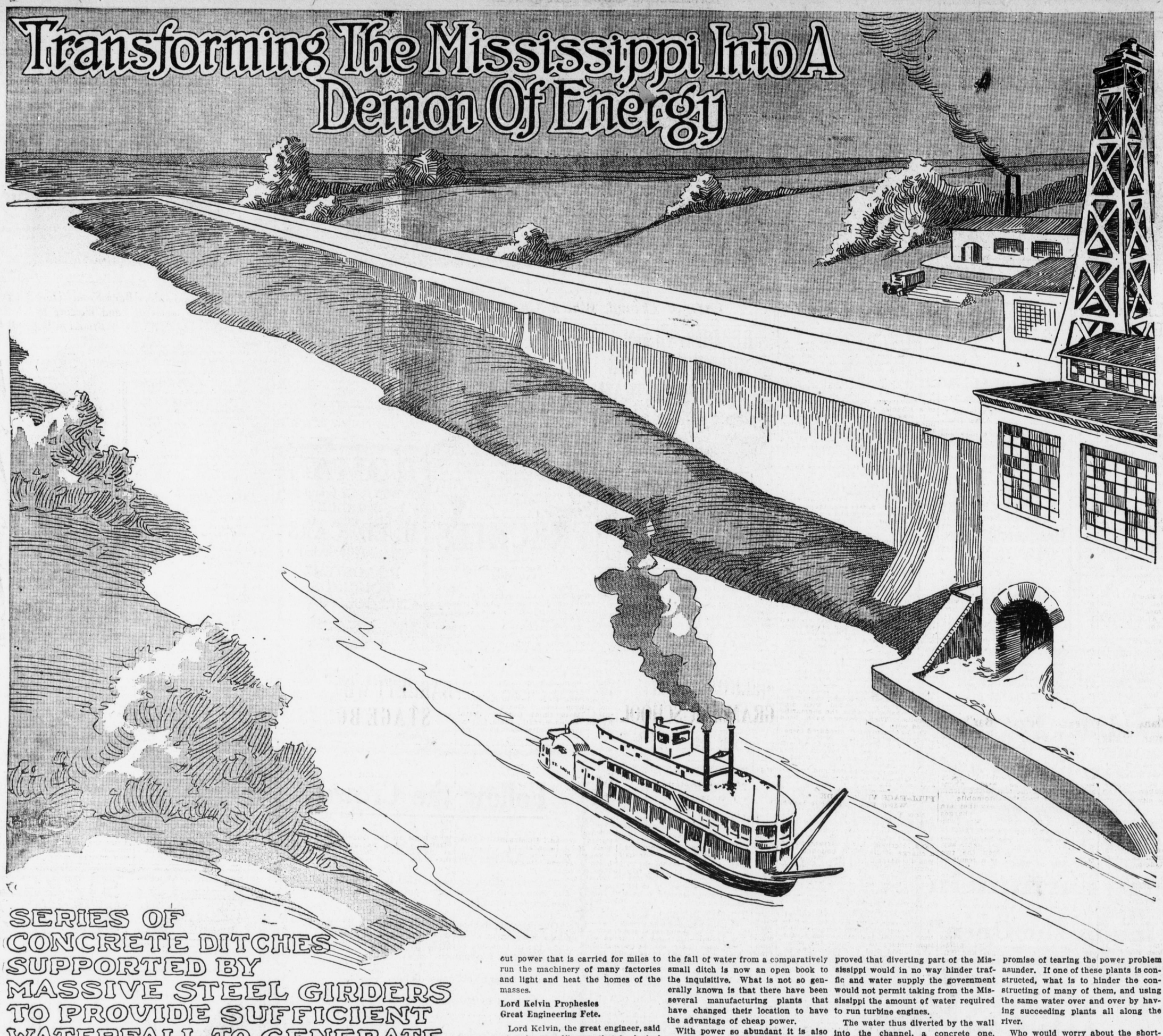
Transforming The Mississippi Into A Demon Of Energy



SERIES OF CONCRETE DITCHES SUPPORTED BY MASSIVE STEEL GIRDERS TO PROVIDE SUFFICIENT WATERFALL TO GENERATE ENOUGH ELECTRICITY TO SUPPLY EVERY HOME AND INDUSTRIAL PLANT IN MIDDLE WEST- A DREAM YOU SAY? BUT ITS COMING SOON

THE most unimpressive of us, when beholding the Mississippi, can not but visualize the power abundant in the flow of this mass of water.

