The Slogan Pages Are Yours; Aid in Making Them Helpful to Your Wonderful City and Section

SALEM DISTRICT INDUSTRIES

:-:-: Ninth Consecutive Year :-:-:

THE STATESMAN dedicates several pages each week in the interest of the fifty-two to a hundred basic industries of the Salem District. Letters and articles from people with vision are solicited. This is your section. Help make Salem grow.

OREGON HAS ONE EIGHTH OF THE WATER POWERS OF UNITED STATES

Two Thirds of the Water Powers of the United States in the Pacific Area—Our Water Supply Permanent as the Revolution of the Earth, Certain as the Sun—Water the Most Important Physical Need—Great Developments Needed Here.

OREGON HAS ONE EIGHTH . . . that beautiful sapphire gem set deep in the grip of a tremendous volcanic crater, is part of Oregon's water resources. Even the marble caves of Josephine county were carved into their fantastic forms by water trickling through the rocks. Water is the most important physical need.

(By H. S. Rogers, Dean of School of Engineering, Oregon Agricultural College.)

There are those who have made the desert plains of the Yakima, Boise, Snake, Umatilla and Klamath valleys blossom into lands of fertility and plenty; there are those who have barred the tides from lands which have supported the finest dairy herds of the great west; others have harnessed the magnificent waters of the Klamath, the Rogue, the Clackamas, the Snake, the Skagit, the Baker and other rivers; others have fought the bars of our quiet, capacious harbors: and still others have brought the mountain waters of the Bull Run, the Green and Cedar rivers into the beautiful, thriving, healthful cities and thereby spread their fame from coast to coast.

I make the venture, however, because there are many elements of common interest in the origin and occurrence of our water supplies and because few observe these from the scientific viewpoint, that scientific viewpoint is being applied more frequently to the problems of life.

The Oregon State Agricultural college is proud of its position as the college of APPLIED science and technical professions. And this pride is our birthright, for in the words of the late President James of the University of Illinois, the original object of the land grant colleges was to turn out thinking laborers rather than laborious thinkers. Modern civilization in so far as it is due to the styles into which the materials of the earth have been fashioned has been accomplished by men of applied science.

Water Greatest Need

If complementary things can be superlatively compared, these water resources are the greatest single permanent resources endowed by nature. Upon their occurrence, the development of rivers and harbors, the irrigation of arid lands, the improvement of wet and swamp lands, the supply of power for untold industries and the health and happiness of cities. The banks of the streams of the Cascade, Olympic and Coast ranges are the haven and joy of every fisherman, hunter and camper. The Columbia River highway is made the most beautiful and inspiring of all highways by its waterways and falls. Crater Lake,

The Water Cycle

The water of the earth passes through a certain natural cycle. Beginning in the oceans it is evaporated into the atmosphere where it is conveyed by the winds over the land areas. From the atmosphere it is precipitated in the form of rain, dew, frost or snow upon the earth through which it percolates or from which it flows in streams on its return to the ocean.

The major phases of this water cycle which present the problems in the development of water resources are those of rainfall and run-off. Rainfall is produced in various ways; down in California they have in recent times hired a man to produce rain by incantations from the top of a tower. But the meteorologists believe that the one great underlying cause of rainfall is the dynamic cooling of moist air. The movements of the atmosphere which raise air to higher levels cause the expanding and cooling of the air so that the dew point is reached and the moisture precipitated. Most of the rainfall of the Pacific northwest is caused by the upward deflection of the southwesterly winds which blow in from the Pacific ocean and, striking the Coast and Cascade ranges, are raised and cooled so that the air precipitates its moisture upon the hills below.

Certain As the Sun

These southwesterlies prevail throughout the winter months and are given direction by two factors, (1) the temperature gradient between the equator and the poles which is produced by the sun, and (2) the rotation of the earth. Since our water resources are brought to us upon these winds we may truly say they are as permanent as the revolution of the earth and as certain as the sun.

