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WHO OWNS THE EARTH (AND HOW DID THEY GET IT?)

By HENRY M. HYDE.

II. THE NEW MONOPOLY IN WATER



WAKE UP!

The Public Lands—the richest patrimony that ever fell to the lot of a careless and purblind people—have already passed into the clutching hands of organized greed and cunning; (if you think this is yellow rhetoric read *THE TECHNICAL WORLD* for January and get the black arithmetic of the shameful situation).

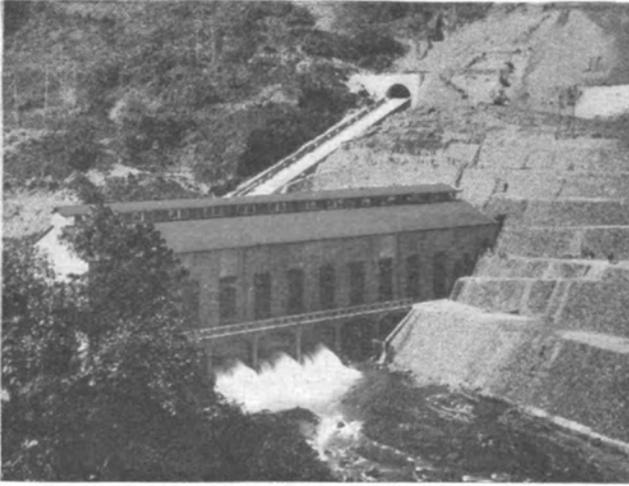
WAKE UP!

The Woods and Forests — which, under proper management, would have furnished lumber forever for American homes—have been despoiled and ravished by unscrupulous lumber barons; (if you object to this kind of muckraking kindly recall that last fall half the con-

tinent was black with the smoke from forest fires because the Huns of the lumber-camps are permitted to fill up their clearings with kindling wood ready for the match—to say nothing of some forty women and children nicely roasted to death in an iron-gondola car on the upper peninsula of Michigan).

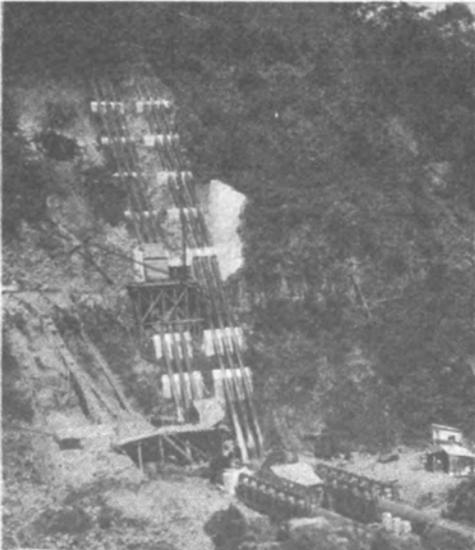
WAKE UP!

The great streams of Oil, which flow in secret channels under the earth, are owned or controlled by the most relentless and unscrupulous of trusts, which also seems to be in connection with a kennel of United States senators, to say nothing of a pack of judges, who would be awarded blue ribbons at any corporation bench-show; (the pardon is begged of safe and sane business men for referring, so long after the campaign to the Foraker letters, the Haskell exposures,



WHERE THE WATER GIVES UP ITS POWER AND GOES ON ITS WAY
UNCHANGED.

the friendly little notes of recommendation to the Governor of Pennsylvania, on behalf of certain aspirants to the Supreme bench of the state, while, at the same time, it is only fair to recall the tragicomic figure of a desiccated old gentleman prayerfully pleading with us to remember that John D. Archbold was the bright-eyed little friend of his youth and that really his own chief



A PENSTOCK OR WATER CONDUIT DOWN A MOUNTAIN
SIDE.

business in life, after all, is to report geraniums and admire the beauties of nature).

WAKE UP!