Beginning as a streamlet in the hills of Minnesota it picks up in volume rapidly and, as river after river pour in their contents, it soon becomes a broad expanse of water.

Lazily, tranquilly, but irresistibly it sweeps on until its mouth is reached in the delta lands of Louisiana.

Then, suddenly seized with omnipotent energy, it hurls its waters into the Gulf of Mexico with a rush that can be felt for miles out.

Think, if you will, of the terrific power contained in the flow of this river.

Picture the ready-made force wasted in the river's mad rush to the sea. The building of concrete banks along the shores of the Mississippi in Louisiana has made the outlet of the river a demon of energy, which formerly was a lethargic mass of water, slow moving and shallow. Instead of sand bars and other obstructions characteristic to a slowly-moving stream it has now a clean-swept floor deep enough for the greatest ocean liner to come for many miles into its mouth.

This is considered a masterpiece of engineering construction. Science has harnessed the Father of Waters.

Will Furnish Power To All the Middle West.

Now comes before the engineering world a new idea whereby the forces of the Mississippi can be utilized for an altogether different purpose.

Why not harness the Mississippi so that it will furnish electricity for the countless uses for those persons dwelling throughout the Central, South and Southwestern parts of our country?

The task is monstrous, but when we recall the Niagara river being harnessed in such a manner and that thousands are daily furnished with light, heat and power, it appears that it might be possible.

Now-a-days we say nothing is impossible, and well we might. The Panama Canal, the Brooklyn Bridge, the Keokuk Dam and countless other wonders have been performed which not long ago would have been sneered at as engineering fallacies. Where the poet takes up his pen and the artist his brush, the engineer, while duly appreciative of the natural beauty of the object, takes his pick and shovel and converts scenic wonder into a scientific glory.

But at Niagara Falls it is different. The scenic grandeur of the falls is in no way marred. But for a few inches from the 20-foot depth of the river as it rushes over the edge of the precipice there is not the slightest change since part of the water has been diverted to flow into the turbines of the power company. Those who visit Niagara still have the same feeling of awe that has always been the case when first is seen this orgy of nature. One does not realize that within a short distance gigantic motors are grinding out power that is carried for miles to run the machinery of many factories and light and heat the homes of the masses.

Lord Kelvin Prophesies Great Engineering Fete.

Lord Kelvin, the great engineer, said when he saw Niagara that he looked forward to the time when the whole water from Lake Erie will find its way to the lower level of Lake Ontario through machinery, doing more good than the great benefit we now possess in the contemplation of the scenic grandeur of the waterfalls of Niagara.

The idea of using the force of the Niagara river and not in any way deteriorate the magnificence of the falls was long a matter of thought, although so much opposition was brought against it by famous engineers that it looked as if the matter might stop at the wish. As we know now it did not, Lord Kelvin's expression gave hint to a plan that struck a group of men very favorably. Why not detract part of the water above the falls? The force would be all that was necessary and the falls themselves would in no way be harmed.

This group of men did not stop at the desire to see the power utilized. Rather, they proceeded to work with great vim. The greatest of American and foreign engineers were assigned to the task. These experts decided that part of the water of the Niagara river could be taken and detracted from its course into a ditch which in turn would lead to a pit deep enough for the flow to have nearly the power of that of the falls. It is this same scheme, diverting part of the water into a steel supported concrete ditch, that will result in the harnessing of the great Mississippi.

