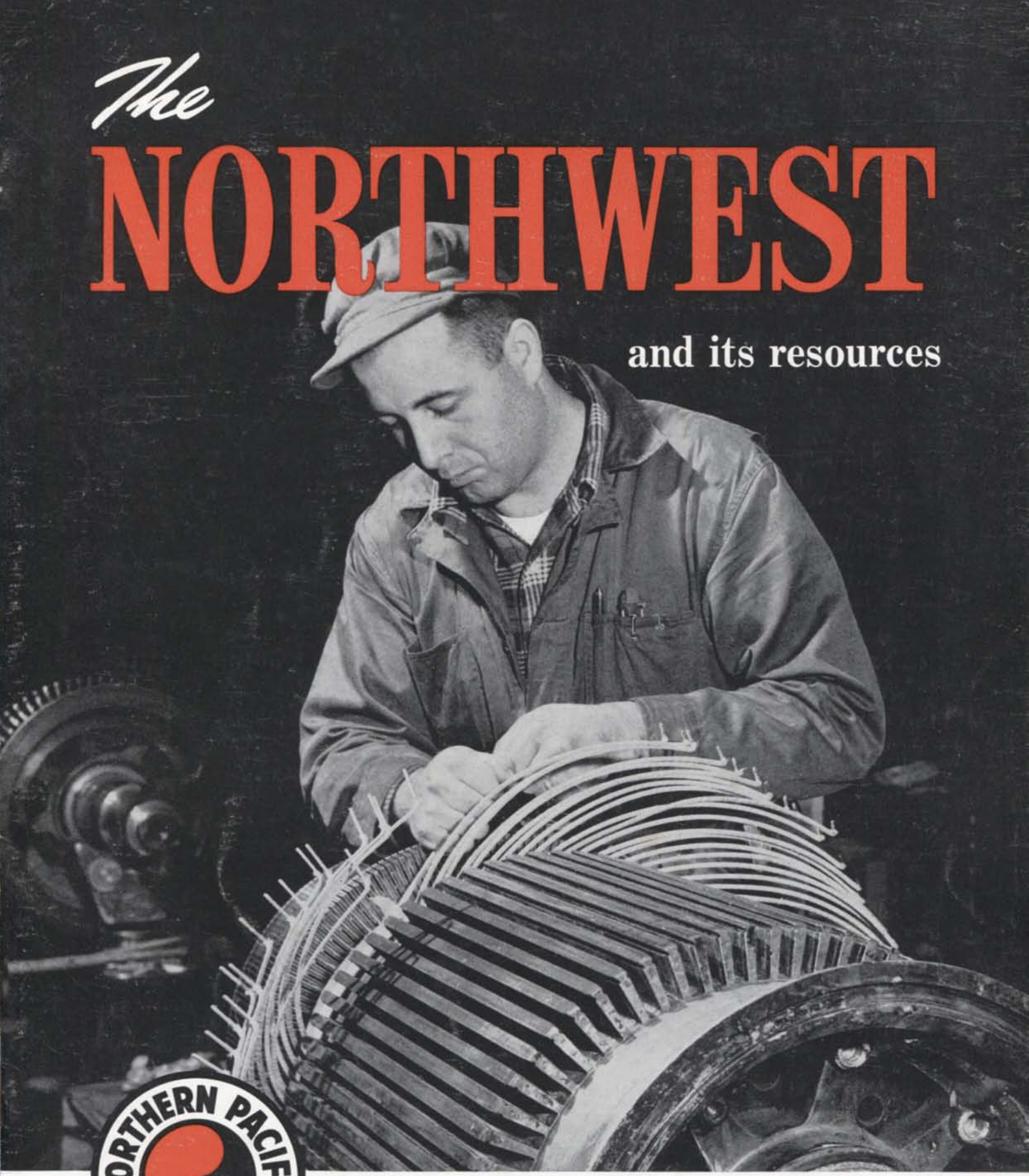
The NORTHWEST

and its resources



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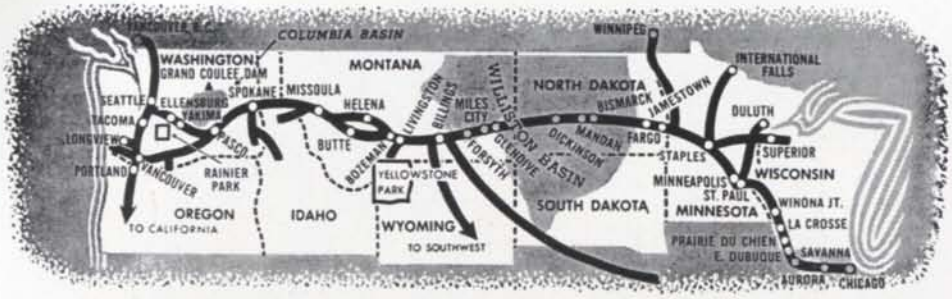
Main Street of the Northwest

JULY-AUGUST, 1957



THE NORTHWEST

Published Bimonthly by the

NORTHERN PACIFIC RAILWAY COMPANY

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The Cover Picture

Since, in this issue, our principal feature article, beginning on page three, tells about labor in the Pacific Northwest, it seems appropriate that a picture of one of our own Northern Pacific employees appear on the front. It's an interesting view, made by *Photographer Lee Merrill*, of F. R. Ferris, a 33-year-old electrician at the N.P.'s shops at South Tacoma, Wash., shown rewinding the armature of a Diesel traction motor. It takes Ferris, or any other electrician, several days to replace the 1,500 feet of wire required on one of these armatures, 10 of which are rewound monthly in the company's shops to replace windings that have defects in their insulation resulting from normal usage.

