

[Box 41 Yakima (Co.) - Irrigation]

Irrigation

Dedication of first 25 miles of canal

Mr. Whitson's address(Hon Edward Whitson)

In this presence we may congratulate ourselves ~~that~~ the dream of the early settler has been realized....

We stand in view of historic ground where Sheridan and Nesmith, both now sleeping with the heroic dead of dearth, led the assault upon Fort Konnewock, and by this ~~very~~ spot the Indians in retreat were followed by the troops until upon younder hill at Union gap where the Yakima breaks through triumphantly, there made another stand but at last yieleded to the superior fource of the government and acknowledged themselves a conquered people.

It is t ue the supreme cricis followed later, but the battl.e here fought and the scenes there enacted led to the treaty which ceded the empire to the government of the United States.

This canal is located upon that cessation. That was an eventful time. It marked an epoch in the history of this region.

The inhabitants became a conquered people, but i t remained for the acts of peace to subdue the country.

That event, tragic, historic, lon to be remembered in tradion and song, was worse than useless but for thisdevelopment now so auspiciously begun and while we say of the heroic Sheridan and the noble Nesmith, both our own because theirfame began with us, they filled to the fullest measure the duty of thetime in which they lived We also say to those now here present to see the consummation of this splendid enterprise, we honor you as well forGOD subduing what they conquered and by your efforts bringing its golden fruitage to the markets of the world.

Now strange the coincidence that the great irrigation

enterprise should begin in the locality where the Indians made such desperate endeavors to resist the advent of the whites into this country and that this canal should wind its sinuous course through Fort Konnewock, even now well preserved; a monument to the valor of the Indians; a remembrance to the bravery of our race.

Even as the Indians were successfully vanquished, so now in the country effectually subdued and the blessings of peace have followed the conquest of our arms, so that we may appropriately recall the poet's words:

"Peace has her victims, no less glorious than war."

This is a canal indeed; in its depth, its width, its carrying capacity it takes rank with the great irrigation canals of the country:

The thousand Indians who do not occupy this Yakima Indian reservation need not and may not long retain it from their fellow man.....Yakima Herald, March 31, 1892.

five times the amount of water of the lower canal or 165,000 cubic feet a minute. At Union gap, the waters will be separated, one branch being carried across the river by a pipe line at an elevation of 200 feet thence along the upper Sunnyside and finally through a gap in the Rattlesnakes to the Columbia slope, a distance of 115 miles.

The second branch will follow around the hills at Union gap and out upon the reservation lands and thence along the base of the hills to below Prosser, a distance of 76 miles.

In order to secure sufficient water to cover the vast bodies of land contemplated the engineers found it was necessary to secure mammoth storage reservoirs so as to board up the water at those seasons when not needed and when it would otherwise go to waste.

With this in view the company last year appropriated Lake Kitchelas, Katcheez(eez) and Cle-Elum at the headquarters of the Yakima and Bumping or Tanum lake at the head of the Natcheez

Some improvements have already been made on these water sources but the work of preparing for storage will begun at once and large forces of men will be sent up to build dams.

The dams at the lakes of the Yakima will be twenty feet in height, while that of Bumping lake will be forty feet. Work on these dams will be continued until they are completed so that water will be there when needed.

Granger said what it was the intention of the company to give the people cheap water. They have unexcelled facilities for advertising in all of the desirable portions of the world and particular efforts would be made to colonize the lands with people of California, Colorado and other sections where the methods and means of irrigation are well known and very shortly agents will

be sent to these localities for the purpose of inducing the better class of settlers to come here.

The company does not intend to retain the canals after the country is settled but to dispose of the water rights or shares with the land.--Yakima Herald , April 16, 1891.

Work on the big irrigation canal is progressing rapidly. About two hundred men are employed and one hundred and forty teams. The work extends over six miles of the line of surveys and the way the dust flies is a caution. The forces are constantly increased and additional grading plant is arriving almost daily.--Yakima Herald, May 7, 1891.

The name of the company embraces Kittitas for the reason that it is contemplated eventually to embrace that valley in the system.

In Yakima county two main canals are laid out, known as the upper and lower canal, and it is the lower one on which all surveys have been completed and on which active construction work was commenced on Monday last.

This canal begins at a point about two miles below Union gap and will empty into the Yakima opposite the town of Prosser. Its dimensions are thirty feet wide on the bottom, 62 on top and will carry 33,000 cubic feet per minute. The length of the canal is 65 miles and it is the contract for the first twenty five miles that has just been let.

