

SCIENCE

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A REMARKABLE ELECTRIC-LIGHT PLANT.

THE Heisler plant operated by the Illinois Valley Electric Light and Power Company is one of the most remarkable incandescent electric-light plants in the world. We illustrate some of its prominent features. The location and arrangement of this plant, so characteristic of the Heisler system, deserve more than ordinary notice. The area covered by one circuit has never been equalled in the history of incandescent lighting. Their circuit of forty-five

The Illinois Valley Electric Light and Power Company, was organized at Ottawa, Ill., in the spring of 1889. Desiring their operating expenses to be a minimum, they looked around for a suitable location. They were fully impressed with the advantages of water-power, and found an excellent site at Marseilles, eight miles distant. The advantages of the incandescent light were such as to lead the projectors of the enterprise to favor its adoption, but some investigation into the cost of the circuits required by some systems revealed the fact that the investment for copper

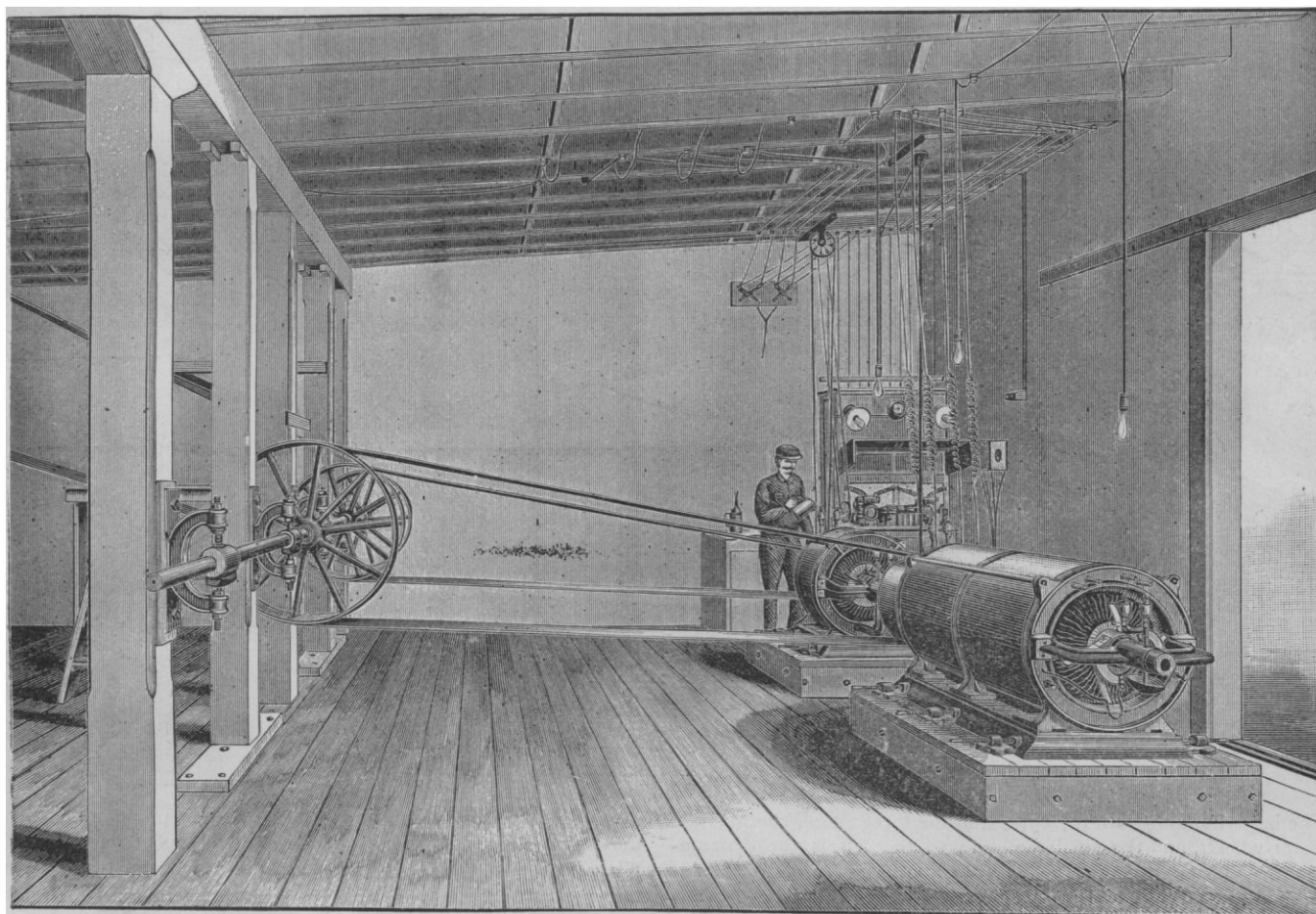


FIG. 1.—INSIDE VIEW OF THE HEISLER DYNAMO-ROOM, MARSEILLES, ILL.

