

CHEAP POWER VITAL TO NEW INDUSTRIES

How Modern Business Depends on Electrical Products.

In the recent discussion of the water power problem in and out of Congress, public attention has been directed toward the use and value of electricity for motive power and for lighting, and latterly, for the manufacture of fertilizers and nitric acid for explosives. But these are only a few of the growing demands for cheap power.

Today the great steel mills of the United States are absolutely dependent upon the products of the electric furnace for alloys. The automobile manufacturer is dependent upon another electric furnace product—aluminum—for car bodies. The manufacturers of steel products need these materials for making tools, and countless factories require abrasives which can not now be imported, and which are produced in the United States only by electric processes. Without acetylene gas and graphites, also electric products, many industries would be crippled.

Turning to the products of electro-chemistry, it is found that the surgeon and the doctor look to electric plants for chloroform and disinfectants; the cotton and the paper manufacturer need the bleaches produced by this magic element; every user of soap patronizes an electro-chemical establishment, as does every user of matches. Gold and silver mining of the West requires electric products to assure a profit, and of late it is learned that the United States, cut off from its supply of German dyes, finds itself dependent upon other electric products to supply, in part, the deficiency.

These are but a few of the industries depending upon cheap power for success. The power is here. Its development, when encouraged by the passage of such bills as are now before congress, will make the United States independent of foreign sources of supply, and will reduce the cost to the consumer of countless articles of every-day use which, to his mind, are probably in no way associated with hydro-electric development.

The manufacture of steel is the greatest of all American industries, and better steel is made in electric furnaces than by any other known process. Today electrically produced ferro-silicon is used as an alloy by most steel manufacturers, with the result that the Bessemer process is fast becoming obsolete. The essential element in the manufacture of armor plate and armor-piercing projectiles is introduced into steel by ferro-chromium, an alloy which is strictly an electric furnace product. The Navy Department calls for this type of steel, and will have no other as armor plate. Without this alloy our battleships of recent date would be at the mercy of a hostile fleet, and the shells fired by our warships and coast-defense guns would be ineffective against the armor of a modern enemy fleet.

Ferro-chrome, another product of the electric furnace, has made possible the manufacture of high-speed tools, which have tripled the capacity of every machine shop in the world, and enhanced the efficiency of every mechanic. It has cut to one-third the capital invested in tools to accomplish a given volume of work.

In the absence of chromium, tungsten, vanadium and molybdenum, all alloys made by electrical processes, the United States could not build modern battle ships and other weapons of national defense, and a large proportion of our steel and metal working industries and other industries would revert to the conditions of twenty years ago. The electrical industry itself is largely dependent upon silicon steel, which does not age and does not wear out.

There is no manufacturer of automobiles but who is today heavily dependent upon aluminum. The making of automobile bodies utilizes more of this electrically-produced metal than does any other line of industry. The development of aeroplanes also calls for aluminum, and only with the abundant production of cheap water power can the price of aluminum kitchen utensils be brought within the reach of every housewife.

At the outbreak of the European war the United States was cut off from the supply of Greek and Turkish emery. Today the metal working industries of this country are dependent absolutely upon electric furnace abrasives, carborundum and alundum. The manufacturer of agricultural machinery, locomotives, fire-arms, milling machinery, automobiles, and countless other metal products must have these abrasives, and they can now be made only where water power is developed cheaply. Cut off the artificial abrasives and force the automobile manufacturer to go back to the grindstone, at the same time eliminating the other products of cheap power—aluminum, high-speed steel, and special steels—and works which produce 500 cars per day would be able to turn out less than 100 cars every twenty-four hours with the same force of workmen. This would mean an increase of price that would carry the automobile beyond the reach of thousands who now employ and enjoy them.

The electric furnace also turns out calcium carbide, the only source of acetylene, without which many homes would still use the kerosene lamp. The oxy-acetylene flame has become of intense value in the welding of metals and the cutting of steel. This same

calcium carbide is the important factor in the fixation of atmospheric nitrogen, and is the source of supply upon which we must rely for nitric acid and nitrates employed in making munitions of war and fertilizers.

All the artificial graphite used in the world today is produced at Niagara Falls, by cheap water power. Its uses are manifold. Practically the sole American supply of abrasives is also from Niagara.