This contract embraces the heaviest work and for some distance will cost \$9,000 per mile.

As an evidence of the difficulties, there is one cut of 600 feet in length from which upwards of 25,000 cubic feet yards of dirt will have to be removed. The land directly covered by the canal aggregate 90,500 acres.

Engineer Rockwood estimates that this land, with a population no greater than on similarly favored lands in California, will support 50,000 people.

The intake of the upper line or main canal will be at the wagon road bridge across the Natcheez river and near the present head of Hubbard ditch. The land to be covered are the upper lands of the Sunnyside, 75,000 acres; the irrigable lands on the Columbia slope of the Rattlesnake mountains, 70,000 acres; the irrigable lands of the Yakima reservation and those lands on the west side of the Yakima river in the vicinity of Prosser, altogether about 330,550 acres. The canal from the Natcheez to Union Gap, a distance of 14 miles, will be an immense affair, carrying 600,000

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It is not the residents of Yakima alone who love the beauty and fertility it possesses so much that in speaking or writing of it they sometimes lapse into words of intimate poetry rather than accuracy of statement, but every casual visitor finds the same enjoyment in the sight of the various charms and gives utterance of praise.

For years people of Yakima have looked with longing eyes to the opening of the great section of the country to the east of North Yakima and extending to the Columbia river....

Preliminary surveys were slow and always resulted in the abandonment of the project until a year ago when the Northern Pacific, Yakima and Kittitas Irrigation company was incorporated and immediately began arranging preliminary surveys.

It has taken a year to get the surveys in shape ...the engineering work is done and an actual outlay of \$40,000 has been the cost.

At first the surveying was unsatisfactory but with the engagement of C.R. Rockwood, an irrigation engineer of great ability, as chief engineer and William Hammond Hall, state irrigation engineer of California as consulting engineer, the work moved rapidly and in a manner gratifying to the company.

The plans laid out contemplate a series of great canals, and to Mr. Paul Schulze president of the irrigation company, is mainly due the credit of inaugurating and bringing to a successful issue this huge undertaking. He has worked intelligently and tirelessly to this end. In this work he has been ably assisted by Mr. Walter N. Granger, the manager of the company, a gentleman of culture and great executive force, who has had much experience in large irrigation projects which have been brought to a successful conclusion.

water of the Natcheez river, an inexhaustible source, has been made.

Two hundred thousand feet of lumber cut from the mountains above has been used in the construction of flumes. A large part of the work along the hillsides forming the divide between the upper Natcheez and Wenatchee valleys was cut through solid rock at an immense cost, compensated, however, by the indestructibility of that portion of the ditch.

Two years have elapsed since the excavation and construction of the ditch was first begun, and even now the work is just nearing completion.

The originator and promoter of this great enterprise, the man whose brain conceived and whose energy carried to a successful issue this great work is John A. Stone of Pierce county, Washington.

Mr. Stone is perhaps the largest and certainly the most successful farmer in Pierce county. His six hundred and forty acre farm, on what is known as Connell's Prairie, one hundred acres of which is devoted to hop culture and every acre of which, although in a densely timbered country is under cultivation, shows evidence of the most careful businesslike management.

He is the owner of numerous other farms and he takes an especial pride in his landed possessions and in putting them in as high a degree of cultivation and perfection as money, energy and attention can put them.

He is enterprising and energetic, a man of unceasing activity and wonderful foresight.

When two years ago he first came to Yakima county his practical eye clearly foresaw its magnificent possibilities as an agricultural county. He saw a soil as rich as that of the valley of the Egyptian Nile and a climate whose every feature was an element of growth.

All that was needed was water to make the desert blossom.

Irrigation

Selah

The arid regions of the state of Washington comprise that part of central Washington lying east of the Cascade mountains and west of the Columbia river. They consist of a succession of dry plains or valleys, intersected by ranges of hills which are spurs of the main range of the Cascades.....These plains are covered with a growth of sage brush and bunch grass the latter of which affords food supply for immense herds of cattle which formerly, before the advent of the settler bent upon agricultural pursuits, was the principal industry of this vast region.

The first irrigation enterprise of any considerable magnitude undertaken in the Yakima county, and for that matter in the arid region of eastern Washington of which Yakima county forms the greater and most important part, was that of the Selah Valley Ditch company, excavating and constructing by means of dykes, flumes and viaducts a canal to be used for the purpose of watering and making productive a large area of high table lands situated a distance of from three and one-half to twelve miles from the city of North Yakima and known as the Selah valley.