The prevailing character of these southwesterlies simplify the problems of our friend and weather prophet, L. L. Wells, very materially. During the winter months he can predict seasonable showers, and during the summer months he can predict bright and clear with a remarkable degree of accuracy. He is, however, handicapped by a paucity of outposts from which to glean variable conditions.

The study of the distribution of this rainfall is essential in problems of irrigation, drainage, flood control, power development and water supply. Many a project has been handicapped by lack of sufficient rainfall data. There are certain general characteristics of the Pacific coast rainfall which are explained by the prevailing character of the southwesterlies.

The variations from the yearly average rainfall are less than in other sections of North America, the variations in the rates of rainfall in particular storms are less and in all respects the phenomena are more regular and uniform. The variations in the time and place of rainfall are, nevertheless, so great as to require the storage of water from one season to another and the conveyance of water from one place to another.

While the amount of rainfall upon the lands or watershed of any particular project is of utmost importance, the contact with the problem in construction is found in the utilization and control of the run-off. It is estimated that about 25 to 30 per cent of the atmospheric moisture which is condensed and precipitated upon the land completes the entire cycle, the remainder is by-passed in various ways so that it is returned to the air without reaching the oceans.

Great Developments

The study of the natural continuity of run-off and its utilization and control is the province of the hydraulic engineer. The problems involved in this utilization and control have ever called for the greatest energy, resourcefulness and courage of mankind. The accomplishments in this field include such works as the Panama canal, the Croton water supply of New York city, the Mississippi river control, Mussel Shoals, the Miami flood control, the Los Angeles aqueduct, the Hetch Hetchy project of the city of San Francisco; and here in our own great northwest we have a list of superlative accomplishements; the Arrow Rock dam at Boise is the highest masonry dam in the world, the Rim Rock dam of Yakima, turned over to the Yakima project manager this season, is the largest earth dam, the Skagit river project of the city of Seattle is one of the largest municipal undertakings of power development. The Port of Portland under the able direction of J. H. Polhemus has built the largest and finest Diessel electric dredge in the world; this project is founded on faith in APPLIED SCIENCE.

"The delvers in mysterious laboratories, the mathematical gymnasts, the scholars poring over musty tomes of knowledge are not understood by the work-a-day world, nor do they understand it. But between stands 'the man with applied science training' with keen and sympathetic appreciation of the value of the work of the one, and a ready understanding of the needs and requirements of the other; and by his power of adaptability he grasps the problems presented, takes from the investigators their abstract results, and transforms them into practical usefulness for the world." It is such a training of science applied to practical usefulness that is the object of the curricula of the Oregon State Agricultural college.

The problems in the utilization and control of the natural run-off are varied. The problem of irrigation is to equalize the water supplied by rainfall, not only in time, but in place. The occurrence of precipitation in the Northwest is such that the high places receive and store more moisture than the plains and valleys. Irrigation is accomplished by the construction of works to bring this water onto lands that are dry during the growing season The Willamette valley, which receives as much annual rainfall as the states of Illinois and Ohio, experienced an acute need for supplemental irrigation during the last dry summer.

The problem of drainage is to build works and improve natural channels to facilitate the run-off of streams, to protect lands from overflow, and to equalize floods.

Harbors are developed and improved by the deepening and controlling of channels. Water supplies for cities must be safe and palatable, and must be located so as to give an economic supply.

This may or may not be at points where the water will flow by gravity to a city.

Two-Thirds Power Here.

Water power is produced by two factors, the rate of flow of water and the fall. These same mountains which by the upward deflection of the winds produce the rain, also provide the fall which gives the Pacific area TWO THIRDS OF THE POTENTIAL WATER POWER OF THE UNITED STATES. They also wring the moisture from the winds before they pass over the plateaus between the Cascades and the Rockies and make problems of irrigation.

Development in any direction because of prevailing winds and topography has, therefore, its vital hydraulic problem. Agricultural development means irrigation and drainage, commercial development means river and harbor improvement, industrial development means a need for hydro-electric power, and municipal development means water supply

(Continued on page 7.)

