting them from insects, and when the grain is ripe, carry it into their homes. But what is more peculiar, if the store of food should become damp during a rain, it will all be carried out on the first sunny day and dried, and then brought back. The habits of ants indicate great intelligence and reasoning power.

THE Okanagan & Shuswap Railway Company has applied to the Legislature of British Columbia for a charter to build a line of railroad from the north end of Okanagan Lake by way of Spallumcheen Valley to a connection with the Canadian Pacific. A grant of 650,000 acres of land, including all minerals thereon, is asked for by the company. This is one of a number of lines that will branch off from the Canadian Pacific in various directions through British Columbia, and aid in developing the rich mineral, lumber and agricultural resources of the Province.

MONTANA'S PRODUCTIVENESS.

MONTANA is destined to become one of the greatest agricultural States of America. Its climate, soil and native products of grass are alone sufficient to assure this. The harvest of 1883 yielded 745,500 bushels of wheat, an average of about thirty bushels per acre, and 1,614,000 bushels of oats, an average of forty-five bushels, to say nothing of minor crops, such as barley, potatoes, etc., which run up into the hundreds of thousands of bushels. Our pastoral area outnumbers our tillable lands at least ten to one, and our live stock products constitute the bulk of our agricultural wealth. There are in our Territory 74,560 head of horses, worth at a low estimate $2,237,000; 5,254 mules, worth $157,320; and 21,000 milch cows, worth $840,000; and 378,713 head of stock cattle, readily worth $11,951,330, making a total valuation of $12,691,320. There are also in Montana 527,440 head of sheep, the cash value of which is fully $1,582,322, yielding an annual product of 2,637,000 pounds of wool, which last year brought the growers a total of $527,400. About 10,000 mutton sheep brought $35,000. Thirty-five thousand beeves have been sent to the Eastern cities, and all of 15,000 have been sold to Indian agencies and railroad builders, making the round number of 50,000 head, which brought between two and two and a half million dollars. It will be seen that, aside from real estate, the husbandman of Montana represents a cash valuation of $14,373,012, and hence it will appear that our live stock interests are bringing the Territory the handsome income of nearly three million a year. This does not include what is consumed at home, and consequently does not anything like reach the value of our product.—*Husbandman.*

TREE PLANTING.

SO small would be the money outlay, so inconsiderable the labor required, to insure for the next generation a wealth of timber land equal to that of which we have the benefit, and shade and shelter trees in even more adequate supply, that it is a great wonder to us, amid all the forcible facts brought forward against the rate at which forest destruction is going on, there has been no more general movement in tree planting. In Germany and Austria, for upward of half a century, the number of trees planted has borne a good proportion to those annually cut down, and it is certain that this is the case now, year by year. In France, Italy and England, also, tree cultivation is now general, and is held to be a most important matter of public concern. But here, with the characteristic improvidence which has come to be considered a marked feature of American character, we are destroying our great virgin forests with a rapidity never before equaled in any other country, and without taking any measures to insure their future growth.

THE Anaconda Company, whose new smelting works gave birth last year to the bustling town of Anaconda, is now shipping eighty tons of copper per day. This is a large addition to the already great shipments of that metal from the mines of Butte City and vicinity.

CHRONOLOGY OF EVENTS.

February.

1—Explosion in store at Alliance, O.; 7 killed and 7 wounded....Bill restoring Fitz John Porter to the army passed the House.

2—Death of Wendell Phillips, in Boston, aged 73 years....Steamer *Nottinghill* sunk by an iceberg in the Atlantic; crew saved....Egyptian army defeated by rebels at Tokar.

4—Strike of spinners in Massachusetts....Baker Pasha defeated by followers of El Mahdi in Upper Egypt.

5—Parliament opened in England....Grand carnival begun at the Palace of Ice in Montreal.

6—Great damage by flood at Pittsburg, Cincinnati and along the Ohio River.

8—Oil tanks and warehouse of Standard Oil Co., at Long Island City, burned.

9—Thomas S. Smith, of The Dalles, Or., died in San Francisco....Steam collier *Umatilla* struck a rock at Cape Flattery, was towed to Esquimault, B. C., and sunk in the harbor.

10—Legislature of British Columbia passed an act to prevent Chinese from acquiring Crown lands....Floods in the Ohio higher than in 1882 and still increasing.