The great deposits of Iron Ore, so incredibly rich that they make the owners of the Rand diamond fields feel like fighting for a place in the bread line, have been soaked up by the human sponges of the most drop-sical of corporations; the hard coal mines, priceless resources, have been put into the pious hands of Praise-God Baer and his prayerful colleagues; the huge copper beds are the playground of the

bull-voiced bounder of Boston.

WAKE UP!

What's the use, after all, in exploding such a package of feverish language? What reason for hitting the rhetorical base-drums such resounding thumps, if, by our own showing, the natural resources of the country have already been alienated into private hands? Why not mercifully administer a verbal anesthetic, instead of raucously attempting to rouse an unconscious public to a painful sense of its despoiled condition?

Because there still remains a fighting chance to save to the commonwealth a good part of the greatest, most important and vastly most valuable natural resource of them all!

WATER!

It is commoner than dirt and more valuable than diamonds; it is the free gift of God to all mankind—

The rain it raineth all around,
It falls on field and tree,
It rains on the umbrellas here
And on the ships at sea.

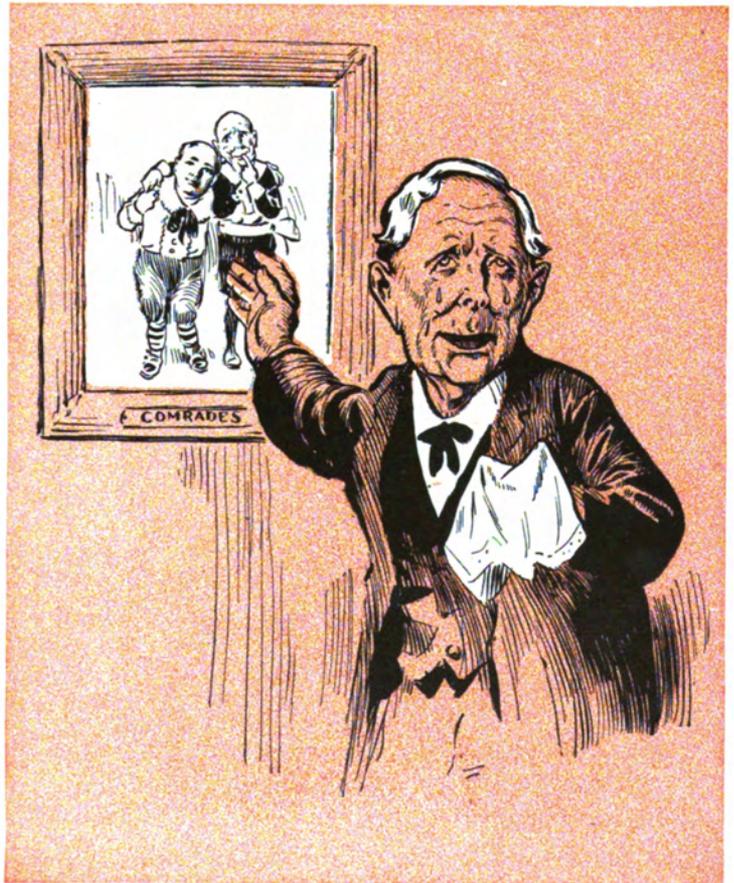
Yet the same organized greed which has already exploited the other natural resources of the country for personal gain is now doing its audacious and crafty best to secure control also of the water. And unless the public does wake up—and awakes in wrath, sternly determined to protect forever the remnant

of its birthright—twenty-five years will add to the present peerage of Ironmasters, Coal Kings, Land Barons, and Petroleum Princes a vastly greater list of Monarchs of Water. And an aristocracy of wealth, based on H_2O is more dangerous than any other; coal, iron, copper and oil deposits will some day be exhausted; properly conserved the water supply will last forever and wealth based on its control will go on increasing to the end of time.