THERE CAN BE CHEAPLY DEVELOPED A MILLION OR MORE HORSE POWER WITHIN A HUNDRED MILES OF SALEM

Probably Three Million Horsepower Within a Radius of 150 Miles of Salem, and Over Four Million Within 200 Miles—Something Like 250,000 Horsepower in Projects Already Marked Out Within 50 Miles of the Capital City.

Something like 250,000 horsepower may be had in projects already developed or marked out within 50 miles of Salem, a million within 100 miles, perhaps three million within 150 miles, and over four million within 200 miles—

And 200 miles is not a long distance at the present time for high voltage electric power lines.

More than half the water powers of the United States are in the three Pacific coast states; the largest and cheapest power project in the world is the Columbia river project. In California 400-mile high voltage lines are not uncommon; and so the great Columbia river project is within reach of Salem for future hydro-electric power.

Up to four years ago there had been marked out about 150,000 horsepower within 50 miles of Salem. This has been increased in that time to over 250,000, counting projects under 100 horsepower.

Following are some of those marked out up to three years ago:

Fish, Clear, Lava and Lost lakes, 45,000.

North Fork of the Santiam, 600; another on same, 11,000; another 7,755; another, 10,227; another, 29,000.

Marion lake, Puzzle Creek and Whisky creek, 26,000.

Total for the above, 130,218.

In the years intervening, the following are some powers that have been marked out:

Deschutes river, 34,000.

South Santiam river, 341.

Salmon and White rivers, immense power, with 6,000 cubic feet per second flow. Amount of power, undetermined.

Marion fork North Santiam, 34,090.

Permelia and Whitewater creeks, tributary to North Santiam, 22,158.

North Santiam, 20,443.

The above new projects represent 11,023 horsepower, not counting the one unestimated, and there are many later filings, on the Little North Fork of the Santiam river, footing up perhaps 100,000 horsepower.

The McKenzie powers coming within 100 to 150 miles of Salem are immense in possible white coal available here.

The great Oak Grove plant of the Portland Electric Power Co. with 105,000 developed or developing horsepower, on the upper reaches of the Clackamas river, is about the same distance from Salem as from Portland; comes largely from the eternal snows of Mt. Jefferson, in the northeast corner of Marion county.

Within 100 Miles of Salem.

The files of the office of the state engineer show the following power claims within a radius of 100 miles from Salem, claiming 100 horsepower or more:

Claimant and Address	Stream	Horsepower Developed	Total Horsepower Claimed
Oregon Pulp & Paper Co., Salem	Mill Creek and Santiam River	483.24	1,804
Portland Electric Power Co., Portland	Silver Creek	.....	1,875
Oregon Grain Company, Turner	Mill Creek	273	273
Oregon State Penitentiary, Salem	Mill Creek and Santiam River	218	218
A. D. Gardner and H. E. Bennett, Stayton	North Santiam	935	1,500
A. D. Gardner, Stayton	North Santiam	.....	13,636
Crown Willamette Paper Company, Portland	South Santiam	400	613
Scio Mill & Elevator Co., Scio	Thomas Fork of Santiam	105	105
Molalla Electric Company, Aurora	Molalla River	125	125
Mountain States Power Co., Albany	South Fk. Santiam	1,023	1,023
Mountain States Power Co., Lebanon	South Santiam	284	284
Theo. Highberger, Aumsville	Santiam River and Mill Creek	50	169
Falls City, Falls City	Luckiamute River	198	200
Georgie C. McCoy, Seattle, Wash.	North Fork Santiam	650	650
Hammond Lumber Company, Mill City	Santiam River	750	1,078
Sidney Power Company, Salem	Santiam River	200	200
Portland Electric Power Co., Portland	Sandy and Little Sandy	.....	36,932
City of Portland, Portland	Sandy and Zig Zag River	.....	20,000
Bridal Veil Timber Co., Bridal Veil	Bridal Veil Creek	156	156
Bridal Veil Timber Co., Bridal Veil	Bridal Veil Creek and Young's Creek	561	561
Reserve Lumber & Box Co., The Dalles	Eight Mile Creek	75	128
People's West Coast Hydro	Herman Creek	500	639
Apple Growers Association, Hood River	Indian Creek	250	398
Mountain States Power Co., Scio	Thomas Creek, trib. of Santiam River	100	326
J. R. Wheeler, Reedsport	Mills Creek	.....	2,000
R. W. and Irene Cary, Portland	Austin Hot Springs and Clackamas	.....	218
Columbia Valley Power Co., Philadelphia, Penn.	Deschutes	.....	23,864
Columbia Valley Power Co., Philadelphia, Penn.	Deschutes	.....	83,524
Portland Electric Power Co., Portland	Willamette	.....	136,363
Eugene Power Company, Eugene	Willamette	350	600
Hawley Pulp & Paper Company, Oregon City	Willamette	1,186	1,718
Oregon City Manufacturing Co., Oregon City	Willamette	736	1,422
Pacific Power & Light Co., Portland	White River	.....	4,233
A. L. Rich, Scotts Mills	Butte Creek	170	170
Bend Water, Light & Power Co., Bend	Tumalo Creek	.....	4,233
Odin Falls, Redmond	Deschutes	200	682
John Steidl and Thomas Tweet, Bend	Deschutes	400	400
Deschutes Power & L. Co., Bend	Deschutes	2,500	2,500
Oregon Iron & Steel Company, Portland	Tualatin	750	6,818
Portland Electric Power Company, Portland	Tualatin	100	100
Vernonia Light & Power Co., Vernonia	Rock Creek	.....	400
Deschutes Power Company, Spokane, Wash.	Crooked River	.....	5,000
Maupin Power Company, Maupin	Oak Spring, trib. of Deschutes	.....	421
Portland Electric Power Co., Portland	Oak Grove Fork of Clackamas, and Three Links Creek	.....	57,272
City of McMinnville, McMinnville	Nestucca River and Willamette	.....	5,807
Oregon Lumber Company, Dee	East Fork Hood	1,219	1,219
Pacific Power & Light Co., Portland	Hood River	.....	2,387
Pacific Power & Light Co., Portland	Hood River	.....	15,341
Portland Electric Power Co., Portland	Clackamas and North Fork Timothy Reser.	.....	10,000
Portland Electric Power Co., Portland	Clackamas	.....	36,818
Portland Electric Power Co., Portland	Clackamas	.....	28,409
Owen-Oregon Lumber Company, Medford	Big Butte Creek and Ginger Creek	250	312
Owen-Oregon Lumber Company, Butte Falls	Big Butte Creek	700	1,008
Cline Falls Power Company, Portland	Deschutes	795	795
City of Eugene, Eugene	McKenzie	.....	2,180
Silver King Mining Company, Albany	Henline Creek, trib. Little North Santiam	105	115
Waldport Light Company, Waldport	Eckman Creek	201	201
Theo. Heigberger, Aumsville	Santiam River and Mill Creek	50	169
Pringle Falls Electric Power & Water Company, Portland	West Fork Deschutes	.....	6,750
City of Eugene, Eugene	McKenzie	3,000	3,000
Municipality of Oregon City, Oregon City	Willamette	887	887
City of McMinnville, McMinnville	Baker Creek	300	300
Falls City, Falls City	Little Luckiamute	97	100
City of Eugene	McKenzie River	.....	22,000
A. J. Derby	W. Fk. Hood River	.....	994
	Total	68,799.24	529,892

THERE IS SHORTAGE OF RURAL DOCTORS

The Medical Profession Is Asked to Avert a Worse Condition

WASHINGTON, May 19—(AP)—A shortage of country doctors which farm leaders say threatens a general breakdown in rural health service has commanded the attention of medical authorities. Methods of replenishing the dwindling supply will be considered at the convention of the American Medical association at Minneapolis in June.

