ENGINEERING AND SCIENTIFIC NOTES

Cassier's Engineering Monthly for September contains a very interesting account of a gigantic power plant under construction at Keokuk, Iowa. This plant is located at the foot of the Des Moines Rapids, where the energy of a very large body of water falling a moderate distance of from 30 to 40 feet is to be converted into 120,000 horse-power of electrical energy. In order to make possible the utilization of the entire flow of the Mississippi, a dam over 4,000 feet long has been constructed perpendicular to the line of flow, and adjacent to this is perhaps the largest power house in the world, measuring 1,400 by 122 feet. The power is developed from the falling water in turbines of the well-known Francis type which have a capacity of 10,000 H.P. each. These machines are driven at a moderate speed and are built on the "reaction" pattern which has proven more efficient in the existing conditions than the "impulse" turbines which operate so well with a small body of water having a large head. Coupled directly to these turbines are the generating machines some 31 feet in diameter and standing over 11 feet in height.

The distribution of this energy once it is generated presents in itself a difficult engineering problem. The nearest large city is St. Louis, 144 miles away and the energy is to be transmitted thence at a potential of 110,000 volts along wires supported by steel structural towers.

Here is a step towards conservation and a powerful attempt to harness the forces of nature. To quote, "The mighty Mississippi River is to be harnessed to the machinery and devices of civilization just as truly as ever a work horse was harnessed to plow or wagon."

The article is illustrated by several excellent photographs and drawings.