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Engineering and Scientific Notes

Among the new devices on exhibition at the current electrical show in New York, one of the most revolutionary in character is a new form of electric lamp which has not yet been described in the press. This lamp is tungsten, but instead of being evacuated, the bulb is filled with kerosene. The electrical element was started when the present tungsten lamp was introduced, resulting in a light of electric lighting about one third that of the carbon lamp, and the new lamp fails far to equal the present tungsten by again having the cost. The Edison Company plans to bring out these new lamps in about six months, and they calculate that the resulting increase in heating and lighting consumption will offset the decrease of consumption on the present installations. The light from this new lamp has a closer approximation to daylight in the vacuum lamp and is well suited for outdoor illumination. The bulbs at the exhibition are large and are rated at 5,000 candle power.

Another form of lamp is exhibited by a French scientist, M. Claude. It produces the nearest approach to artificial daylight yet attained, and so far the chief approximation to the lights of the Great White Way seem very yellow by comparison. The lamp has five concaves, six feet long, which are evacuated and operated at a potential of 6,000 volts. The three inner tubes are of the familiar Hewitt type of photograph sun, etc., which emit light strong in green rays. The two outer tubes are the new Claude tubes, which are made in such a way that in an intense orange under the influence of the electric current. The proportion of these colors is such that a white light is produced by chromatic addition, which has a startling resemblance to daylight.

Quicksilver is used mainly, according to the United States Geological Survey, in the manufacture of fulminate for explosive caps, of drugs, of electric lighting and scientific apparatus, and in the recovery of the precious metals, especially of gold, by amalgamation. An increasing demand has been reported for various types of electric appliances. An interesting and increasing use in Scotland is the Boating of the lights of lighthouses upon a body of quicksilver. The metal is not consumed, of course, and the loss in use is insignificant. Concerning this Constable Flending writes as follows: "Edinburgh is for registering mirrors and for 'Boating' the revolving lights in lighthouses. The commissioners of northern lighthouses, Edinburgh, have in their charge 90 lighthouses on the coast of Scotland, while the year 1800 the revolving lights were borne on rollers. The 'Boat' system has been gradually introduced, however, and is now in operation at 90 coast stations and will be used at all others. The lighting machinery is kept on a position in a groove, and the quicksilver in a groove. The quantity of mercury required for this purpose in a lighthouse is from 7 to 23 pounds each. As the waste is trifling, the total present demand for this purpose is small."

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This particular instance is due to the fact that the temperature co-efficients of both the rate of fixing and of developing are so nearly the same that the process is workable between the two different point and defined within a certain neighborhood, or above this if such an indexing bath is used subsequently.

Professor Zorn has obtained some interesting results with his process. He has eliminated "over-exposure." Plates which are over-exposed 300 times come out in condition which is, maybe, just good prints, and plates exposed for 20 minutes at room in full sunlight at the side of his house still showed detail when developed. Plates 25 years old gave perfect negatives without fog. If one is in doubt as to the length of time to expose, he says to give it from two to twenty times as much as you think necessary, and then fix and develop.

The faults of his process are the facts that more negative-exposure gives better results than with the ordinary development (although a chance of fogging are eliminated), and the natural doubt as to the permanence of the negatives. He hinted the line of the possibilities of the method, such as making separations by rolling the paper after the developer. After the fellows had thanked Prof. Norris and had adjourned for an interesting time by Rolfe's telephone, Prof. T. F. Prof. Norris coalesced into enticed enthusiasts into Cal Simplex of the process, and to show them actual negatives.

Secret practice for the Sophomore Football Team is something of an innovation.

The relative strength of the Freshman and Sophomore Relay Teams has assumed a definite proportion, unfortunately Coach Kansky is the only one who has the "dope," and he refuses to be separated from it.

The 1916 'Tag-of-War Team still wavers, but a number of men have come out of order. You can give your-