Idaho Factory Opened By A. P. Green Fire Brick Company At Troy

The A. P. Green Fire Brick company, of Mexico, Mo., one of the largest producers of refractories and, in fact, a concern which operates internationally as well as on a domestic basis, recently extended its manufacturing facilities to the Pacific Northwest. Construction of a firebrick plant at Troy, Ida., by the Green company now is nearing completion. It has been announced that the production from this new operation will be shipped to the west coast for sales distribution by A. P. Green's western subsidiary, The E. J. Bartells company, whose main office is located in Seattle.

The fire clays of Latah county, Idaho, in which Troy is located, have been shown to be well suited for the type of refractory brick which is in demand in that area. The A. P. Green Fire Brick Company of Idaho, a subsidiary of the Missouri firm, began construction of the Troy plant last year on the site of the old Troy Fire Brick company's factory, which was destroyed by fire.

The firebrick will be made by the dry press process, and are to be fired in downdraft kilns. The major source of raw fire clay is from newly developed pits east of Troy. Testing the clays is a detailed, controlled process.

The Green company manufactures and sells a diversified line of refractories, including fire-clay brick, insulating firebrick, special shapes and a broad line of so-called specialty refractories, such as mortars, plastic firebrick, "castables" and other materials. The company also provides engineering and related services for its customers.

In addition to the new plant at Troy, the A. P. Green Fire Brick company owns and operates 13 other factories.

FIRE CLAYS OF LATAH COUNTY from newly developed pits will be used to make refractory brick in this factory recently built by subsidiary of Missouri firm. Finished product is to be sold by The E. J. Bartells company, Seattle, on the west coast,

Here is Labor for Your New Industry in the Northwest

Working Force 350,000 to 500,000 Greater by 1965 Than in 1955 Is Possible; High Productivity Is Cited as Characteristic of Employees in Washington and Oregon

Let's say, to consider a hypothetical case, that you are thinking of starting an industry in the Pacific Northwest. The question of recruiting enough of the right kind of labor at a cost you can afford is one of your major problems.

There is pertinent and important information available about labor in the area which you can accumulate without too much effort before the architect planning your installation draws a line on his drafting board.

For example, the fact that the combined labor force of Washington, Oregon and Idaho amounts to a little more than 2,000,000 persons is one thing you want to know. Dave Portner, who is on the regional staff of the Bureau of Employment Security of the U.S. department of labor, in Seattle, pointed out not long ago that this total represents 40 per cent of the population of the area.

Approximately 1,700,000 are employed by non-farm establishments, which include manufacturing of both durable and non-durable goods, mining, transportation and utilities, trade, finance, service and government offices.

The lumber industry and its many facets, incidentally, always have been large users of labor in this area. They still are, but primary manufacturers and fabricators of metals, aircraft makers and the chemical industry have increased in importance rapidly.

ANGLING FOR SALMON in Puget sound, as the Saturday-morning sportsmen above are doing, just offshore at Tacoma, is a popular and frequently rewarding diversion for anyone who lives in the area. There is a lot of enjoyable outdoor living, in fact.

Can you expect to bid successfully for labor against such an array of employers?

Yes, you can. That is, if you are capable of duplicating what other newcomers are doing in the area, you can.

Chester K. Sterrett, industrial manager of the chamber of commerce in Portland, Ore., recently recalled that when, not long ago, contracts totaling $27,000,000, to be completed in an 18-month period, were let to convert mariner-type cargo vessels into luxury liners for the Matson Navigation company, a Portland shipyard operator was able to hire 2,000 additional people locally. This job, which meant $15,000,000 in pay for workers, pushed shipyard employment in the city up to 4,300 at the time.

As a matter of fact, the civilian labor force in the Pacific Northwest is increasing. It went up from 1,831,800 in 1950 to slightly over 2,000,00 in late 1956. During that interval unemployment varied from two and a half per cent to six per cent.

Estimates of future population indicate that by 1965 increases in the labor force in the North Pacific area of from 350,00 to 500,000 above its 1955 level are possible, provided there are sufficient new job opportunities to absorb additional workers in such numbers.

In Pierce county, Washington, alone, of which Tacoma is the county seat, the labor force increased 2,500 yearly from 1940 to 1950 but recent studies indicated it will go up a few hundred more annually between now and 1965 and that, while expansion of existing companies undoubtedly will absorb some of the increase, new employers not now located in the area will have to hire many

THIRTY LETTERS ARE ANSWERED daily by E. M. Wetherell, director of publicity, Tacoma Chamber of Commerce, and Miss Billie Livingston, from people elsewhere who wish to move to the Pacific Northwest. Some of them ask about jobs.

of the workers if they all are to have jobs.

Migration into the area accounts for an important sector of the annual increase in the labor force. Ernest M. Wetherell, on the staff of the chamber of commerce at Tacoma, has called attention to this peculiarity of labor in the Pacific Northwest. While it is predominantly Scandinavian, other nationalities are represented and an important segment of the laboring class has moved into the area from the Middlewest and from states as far east as the Allegheny mountains.

"The chamber receives 30 letters daily from eastern persons who have heard about our year-around temperate climate and the advantages of living out here," Wetherell said recently. "Many are from workers, asking whether they can get jobs."