In 1906 there were approximately 33,000 physicians in communities of 1,000 population or less in the United States. A survey made in 1924 showed this number reduced to 27,000. More recent investigations reveal that almost one-third of the towns of 1,000 or less which had physicians in 1914 had none in 1925.

The average age of rural doctors in 1925 was 52 years. Since the average age at death of American physicians is 62, the present generation of country doctors will practically have disappeared in another 10 years, it is asserted. Only a small percentage of the doctors graduated in the last ten years have taken up practice in rural districts.

The National Grange has appealed to the medical association to take steps to increase the number of general practitioners "whose outlay in time and money in securing their medical education will be such that their services will be within the reach of the rank and file of the people."

Officers of the Grange, in a petition to the association, say: "The family doctor is rapidly becoming extinct. He is being supplemented by the specialist to a degree not warranted under practical conditions. If the supply of country doctors is to be replenished, these doctors must come from among the young men and women of the country districts, as was the case in former times. And only in rare instances can the son of a farmer hope to enter the medical profession owing to the expense of his education."

Officers of the Grange insist 'hey are not advocating any lowering of medical standards. They contend, that more practical education, costing less in time and money, is required.

TOMATO HINTS BY COLLEGE EXPERT

Fresh manure is not recommended for tomato plants, but if well rotted, it is often of great value, says A. G. Bouquet of the Oregon Agricultural college. Commercial fertilizers, such as a mixture of 300 to 400 pounds acid phosphate and 200 pounds of sulfate or muriate of potash, are often profitable. Regular cultivation of tomato plants has shown increased yields and better fruit over fields poorly cultivated.

Irrigation is usually a good practice on the light sandy soils. Lack of moisture often results in dry or blossom-end rot. It is preferable to apply water when the fruit begins to increase in size and to continue irrigation through the early stages or ripening. Running water between the rows is considered a better practice than sprinkling. It is best to avoid irrigating when the plant is first starting to produce flowers.

Cut worms are best controlled by the application of a small handful of standard bran mash poison near each plant at the time of setting out. A standard arsenate of lead dust (sold ready mixed under various trade names) is applied to repel the small black flea beetles which eat holes in the leaves and often destroy the plant.

Sympathetic Neighbor—I hear you lost your husband. It's a terrible thing.

Widow—Yes, indeed. You know what you're losing but you don't know what you'll get the next time.—The Pathfinder.

SEED TESTED FOR FRENCH FARMERS

PARIS, May 19—(AP)—A scientific system of seed testing with a view to increasing France's wheat and rye crops has been initiated by the minister of agriculture, with an appropriation of $240,000 wrung from Premier Poincare, jealous guardian of the national purse.

Experience has shown that in the same field, with the same methods and same expenditure, one variety of wheat will yield from two to four bushels more per acre than another less adapted to local conditions.

With this in mind, the ministry experts are carrying out a series of tests to determine the varieties of seed most suitable to each region of France. When that has been done the results will be communicated to farmers and arrangements will be made to facilitate the supply to them, under advantageous conditions, of the seeds most suitable to their soil.

THIS WEEK'S SLOGAN

DID YOU KNOW That water is running idle down the defiles of the Cascades and the Coast Range within easy distance of Salem (within an average of less than 50 miles) affording cheaply developed hydro-electric projects that would aggregate more than 250,000 horsepower; that within a radius of 100 miles about a million horsepower could be developed, and, with power lines no longer than some lines in use in California, perhaps over four million horsepower; that Salem may absolutely assure her steady growth by the development of the first named 250,000 and over horsepower for use here in industries; that she may become a city of half million population by developing and using the powers within a radius of 100 miles, and that it would be a splendid and sound move for this city, as a city, or as individuals organized into companies, to undertake water power development here on an ambitious scale, and to do it now?