Considering the products of electro-chemistry, chlorine stands out as of first importance. The sterilization of water supplies of countless cities has been made possible by the use of "bleaching powder" or hypochlorite, and in communities where this agent is used typhoid has lost its terrors. The American army and the armies of Europe use chlorine to avert typhoid, and other chlorine products, including chloroform, are used surgically, both as anesthetics and antiseptics. This same chlorine, or bleach, makes possible the manufacture of white cotton goods and white writing paper. Other products of chlorine, produced electrically, enter into the manufacture of soaps. Even into fire extinguishers goes this sole product of cheap electricity.

To meet the shortage in coal-tar dyes, by the combination of chlorine with coal-tar benzene and toulol, we are now beginning to produce in quantities those necessary "intermediates" formerly made in Germany.

Metallic sodium, also a product of electricity, is the basis for sodium peroxide, which is utilized in generating oxygen for hospitals, for laboratories and for submarines and mine-rescue apparatus. It also enters into the manufacture of hydrogen peroxide. Without sodium cyanide many gold and silver mines could not operate at a profit.

New types of matches have made their appearance on the American market since the outbreak of war in Europe. These new brands are "made in America," and largely because we were cut off from our Norwegian supply. The phosphorus is produced only in electric plants.

These are but a few of the products of every-day use that are largely dependent upon water power; many of these products a few years ago had no known value. What other products remain to be developed with the growth of hydro-electricity no man can predict. But there is a limit on production of all these products today. That limit can only be passed when Congress paves the way for further hydro-electric development by enacting laws which will make it possible and profitable for capital to invest in these various enterprises at places where today no development is taking place.

WATER POWER CUTS COST OF LIVING

Census Figures Show Reduction in Electric Rates.

United States census figures show that one of the few commodities, if not the only one, which costs less now than a few years ago, is electric current. While the cost of living generally has been mounting skyward in the last ten or fifteen years, the price of electricity for light and power has been steadily going downward.

The census reports for 1912 show the average gross income of commercial and municipal central stations in cents per kilowatt-hour since 1902 to have been as follows:

	1902	1907	1902
United States	2.52	2.99	2.42
New England	2.37	2.94	4.27
Middle Atlantic	2.61	2.83	2.91
East North Central	2.57	3.34	3.62
West North Central	4.06	4.11	4.20
South Atlantic	2.46	2.88	2.46
East South Central	2.35	3.92	2.41
West South Central	5.51	5.23	4.08
Mountain	3.71	3.21	2.83
Pacific	1.71	1.95	2.44

These figures show the average price of electric power in 1912 in the entire United States to have been only two-thirds what it was ten years earlier. These reductions do not tell the entire benefit to the consumer, as they show only the price of current and offer no suggestion as to the economies brought about by improvement in electric lamps, motors and other appliances for utilizing electricity. In lighting alone the improvement in electric lamps in the last fifteen years has given the consumer from three to five times as much illumination with the same amount of current. That is, one cent's worth of electricity now produces five times as much light as it did fifteen years ago.

One of the most impressive facts shown by the above table of electric prices is the effect that water power development has had upon power costs. It will be seen that in the Middle Atlantic, West North Central and East South Central States, where there has been little water power development, the rates remained almost the same for ten years, while in the West South Central States, where there is no water power development worth mentioning, the cost of power actually increased. In New England and the South Atlantic States, where there has been considerable use of water power, the price dropped off one-third, while in the Mountain and Pacific states, where the greatest development of water power has taken place, the reduction was fully fifty per cent.

These figures tell the story very impressively of what may be expected in the way of benefit to the industries of the entire country when the 54,000,000 horse power of water now running to waste is harnessed and put to work.

Falls City Sawmill Resumes Work.

Early risers and sleepers were awakened Wednesday morning at 5:30 by a familiar but almost forgotten sound. The siren of the Falls City mill blew its first blast in nearly a year and a half upon the morning air. Falls City people and business men are jubilant over the prospect of another year with the mill running to capacity. They expect a continuous run under the management of the new Falls City Lumber and Logging company. A large number of idle men have been given work, and all in all, it might be said that that siren blast the other morning was the first little ray of sunshine that city has seen in some time.

Advertised Letters.

