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ONE HAS-DONE-IT BETTER THAN THREE CAN'T-DO-ITS. essential stages of progress toward commercial permanence

In a recent infringement trial in this city, in the U.S. Cir- and success. cuit Court, Judge Blatchford presiding-subject, the manufacture of rosaline colors, Patent 250,247, the defendants; descent electric lighting he was met with the general obclaimed that they were not infringing, and that the alleged jection of electrical authorities that a durable incandescent coloring matter could not be produced by the process set electric lamp could not be made. When he proposed to forth in the patent.

In support of this position they presented the evidence of economically, he was warned on all sides that he was in purthree learned doctors, namely: Prof. Morton, to the effect suit of an impossibility; the thing could not be done. Havthat the patented color was not made by following the ingproduced the desired lamp and subdivided the current directions of the patent. Professor Chandler was also of experimentally, his critics not less confidently asserted the opinion that the new color was not produced in the way that a laboratory experiment was one thing, the practical directed by the patent. Prof. Eudesmann also said he had application of a theory to a complex system of public serfound that the improved article could not be made by follow- vice was quite another, and he was bound to fail. It was a ing the specification. But neither of the doctors informed question of economy, and admitting that an incandescent the court what sort of stuff they could make by practicing electric lighting system could be furnished under the conthe new invention; and they furthermore admitted, tacitly, ditions required it would not pay. On this point the comthat the article made by the defendants did not differ from pany which have furnished the means for the inauguration the article claimed by patentee.

exhibit a specimen of the new color, which he had made tem. It is certainly to be hoped that their expectation of by following the process set forth in the patent; he also profit in supplying a better light than gas affords, at the testified that the infringing substance was identical with the patented article.

It also appeared in evidence that when the inventor applied for the patent, there had been some interference proceedings, in the course of which Professors Morton and Chandler testified at that time that they had not been able to produce the patented article, although they had followed the directions of the patent. Therefore, the Patent Office required the inventor to make an actual demonstration of the practicability of his invention, which he did.

In the presence of the examiner, he carried out practically the method described in his specification, and the result was. the production of a true rosaline salt, as claimed. The Commissioner consequently disregarded the evidence put in by the two professors, and decided the case in favor of the inventor. The Circuit Court now confirms the correctness of the Patent Office decision, and we suppose that the defendants' three professors are at liberty to try the process again.

#### ----MICA.

# One of the chief uses of mica at the present time is for stove doors and lanterns, the fire-resisting qualities of the mineral, together with its transparency, rendering it specially adapted for the purpose. But only the very clearest and best sheets of mica can be thus used. Vast beds of the substance exist in various parts of the country, for which, except the finest portions, as above mentioned, there is little demand. New uses will, however, doubtless be discovered and invented, for mica is made up of valuable materials. We notice among the recently granted patents two inventions <sup>181</sup> We notice among the recently granted patents two inventions <sup>183</sup> in this line. One is for the manufacture of journal boxes of <sup>186</sup> cement, ground mica, and flour; the ingredients are mixed, pressed into shape, and then baked. The other is an apparatus for reducing mica to an impalpable powder and preparing it for use as a mixer in starch gloss and oily compositions.

Chemically regarded mica is made of silica, alumina, and potash. Silica is one of the hardest substances in nature, known in its purest and most beautiful form as rock crystal.

Alumina is another exceedingly hard substance. One of its most useful but impure forms is emery or corundum, now so extensively employed for grinding and polishing purposes. The most elegant and purest examples of silica are seen in the well known precious stones, the ruby and the sapphire.

Potash, the remaining ingredient of mica, is familiar to everybody, and is extensively used in the arts. Our commercial supplies of potash chiefly come from the ashes of plants and trees, and their roots take it from the ground, the granite rocks being the original source. Granite is composed of quartz, feldspar, and mica.

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# GENERAL INCANDESCENT ELECTRIC LIGHTING IN NEW YORK.

..... 5577 from a central station, may fairly be regarded as marking paper, about 30 grains being allowed for each square inch the beginning of a new epoch in social economy.