Dates of Slogans in Oregon Statesman

(With a few possible changes)

Loganberries, October 6, 1927
Prunes, October 13
Dairying, October 20
Flax, October 27
Filberts, November 3
Walnuts, November 10
Strawberries, November 17
Apples, Figs, Etc., Nov. 24
Raspberries, December 1
Mint, December 8
Beans, Etc., December 15
Blackberries, December 22
Cherries, December 29
Pears, January 5, 1928
Gooseberries, January 12
Corn, January 19
Celery, January 28
Spinach, Etc., February 5
Onions, Etc., February 12
Potatoes, Etc., February 19
Bees, February 26
Poultry and Pet Stock, Mar. 4
City Beautiful, Etc., March 11
Great Cows, March 18
Paved Highways, March 25
Head Lettuce, April 1
Silos, Etc., April 8
Legumes, April 15
Asparagus, Etc., April 22
Grapes, Etc., April 29
Drug Garden, May 6
Sugar Industry, May 13
Water Powers, May 20
Irrigation, May 27
Mining, June 3
Land, Irrigation, Etc., June 10
Floriculture, June 17
Hops, Cabbage, Etc., June 24
Wholesaling, Jobbing, July 1
Cucumbers, Etc., July 8
Hogs July 15
Goats, July 22
Schools, July 29
Sheep, August 5
Seeds, August 12
National Advertising, Aug. 19
Livestock, August 26
Grain & Grain Products, Sept. 2
Manufacturing, Sept. 9
Woodworking, Etc., Sept. 16
Automotive Industries, Sept 23
Paper Mills, Sept. 30

(Back copies of the Thursday edition of The Daily Oregon Statesman are on hand. They are for sale at 10 cents each, mailed to any address. Current topics 5 cents.

EDITORIAL

SALEM'S GREAT FUTURE

Salem's great future is largely dependent upon water—The use of water for power and irrigation.

Two-thirds of the water powers of the United States are in the Pacific area. Oregon has an eighth of the water powers of the country.

Our water is as "permanent as the revolution of the earth; as certain as the sun."

When all the idle and slacker acres of the Willamette valley are brought to maximum potential production; when all our water powers are harnessed to the wheels of industry and all our land that needs irrigation is brought under its benefits, the Willamette valley will have ten milions of people, and what will be called Salem then will have a million of them. The population of Salem will grow steadily. This city will ere long have 50,000 people; then 100,000—

But the great growth of this city will come with the development of the potential water powers and the use of the available water for irrigation; which will mean beet sugar factories and all that they will bring indirectly; which will mean the full development of our flax and hemp and linen industries, which will support here, directly and indirectly, at least a million people.

This resource of water, this gift of God, through the laws of nature, is a value that never diminshes, never dies, never is consumed, never wears out, never is used to exhaustion, destruction or extraction—

This clean white coal running down the defiles of our Cascade and Coast Range mountains and through our peaceful and fruitful valleys; and this life bestowing gift of Providence making certain the annual growth of the crops on the land.

We have here a veritable land of diversity. We can grow here and prepare and manufacture more products commanding wide markets than can be produced and turned to commercial use in any similar extent of territory under the shining sun—

And the world needs what we have to give it. Rapid growth here is almost a moral issue. We owe it to the world; to grow and make the things the world needs.

The development of our water powers cannot be overdone, if our industries on the land and in our cities and towns can be made to keep pace with it. The sky is the limit. The possibilities are worthy of the dream of an empire builder; of a group of empire builders—

And, soon or late, and the sooner the better, this development must include municipal ownership of her water system by the capital city, with a pipe line to the mountain supply and a by-product of water power for sale all the way down.

And it means still water in the Willamette, with cheap boat and barge rates, giving this great water valley connection with all the ports of the world.

WILL RESUME

The magazine plan for the Slogan pages of The Statesman is being given up, with this issue.

We are going back, temporarily, to the form that has persisted for nearly nine years.

The tabloid or magazine form will be resumed later, when this department will be made still stronger and more useful to the industries on the land and in the city, and more influential in helping the growth and prosperity of both city and country and surrounding towns.