To the myopic and indifferent public the idea of a few men getting control of the water supply and of drawing vast wealth from that control will sound like the foolish wail of a crack-brained sensationalist; it will arouse only a fatuous smile of ignorant contempt. But the readers of this magazine have heard of the turbine water-wheel; they know what is meant by the long distance transmission of electric power; they are able to realize what it means to hand over forever, as a free gift to a little coterie of men, the absolute control of the incalculable power developed by the rivers and streams of the United States. And—pray God—once they do understand the situation, they will not smile, but smite. The Congress of the United States and the legislatures of the various states are the danger points which must be constantly watched if the people are to be saved from spoliation.

When the first cost of a water-power development and distribution plant have been met, it will put the richest goldmine to shame in the potent matter of profits. In the latter case the supply of ore must be continually dug from deeper and deeper levels; this ore must be crushed and the gold extracted

at a considerable cost for labor and materials; and every night the mine-owner goes to bed with the fear that on the morrow his rich veins may pinch out into a stratum of worthless schist. The owner of a water-power, on the other hand, if the water-shed of the stream which he controls is properly protected—and this work the people will be forced, for compelling reasons, to do at their own expense, no matter who gets the incidental benefit—may sit snugly at home, knowing that at no cost for raw materials, no cost of manufacture or for labor—save the trifle required for the upkeep and management of his plant—his spinning turbines will deliver every day and twenty-four hours each day two, five, ten thousand horse-power, available anywhere within two hundred miles at the end of a copper wire the size of a man's thumb. And in any market such power is worth upwards of twenty dollars per year for each unit. Most comfortable of all, the happy





STEEL FLUME OF ENORMOUS SIZE FOR CONDUCTING WATER.

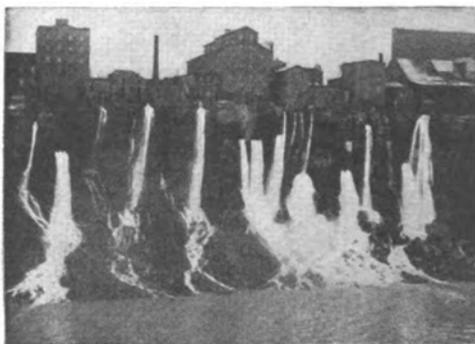
owner of a perpetual water-power franchise rests secure in the certainty that, humanly speaking, the golden stream will to the end of time pour its forty, hundred or two hundred thousand dollars a year into the distant money bags of his most remote descendants.

And, though the people sleep and must needs be awakened by a rhetorical alarm clock of such sounding brass as this, let them not dream that shrewd and cunning and far-sighted men are not wide awake, taking instant advantage, by every open and devious means, of this greatest opportunity ever offered to private greed and the suspicious complaisance of national and state legislators. Consider casually, for an instant, the conditions at Niagara Falls. Before the public



A POWER PLANT IN THE MOUNTAINS.
The turbines have not taken all the energy from the plunging water.

even stirred in its sleep the legislature of the state of New York had granted franchises for the production of water power to private corporations, which, if all utilized to the full, would have drained dry the American fall and left its tall cliff standing parched and naked as a monument to the triumph of selfish greed. It took determined and hasty action on the part of the national government at Washington, in connection with the authorities of the Dominion of Canada, to stop the sacrilege even half way. And mark now how those same benighted Canadians, while sacrificing much to the insistent and imperious de-



WHERE NIAGARA'S BEAUTY HAS GONE.
Used water dropping back into the river below the falls.

mands of commercial exploiters, have at the same time handsomely capitalized the interest of the whole people in this most marvelous of the works of nature. From the private corporations which have already gained franchises from the Canadian government the Dominion has a regular guaranteed income of \$300,000 a year. And when the power plants on the Canadian side are completed this great sum will be doubled. Moreover, because the Canadian fall has a vastly greater volume and depth, all this may be done without interfering with the majesty

of the cataract, while the American fall, wholly diverted into private flumes and gutters, bares its shameless bones to the sky, without paying any part of the price of its ravishment into the public treasury.

