

Progress in Science.

Erection of the Fades Viaduct.

A PIECE of bridge construction work presenting some noteworthy features has recently been carried out in France. It is known as the Fades Viaduct, and is designed to take the railroad across the wide valley in which flows the river Sioule. The present work is notable for two reasons, one of these being the exceptional height of the masonry pillars, which are built in the valley, and in the second place for the considerable length of the central span. The viaduct has the form of a straight iron lattice-work bridge construction. It is carried upon two lofty piers and two abutments, the length of the consecutive spans being 383 feet, 373 feet, and 383 feet. The flooring of the viaduct lies at a height of nearly 440 feet above the level of the Sioule. The height of the great masonry columns of rectangular section is 394 feet, and they appear to be the highest pillars for a bridge built in Europe up to the present. The most difficult part of the work was to make the junction between the overhanging halves of the central span. This was carried out recently, and the operation was performed with remarkable precision. To make the junction, the whole bridge had to be lifted off the two main columns by hydraulic jacks, in order to make up for the slight sinking of the two fore ends and bring these exactly opposite each other and in true line. After joining the ends, the bridge was lowered again upon its supports.

Centenary of Gas Illumination.

The centenary of gas illumination has evoked the customary inquiry as to who was its inventor. Some years ago, before gas lamps flickered in even London streets, a Cornish miner had filled a kettle with small coal, and had been found lighting the gas he got out of the spout. But the real inventor was the ninth Earl of Dunlopd, then engaged in the manufacture of another new thing—tar. He made an enormous pile of coal for the sake of gathering the residuum. But the pile did not burn fast enough to please him, and he inserted a large air pipe to quicken combustion. The gas from the air pipe, to his astonishment, ignited. But while it frightened the

neighbourhood from its propriety, it quite failed to enlighten the Earl to the discovery of something even more useful than tar.

An Interesting Discovery.

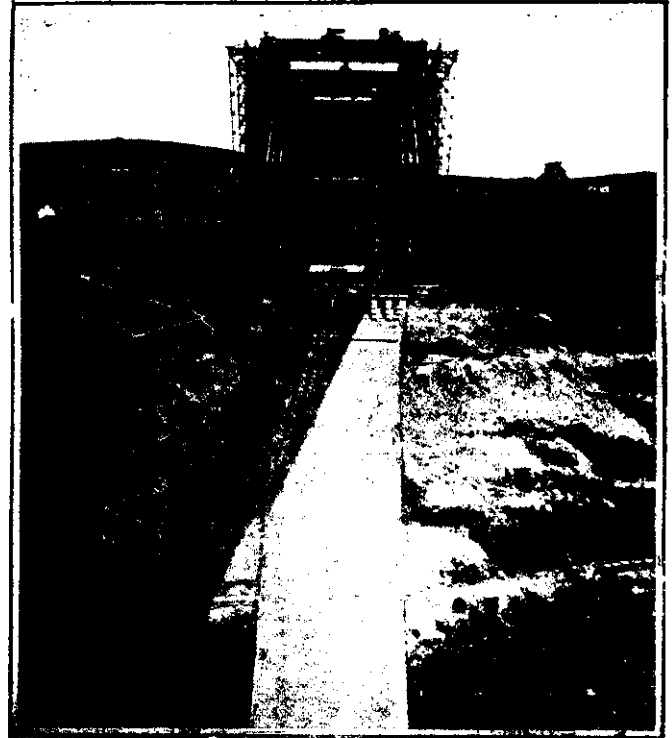
A recent mission of the Chicago University resulted in the discovery of more than two thousand tablets covered with wedge-shaped characters (writing) dating five thousand years B.C. They are of every possible variety of size and shape. The most ancient look like a little orange on which the scribe responsible for the writing painted scrawl-characters and left them for the sun to dry. That particular form of tablet was replaced by flatter discs, and, last of all, about four thousand years before Christ, came the perfectly flat, square, and rectangular tablets which were to hold their place indefinitely. Among the rectangular tablets of the ancients there were a few designed for special use. Some of them were for the use of school children. They were very much like the slates used by the children of the infant schools—nearly round. One of the most remarkable of these special forms was that of the tablet used for correspondence dating from 2500 years B.C. The clay slate was prepared and the inscription made as for all the ordinary documents; then, when that part of the work was done, the slate, or tablet, was covered with a thin envelope, also of slate-clay, just as we use envelopes to-day, to protect the letter from curious eyes.

A Wonderful Invention.