Workers of any kind aren't cheap in the area. They earn some of the highest wages in the nation. Late last year, to cite a few examples, miners in Washington were being paid $2.33 an hour, or $92.41 a week. Construction men were averaging $2.91 an hour and $106.89 weekly. In the wholesale trade, the hourly wages were $2.03. At the same time, in all timber classifications in Oregon, earnings were averaging $96.98 weekly and textile workers in the same state were being paid $91.18, although in the building trades earnings were higher.

Pacific Northwest wages, however, aren't the highest in the country, even though they are high. M. J. Muckey, manager of the Industrial Conference Board which, with offices in Seattle and Tacoma, assists 450 companies in western Washington with employee problems and labor relations, when asked to name examples, said that it costs more in Detroit and San Francisco, or anywhere in California, for that matter, to buy labor.

Thomas Purton, formerly the industrial manager for the chamber of commerce in Seattle, and now an investment counselor in the same city, once called attention to what he called the higher productivity of Pacific Northwest workers.

"Wages per hour," Purton declared, "are not the most significant measure of the cost. Economists for the Puget Sound navy yard looked into this question. They found a high rate of productivity per worker in this area. I think it is associated with the feeling on the part of workers and their families that they prefer to live out here rather than in many other parts of the country. They love our outdoor living. You can water ski in this country 12 months of the year, if you go in for that sort of thing. There are fishing, clamming, wild-berrying, hunting and, yes, Seattle has four yacht clubs—Tacoma has two. If you think a laboring man can't afford a sailing craft or a pretty good-sized outboard, you have another think coming. Anyway, some of them have boats of those kinds."

M. J. Muckey commented that for a small employer it is next to impossible to operate in the Pacific Northwest without a union shop contract, although a few big ones, such as the Boeing Airplane company, the Weyerhaeuser Timber company and the American Smelting and Refining company, are open. It should be said, however, that, while they do not have closed shop agreements, these companies operate under maintenance-of-membership contracts and collect dues for their employees who belong to unions. Thus, while it isn't mandatory for employees to belong to a union, in practice the majority of them do.

A Seattle industrialist remarked that the "labor climate in the area now is stable." He explained that what he meant was that in recent years few

WOMEN ARE IMPORTANT workers in some northwest factories, Hamilton Owen, Spokane Chamber of Commerce, said.

LABOR IS ORGANIZED extensively in northwest, Ed Weston, above, president, Washington Federation of Labor, stated.

MIGRATION INTO THE AREA helps to build up the labor force, Dave Portner, of U. S. Bureau in Seattle, pointed out.

IT IS NEXT to impossible for a small employer to operate without union shop contract, M. J. Muckey, Tacoma, opined.

Photo, Crown Zellerbach Corporation

THIS ILLUSTRATES PAY DAY at a Pacific Northwest plant, where day-shift employees are moving through "clock alley" to pick up their checks. Wages are good, but not the nation's highest. Production per worker is comparatively high, however.

INDUSTRIES CAN RECRUIT labor in Pacific Northwest, according to Chester K. Sterrett, Portland, Ore., pictured here.

MANY LABORERS OWN their homes in the area, Thomas L. Scanlon, Oregon union official, above, declared recently.

work stoppages due to labor-management disputes have occurred and that there is comparatively little labor turnover.

It's a fact that western labor is highly unionized. Ed Weston, president of the Washington State Federation of Labor, stated that 59.6 per cent, or about 500,000, he said, of the workers in Washington are organized. In Oregon, as a whole, 40 per cent are said to be organized but some trades have been reported as being 85 per cent organized. These are union figures. Some industrialists dispute them.

There are 30,000 American Indians and Orientals in Washington, Some of the Orientals are skilled and some have their own businesses. The labor force in the state contains about 7,000 Negroes. In Oregon, Negroes total approximately 11,000 (not all in the labor force) out of a state population which numbers in excess of 1,650,000. There are 12,000 colored "other than Negroes" in Oregon, mainly in western Oregon.

In Portland the Benson polytechnical vocational high school, a public institution, trains young people for trades. In Washington's larger cities there are three schools of that kind. Benson supervisors and those of the Tacoma vocational-technical school, set up special training courses for industries whenever there is a demand for them.

In Washington nearly 40,000 students attend 15 colleges and universities and another 6,000 go to 10 junior colleges. Some of the institutions give an accredited degree in engineering. The young men, who are graduated in engineering, and those from engineering schools in other Pacific Northwest states, are finding more opportunities close to home than once was the case. Eastern concerns formerly enticed them but many prefer to remain in the area whenever they can find employment in their own professions.

One element passes in and out of the labor force. It consists largely of women who are available for factory work when they are needed. Hamilton Owen, manager of the industrial department of the Spokane Chamber of Commerce, told how one local firm hired 400 women for precision assembly work during the Korean war. Less than one per cent proved unsatisfactory. After the emergency, many of them went back to homemaking. Quite a number of women have part-time work packing fresh fruits and in the preparation of fruits and vegetables for canning and freezing.

While professional baseball, hockey, basketball and racing (with both horses and dogs and with parimutuel betting) entertain the laboring people, as well as others, in the Pacific Northwest, an outstanding contribution in that field is the coliseum in Spokane. Completed two

years ago, it draws not only home crowds but also visitors from the Inland Empire (surrounding Spokane) and Canada for hockey, basketball, ballet, music by big-name stars, travel lectures, sport shows and Boy Scout jamborees.