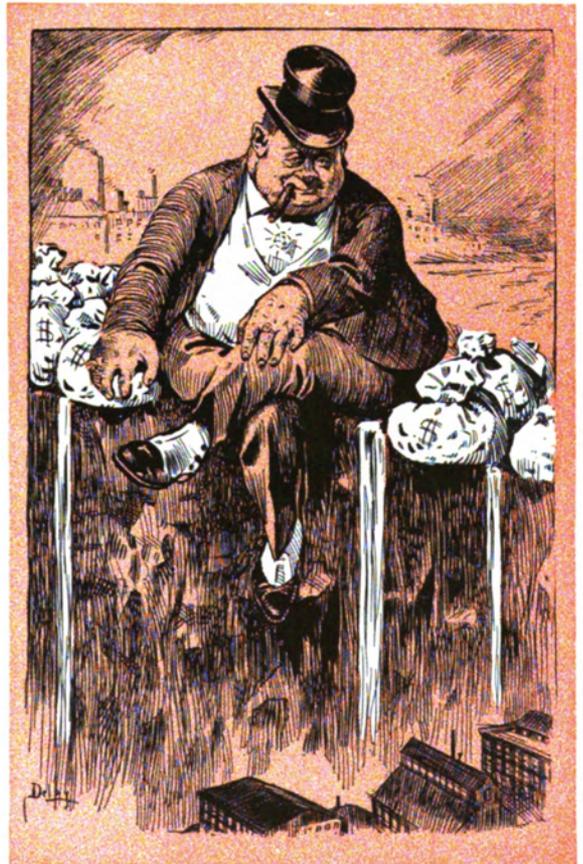
Turn now from this mighty work of nature and slow time to the little channel which Chicago taxpayers have dug—it cost more than fifty millions of dollars—with the primary purpose of diverting their waste and filth from Lake Michigan into the Mississippi River, the chief use of which majestic stream at the present time is to act as a continental sink and sewer-pipe. After the work of digging the drainage channel was well under way the turbine water-wheel and long distance transmission of power were developed. Instantly those who make a profession of acquiring riches by taking advantage of the sleeping people began to lay plans for the control of the water power which might incidentally be developed from the sewage of Chicago.

From a half-forgotten, wholly-decayed board of state commissioners they bought for a few thousand dollars—that was at least the total expenditure so far as the public treasury got any benefit—the right to dam the Des Plaines River, through the old bed of which the new channel runs, and a number of acres of state land on which to build a reservoir. After it had been made clear that the eventual horse-power developed might reach the tremendous total of 150,000, the state authorities and the drainage trustees tardily woke up. As in the case of Niagara Falls they were just in time to catch the horse by the tail as it was being ridden out of the stable-door. It will take a long fight through the courts to win back for the people what they have created and paid for. When that is accomplished Chicago will have enough electricity to make itself the best lighted city in the world, with power left, perhaps, to run the municipally-owned street car lines, if, at the end of twenty years the people decide, as they have the vested right, to take them over.

Take a hurried look at the Pacific coast, the slumbering or indifferent

people of which have allowed their marvelous natural resources to be plundered by private greed in every possible way and to almost the fullest possible extent. Here is an incomplete list of the larger water power projects now completed or in process of construction under private ownership in the two states of Washington and Idaho, alone:

Location of power plant.	Now in operation.	Now in process of building.	Projected by reliable parties.
Electron.....	20,000		
Snoqualmie Falls..	19,000		
Nooksack Falls....	20,000		
Post Falls.....	18,000		
Spokane Falls....	15,000		
Priest Rapids.....	20,000		
Little Falls.....		30,000	
Nine Mile Bridge..		15,000	
St. Joe Swiftwaters		100,000	
Wenatchee.....		8,000	
Naches River.....		10,000	
White River.....			100,000
Spokane Narrows..			25,000
Benton Dam.....			50,000
Okanogan River...			30,000
Thompson Falls...			29,000
Moyie Falls.....			8,000
	<u>112,000</u>	<u>163,000</u>	<u>242,000</u>