At the close of business on Tuesday, January 2, 1917, the following letters were uncalled for in the post-office at Dallas, Oregon:

Mr. I. D. Bentley
S. Roring
Mr. Ralph Crege
Mr. Vivyan Dexter
Mr. and Mrs. A. L. Duthie
Bernard Fay
Mrs. Sena Hayes
Mrs. Laura Harrington
Mr. James C. Leggett
Mrs. F. N. Morris
Miss Caroline Sorensen
A. E. Wright, Esq.
V. P. FISKE, Postmaster.

Mercy Is Shown Deserters.

Deserters from all branches of the United States army, wherever stationed, will be tried henceforth at the disciplinary barracks at Fort Leavenworth, according to official information received last week. The deserter will have a thorough mental and physical examination by experts, following which he may have a "tryout" with the disciplinary battalion before it is fully determined whether to bring criminal charges against him. The proposed change is a radical departure from the old method of considering deserters only as military prisoners, guilty of a serious offense.

Logger Kills Wife and Self.

Because his wife had started suit for divorce, W. J. Horton, a logger, on Tuesday walked into the store at Rainier, Oregon where Mrs. Walker was employed, shot and killed her and then turned the weapon upon himself. Horton died instantly; his wife lingered four hours. Both had children by former marriage. Two of Mrs. Horton's sons, Ray and Guy Wisecup, reside in this county at Airlie. Horton is said to have been heir to an estate of \$15,000.

Poultry Show at Salem.

The ninth annual Marion county poultry show will be held in Salem beginning Tuesday, January 9 and closing Saturday evening, the 13th. Entries will be received as late as January 6. The officers of the association are: George E. Shaw, president; H. O. White, vice-president; W. H. Smith, secretary and treasurer; G. M. Voris, assistant secretary; J. C. Murray of Portland, judge. Mr. Shaw will serve as superintendent of the show.

Indoor Picnic Is Enjoyed.

The indoor picnic of the Monmouth grange Monday in Monmouth was enjoyed by a large number of people. The following program was given: 10 to 12 a. m., games; 2 to 3:30, violin solo, Miss Harvey; recitation, Freda Powell; reading, Ruth Mills; solo, P. O. Powell; recitation, Edward Daniel; recitation, Herbert Powell; cornet selection, Willie Harvey; reading, Mr. Ostrom; speaking contest; musical number by the Rogers family.

Bring in your rags, rubber, copper, brass and I will pay you the highest price.

Henry Smith, Dallas. 86-88c. We frame pictures. Did you know that? Sterling Furniture Company.

Oil Wells in the Ocean.

One of the most novel and interesting sights along the California coast, especially to tourists, are the oil wells in the ocean at Summerfield, southern Santa Barbara county. Long wharfs carry the scores of derricks which mark the location of these unique wells. The field is small, covering about 125 acres.—Argonaut.

No Game.

Pat and I were watching a game of chess. Suddenly I turned to him. "Have you the time?" I asked, glancing at his watch pocket. "Sure," replied Pat, "I have the time, but not the inclination."—Princeton Tiger.

Sometimes.

Willis—What is it called when two people are thinking of the same thing at the same time—mental telepathy? Gillis—Sometimes; other times just plain embarrassment.—Judge.

How It Was.

Landlady (sympathetically)—Why, how did you fall downstairs, Mr. Lanks? Boarder (with dignity)—Unexpectedly, ma'am.—Pall Mall Gazette.

Fine.

"Telephone girls are not allowed to talk back."
"What a field from which to select a wife."—Louisville Courier-Journal.

THE WORK MOST SUBLIME

Rev. Geo. H. Bennett, former pastor of the Dallas M. E. church, but now of Klamath Falls, is author of the following which he has entitled "The Work Most Sublime:"

O Sunlit Day, how bright thy glory set
With gems of beauty is; with snowy clouds
In azure heights adrift; with flowery fields
Fields in bloom, and billowy grain o'er-swept
By rhythmic gales of summer breath—
here rise
The emerald hills with oaks o'er-crowned,
and
Fruitful vales between; there mountains slumber,
Far away, in purple hues; while deep
voic'd
Ocean the rock bound shore unceasing pounds,
O Sunlit Day, how bright thy glory is!