Thomas L. Scanlan, director of the research and education department of the Oregon State Labor council, described what he labeled a feeling of in-

LABOR DATA ARE available, stated Mrs. Tora McCredy, research specialist working for the Seattle Chamber of Commerce.

dependence and security among laboring people generally in the area because of the relatively high percentage of home ownership. No one has made a count of how many workers live in their own one-family residences, but he says the number is greater than in other areas where there are "fewer opportunities and lower rates of pay." Furthermore, he said, numerous rental properties don't exist. So, the workers buy, which often turns out in the end to be a very good thing for them.

Studying Western Deposits of Iron Ore

The geology division of the Northern Pacific Railway company is making a study of all iron deposits in Montana, northern Idaho and Washington. Completion of the project is expected to yield information from which conclusions may be drawn pertaining to future expansion of the iron and steel industry in the Pacific Northwest.

It's Easier To Plant These Potatoes

One-Eyed Seed Balls of Two Varieties From Fargo Company are Distributed in Middlewestern States

Darrow R. Beaton and the Gateway Seed Company, Inc., which he owns and operates, make it easier for home gardeners to plant potatoes.

For six weeks during a very busy period in early spring 20 employees, divided into two daily shifts, working at the company's headquarters in Fargo, under Beaton's supervision, do some of the gardeners' work.

They cut potatoes into seed pieces which are treated with fungicides and hormones to protect them against soil-borne diseases and to stimulate plant growth.

Each piece, cut in the shape of a small sphere, with a spoon-like knife, called a potato baller, contains one eye. It is known as a potato set or, simply, an eye. Experience has shown that it will retain its viability for six weeks or more.

While seed grains and the smaller seeds of grasses and legumes are the principal concern of the 12 salesmen who represent Beaton's company in middlewestern states, they turn their attention to the sale and distribution of sets when potato-planting approaches, since the season for other seeds usually begins to slow down at about that time.

The sets are packed in small boxes, 100 to the box. A case consists of 24

GIRLS CUT SEED pieces with potato baller in Beaton's building from Red River valley Cobbler and Pontiac spuds.

BELIEVE IT OR NOT, the small one-eyed seed piece, held by Darrow R. Beaton, will grow into normal potato plant.

boxes, or 2,400 sets. Grocery stores, seed stores and hardware dealers are the retail outlets that handle this product. In the sales area that is covered growers almost never save their own potato seed. They obtain new stock each year.

Beaton reported recently that he buys "several carloads annually of Cobbler and Pontiac seed from growers in the Red River valley." The sets are cut from these varieties.

Beaton's six-year-old firm has competitors in the production and sale of potato sets, but none operates so extensively.

The company now is occupying its new $90,000 building, 100 x 150 feet, recently completed at 2222-7th Avenue N., in Fargo. Sharing the building is Gateway Direct, Inc., which Beaton also heads, as president—a new firm that is distributing implements and automobile supplies.

* * *

An addition to a warehouse owned by the Northern Pacific Railway at Holgate and Occidental avenue, in Seattle, now has been constructed. Containing approximately 30,000 square feet, the addition has cost in excess of $200,000. The original warehouse and the new section both are leased to the United Warehouse company.

Making Broom Handles For America Is Their Business

Outside Cut From Logs Furnishes Material for 60,000,000 Manufactured Annually in Oregon; St. Helens Wood Products Company Turns Out Half of Them in Two Factories

Americans buy 70,000,000 handles every year on brooms and mops. Nearly 60,000,000 of them are made in Oregon by four companies. One firm, the St. Helens Wood Products company, with a factory at St. Helens, Ore., and another at Roseburg, turns out half of them.

It takes from 50,000 to 80,000 handles for a carload. Shipped largely to Chicago, Cincinnati, Baltimore and other cities east of the Mississippi river, in carload quantities, they are consumed mainly in making corn brooms, the kind that is found in every-day household use throughout America.

The St. Helens company makes handles four and a half feet long for corn brooms but those for push-type brooms are five and six feet long. As a matter of fact, there are six sizes. Some are straight. Some are shaped. They come in bright colors, too, if buyers want them that way. They are dipped in lacquer at the St. Helens factory.

Mop handles are made in five different sizes. Most of them are consumed by manufacturers of wet mops but spring-head mops, sponge mops, window brushes and wax applicators create a demand for handles, too. One manufacturer of floor wax buys from 1,500,000 to 2,000,000 of them yearly for promotion offers advertised to the public.