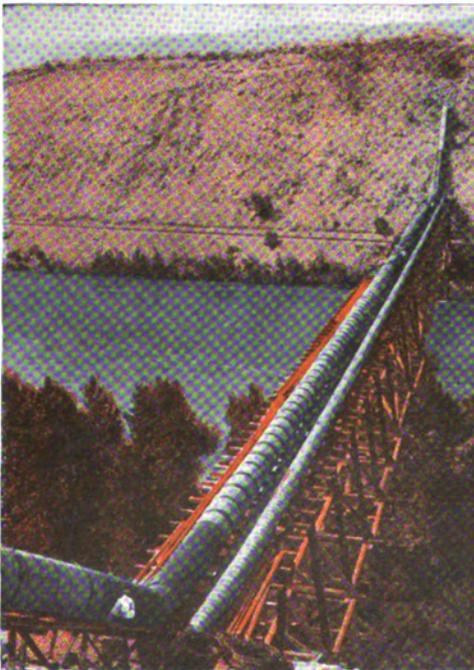
Here is a total water power development, in operation and projection, of 517,000 horse-power, worth to the private investors upwards of ten millions of dollars a year so long as water runs down hill. Nor does that begin to tell the whole story. Many of these companies own all the land on both sides of the streams they are tapping and will be able to largely increase their production. In fact engineering experts have placed the possible power development in the state of Washington alone at 3,000,000 horse-power, distributed about as follows:



POWER DAM OF A PRIVATE COMPANY WHICH IS FIGHTING A STATE FOR THE WATER RIGHTS.

Rivers.	Horse-power.
Spokane.....	400,000
Columbia.....	400,000
Chelan.....	300,000
Pend d'Oreille.....	200,000
Kettle.....	200,000
Yakima.....	200,000
Snake.....	200,000
Okanagan.....	150,000

Rivers.	Horse-power.
Palouse.....	150,000
Wenatchee.....	150,000
Chiwaukum.....	100,000
Snoqualmie.....	100,000
Puyallup.....	75,000
Entiat.....	75,000
Cedar.....	75,000
Nesqually.....	25,000
Nooksack.....	25,000
Skagit.....	25,000
Des Chutes.....	20,000
Other streams.....	75,000



A PIPE-LINE USED IN THE WESTERN COUNTRY.

Available power to light all the cities of the state and to run all the street cars and interurban electric lines that will ever be needed, with plenty left over to make Washington the leading manufacturing state in the union! If it is impossible, at present, to establish great publicly-owned power plants by the selling of bonds or otherwise, at least some effort should be made to preserve the rights of the people by the granting of short-term franchises only or by exacting an annual rental from the privately-owned plants. At present the only notable publicly owned plant in the state is that belonging to the city of Seattle, which develops 4,000 horse-power.

WAKE UP!

In California a single great electric system covers the state for a distance of more than two hundred miles as the crow flies, pouring power from the mountain rivers and falls into San Francisco, San Jose and the important cities of the northern half of the commonwealth. To the south another great corporation, with headquarters at Los Angeles, owns wires which cross six counties and fur-

nish transmitted water-power to the people of seventeen cities.

In the Piedmont region of North and South Carolina a huge private concern has woven a web of transmission wires more than three hundred miles long, serving more than a dozen towns and villages and turning the spindles of eighty great cotton mills.

Everywhere the significant tendency is towards the consolidation of many water-power plants into the ownership of a single great corporation. Butte, Helena, Anaconda, Boulder and many smaller towns in the same state of Montana, for instance, get 58,000 horse-power from a single company which controls four great plants, three of which are scattered along the Missouri River for a distance of forty miles.

In Eastern New York the Hudson, Schoharie and Sacandaga rivers are all laid under tribute to spin the turbines of the corporation which furnishes power to Albany, Glens Falls, Schenectady and their sister cities. At present these combined plants—all fed by the swift flowing waters which run down from the Catskills and Adirondacks—develop 34,000 horse-power, while from their undeveloped rights on the same streams they can double this amount.

In Michigan a single corporation, with two plants on the Muskegon River, now delivers 12,000 horse-power to Grand Rapids and other cities more than fifty miles away, while it already owns rights on the same stream which are good for sixty thousand horse-power more.

