

By the beginning of spring, unless some altogether unexpected disaster occurs, here or at the steel works, there will be in readiness a sufficient amount of material to allow the work to be pushed with the utmost rapidity.

With the facilities which are at command for handling the material, and the large number of men that can be employed, the engineers are confident that the five thousand tons of metal which the superstructure will require can be put in place during the next twelve months.

The timber for the wooden portion of the roadway is now being prepared by a process of creosoting. No official action has yet been taken with regard to the means to be employed in handling passengers and freight; it is probable that a cable system, similar to that in use in San Francisco, will be adopted.

The Rose of Jericho.

At the last meeting of the Royal Botanic Society, Professor Bentley called attention to the peculiar properties of the so-called Rose of Jericho, pointing out that during the dry season it becomes coiled up into a ball, and is blown about the dry, sandy deserts of Egypt and Syria for many months; but at the first shower of rain its leaves expand, and it becomes apparently revived as if its life were renewed.

The Steam Engine Governor.

The great importance of strong and efficient steam engine governor connections is illustrated by the fatal accident which took place Nov. 18, at Messrs. Howard and Bulbough's iron works, Accrington, Eng. It appeared at the inquest that one of the bevel wheels which drove the governor had broken, and the consequence was that the engine "ran away."

Hot Sand a Good Bed Fellow.

The comfort which a hot water bag or even a hot brick may afford a person on retiring, chilled, is very great, and beyond this, the use of some such warmth-producing appliance is useful as a health preservative and restorative. But one of the most convenient articles to be used as a bed warmer and in a sick room is a sand bag.

Telegraphic Progress in China.

The U. S. Consul-General at Shanghai, China, informs the State Department at Washington that the Emperor of China has given permission for the construction of a telegraph line from Shanghai to Tientsin, a distance of 1,200 miles. The route will be from Shanghai to Chinkiang, thence along the line of the Grand Canal to Tientsin.

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PROGRESS OF THE BRUSH SYSTEM OF ELECTRIC LIGHTING.

The ancient saw anent the share of milk obtained by the still suckling seems to be pretty well borne out in the progress of the Brush system of electric lighting. A dozen systems, so-called, have made more noise and have attracted more newspaper attention; but while they are for the most part still "promising," the Brush system has been quietly taking possession of the field. How far this is due to the superior business management of the company controlling the Brush patent it is impossible to say; the indications are, however, that the remarkable success of the Brush system is mainly due to the practical genius of Mr. Brush in meeting the requirements of outdoor or large room lighting with an efficient generator, and a lamp which is so simple in construction, so automatically regular in action, and so easy to keep in order, that practical business men can afford to use it. It is perhaps the least ornamental in appearance of all lamps, but it gives the light required, and calls for comparatively little care. On the score of economy the users of the lamp profess to be well satisfied; and the rapid and largely extended adoption of the system, abroad as well as at home, would seem to justify the favorable judgment which those who have tried the lamp have freely expressed with regard to its practical value.

The latest list of prominent users of the Brush light embraces twenty-five rolling mills, iron and steel works, machine shops, car works, wire works, and the like; twenty saw mills, paper mills, oil works, printing houses, and other factories and manufacturing establishments; twenty woolen, cotton, linen, and silk factories, several of them employing over a hundred lights each; a dozen mines, smelting works, etc.; more than a dozen large wholesale and retail stores, using from six to sixty-four lights; a dozen public parks, docks, summer resorts, and the like, including a mile and a half of river front and docks at Montreal; circuses, colleges, hotels, steamers; and large numbers of city lights in San Francisco, St. Louis, Chicago, Cleveland, Detroit, Grand Rapids, and other cities, besides New York and Brooklyn, where a hundred or more lights are already in use. The contracts of the company in San Francisco called for the erection of about a thousand lamps by the beginning of the current year. Wabash, Indiana, claims the credit of being the first large town to adopt the electric lamp for general illumination, four Brush lights, of 3,000 candle power each, on the court house dome, sufficing for the outdoor needs of the entire town of 10,000 inhabitants.

The company formed in London to introduce the Brush light there have already placed two hundred lights in various parts of the city, and have ordered from Cleveland nearly as many more, contracts having been signed for the lighting of the Houses of Parliament, Charing Cross Station, Ludgate Hill Station, Blackfriars' Bridge, St. Paul's Churchyard, and other conspicuous places. Even the extremely conservative British Admiralty has taken kindly to the Yankee invention, 432 lights having been purchased for the use of the Royal Navy. Mr. Brush is now making a 40-light machine (80,000 candles) designed to throw the entire current into one huge lamp, which has been ordered for the British torpedo service. The carbons for this artificial sun will be as large as a man's arm, and the light, when directed by a projector of corresponding size, will of itself be a formidable weapon of defense. With a proper system of curtains it will be possible to flash upon an approaching enemy a sudden glare of light that will be little less than blinding.

A less imposing but more admirable application of this light, and one that is being rapidly adopted, is in connection with locomotive headlights. The generator is operated by a small engine taking steam from the boiler and placed opposite the air compressors of the Westinghouse brakes. By attaching the reflector to the forward truck the light may be thrown so as to illuminate the track ahead even when rounding curves. It is obvious that the same machine which supplies the headlight will also furnish a current for illuminating the cars.

Wherever the electric light has been brought fairly into competition with gas for lighting large rooms or open spaces, it has given a good account of itself in comparisons of cost. In very many cases, however, any comparison with gas is out of the question. With gas it is simply impossible to do certain kinds of work at night, or to do it as rapidly and well as by daylight. With the electric light night production is brought up to the level of day production. The gain of one night's increased production will often pay the cost of electric lighting for months. Practical business men are not slow to appreciate advantages of this sort. The question with them is not how much will the electric light cost, but can the light be depended on for steady, uniform, certain operation, without requiring too much expert attention? The ability of the Brush lamps to meet such practical requirements would seem to be the secret of its substantial progress.

ON AIDS TO HEARING.

Until within a few years the old-fashioned ear trumpet was the sole reliance of deaf persons as an aid to hearing, but since the invention of the telephone much more attention has been given to the subject of sound, its production, and distribution. Especially after the public announcement of the misnamed microphone and its ability to enable a person to hear a fly walk at a distance of a mile or more, was the attention directed to devices for the benefit of deaf persons,