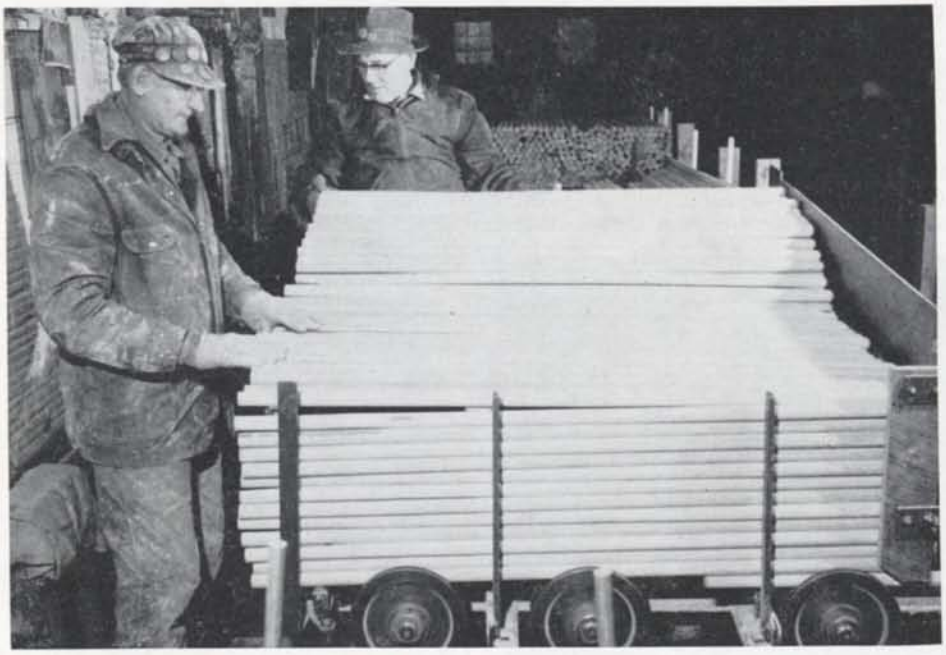
In Oregon nearly all broom and mop handles are made of fir. Hemlock, maple, spruce and tamarack are used to a minor extent. The industry early utilized the outside cut from saw logs (which otherwise would have been burned as waste). Lath was made with this material, too. Today such leftovers are not as readily obtained, since the pulp industry now is absorbing much wood of that kind.

In addition to its handle factories, the firm owns and operates eight lath mills in Oregon and one in California. Window poles, to which blinds are attached, and dowels are manufactured, too.

* * *

A well-trained sheep dog, a black and white Collie, only a year and a half old, was sold at auction recently by the Billings Livestock Commission company, in Montana. Usually a shepherd won't part with a good dog for love nor money but the owner, Robert Gibson, of Jordan, since he disposed of his sheep, said he might as well sell the dog, too. There were several bidders and a flurry of excitement, but the offers stopped at $25, which was considered less than the animal's value.

HANDLES LACQUERED and unlacquered are shown to Mrs. N. B. McCormick, president of St. Helens company, by A. H. Brammer at the firm's main office.



HANDLES FOR BROOMS AND MOPS seen here are ready to enter a sanding machine at factory of the St. Helens Wood Products company in Oregon. Nearly all are made from fir, but four other woods are used. Both sizes and colors are varied.

WAREHOUSE SCENE at the headquarters of the St. Helens Wood Products company. A car contains 50,000 handles.

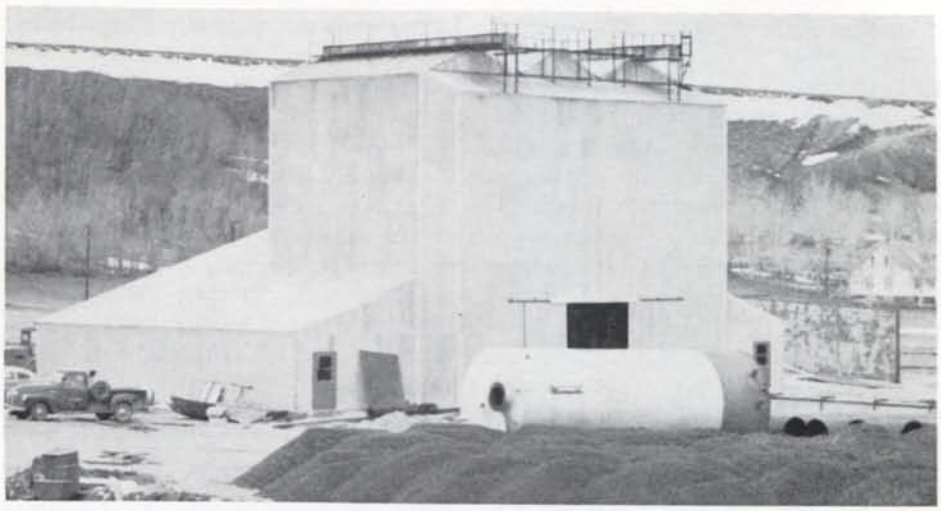
Plant To Produce Char From Waste Coal At Red Lodge

Creosote, Tar and Other By-Products are to Be Manufactured, Too, in $300,000 Factory Nearing Completion in Montana; Process Tested for Three Years at State College

A $300,000 plant at Red Lodge, Mont., that will make coal char and its by-products from bituminous coal mined in the Bear Tooth mountains not far from the city, is nearing completion.

The plant building has been finished and the equipment, which includes the first of a group of six carbonization retorts, is being installed. In fact, the first retort is being given a trial run.

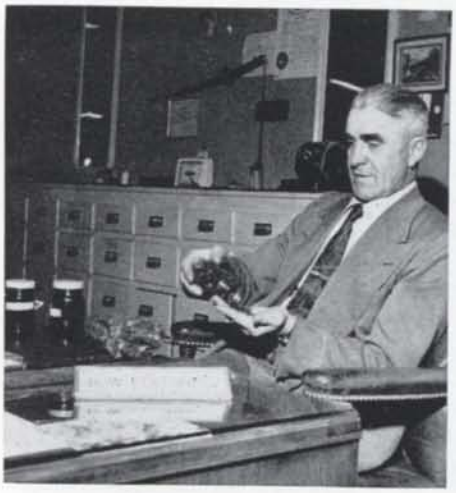
The plant is being built by Koal-Krudes, Inc., of Spokane, Wash., a subsidiary of the P.D. & P. Processing corporation, of Lewiston, Ida. Financing has come from the Spokane group and from a large number of the citizens of Red Lodge who bought $62,000 worth of stock in the company. The local municipal government supplied the building site and the state of Montana furnished funds for extensive experimental work at Montana State college, in Bozeman.