11—Thomas Kinsella, editor of Brooklyn *Eagle*, died in that city....Death of Thomas Chenery, editor of the London *Times*....Sinkat, in Upper Egypt, captured by followers of the False Prophet; garrison massacred.

12—Brewery burned at Gervais, Or.; loss, $6,000.

13—Fire in Sprague, W. T.; loss, $42,000.

14—Highest point reached by the flood in the Ohio at Cincinnati, 71 ft. ¾ in.

17—News received of the death, January 31, of William Gouverneur Morris, Collector at Sitka.

20—Explosion in coal mine at Uniontown, Pa., kills 19 men....Cyclones in North Carolina, South Carolina, Georgia and Alabama kill 75 people and wound 150 others.

21—Tokar surrendered to the Egyptian rebels....Bark *Lizzie Marshall* wrecked near Cape Flattery....Bodies of De Long and companions received in New York with great ceremonies.

23—Body of Salmi Morse, author of "The Passion Play," found in Hudson River: supposed suicide....Broken rail throws train from bridge near Brookfield, Mo.: 6 killed and 25 wounded.

24—Steamer *Sausalito* burned at San Quentin, Cal.; loss, $150,000.

26—Death of the French generals De Wimpffen and Schramm.

28—Explosion of a powder magazine near Omaha; 4 people killed....Death of ex-Governor Hubbard of Connecticut....Body of General E. O. C. Ord arrived in New York from Havana....The Egyptian rebels severely defeated near Trinkitat by the British under General Graham.

29—Earthquake in the Island of Chaos and in Asia Minor....Great fire in Philadelphia; loss, $1,000,000.

WEATHER REPORT.

Rainfall at Empire City, Coos County, Or., Compiled from Records Kept by David Morse, Jr.

	1880. Inches.	1881. Inches.	1882. Inches.	1883. Inches.
January	....	8.16	7.66	5.72
February	....	8.95	10.59	1.97
March	....	2.60	4.45	4.85
April	....	.87	4.23	5.86
May	....	.65	1.55	2.75
June	....	4.71	.26	.25
July	....	.95	.25	.00
August	....	1.04	.01	.00
September	.20	1.15	.95	.82
October	.28	4.80	3.77	4.87
November	.82	3.23	2.96	2.17
December	7.69	7.48	8.53	3.00
Total	8.99	44.59	45.21	32.26

January, 1884, 2.75 inches.

MANY a child goes astray, not because there is a want at home, but simply because home lacks sunshine. A child needs smiles as much as the flowers need sunbeams. Children look little beyond the present moment. If a thing pleases, they are apt to seek it; if it displeases, they are apt to avoid it. If home is a place where faces are sour and words harsh, and fault-finding is ever in the ascendant, they will spend as many hours as possible elsewhere.

TACOMA—CONTINUED FROM PAGE 77.

the Northern Pacific, stopped all work on the main line, and retarded the completion of the road for seven years. During all that time New Tacoma remained a small village, waiting patiently for the renewal of active building upon the main line, the completion of which was necessary for the realization of its hopes. In 1880 work was energetically pushed on the main line eastward from the Columbia and westward from the Missouri. The certainty of a speedy completion of the road awoke New Tacoma into life and activity. It then had a population of but 720. In two years it was increased to 3,000, while the erection of hotels, stores, shops and residences was only limited by the supply of materials and labor that could be obtained.

Great as was that growth it has been far exceeded by the development of the past year. Residences and business blocks have increased at a rate astonishing even to the most enthusiastic supporter of the city. During 1883 the population was doubled, increasing it to more than 6,000, and $1,500,000 were invested in real estate, being nearly three times the amount invested in 1882, and representing 1,114 separate transfers of property. The number of new buildings erected was far in excess of those of any previous year, while the character of the structures was uniformly better and more substantial, a greater proportion of them being built of brick. The increase of the assessed valuation for Pierce county was more than $1,000,000, the increase representing almost entirely the enhanced value of property in the city. Tacoma to-day occupies a platted area of 2,938 acres, of which 1,500 acres represent the additions surveyed and recorded during the past year. By the last Legislature the two cities of Tacoma and New Tacoma were united under one charter as the City of Tacoma, the corporate limits embracing a much larger area than the above platted portion, all of which will eventually be laid off into additions as the city's dimensions are enlarged.