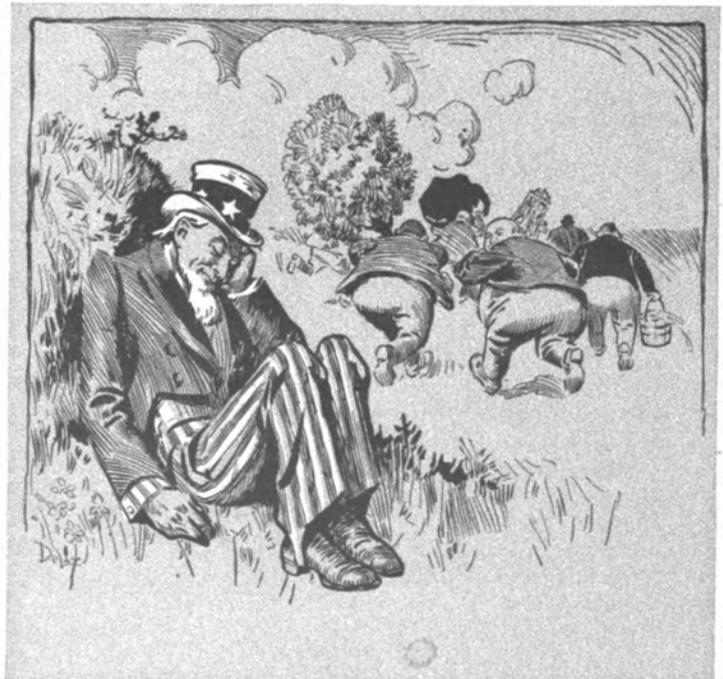
The company which has chosen the two Carolinas for its field of exploitation has got its clutches on the water rights along 120 miles of the sparkling Catawba and one magnificent site on the Broad River, with a total pos-

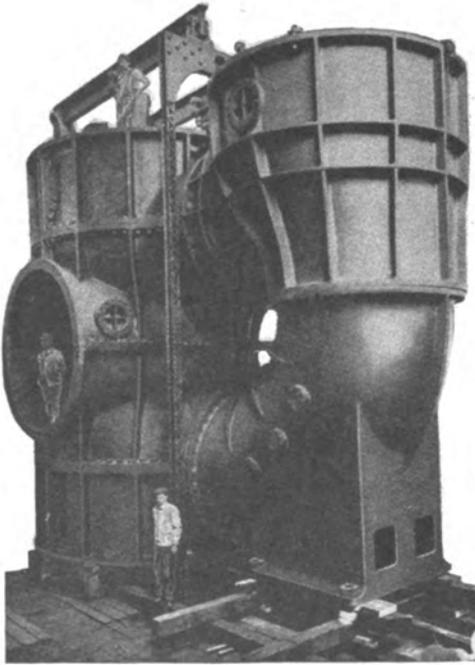
sible capacity of 150,000 horse-power to be developed at ten sites. Already two of these plants furnish 41,000 horse-power, and a third, which will add 32,000, is almost completed.

In southern California the water power company owns rights on the Kern River and the Santa Ana River, one hundred and thirty miles apart. For a distance of more than a hundred miles of its swift-flowing course no man may take a single horse-power from the Kern River. The company owns them. It owns also the rights for dozens of miles along the Santa Ana and Mill Creek. In fact, it is, as yet, probably the nearest to a perfect monopoly in the control of all the available water power over a large territory.

There is hardly a state in the union in which private promoters have not been shrewdly at work for years, getting by favor of state legislatures and in other ways the perpetual right to develop the power generated by the rivers.