When Mr. Edison first attacked the problem of incan subdivide the electric current, so as to multiply small lamps of the system in the district now lighted by them are proba-On behalf of the inventor, Prof. Seeley produced as an bly better qualified to judge than the opponents of the syssame or less cost, will be amply justified.

As the plan of the central station and the general application of the system in the first district have been so recently described in this paper (August 26, 1882), it will not be necessary to dwell upon them here.

Assuming the new light to cost the same as gaslight-and it is not reasonable to expect that those who have assumed the cost and risk attending the development and introduction of the new light will set the price of it below what com petition with gas may make necessary—the question is, How are the public to be benefited ?

The first and most obvious advantage arises from the quality of the light. It is more nearly like sunlight than any other artificial illuminant. It is free from flickering and unsteadiness-faults which make both the electric arc light and the ordinary gas jet so painful and injurious to the eyes. It does not vitiate the air as gas does, by consuming oxygen and loading the air with products of combustion. Its heating effect is very much less than that of a gas jet of the same illuminating power. It is not a source of peril from fire, the lamp proper being incapable of firing the most combustible fabric; while the low tension of the current makes the formation of arcs and the overheating of conductors altogether unlikely.

Fears as to the continuity of the service have been expressed, but the grounds for them are not apparent after an examination of the plant of the central station. It is true that no system of storage is provided, as in the case of gas. None is needed, since the electricity is supplied by a battery of steam dynamos which deliver their several currents into a circuit common to all, with a large surplus available, so that the stoppage of any of them by accident or for repairs would not diminish the illumination of the district. Of course a general fire about the central station might stop its operation and leave the district in darkness, but the same risk obtains with gas; and after the establishment of two or more centers of distribution this hazard may be obviated by means of connecting mains to be used in such emergencies.

The experience obtained in the running of Station No. 1 will no doubt lead to the introduction of considerable changes in the plan and engineering of subsequent stations; the company are none the less to be congratulated for the wisdom with which they have brought into successful operation an enterprise involving so much of magnitude, complexity, and novelty.

## The Pretsch Process for Making Photo Printing Plates.

A sensitive gelatinous mixture is prepared by dissolving 6 parts of gelatine in 30 parts of water, and 1 part of powdered ammonium bichromate is stirred into the solution. A piece of plate glass, which is all the better for having been previously coated with a collotypic substratum, is now leveled in the drying cupboard—a temperature of about  $40^{\circ}$ While the lighting of detached buildings by incandescent C being suitable in most cases. When the plate has reached electric lamps is a familiar sight in this city, the inaugura- the full temperature of the hot cupboard, some of the gelaof surface. When the plate is dry it is exposed under a

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To those who had critically followed the development of negative, about six times the exposure which would be the multiple arc system of Mr. Edison there was no appa- required for a silver print being given. When the exposed rent cause for doubting its entire practicability when ap- plate is soaked in water, the reticulation and granulation of plied to general public lighting. Still to the multitude the the gelatine rapidly set in, and in a few minutes an exact final demonstration of actual service throughout a con- reverse of the required printing block will result. The next siderable area, under the complex conditions encountered | step is to allow the plate to become partially dry, and to in a city district, covering many streets and blocks of houses, deposit copper on it by the electrotype process so as to form was necessary to give assurance that the whole matter was the printing block. It is, perhaps, a more certain proceednot more or less speculative.

The great steam dynamos at the central station of the of softened gutta-percha, and to send this cast to an electro-Monday, Sept. 4, and from that evening the new system of interior lighting has been one of the established institutions of the city. To a large extent gas light has been supplanted throughout the district, and there is no reason for doubting the extension of the new light to other districts as rapidly York Silk Exchange to reel silk direct from the worms. as the requisite central stations and systems of electric con- The idea is a taking one, and if realized it might prove imductors, lamps, meters, and other appliances, can be pro-mensely valuable. Success might open a way to utilize the duced

ing to take an impression from the reticulated film by means

first district were started in concert on the afternoon of typer or a stereotyper to be reproduced in metal.

## Silk Direct from the Worms.

An unsuccessful attempt was made lately before the New silk of many native worms whose cocoons cannot be un-

At any rate the new system has passed three of the four, wound.