A brief glance at the commercial and manufacturing industries already established will astonish those who have been accustomed to consider its greatness as lying entirely in the future. There are in the city, in addition to factories, banks, etc., 153 distinct business houses, which may be classified according to their principal line of trade as follows: Dry goods, 11; groceries, 19; variety, 15; hardware, 6; agricultural implements, 1; millinery, 4; drugs, 4; bakeries, 4; furniture, 4; boots and shoes, 4; butcher shops, 4; harness and saddlery, 1; jewelry, 5; blacksmith shops, 4; livery stables, 2; barber shops, 5; hotels, inclusive of boarding houses, 11; restaurants, 12; wholesale liquor, 3; saloons, 18; laundries, 6; printing offices, 2; gunsmiths, 2; undertakers, 1; paints and oils, 3. These houses carry stocks ranging from $500 to $40,000, averaging about $6,500 each and aggregating a total of $1,000,000. The city has two substantial banking houses, the Tacoma National Bank and the Bank of Tacoma, which received in 1883 deposits to the amount of $4,139,866 14, and dealt in exchange aggregating the sum of $4,074,361 32. Such sums as these passing

through business channels indicate an enormous volume of trade. There were 197,147 tons of freight received by the Northern Pacific Railroad and 21,656 tons forwarded; but since the bulk of shipments in the past to and from Tacoma have been by water, these figures give but a faint indication of the inland, coast and foreign commerce of the city.

The manufacturing enterprises already established are very extensive, and new ones are constantly seeking locations. Many of those already in operation were founded during the past year, while during the same period the capacity of others was materially increased. The most extensive of these is the Tacoma Mill of Hanson & Co. This mammoth establishment employs an average of 200 men about the mill and 600 in the eighteen logging camps it keeps in operation. In 1882 the mill cut 32,000,000 feet of lumber, but during the past year $100,000 were expended in enlarging its capacity, and the total product was 50,000,000 feet of lumber and 10,000,000 laths. Seventy-two cargoes of lumber were shipped from Hanson & Co.'s wharf during the year, twenty-four of which went to foreign ports. The capital invested in mill, warehouses, vessels, tugboats, animals, etc., connected with this enterprise, is fully $1,000,000, and the monthly expense of operation exceeds $100,000. This is one of the largest, and, in many respects, the most complete lumbering enterprises in the world.

The Tacoma Sawmill of M. F. Hatch & Co. produced in 1883 a total of 11,000,000 feet of lumber and 5,000,000 laths, the greater portion of which was sold in the home market for buildings being erected in the city. Forty men are employed. John Carson began operating his new sawmill in April. During the remainder of the year 3,700,000 feet of lumber were cut, much of which was dressed and finished into finer grades before leaving the mill. In the fall a sash and door department was added under the title of the Talok Manufacturing Company, in which Mr. C. M. Johnson is associated with Mr. Carson, and the manufacture of furniture, stairs, stair-railing, etc., is carried on extensively. Fifty men are now employed, but the force will be largely increased as new branches are added. The New Tacoma Planing Mills of Paulson & Anderson also began operations in April. They employed during the year an average of twenty-four men, and turned out a large quantity of lumber, sash, doors, etc. The capacity of this establishment is being increased to twice that of last year. The Tacoma Furniture Factory of Chamberlain, Bauerle & Rice has been running a little more than a year and employs forty men. A great quantity of furniture leaves this factory monthly. William Page's Shingle Mill employed seventeen men in 1883, and during the ten months of its operation turned out 4,000,000 shingles. A new sawmill, to have a capacity of 40,000 feet, is being constructed by Chapman & Leavenworth one and one-half miles from the city, with which it will be connected by a narrow gauge railway. The inexhaustible supply of timber and the increasing demand for Puget Sound lumber are a sufficient guarantee that this business will be a permanent one, and will continue to increase in the future as it has during the past few years.

The terminal car shops of the Northern Pacific Railroad are located at Tacoma and form an industry of great importance. During 1883 they employed an average of 175 men, paying $175,000 in wages, and turned out 249 cars, chiefly flat cars, besides keeping in repair twenty locomotives and all the rolling stock of the Pacific Division, and doing much other wood and iron work for the road. New brick shops are soon to be erected, which Mr. Oakes has given assurance "will be second only to the largest of the company's shops on the road. They will be supplied with an abundance of all kinds of machinery needed for the building of coaches and other rolling stock, and for repairs of all kinds, so that if desired they could build a locomotive from the ground up." When these are completed their industrial benefit to the city will be very great, leading directly to a large increase in business, population and value of property.