The ditch or canal has its source in the upper Natcheez river where the river ceases to flow through the fertile Natcheez valley but runs through a canyon flanked on each side by high rocky walls. From this source it winds its tortuous way across the valley and along the hillsides until, owing to the great and rapid fall of our mountain streams, its lesser grades enable it to surmount and cover the elevated table lands of the Selah valley, whose bare surface awakens to a new life at its magic touch.

The extreme length of this canal is twenty-two miles. Its width at the top is 22 feet and at the bottom eight feet. Its depth is five feet. An appropriation of eight hundred cubic feet per minute of the

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Yakima county is south of Kittitas and north of Klickitat these three extending from the summit of the Cascade mountains eastward to the Columbia.

The Yakima river and its principal tributary the Natcheez rise among the high peaks---other streams of the county, as for example Wenas creek and Ahtanum river, derive most of their water from spurs of the range....It is evident that water storage must be resorted to in order to save some of the surplus water of early spring, which usually comes in a flood of short duration, so short in fact that the irrigators have barely time to give their lands one thorough watering.

In many of the streams there are often two decided floods, the earlier resulting from the melting of the snows on the lower foothills following a warm wind or rain. Later in the spring the snows on the higher mountains begin to melt, sometimes keeping up the height of the water and at other times giving rise to a second well marked flood.

The creeks which do not receive this second supply shrink during June, so that by the first of July there is hardly enough water for gardens and stock.

Some of the lower grounds along the creeks receive sufficient moisture by seepage from the streams or from the ditches on the benches to raise crops without application of water to the surface but the higher lands must be irrigated, except perhaps in the case of those at an elevation of from 1,500 to 2,000 feet or more.

The topography of this country is shown by maps made by the northern transcontinental survey of 1883. The area surveyed includes the Kittitas valley and the southern portion of Kittitas county as well as

the greater part of Yakima county.

Besides the topography which is shown by contoured lines the forest areas have been outlined and the soils studied, the results in each case being shown by colored maps. This area is characterized by mountain ranges running in a general easterly and westerly direction, many of them being cut by the Yakima river.

Between these ranges are fertile valleys, the soil of which yields large crops.

The first of these valleys is the Kittitas valley, lying in the county of that name. After leaving this area the river passes through the Umtanum range and enters a valley region, the portion on the west or right bank of the river being known as the Wenas valley, from the creek of that name, and that on the east as the Selah valley.

South of this latter valley is the narrow Yakima range separating it from Moxee valley. On the opposite side of the stream and south of Wenas valley, from which it is separated by the Natchez river is the Ahtanum prairie, these two valleys, Ahtanum and Moxee, being in all about 25 miles long and 5 miles wide. South of these the Yakima river cuts through Rattlesnake range into the broad Yakima prairie, 60 miles more in length and from 10 to 15 miles in width.

Here the river gradually turns toward the east and flows along the Simcoe range which bounds the prairie region on the south. It is in this great prairie region that there appear to be remarkable opportunities for irrigation development, some of which are being utilized.

According to the report of the survey this whole region in former times consisted of four great lakes inclosed by mountain ranges now cut by the Yakima river. The soil of the valleys has been denoted

from these lakes and is highly productive, containing unusually but a small proportion of alkali.

The geological structure is in some respects similar to that of the ancient lake basins in the states further to the east, where artesian wells have been found.

East of the town of Yakima in the Moxee valley are two wells, 285 feet and 325 feet deep, respectively, having a combined flow of 1.35 second feet, the waters of which are of great value to household use, for stock and irrigation.

An unsuccessful well has been drilled near Pasco, Franklin county, to a depth of 527 feet, mainly in basalt.

The greater portion of the center of the county west of the Yakima river is occupied by the Indian reservation which includes a large part of Yakima prairie. Northeast of this prairie are rolling hills and plateaus, generally covered with nutritious bunch grass so valuable for stock raising.

The soil is rich and with an abundant rainfall good crops could be raised.

In some localities large areas of government land have been taken up and settlers have raised from 10 to 20 bushels of wheat to the acre. The majority however, have not been able to secure a crop, and many homesteads have been abandoned.

In the eastern part of the county, away from the river, it is exceedingly difficult to obtain water even for domestic purposes, and it is necessary to haul it long distances.

A deep well has been drilled at the expense of the state in section 36, township 8, north range 26 east. This reached a depth of about 500 feet, and cost \$3,400. Water was struck at a depth of 225 feet, but did not rise to a higher level.