Already, also, the great railroad corporations are shrewdly at work. The Chicago, Milwaukee & St. Paul road, for instance, is harnessing the swift waters of the St. Joe River in northern Idaho for the electrification of the Idaho





TURBINE OF 13,000 HORSE-POWER.
It is this type of engine that has made possible present utilization of water-power.

and Eastern Washington division of its new transcontinental line. In these swift waters runs power enough to drive 500 Mogul engines, pulling one hundred and sixty miles of solid freight cars over the mountains. Theoretically 200,000 horse-power can be developed along this one river-reach of thirty-five miles. The cost of development is placed at \$35 a horse-power, worth in any market \$20 a horse-power per year. The railroad company is planning a total investment of nearly \$9,000,000, a part of it for the purchase of lands to be submerged by the water behind its dams.

Early this spring the Great Northern Railroad Company will begin moving its trains over the Cascade Mountains by electricity generated by penning the Wenatchee River in Tumwater Can-

yon, near the town of Leavenworth, Washington.

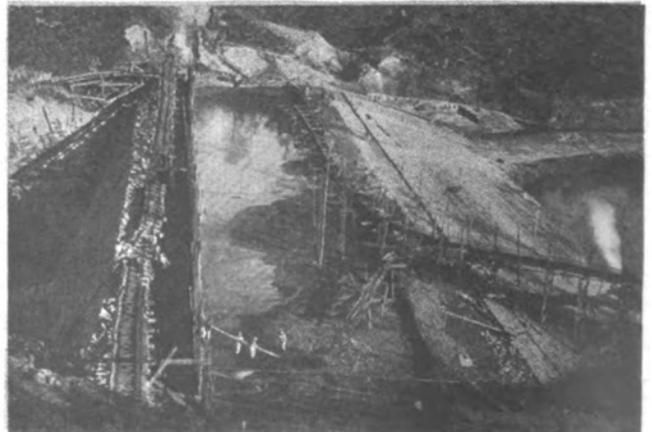
Both of these railroad companies will have a great amount of power for sale to private enterprises—saw-mills and factories of all kinds.

Always—and particularly in a new country—great railroad corporations, through their control of transportation, are the absolute masters of the destiny of the communities along their lines. Leaving the potent matter of rates entirely out of the question, they can—and often do—ruin one town or private enterprise and make another rich and prosperous by the simple method of denying cars to the one and supplying plenty to the other—in which, perhaps, officials of the railroad company are financially interested.

Add to this great advantage the control of the supply of cheap power and, so far as material affairs are concerned, Providence, itself, is hardly more omnipotent, while the Czar of all the Russias becomes, in comparison, a mere ward politician. And the “square deal” fades away into the shadow of a dream.

But there is still another consideration—and this is the most important of all—which has been so far almost lost sight of in the granting of power rights along the head waters of our swiftly running streams.

Every year floods do damage in the United States to the enormous amount of a hundred million of dollars; every



BUILDING A POWER DAM.

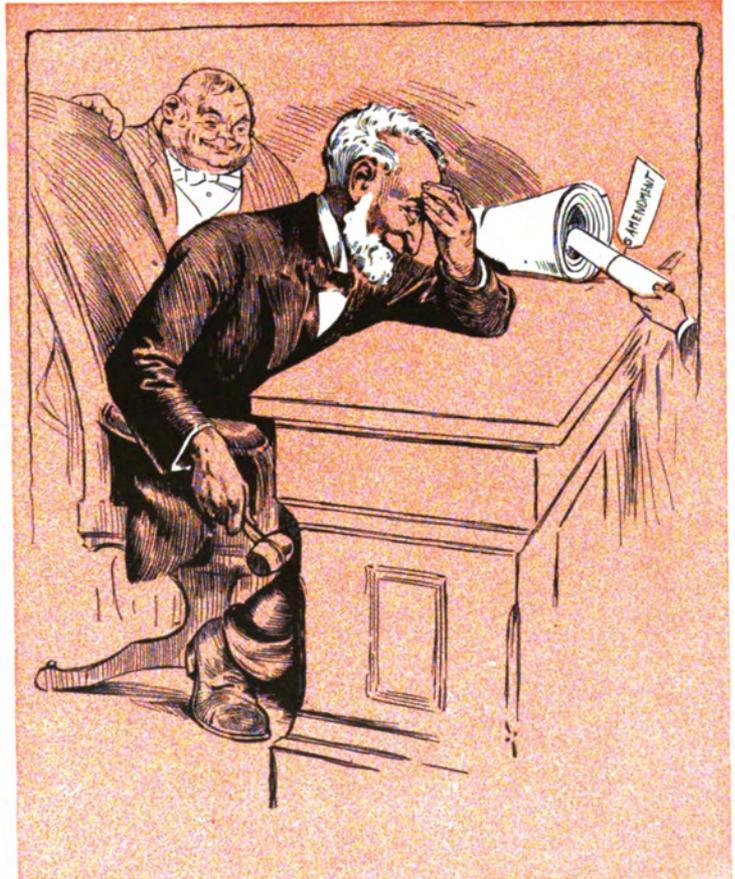
year the Mississippi, alone, sweeps out into the Gulf enough of the richest and most fertile soil in the world to fill up the great ditch we are digging across Panama; every year, the spring deluge, rushing down slopes from which the forests have been cut away, turns thousands of acres of good farming land into gulleys and ditches.