Other manufacturing enterprises embrace the very extensive foundry and machine shops of Lister, Houghton & Co., where eighty men are employed; Williams' salmon cannery, which, commencing late in the season, packed 2,000 cases and salted 200 barrels of salmon, and which will vastly increase its capacity and product the coming season; the Pioneer Candy Factory of McLaren & Wallerstein, which consumed during 1883, the first year of its operation, a total of 26,000 pounds of fine sugar; and brick yards which burned 2,000,000 bricks the past year, a product which will be nearly doubled the coming season. Summing up the manufacturing enterprises already established, and all constantly increasing in capacity, product and amount of labor employed, it is found that the industries disbursed in 1883 a total of $747,718 in wages to 950 men, besides furnishing work to nearly as many more in logging camps at various points along the Sound. A flour mill with a daily capacity of 100 barrels is now being erected.

The majority of business and public buildings erected in 1883, as well as those under contract for the present year, are of the most substantial character and some of them highly ornamental. The cheaper wooden structures, which, in the absence of better material, were at first hastily erected, are fast disappearing before the onward march of two and three story brick buildings, and it will not be long before the business streets of Tacoma will be lined with substantial brick blocks. With beds of superior clay in the immediate vicinity, not enough brick could be procured to fill the demand, and this year facilities are being provided for burning at least twice the quantity made last year, all of which, before the close of the season, will be standing in solid blocks on the streets of Tacoma. The structures most noticeable are the new hotel, Annie Wright Seminary, Coal Bunkers, Central School House, St. Luke's Memorial Church, Court House, Railroad Shops, and a number of private residences, which are commodious and several of them extremely elegant, signifying the culture and taste of the people.

The "Tacoma," the large and handsome hotel being erected by the company, is now nearly completed, and, as will be seen by reference to the engraving, has no superior on the coast, outside of San Francisco, in size and appearance, and none in the character of its fittings and accommodations. St. Luke's Memorial Church is an imposing stone edifice, erected at an expense of $25,000, and presented by Mr. C. B. Wright, of Philadelphia. The Fannie C. Paddock Memorial Hospital was erected and dedicated to the memory of the estimable wife of Bishop Paddock. The Annie Wright Academy is another of Mr. Wright's munificent gifts to Tacoma, and is an educational institution of a high order. The improvements already made, in progress or in contemplation, by the Northern Pacific are on a most extensive scale. A new depot, with side tracks and everything in proportion to the immense business to be handled, has just been completed in the vicinity of the shops. Notwithstanding the fact that coal bunkers of great capacity were constructed last year, the site for larger and more commodious ones has already been selected. Contemplated enlargement of the shops has been alluded to. Work is already in progress in extending the wharves and improving the water front on a most extensive scale. Plans for an enormous grain elevator have been prepared, which will be erected as soon as the facilities for transporting grain to this point for shipment are completed.

The commodious school building shown in our illustrations was completed last year, and testifies to the intelligence of the community. Ten teachers are employed and more than 500 scholars are enrolled. Two ably conducted newspapers, the *Ledger* and *News*, both of them published daily and weekly, receive good support and ably represent the city. No other place of 6,000 inhabitants can boast of two such enterprising and valuable journals.

The resources of the surrounding and tributary country, which are aiding to build up the city independently of the advantages it possesses as the terminal point of the railroad, are very great. Puyallup Valley, unsurpassed in fertility, produced last year 1,200,000 pounds of hops, besides other farm and dairy products. Tributary to the city, also, are the rich agricultural regions of Lewis and Chehalis counties. During the year the coal mines tributary to Tacoma forwarded to the city for shipment 168,115 tons of coal, being an increase of 200 per cent. over the output of 1882. The handling of such an enormous quantity of coal was of itself a large business, but the preparations being made for the future indicate an extensive increase. The bituminous coal fields extend from Green River to Nesqualley Valley, and are from twenty to thirty miles in width. The coal is declared by experts to be equal to the best on the coast, and to make coke as good as the best imported from England. All of this is tributary to Tacoma, and is reached by a branch of the Northern Pacific which taps the coal fields by way of the Puyallup Valley. A number of veins of lignite of a superior quality have been discovered in Lewis county, and a company has been organized to develop them at once. The product of these new mines will reach Tacoma by a branch line connecting at Tenino.

