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SALT PACKING—A \$4,000 PRIZE CONTEST.

The government of Netherlands-India has offered the above prize to be awarded in competition as to the best method of packing salt. The salt works, which are run by the government, produce solar salt. This is stored away for a year or more, during which period it dries out and loses its hygroscopic elements in great part. It is, however, still inclined to absorb water, to become moist, and to liquefy. The conditions to be filled in packing are: 1st. The package must be proof against the action of the salt, and must not soil it or impart taste or odor. 2d. The package must preserve the salt at least two years. 3d. The package or box must close in a practical and effective manner, and be impossible of opening without certain detection. The salt once packed must be free from danger of melting. Each box must hold one kilogramme, and it must be possible to fill them accurately with this weight without weighing. The small boxes are to be packed in larger cases. The packing in 5, 10 and 25 kilogramme lots may be also provided for.

For full particulars of this competition, which is open to all the world, the Consul General of the Netherlands, New York, N. Y., should be addressed. The competition closes at the Hague, September 1, 1891.

THE EDISON ELECTRIC LAMP PATENT SUSTAINED.

On July 14, 1881, Judge Wallace, of the United States Circuit Court, handed down his decision and opinion in the celebrated suit brought by the Edison Electric Light Company against the United States Electric Light Company. The suit was brought to establish the scope of true claims of the Edison patent, No. 223,898, of January 27, 1880. Without going into details, it is enough to say that the object was to establish the validity of a basic patent in electric lighting, and one which would include as tributary to its claims all the practical incandescent lamps now in use.

The contention of the plaintiff was that every incandescent lamp for electric lighting consisting essentially of a filamentary carbon burner hermetically sealed in a glass vacuum chamber is within the terms of the patent. The first and second claims are the only ones involved. In his opinion Judge Wallace rose very extensively into the merits of the case, reviewing the prior state of the art and endeavoring specifically to state what problem the inventor had addressed himself to solve, and the sufficiency of his description of his invention for the capacity of those to whom it was addressed. At that time the Judge states that Mr. Lane-Fox, in England, and Mr. Edison, of this country, were almost the only ones who believed that the subdivision of electric light might be effected by incandescent lamps of high resistance and small radiating surface, arranged in multiple arc. In those days electricians knew how to make high resistance conductors and how to vary their resistance, but what was wanting was the knowledge of how to construct a lamp with adequate mechanical strength and durability, possessing a small radiating surface and high resistance. The Judge cites the Sawyer-Mann lamp and the other old-time burners, but finds that prior to Mr. Edison's French and English patent, in 1879, no attempt had been made to form the vacuum chamber wholly of glass, with all parts sealed together by fusing. The description of novelty as set forth in the specification is accepted by the Judge. It includes a carbon filament or wire of high resistance connected to platinum wires and sealed in an exhausted glass bulb. The first claim is for a filamentary carbon of high resistance secured to metallic wires, as set forth. This the Judge concludes to be restricted to a connection between platinum and carbon filament by a specific method described in the patent, and hence not to be infringed by the defendant's structure. But the second claim was awarded the fullest possible scope. It is for the combination of a carbon filament with a receiver made entirely of glass, and conductors passing through the glass, and from which receiver the air is exhausted. It will be readily seen that this covers the typical incandescent lamp of the present day. The specification, the Judge holds, discloses what was a radically new discovery: that it is possible to make a stable, extremely high resistance wire adapted for use in giving light when sealed up in an exhausted glass globe. In the Judge's words:

"He (Edison) was the first to make a carbon of materials and by a process which was especially designed to impart high specific resistance to it; the first to make a carbon in the special form for the special purpose of imparting to it high total resistance; and the first to combine such a burner with the necessary adjuncts of lamp construction to prevent its disintegration and give it sufficiently long life. By doing those things he made a lamp which was practically operative and successful, the embryo of the best lamps now in commercial use, and but for which the subdivision of the electric light by incandescence would still be nothing but the ignis fatuus which it was proclaimed to be in 1879 by some of the learned experts who are now witnesses to belittle his achievement and show that it did not rise to the dignity of an invention."