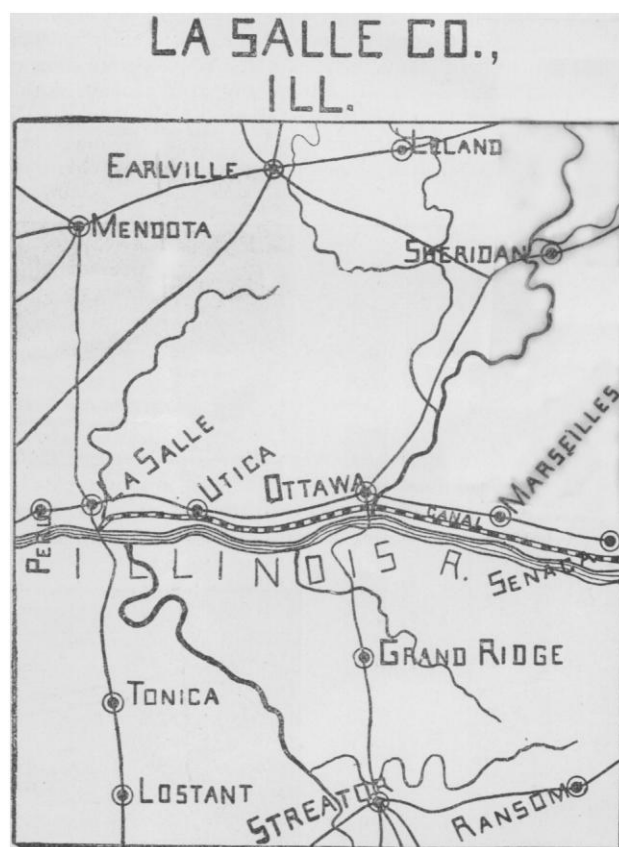
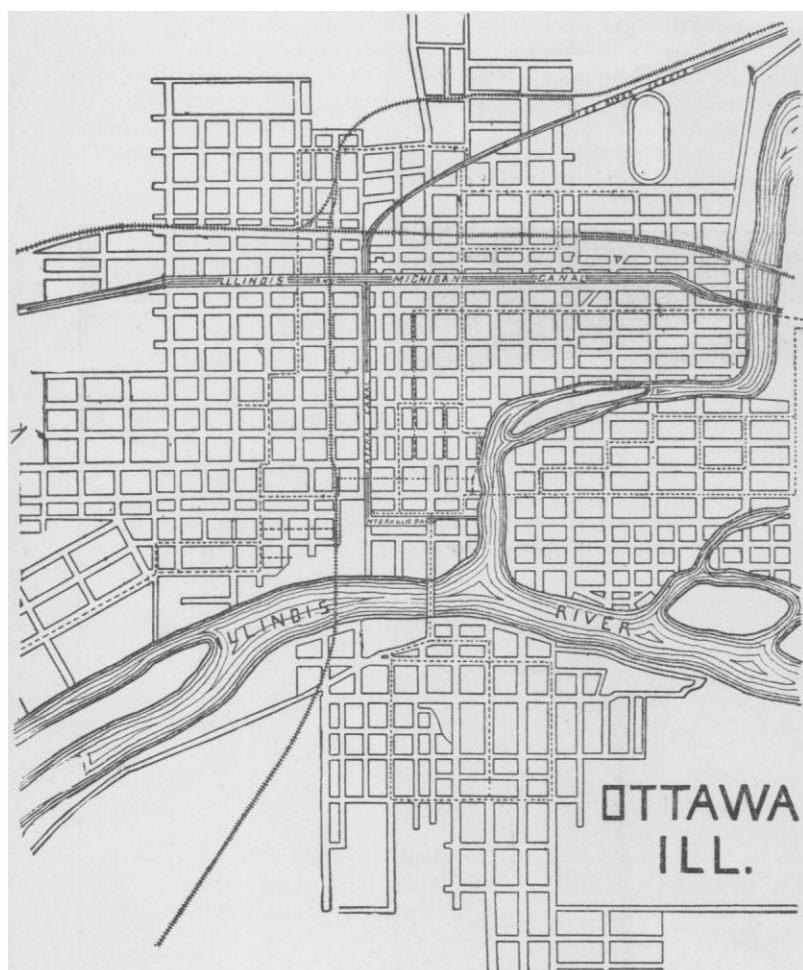
miles is, so far as we have been able to learn, the longest incandescent circuit in the world, nor do we know of a longer arc circuit. Not only is this the case, but the investment in copper for the circuits is a very small part of the total cost of the installation. Another fact characteristic of this system is that the most distant lights burn fully as brightly as those near the dynamos. The results have been eminently satisfactory, both to the parties using the light, and the citizens who inaugurated the enterprise, and carried it through to success.