East of the coal belt is found a large deposit of magnetic iron ore, also the grey and black hematite, assaying from 40 to 50 per cent. metal. What will be the natural result of this conjunction of a superior quality of both coal and iron in the region immediately tributary to Tacoma is thus outlined by Captain J. C. Ainsworth, one of the most far-seeing business men of the coast: "That means smelting furnaces, rolling mills, nail factories, boiler yards, engine building and the numerous branches of iron and steel making, and it means thousands upon thousands of operatives, and the general wealth their active and continuous employment affords."

All that has been said is based upon the present condition of the city and the resources of the tributary region, but there is an aspect in which Tacoma must still be considered, and that is in its position as the point where the Northern Pacific reaches the salt water of the Pacific. It is universally agreed on every hand that upon Puget Sound will inevitably spring up a great commercial city. That the commerce of Asia will seek the shortest, and therefore the cheapest, route is a proposition no one can deny, since it is based upon one of the simplest laws of trade, and that the route from Puget Sound to Japan and China is two days shorter than from San Francisco is a fact admitted in all commercial circles. It follows that with the establishment of a line of large ocean steamers sailing from the Sound (and this project is well advanced) a large portion of the Asiatic trade will follow this route and cross the continent by way of the Northern Pacific.

Under such circumstances the growth of a large city on the Sound may confidently be predicted. It is the prevailing opinion, based upon the history of cities and railroads, and the relations they bear to each other and to ocean commerce, that whatever point should be selected by the Northern Pacific for its nominal and actual operating terminus would, beyond question, become a great city. Upon this point Mr. Oakes recently stated: "Tacoma is the Western terminus of the Northern Pacific Railroad, in fact as well as in name. When the through trains begin to run here, as they will when the Kalama extension shall have been completed, they will stop here." Upon the same subject Captain Ainsworth not long since expressed the following opinion: "As a matter of plain common sense business and interest, the Northern Pacific is inseparably wedded to Tacoma. Notwithstanding the large aggregate sales of lots, the value of the company's holdings in reserved property is very great, and it increases constantly and in a rapid ratio. And then the water front is of immense value. All the wheat and other products of the interior that come to Puget Sound for transhipment will come here. There is no doubt about it."

Whoever visits the City of Tacoma sees the business activity, its bustling manufactures, its business and residence buildings going up by the score, views its extensive harbor filled with shipping, from the small Sound steamer to the great three-masters and immense ocean steamers, studies the resources of the surrounding country, and considers its position as the railroad terminus and on the direct route of the Asiatic trade, and, having done all this, is not convinced that within a very few years a great manufacturing and commercial city will spring up, will live to wonder at his stupidity and blindness. Men of keen judgment and great business experience have testified to their faith in Tacoma by large investments in real estate and by founding there extensive business and manufacturing enterprises. Such facts as these are in themselves convincing.

The business men of Tacoma are enterprising and honorable, and are imbued with the life and activity which seems to be a marked feature of the city in every respect. The Tacoma Chamber of Commerce was recently incorporated, and will, beyond doubt, accomplish

much for the material advancement of the city.

Among the prominent real estate dealers in Tacoma may be mentioned the firm of Bowen & Daniels. Although comparatively new comers in a country settled as long as this has been, yet they are prominent because they understand their business thoroughly. They believe that no matter how many times property may change ownership, at no matter how large an increased valuation, if such change is made between residents, it does not increase the amount of capital in the city nor does it add one iota to the future value of the property; that it may relieve present difficulties is admitted. But to build up Tacoma, to make it what it can and ought to be, requires more than this; it needs the infusion of new blood, of fresh capital from outside sources, the securing of manufactories, and dissemination of information regarding the present and probable future of this country. Every body will admit that these matters are necessary to the future growth and development of this city and country, but not every one has the energy, ambition and ingenuity to accomplish, or even attempt the accomplishment of this desired result. To do this requires an intimate knowledge of the country, and its surroundings and resources, and added to this a thorough understanding of the migratory classes of the East, and systematic ways of reaching them with reliable information. Mr. Bowen possesses these qualifications, and is familiar with the classes mentioned. Having been for many years connected with the manufacturing industries of his native State (Ohio), and principally engaged in the introduction of new manufactures throughout the East, West and South, he has been brought in contact with the capitalists and producers of a wide extent of country. What has been said of Mr. Bowen is also true of Mr. Daniels to almost the same degree; and taking the firm as a whole they are fully equipped to answer any and all inquiries pertaining to the country and their line of business in particular. They have fine lists of property and are reliable business men. A specialty is made of timber and coal lands, sites for manufactures and farm properties; these are specially advertised through journals devoted to that purpose. Strangers seeking information in regard to the Pacific Northwest cannot do better than to address a letter to Messrs. Bowen & Daniels. They will gladly furnish all information in detail, and their statements may be relied upon. Their office is located in the Opera House, where they are always pleased to receive visitors and furnish them with all the information desired.