The Judge's reference to those whom he terms "the learned experts" will be appreciated by the reader.

One good point brought out in the subsequent part of the opinion is that an inventor is entitled to all that his claim covers, independent of what he or his solicitor may have thought about the meaning of the claim. The Judge says:

"There are many adjudicated cases in which it appears that the inventor builded better than he knew; where a patent has been sustained for an invention the full significance of which was not appreciated by the inventor when it was made. In the case of the Bell telephone patent there was great room for doubt whether the speaking telephone had been thought of by Mr. Bell when he filed his application for a patent, but the Court said: 'It describes apparatus which was an articulating telephone, whether Bell knew it or not.' 88 Blatch., 532."

The nearest approximations to the invention, according to the opinion, were the ribbon-shaped carbon burner of low resistance of Mr. Farmer, never sufficiently used to constitute public use, and the low resistance carbon rod burners of Sawyer and Mann. The Judge states that it is impossible to resist the conclusion that the invention of the slender thread or carbon as a substitute for the burners previously known opened the path to the practical subdivision of the electric light. This conclusion, coming near the end of the opinion, emphasizes the Judge's opinion as to the invention involved in the carbon filament as contrasted with a rod or large conductor of carbon.

The amount of money involved in the suit is very large upon its face. The accounting alone, independent of the future six years' income, would be very large. In one sense the decision and accompanying opinion will be welcome as indicating a liberal and not too technical construction of the claim of a patent.

An Artificial Railway Valley.

The tracks of the Harlem Railway, where they pass through the city of New York, traverse a dense population. The distance from the northerly boundary of the city to the Grand Central Depot, at Forty-second Street, is something over twelve miles. There are four tracks. These carry the traffic of the Harlem, the New York Central, and the New York, New Haven, and Hartford lines. The increase of population has rendered it necessary, as a measure of safety at street crossings, to lower the grade of the tracks and raise the grade of the streets at the crossings. This work, which has been in progress for several years past, has lately been completed. The masonry is very massive and substantial. The cost has been very great—some six millions of dollars in all. Going north from Forty-second Street, there are tunnels for nearly two miles. Beyond these a one mile viaduct and then an open cut, or as it might be termed a deep groove, the sides of which are lined with granite walls. Bridges are provided at all the street crossings. The approach to New York is not very attractive to the traveler. Looking upward from the narrow valley in which he is inclosed, he sees the windows in the upper stories of the high buildings that line the railway avenue. The lateral view from the car is simply a solid rampart of stone. Ten miles of this sort of sight seeing is rather monotonous, although the distance is run in from fifteen to twenty minutes.

Test for Olive Oils and Seed Oils.

For the discrimination of olive oils and other oils liable to be used for adulteration, R. Brulle applies nitrate of silver in the following manner: 25 parts of silver nitrate are dissolved in 1,000 parts of 95 per cent alcohol, and 5 c. c. of this solution are added to about 12 c. c. of the oil under examination, which should be filtered if not quite clear, then the test tube is heated in boiling water, and the effect observed.

Table with 2 columns: Kind of oil, Color after heating in boiling water.
Virgin olive oil. Bright green.
Olive oil of second and third pressures, containing some olive kernel oil. Darkens slightly, quickly changing to intense green.
Olive oil of inferior quality, strongly colored. Same as previous oil, but takes longer (15-20 minutes).
Cotton seed oil, pure. Black.
Earth nut oil. Brownish red, greenish as it loses in transparency.
Sesame oil. Dark reddish brown, not changing to green.
Rape seed oil. Greenish yellow, then opaque.
Poppy seed oil. Same as preceding.

R. Brulle states that with practice it is possible to determine in many cases thus colorimetrically 5 to 10 per cent of one of these oils in a mixture.

In the same way natural butter, which gives no change, may be distinguished from artificial butter, the latter, owing to the presence of margarine, acquiring a brick red color, and the proportions in a mixture may be approximately determined.—Compt. Rend.

N. W. AYER & SON, the Philadelphia advertising agents, use the following appropriate line for their motto: "Keeping everlastingly at it brings success."