The Creator's praise the heart uplifted
Sings; his living power the azure sky
And white-winged clouds declare, the
tree-crowned hills
And dewy vales; while whispering
winds from
Mountain dell and white capped wave
their story
Tell of majesty divine; but nobler
Far, more beautiful than these the
sunlit
Day reveals of work sublime: 'tis
found where
Man with God unites in arts divine, of
God and man most worthy—work
most sublime.

The Sanctuary this truth proclaims of
Arts both human and divine; its native
Oak and iron, its silica and lime
Bespeak omnipotence—eternal
Art divine; but fashioned now of polished
Oak and molded iron, the crystal
pane,
And humble bricks fast mortar-bound
by hand
Of man, in architectural beauty
Stands the House of Prayer—God's
plan in human
Life to consummate, and his glory
share.

God's image pure, by sin defaced,
renewed
In human hearts by pow'r divine,
nobler
Far appears than snowy crags illuminated by
Sunset's alpine hues; the evil heart
repents,
Is born anew; the selfish mind now
moves
With charity; the hauteur of the soul
To meekness; turns; the cynic melts
and
Loves—only when man's failing art
with God's
Unfailing art unites in building here
The brotherhood of man—work most
sublime.

SOME THINGS

Portland's Fire Loss Small.

Portland, with a fire marshal, reduced fire losses from \$1,800,000 in 1915 to a little over half a million in 1916. Oregon, without a fire marshal, had fire losses outside Portland amounting to over \$2,000,000 in 1916, an increase over any previous year.—Oregon Journal.

Semi-Weekly Observer \$1.50 a year

BULLETIN

ONE CENT A WORD, 'PHONE 19

The charge for advertisements under this head is one cent per word for each insertion. No discount for successive issues. If you have anything for sale or exchange; if you want to rent or lease a house or business building; if you want help or a job of work; if you have lost or found anything; if you want publicity of any kind, try this column. You are sure to get results—others do, why not you. Telephone your "want ads." or address all communications to The Observer, Dallas, Oregon. Count the number of words to remit with order. Telephone No. 19.

JUST WHAT YOU NEED AT THE STABLE

Used cement trays, suitable for horse troughs or vats. Very cheap. Will last indefinitely. Rich and Ellis. 87-89

AUTO FOR SALE—Studebaker

"Six," run less than 7,000 miles. In fine condition. Leaving Dallas and will sell for \$575; cost \$1450 at factory one year ago. Inquire at The Observer, or Lew A. Cates, Hotel Gal. Will consider trade.

FOR SALE—Or Will trade for farm

property. After 33 years in business I wish to retire and will trade my planing mill for improved or unimproved farm land. Mill is up-to-date and the only fully equipped one in the county. Everything first-class. Established business. F. J. Coad, Dallas, Oregon. 83-90

FOR SALE—New, modern five-room bungalow on Washington street, terms. McBee Land Co. 77-7f

TO TRADE—Two acres improved land in suburbs of Portland for improved farm land in Polk county, no buildings required. Value \$4000. Address P. O. box 564, Dallas. Phone 1451. 80-90c

FOR SALE—Clean vetch seed at three cents a pound, baled vetch hay at \$13.50 a ton and oats, at going price. A. R. Brown South Red 35, Dallas. 86-104c

FOR SALE—Vetch, grain, cheat and mixed clover and vetch hay, baled, at \$10, \$12 and \$13 a ton. J. E. Houk, Perrydale. 85-92c

FOR SALE—Team, weight about 1050; 2½ wagon; good set harness; 12-inch plow, and cow. If taken all together, can make good price and terms. See E. D. Cosper. 78-7f

6 Per Cent Farm Loans on first-class farms. H. E. Morton, 605 Court street, Dallas.

FOR SALE—White and grey oats; also vetch and oat hay. E. A. Gwinn, Phone 1813. 88-89c

WANTED—Fresh cows. Phone 1437 or write Pinekey Bros. Dairy, Salem, Oregon. 89-90c

WANTED—Three-fourths size, second hand violin. Will pay cash. Mrs. E. E. Ewing, 'phone 842. 90-91

STRAYED OR STOLEN—December 22, small, dehorned black cow, eight years old. Had bell on and lump on left jaw. Coming fresh this month. Inquire Observer. 89-90c

FOUND—Pair of gold nose glasses, near depot Tuesday morning. Owner may have same by paying for this advertisement at Observer office. 89-90c

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