This awful waste must be stopped. And in its stopping the great rivers of the country must be made navigable all the year round. To these ends it is absolutely essential that the federal or state governments control the great reservoirs which are built near the head waters of the swift-running streams which feed the great rivers. Dams must be built and managed primarily with an eye to their use in keeping the rivers navigable, and preventing disastrous floods, so that all the people may be benefited. Power must be developed only as a by-product. With the great power sites under private ownership it is plain that these all-important public considerations will not be controlling.

What is needed, most of all is a man—a great constructive statesman, who shall provide a comprehensive plan for the improvement and conservation of the water-supply of the whole country. Congress, under the dictatorship of Uncle Joe Cannon, cannot be trusted to look out for the people's interest in this matter any more than in any other. Before the last session of Congress nearly forty bills were introduced, each of which gave to some private corporation forever and free of all tax or toll, all the rights the national government has in a water-power site. Several of these bills were passed and the most important of them President Roosevelt,

when they came up to him for his signature, promptly vetoed.

As further indicating the attitude of Congress towards the rich and grasping corporations, attention is called to a bill and its amendment which were recently passed. The original bill provided that if one owning the land on one side of a power site wished to build a dam and would donate a site for a lock to the government—which he was already required by law to do—he might require the Attorney General of the United States to condemn for him—but at his expense—the opposite shore required for the dam. But even that did not satisfy the grasping water-power corporations. Presently—it certainly must have been while that faithful “guardian of the people's rights,” Uncle Joe, was fast asleep—a pleasant little amendment was slipped through. It provides that when anyone—no matter what he owns—wishes to build a dam and give the gov-



ernment a lock-site, the Attorney General must condemn both sides of the river for him. In other words, if you own a power site and are not quite ready to develop it, any corporation can take it away from you at condemnation prices, the Attorney General of the United States acting as its lawyer in the case.

To the unprejudiced observer it seems certain that the national and state governments will shortly be forced to go into the business of developing and selling power. Already there is going to waste over dams built by the nation, to improve navigation, water which would produce annually 1,600,000 horse-power. Sold at the market price this would bring a total yearly income of \$32,000,000, which might go towards the annual appropriation for river and harbor im-



A FINE EXAMPLE OF MOUNTAIN OPPORTUNITY.
A partially completed penstock and power house owned
by private interests.

provement. With our supply of both anthracite and bituminous coal rapidly being exhausted, how long will the economic sense of the people allow such a useless waste to continue?

Once it is realized that the public ownership or control of these great water power plants is absolutely essential to the protection of the people from disastrous floods and to the keeping of the great rivers navigable, the rest of the problem will be comparatively easy and inexpensive to solve. For, from the sale of water-power as a by-product, a sufficient revenue can be realized to build and maintain forever, free from all cost, all the dams, reservoirs and channels necessary to the conservation and highest utilization of the water supply of the country.