The lava or basaltic rock through which the well was drilled is extremely hard and progress was very slow.

At a few places along the Yakima river stream pumps with a capacity of from 500 to 1,000 gallons of water per minute have been located for the purpose of raising water for gardens, orchards and stock. The expense of operating them is large and it is still doubtful whether as a rule they are successful.

A large part of the irrigation in this county is carried on by means of ditches, built by the farmers, either individually or in partnership.

The men as a rule have had little money to invest in the development of the water supply, but they have contributed freely of their labor. The short crops of the census year diminished their resources, so that generally they could not, unaided, undertake larger enterprises such as the building of long canal systems.

In 1889 and the following years outside capital was attracted by this apparent opportunities for profitable investment in works of this character and corporations began to increase in number.

Many of the irrigators however, perhaps the majority, have a strongly expressed fear of powerful companies obtaining control of the running water of the county, and view with apprehension the extension of systems under corporate management.

As examples of some of the ditches of the county, there may be given the following:

The Ahtanum and Wide Hollow ditch take waters from the north side of Ahtanum creek, carrying it out on the prairie toward North Yakima. Its length is ten miles, and its average width five feet. It was built in 1879. About 250 acres were irrigated in 1889. The crops being small grain, alfalfa, corn, potatoes and with these

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orchards and gardens. It is reported that a large amount of water is required by the land under this ditch, and that, on the average, one second foot is used for 50 acres.

The supply of water in the creek is not sufficient for all the demands upon it.

The Scott ditch takes water from the Natcheez river about 12 miles northwest of Yakima, running out on the south side of the stream.

It is about three miles long, nearly three feet wide and one foot deep and cost \$1,500. It is owned by private parties, and irrigates 60 acres of alfalfa, clover, hops, potatoes, sorghum and wheat.

Union ditch takes water from the Natcheez river at a point two miles northwest of North Yakima bringing it out upon the south side through the city.

The total length of the ditch is six miles; the average width seven feet; the depth one and a half feet, and the cost was \$2,000.

The ditch was first used in 1874.

It is now owned by an incorporated company of farmers. There is a large amount of water in the river, and the supply has been ample for all demands.

The Fowler ditch takes water from the Yakima near the town of North Yakima and runs on the east side of the river into Moxee valley.

The length is eight miles; the average width seven feet; the depth about one foot and the cost \$3,000.

No dam is used in the river and the fall of the stream is sufficient to bring water into the ditch. About 1,500 acres are

irrigated, the crops raised being small grain, alfalfa, hons, corn and tobacco.

The ditches of the Yakima Irrigating & Improvement company take water from the north side of the Yakima river and carry it out upon the bottom lands below the town of Kiona, extending from that point down to the lands at the junction with the Columbia river above the town of Pasco.

The upper ditch known as the Kiona is nine miles long and follows the general course of the Yakima river. In 1891 about 350 acres of corn, alfalfa millet, rye, notatoes, beets. etc. were watered, the blfalfa being cut five times.

The lower or Yakima ditch heads on the river near the lower end of the upner ditch and follows the course of the stream for a short distance.

The total length of this system when completed will be upward of 60 miles.

The ditches are from mine to ten feet in width and three feet in depth. They were first used in 1891 and are being extended each year. The water supply being ample.

Besides thes ditches and others of similar character which are already in operation, there are many marge projects on foot for constructing canals to take the water of the Yakima river and its tributaries out at various points and many of these will undoubtedly be successfully constructed as there appears to be an ample supply of water in the river and there are thousands of acres of fertile lands on the Yakima prairie-- Yakima Herald, August 11, 1892.

Sunnyside

Paul Schulze and Attorney J.H. Mitchell were in Yakima Tuesday looking after the interests of the Northern Pacific company and the irrigation company in the contest over the Sunnyside lands now being heard in the land office.

The evidence went to show that 78,000 acres of the land were bought from the Northern Pacific by the Kleinschmidt-Granger-McIntyre combination at \$1.25 an acre and that the present irrigation company is the lineal descendent of the projectors of the scheme.

Testimony was introduced showing that the Northern Pacific executed its first deed to the lands in question in March, 1892 and that the railroad company owns 1,250 of the 5,000 shares of the Irrigation company--Yakima Herald, August 4, 1892.

Among the recent purchasers of Sunnyside lands, who will at once prepare to engage in the cultivation of fruits and hops, are Wm. R. Lisle of La Salle, Ill. 40 acres in sec. 5 twp. 10 range 21 and Morgan and Mitchell of Seattle, 60 acres in sec 29, twp. 10 range 23. Yakima Herald, December 1, 1892.