would be prohibitive. Although somewhat discouraged by this view of the matter, they did not cease their investigations. Hearing of the claims made regarding the adaptability of the Heisler system of St. Louis for such locations, they were induced to look into its merits. The investigation resulted in the adoption of the system, and the installation of an extensive plant at Marseilles. The lights were started in the summer of 1889, and have been successful from the beginning. Arrangements are now being perfected to extend the circuits from Marseilles to Seneca, located five

miles distant in the opposite direction from Ottawa. The capacity of the original apparatus is now almost fully taken up, and enlargements are necessary.

From the accompanying engravings an excellent idea may be secured of the peculiar features of the plant mentioned. The outline map of La Salle County (Fig. 3) shows the relative location of the cities of Ottawa, Marseilles, and Seneca, also the Illinois River, and the Illinois and Michigan Canal. It will be seen that the lighting done by this plant extends for a distance of thirteen miles along the Illinois River, from the centre to the border of La Salle County. Fig. 2 is an outline map of the city of Ottawa. The incandescent circuits are indicated by dotted lines, and can be seen entering the city from the east, on the right of the engraving. This circuit is constructed throughout of No. 8 wire, hard drawn and weather-proof. Fig. 4 is a view of the company's buildings.

that are imported from Singapore. Many persons who have an objection to tinned foods generally, have pronounced these to be of excellent quality and flavor, and though they are to be obtained almost at any grocer's, and at a very cheap rate, they are not in such great demand as might be expected. The prejudice against new products or preparations is difficult to overcome, and this prejudice is more general even among the poorer and working classes than among those better informed. There is a general belief among them, says the *Journal of the Society of Arts*, London, that only the commoner qualities of food-products are put up into tins, and consequently they reject them. The success of the pineapple, however, treated thus, ought to dispel that notion, and to lead to other fruits, especially those of tropical countries, to be similarly treated for export purposes. There seems to be no reason why mangoes, guavas, rose-apples, and a host of others, should



FIGS. 2 AND 3.—MAPS OF OTTAWA, ILL., AND OF LA SALLE COUNTY, ILL.

The large building with the cupola, in the foreground, contains the water-wheels, and the small building to the left is the dynamo-room. This engraving also shows the flume as it enters the building, and the circuits leaving the station. Fig. 1 is an inside view of the dynamo-room, showing the machines in position, together with the shafting, pulleys, and belting by which the dynamos are driven. The engraving also shows the method of connection between the dynamo and automatic regulator. On the whole, this station may be ranked as being highly typical of modern progress in incandescent electric-lighting.

CONDENSED FRUITS AND VEGETABLES.

THE introduction of preserved or condensed foods, both of animal and vegetable origin, in hermetically sealed tins, has developed to an enormous extent of late years. One of the most successful of the recent introductions is undoubtedly the pine-apples

not become regular articles of import and consumption, and even perhaps some of the other vegetable productions of distant lands. That the ordinary English vegetables and fruits can be preserved for winter use when the fresh ones are not obtainable has been proved over and over again.

The preservation of vegetables and herbs by desiccation by the natural action of the sun has been known to and practised by agriculturists from time immemorial. Within historical times it has been supplemented and improved upon by the introduction of drying in kilns. Both the ancient Chinese and Egyptians used this method in remote ages. The vegetable substances offered great difficulty for stowage and transport in consequence of their bulk, and the imperfect nature of their preservation. This difficulty was very successfully overcome in 1846 by a Mr. Masson, who was head gardener to Louis Philippe, King of the French, and who invented a process by which kiln-dried vegetables, herbs, and fruits can be compressed by powerful hydraulic pressure, re-