AT A COST OF $300,000, THIS PLANT was built at Red Lodge, Mont., for Koal-Krudes, Inc., of Spokane, Wash., to produce char, tar, creosote and a light oil from undersized local bituminous coal, such as that piled in front of the firm's building.

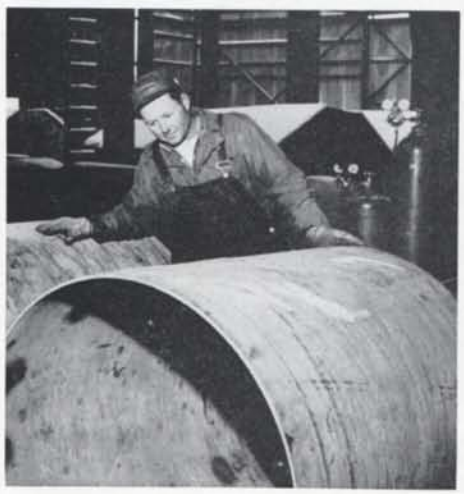
The Red Lodge coal industry during the 1920's was extensive. For many years more than 1,000,000 tons of coal were taken out annually at the Northwestern Improvement company's mines alone. Practically the entire production was used by the Northern Pacific Railway company for locomotive fuel. After strip mines were opened at Colstrip, Mont., however, production at Red Lodge rapidly declined due to the cheaper recovery of coal by the use of stripping methods. It came almost to a standstill with the closing of the Northwestern Improvement company's mines in 1931. The Brophy Coal company, however, has continued in operation to fill a need for commercial coal.

Reserves in the area are very large. Several times as much as has been mined in the past are known to be still in the ground. It might well be that the new char development will rejuvenate the Red Lodge coal industry. Many people in and near Red Lodge, being miners themselves or descendants of mining families, would receive benefits from such a development.



FORMERLY A MINER himself, D. W. Columbus, mayor of Red Lodge, shown in his office, plumped for use of coal.

RETORTS WERE BUILT of stainless steel tubes, shown below with Ray Hileman, construction foreman at Red Lodge.



Char is similiar to coke, except that in producing it, lower temperatures are used for shorter periods of time and, also, char does not tend to fuse into a large hard cohering mass, but rather into particles the same size as charged.

It is believed that char may be better for domestic and many commercial uses and that it will provide a greater yield of tar and oils of better quality at a lower cost for both construction of a plant and its operation. Coke is better than char fo recharging steel furnaces and for similiar uses mainly because coke has been fused into a material that has greater resistance to crushing under heavy loading and is much larger in size. Char is more friable and more easily crushed; however, this quality is an advantage in many industries.

Sponge iron smelting and sintering of sulfide ores are two examples of industries well suited to the use of coal char.

Newly-patented carbonization retorts being installed in the Red Lodge char plant are unique in that they will produce char and distillation products from

coal by a continuous process instead of by conventional batch techniques. Carbonization temperatures, which will range near 1,200 degrees Fahrenheit, are considered relatively low for plants which emphasize carbon output, as will be the case here.

Distilled and condensed coal gases definitely will be by-products of the process. The condensed gases will include creosote, coal tar and basic ingredients necessary to the manufacture of plastics and phenol oils. Metal smelters and chemical plants are expected to use the major portion of the char output. Noncondensed coal gas will be used in a two-compartment combustion furnace to provide the heat necessary to process the raw coal.

With six retorts, it is expected that the plant will process about 320 tons of coal per day to turn out 150 tons of char plus distillation by-products and plant fuel gas. Coal used will be less than one and a half inches in diameter, a size considerer to be too fine for most purposes. The process is expected to make a marketable product of this practically unmarketable fine coal. The Brophy Coal company has contracted to supply much of the raw coal.

The design of the Red Lodge plant is the result of a number of testing stages which practically assures successful mechanical operation. The state of Montana has allotted $40,000 for chemical experimentation on its coals and, furthermore, an investment of $100,000 in private funds has gone into a pilot plant installed at Montana State college, at Bozeman. The state college installation, which is under the direction of Dr. Lloyd Berg, head of the department of chemical engineering at the school, and D. E. Atkinson has been in operation for about three years. Several other pilot plants were built in the West prior to the installation at Bozeman. Dr. Berg also is vice president of Atkinson-Berg company, the construction firm that is building the plant at Red Lodge and Atkinson is president.

THE CARLOAD OF CHAR in this picture was manufactured in a pilot plant at Montana State college. From left to right, Joe Dillon, director, Koal-Krudes, Inc.; D. E. Atkinson, president, Atkinson-Berg company; Ross Porter, director, Koal-Krudes, Inc.; Allen Ackers, graduate student; Lloyd Berg, Montana State college; Dick Waterman, graduate student. The state assisted with experimental work done at Bozeman.

Last but not least, designers of the Red Lodge plant have not overlooked the comfort and safety of workers. Roof panels may be removed to allow the escape of heat during hot summer months. Shower facilities have been installed. Laboratory and office space is being built inside the plant. Electrical controls will be built into the office space. When complete, the plant will be almost fully automatic in its operation.

D. W. Columbus, mayor of Red Lodge and formerly a miner himself, has for several years taken the lead in trying to interest petroleum and chemical firms in Red Lodge coal.