Irrigation

Irrigation is emperor of this vast inland empire.

The great fruit of its application is a prime factor in the development of thousands of pretty homes on the rich acres of our picturesque valleys hitherto profitless in the absence of water with which to instill life and vigor into the gems of vegetation.

Much effort has been expended by way of simplifying and facilitating the use of the generous means nature has so abundantly provided; but Messrs Evans and Smith have just completed a mechanical appliance for raising water for irrigating and domestic purposes that is unquestionably destined to supercede all other ordinary means employed for that purpose.

This device is now in operation on the place of Lawyer Fred Parker near the city and to those who have examined it at work it demonstrates beyond doubt that it has no peer as an invention for raising water from the streams and ditches for irrigation and other purposes.

The power derived is from a wheel anchored in the bottom of the stream, entirely submerged at low water mark, and is consequently wholly free from molestation by drift or other debris floating in the water.

It is protected from the winds and independent of the presence of high water.

The wheel is connected with a bucket elevator which is placed at the edge of the water on the bank of the stream and is as simple in its construction as is the power furnished by the movement of the current.

This plant is as practicable for use in large irrigating ditches and canals for watering lands on the upper side as well as lands on the lower side of the canal that cannot be reached by means of gravitation.

The cost the Messrs Evans & Smith figure for irrigating lands ranges about \$5 per acre under ordinary conditions, at a height of about 25 feet. The quantity of water raised is governed by the size of the stream, but it may reach as great a volume as ten thousand gallons per minute.

Mr. Joseph G. Evans, the inventor, was born in Muskingum county, Ohio in 1852. He moved to Oregon in 1875 from which state he came to Yakima in 1884. He is therefore an old resident of the county, having resided in the Ahtanum from '84 to '88 at which time he removed with his family to Seattle. He has resided for the past three years at Kent.

George A. Smith, a second member of the firm, was formerly a resident of Kent where he was employed by the Kent Lumber company but was located in North Yakima sometime ago and given the management of the business of the branch office of that company.

The company will have its principal office in North Yakima and will immediately begin the manufacture of the machines. The work will be done in this city except that on the castings, which will be made in Tacoma.--Yakima Herald, September 28, 1893.

The Evans-Smith Irrigation and Land company have rented offices in the building on the corner of Yakima avenue and Second street over Chapman's Drug store.--Yakima Herald, October 19, 1893.

Irrigation. General

Irrigation

Major Powell, director of the U.S. geodetic survey and Hon Gardiner G Hubbard, president of the National Geographic Society who have been spending the past week on the Moxee, the guests of Mr. William Ker, have contributed much to the entertainment of citizens during their stay.

....Mr. Powell said in effect he had visited all of the main valleys of the arid region and none offered more opportunities for reclaiming land so easily and cheaply as this; that countries watered artificially were calculated to sustain a much denser population than the humid regions and that he knew of no section of the country capable of supporting a greater population than this in an equal area.

He said that the storage system was one which must be largely relied upon and that ~~too~~ in this respect the Yakima valley was only second to the valley of the Snake river which was first.

As to the science of irrigation he said it was not new; that while two fifths of the United States was an arid region and three fifths humid; that three fifths of the agricultural crops of the world were grown by irrigation and that irrigation was the birthplace of civilization; that when the implements of the husbandman were made of stone or were otherwise crude; that it was easier to cultivate the soil of an arid region which was not obstructed by tree growth and rank vegetation and that when the natural resources of forest and stream were abandoned to seek provender from the soil, then and there was the beginning of civilization and that while the humid lands of this country were first brought under cultivation, he expected to see the densest population and the seat of the highest civilization in the arid regions west of the Rockies.

With Yakima he was greatly impressed, for in climate it was like

some parts of England and France and owing to the break in the Cascade range at the Columbia river which permitted the diffusion of the warm winds of the Pacific over this country, the result was a semi-tropic valley in a sub-arctic region--Yakima Herald, December 8, 1892.

Irrigation

Notice to the Public: I desire to inform those residing along the Union ditch, so-called Mill ditch, that the North Yakima Milling company does not operate and is not responsible for any damage or overflow by said ditch further east from the mill than the corner of C street and Natcheez avenue.

From said point both ditches are owned and maintained by the Union Ditch company and the responsibility for any damage caused by said ditches rests with that company.

North Yakima Milling company, Alex Miller, President. Yakima Herald, December 22, 1892.