The rest of the story of the harnessing of Niagara is a matter of history. How whole cities are lighted and heated from electricity generated by the fall of water from a comparatively small ditch is now an open book to the inquisitive. What is not so generally known is that there have been several manufacturing plants that have changed their location to have the advantage of cheap power.

With power so abundant it is also cheap. Is it then any wonder that industry controllers of America leave cities where coal is energy and move to cheaper power?

We have, then, the motive for the undertaking of such a thing in the Mississippi Valley. Power, cheap, constant and which will supply all energy required for any industry will be the outcome of this project. The greatest opposition to harnessing the Mississipi is the initial expense thereof. But why worry about the outlay if the returns justify the means, which have been proven by the Niagara company's success. Power must be had. There is always either a shortage of coal or a threatened shortage. With the adamant power of the Mississippi utilized there should be no uneasiness over a shortage of coal. Tennyson said about the brook that "Men may come and men may go, but I go on forever." Water is like the poor. We shall have it with us always. Then why not use it?

Water Diverted Into Converted Channel.

The plan that will in all likelihood be followed has for its foundation the same principle as that used at Niagara. Water will be diverted into a channel along the river. This will make necessary the building of a concrete wall to extend for several hundred feet at an angle of about 30 degrees out into the river. But this dam will not interfere with traffic. The opposition that arose to converting the flow of the Niagara into power by the New York Legislature and Canadian government was that it would detract from the beauty of the falls. Unless it could be proved that diverting part of the Mississippi would in no way hinder traffic and water supply the government would not permit taking from the Mississippi the amount of water required to run turbine engines.

The water thus diverted by the wall into the channel, a concrete one, would not be sufficient to interfere with the water supply and the wall would not etxend far enough into the river to obstruct traffic. Briefly summing up the plan before going into details, the water will be run into this steel-supported concrete ditch and thus into turbine engines, which will in turn be connected with powerful generators.

But the complete plan is this. The average slope of the floor of the Mississippi is about eight feet to the mile. In some places it is more and some less. It is planned to build a concrete channel or ditch supported by a steel frame, alongside the river with a slope of only one foot to the mile. Thus in five miles would be afforded a drop of 35 feet from the altitude of the constructed channel to that of the river. The channel would be built 40 feet wide and the sides two feet high at the begnning and increase two feet to the mile as it progresses. Thus, at the end of five miles the walls of the concrete ditch will have reached a height of 10 feet. As water seeks its own level the depth of water in the channel can be readily determined.

The concrete channel will not proceed in a direct course alongside the river but will slope back a trifle. This will permit a ditch to carry the surplus water back into the river. Profitable power dams have a fall of about 12 feet. The fall of that from the concrete channel will be 35 feet, and the power will be greater in proportion.

This Plan to Solve Coal and Power Problem.

That is the plan and one which gives promise of tearing the power problem asunder. If one of these plants is constructed, what is to hinder the constructing of many of them, and using the same water over and over by having succeeding plants all along the river.

Who would worry about the shortage of coal if these plans were carried out. Railroads would be free to use their cars for other purposes. The idea of a universal trolley system could come to pass and if the monorail train, which is being talked of so much at present, is ever perfected, the power problem which has caused a great deal of dissension, would be solved.

A chain of these plants constructed along the Mississippi would mean more than can be pictured at the first glance. Towns no more would be harrassed by a continual smoke that is the curse of so many of them. The country would no longer have to depend on lamps for lighting purposes, or if fortunate enough at present to have electricity, would not have to depend on an intermittent source of energy such as is furnished by numbers of tiny plants situated throughout the country.

Electricity, the wizard of the twentieth century, would be at our beck and call. It is but in its infancy and with plenty of it available greater uses for it could be planned. The current manufactured by the generators can be used locally or for a distance. If locally it must pass through transformers; for a distance it must be stepped up. Other systems have proven that current can be carried far and will fit in when the Mississippi is harnessed.

One American concern is now turning out indigo at the rate of a ton a day, and will be in position to continue to manufacture it after the war, in the face of German competition.