* * *

The Leach Oil company and others are reported to have recovered oil in a wildcat well two miles northwest of Dickinson, N. D. The closest producing wells are 20 and 22 miles west, at Belfield and Fryburg.

Behemoth Can Lift 20 Tons As High As A House

Latest innovation in the lumber industry is a fork lift truck capable of hoisting as high as a two-story house all the lumber an average U. S. citizen uses in 32 years. The lift truck is reported to be the largest on the west coast.

In use at the Weyerhaeuser Timber company's sawmill, at Raymond, Wash., the machine slides its eight-foot arms under 20-ton stacks of lumber. It unloads a railroad car in four trips in less than 15 minutes. In the picture above, it dwarfs its smaller cousin.

They Poured It Down the Drain, but

Beet Sugar By-Product Now Makes Valuable Seasoning

Housewives have heard of the magic performed by monosodium glutamate. Many know from experience that its white crystals, shaken into or over food, make meats, fish, vegetables and poultry taste better by intensifying their characteristic flavor and, we are told, by awakening the taste buds and increasing the flow of saliva, both of which lead to a greater appreciation of natural food flavors.

Most housewives don't know that this basic seasoning which now is so generally applied with salt, pepper and other condiments to enhance flavors is made from a by-product of beet sugar which only a few years ago was thrown away as a waste material.

The monosodium glutamate most widely available, called Ac'cent, is manufactured at San Jose, Calif., by the Amino Products division of the International Minerals & Chemical corporation, from a concentrated liquid known as concentrated Steffen's filtrate, which is obtained from beet sugar companies operating on the Pacific slope.

One of the sources of supply is located on the Northern Pacific Railway—the Columbia basin factory of the Utah-Idaho Sugar company, in eastern Washington. This concern ships yearly during its sugar-making "campaign," from 130 to 150 carloads (tank cars) of the Steffen's filtrate to San Jose from that factory.

The Steffen process is employed to recover sugar from molasses. Briefly, the molasses is diluted with water until it contains about six per cent sugar. To this dilute solution of molasses finely ground lime (calcium oxide) is added slowly while the mixture is agitated and kept at a low temperature. A chemical compound of lime and sugar (calcium saccharate) is formed. This calcium saccharate precipitate is then filtered and worked on rotary vacuum filters. The resulting filtrate contains very little sugar but it does contain, among other things, glutamic acid. This filtrate is treated with carbon dioxide in order to precipitate the lime in solution, which is subsequently removed. About 97 per cent of the clear Steffen's filtrate is water. It is concentrated in evaporators to a density of about 40 per cent water and then is loaded into tank cars for shipment.

Monosodium glutamate is a neutral salt of glutamic acid which, in turn, is one of the amino acids, those strategic components of protein that are important in human nutrition.

The Utah-Idaho Sugar company processes molasses in its Columbia basin factory derived from operations both at that plant and at its factory at Toppenish, Wash.

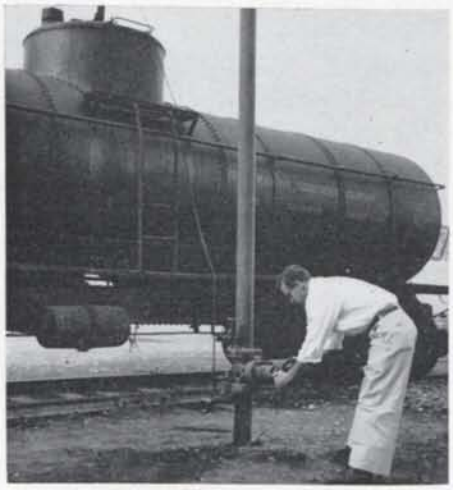
Monosodium glutamate imparts to foods no flavor of its own, but it blends and points up, heightens and harmonizes those flavors or combinations of flavors already present. Sharp notes are toned down; weak ones are strengthened, believe it or not. The characteristically bitter taste of liver, for example, is subdued by a few shakes of the glutamate container. It makes steaks seem juicier and gives cooked dishes a more delicious smell. It increases the potency of pepper as much as a third. Thus the chef can cut down on the amount of seasonings. Even traditionally expert French chefs say that this product makes it easier to get the flavors they want.

READING THE TEMPERATURE in "Steffen house" of Columbia basin sugar factory is E. C. Jones, in charge of plant.

Uses are widening. Two meat packers now are using monosodium glutamate in curing bacon. It has been tried successfully in such unrelated foods as bread and ice cream. It helps retain the color and freshness as well as the flavor of frozen and canned products.

Of course it takes a raft of sugar beets to make one carload of glutamate. Makers of the product pay for Steffen's filtrate on the basis of its content of glutamate. They have learned that nitrogen fertilizer used on the beet crop increases the amount of glutamate they can recover.

Some 19,000,000 pounds annually of monosodium glutamate are manufactured—some of it from wheat gluten. The $3,500,000 refinery of the Amino



TURN THE VALVE and raw material for Ac'cent flows into a tank car for shipment from Scalley, Wash., to San Jose.

NOT A STUDY in what to wear while hoeing sugar beets but a count of the "stand" in a field at Moses Lake planted with new monogerm seed. Makers of monosodium glutamate say that beets fertilized with nitrogen yield more of their product than do unfertilized beets.

Products division at San Jose makes nearly half that amount. Other producers are General Mills, Inc., in Minnesota; the Great Western Sugar company, in Colorado; the Huron Milling division of the Hercules Powder company, in Michigan; and the A. E. Staley Manufacturing company, of Illinois.