It is seriously declared that Nikola Tesla, the well-known American inventor, "has practically perfected a new system of telegraphy and telephony, which differs from the present wireless system in that it utilises as the transmitting agency, not waves of air, but the inherent conductivity of the earth itself. Space, time, and the elements it almost utterly disregards," and, says the announcement from which we quote, Mr. Tesla is absolutely confident, from experiments which he has already conducted in Colorado and Shorham, Long Island, that the day when one may talk around the world

by wireless telephone at a trifling cost has dawned. Moreover, the messages being sent underground, any possibility of interference is obviated. Mr. Tesla's claims are very interesting, and that is why they are given such prominence. He boldly asserts that distance is no obstacle, as in the case of the air wireless,

had proved from a station he had already established that the very powerful current developed by the transmitter traversed the entire globe, and returned to its starting point in an interval of eighty-four one thousandths of a second, the journey of 25,000 miles being effected almost without any loss of energy.

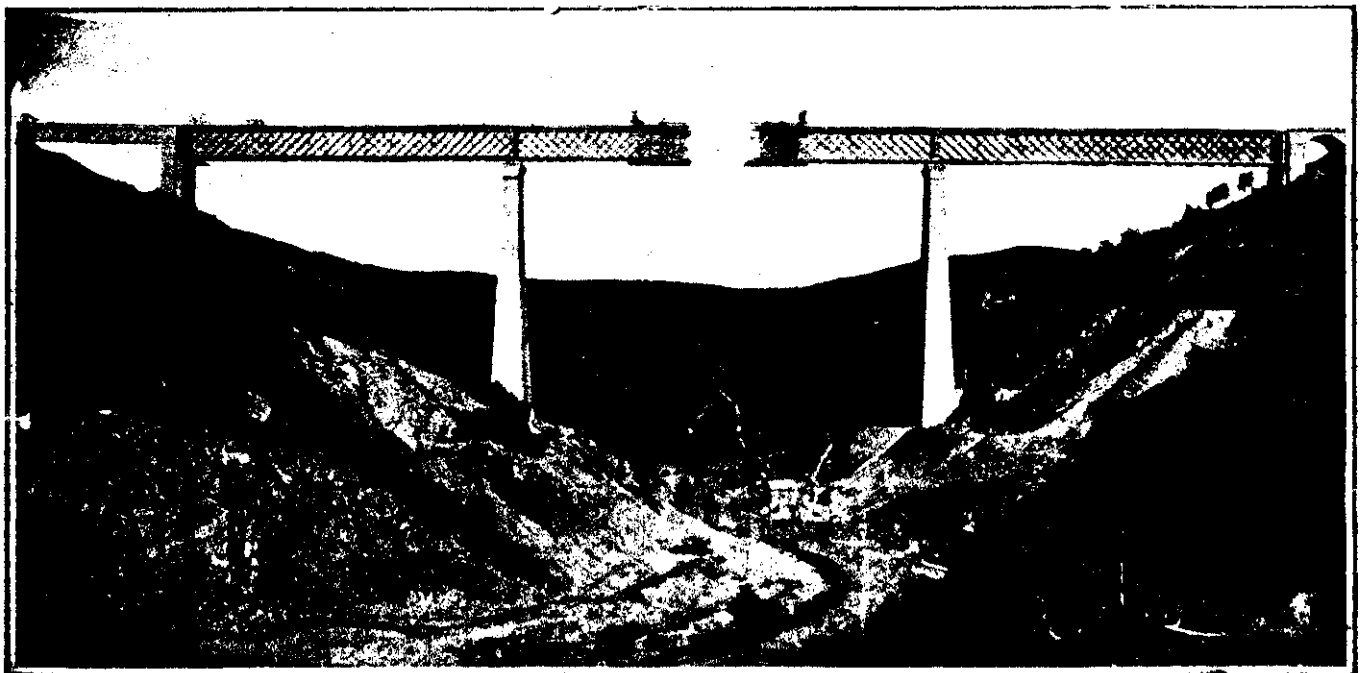


END VIEW OF THE TRUSS.

that any number of receiving stations may be used, and that not only will messages across and around the world become incredibly cheap, but that any man anywhere in the world may, by plugging in his ear a receiver purchased for a dollar or two, hear an opera in Paris, Melbourne, Vienna, or New York. To an interviewer, Mr. Tesla said that he

A Fortune in Grains.

Ten grammes or about one third of an ounce radium chloride, equivalent to one gramme of pure radium, is the total output for eighteen months of the Jaximisthal mine. After the hospital and scientific institutions have been supplied, the remainder will be offered to the State at 415,000 francs, or 157 grammes,



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