The Washington Fire Insurance Company is an institution of Tacoma. It was organized by citizens of Washington Territory in Tacoma, with a capital stock of $100,000, and occupies the second floor of the Tacoma National Bank building. The manner in which it is conducted makes it impossible for the company to meet with heavy losses by any one fire. They never take to exceed $2,500 risk upon property which might be destroyed by the same fire. This conservative policy commends itself at once to the approval of all business men. The Walla Walla *Statesman*, in speaking of the company, remarks: "The interest of the Northwest is surely not to have hard-earned money carried from her borders elsewhere. The great source of a people's wealth lies in a reliance upon their own resources. It is the same principle which actuates one to do his duty when he knows he is right, and in this case the performance of his duty clearly eventuates to his own gain. The Washington Fire Insurance Company is emphatically an institution of the Northwest and believes in the above ideas. Now that this is true, if the owners of property continue to patronize a home institution, like the Washington Fire Insurance Company, whose original capital and subsequent accumulations are, and will be, kept within the Territory, thereby benefiting the whole Northwest, we shall always have in our midst an institution whose abundant security is guaranteed to the policy holder, and whose ability to pay its losses will at all times be ample and unquestionable. During the year of 1883 the company issued nearly 2,000 policies. Its income was $69,778.81, while its total expenditures, including losses, commission, office furniture, etc., was only $19,249.32. The company is in a highly prosperous condition and is thoroughly reliable." The officers are: H. C. Bostwick, President; Robert Wingate, Vice-President; General J. W. Sprague, Treasurer; and F. S. Cottle, Assistant Secretary.

A brick manufacturing company has been organized in Tacoma. They have lands on Fox Island upon which a superior clay is found for making brick. Mr. Bowen, of the real estate firm of Bowen & Daniels, is one of the leading spirits of the enterprise. They will supply the Tacoma market with abundance of brick the coming summer.

Mr. Howard, the enterprising hotel man, has just completed a fine three story building, in which he will conduct one of the best hostelries in Tacoma. It is located near the new depot, and will be very convenient for travelers. Its appointments will be first class in every particular. Mr. E. H. Sherman, the contractor, under whose supervision the hotel was built, has made of it a very handsome and substantial structure. He has shown in this, as in many other instances, that as a contractor and builder he thoroughly understands his business, and can be trusted with the most important work. An engraving of the Terminus Hotel is given on another page.

W. B. Blackwell is proprietor of one of the best hotels in the city. Richard Welch, chief clerk, and his assistant, E. C. Smith, make the hotel popular by their able management.

George B. Evans, who has charge of the work on the N. P. R. R. Company's new hotel, is rapidly pushing it to completion. To ensure a substantial and handsome structure the work could not have been placed in better hands.

Williams, Grainger & Co. have just completed a new brick livery stable on Pacific avenue, an engraving of which will be found on another page. They have better facilities now than ever for carrying on a first-class livery stable, and, with the best turnouts in Tacoma, will continue to grow in popular favor.

Mr. J. R. Lomer, the well-contractor, is one of the most energetic and enterprising men in the city. His thorough knowledge and careful attention to the details of his business have won for him a reputation which always keeps him with important work under contract. To show how the capitalists and property owners of Tacoma appreciate his skill, we have only to mention the fact that the Central Hotel was built under his supervision. It is a four story and basement building and one of the handsomest blocks in the city. He also built the Catholic church. He has erected five business buildings on Pacific avenue, one residence on E street, one on G, one on D, and one on Tacoma avenue, and now has several business blocks under contract upon which he is now engaged.

Stewart & Gibbs of Puyallup have just completed a handsome new store at that thriving town. Mr. Stewart is the pioneer of the Puyallup Valley, having settled there in 1857. An engraving of their new store and Mr. Gibbs' residence will be found on another page.

Mr. Thompson, the successful hop raiser of Puyallup Valley, has erected two fine business buildings on Pacific avenue.