Kimberly-Clark Bought Schweitzer Company

Kimberly-Clark corporation, Neenah, Wis., entered into an agreement to acquire all the capital stock of Peter J. Schweitzer, Inc., from the Schweitzer family in exchange for 735,000 shares of Kimberly-Clark common stock. Included in the transaction was a two-thirds interest in Schweitzer's French subsidiary, Papeteries de Mauduit.

Peter J. Schweitzer, Inc., is an outgrowth of a business originally established in France and brought to the United States in 1910. The present corporation was formed in 1923. Schweitzer's United States mills manufacture cigarette, condenser and carbonizing papers, which are distributed internationally. Production is centered in New Jersey, Pennsylvania and Massachusetts. Schweitzer plants at Breckenridge and Windom, Minn., however, using straw from seed flax, make tow which is sent east as raw material.

Peter J. Schweitzer, Inc., now is being operated as a wholly-owned subsidiary of Kimberly-Clark corporation, with no change in company policies.

Farmers Union Refinery Improvements Under Way

CURRENT PROGRAM FOR BETTERMENTS at refinery of the Farmers Union Central Exchange, Inc., at Laurel, Mont., involves expenditure of $3,250,000, it was announced by J. L. Nolan, an officer of farm cooperative, shown in the picture above.

A $3,250,000 program for betterments at the refinery at Laurel, Mont., of the Farmers Union Central Exchange, Inc., announced during the spring, now is well under way, J. L. Nolan, manager of the oil department for the farm cooperative, stated recently.

All engineering for the improvements, which will consist of a platformer and a unifiner, has been completed by the Universal Oil Products company, Des Plaines, Ill., Nolan said. Heavy equipment, such as a boiler and condensers, has been purchased. A contract has been let for erection of a water-cooling tower and a contract for the remainder of the new construction will be let at an early date, the oil department manager reported.

The 19,000-barrel daily capacity of the refinery will not be increased by the additions. The platformer, however, with capacity for 4,500 barrels daily, will increase the anti-knock value of low-octane straight-run gasoline and naphtha, Nolan explained. In other words, it will increase the octane rating of gasoline for use in currently manufactured high-compression motors.

The unifiner, which will be capable of handling 7,000 barrels daily of "intermediate" products, will improve the quality of kerosene, burner fuels and Diesel oil by making use of large quantities of free hydrogen which are a by-product of the platformer process. Two things principally occur when the above products come in contact with free hydrogen, Nolan pointed out. They are more thoroughly desulphurized, for one thing. The other is that their burning quality is improved because the saturation of some unsaturated hydrocarbons occurs. In addition, grading up as between products takes place to a limited degree. That is, there is a higher yield of Diesel fuel than before the process is applied.

Piggyback for Parcel Post from Duluth

Mail is being transported between Duluth and St. Paul piggyback on the Northern Pacific. Consisting chiefly of parcel post from the Trundle Bundle Products company, maker of children's winter clothes, and the Minnesota Woolen company, which "makes woolens for the whole family," packages are stowed in a railway company trailer at the Duluth post office.

The loaded and sealed trailer is then hauled by a tractor of the Northern Pacific Transport company to the railroad for loading onto a flatcar. The next day at 9:00 a.m. the transport company delivers the trailer to the post office in St. Paul.

The plan saves time and labor at both terminals. In alternate months, this traffic is hauled by the Great Northern Railway.

Shipped Trainload Of Cattle To Columbia Basin From Oregon

Harms Ranch Producing Beef For Market in Washington

J. D. Harms, owner of J. D. Harms ranch, which is a feeding lot located on the Columbia Basin Irrigation project, adjacent to the factory of the Utah-Idaho Sugar company, near Moses Lake, Wash., recently received a trainload of feeder cattle via the Northern Pacific from Baker, Ore.

The shipment consisted of 745 head in 23 stock cars. The cattle, which averaged 625 pounds per head, will be fed approximately 120 days and then they will be marketed locally. Although the yards are used primarily for custom feeding, these cattle were purchased by Harms. William Schons of the Baker Livestock exchange, at Baker, was the seller.

"This is a natural livestock-feeding area, and an expanded program of this type is necessary for a sound agricultural economy in the Columbia basin," Harms said, commenting on his trainload shipment. "To my knowledge, this is the largest individual shipment of feeder cattle coming into the Columbia basin since it first was irrigated."

Other local people in the basin agreed with Harms that more livestock feeding is needed to go with the extensive and varied cropping program of the area.

This is the second year of operation for the Harms feed lot, which has a present capacity of 3,500 head of cattle. Construction is under way to increase the yard capacity to 5,000 head.

Ninety per cent of the feed used is produced within a 10-mile radius of the yards. It is ground and mixed by a push-button mill which was installed recently.

The Harms livestock yards are conveniently located near the Columbia basin factory of the Utah-Idaho Sugar company so that supplies of sugar beet pulp and molasses are readily accessible for feeding. Alfalfa hay and silage corn are purchased from local growers who operate irrigated farms in the Columbia basin.

COUNTING HIS CATTLE is J. D. Harms, left, as animals leave railroad cars at feeding yard on large irrigation project.

Photos U.S. Bureau of Reclamation

FEEDS HOME-RAISED ON IRRIGATED FARMS are used in this large yard, called the J. D. Harms ranch, in the Columbia Basin of Washington, to fatten beef cattle for market. N.P. Diesel and stock cars at right delivered trainload of feeders.

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