

"Palissy the Potter."

(See Steel Engraving.)

THE life of Palissy has been truly called the romance of pottery, and the incident recorded in our picture is one of the most striking and tragical in that devoted and self-sacrificing record.

Palissy may be considered the creator of the French ceramic art. In the first half of the 16th century France had no knowledge of pottery excepting such as it derived from Italy. Palissy spent sixteen years of struggle, privation, and bitter disappointment in discovering the secret of hard, white enamel, and afterwards in applying to it natural colors and figure ornamentation. In accomplishing these great objects, however, he suffered untold torments in a desperate conflict with privation, in the misery endured by his family, in the scoffs of his friends and neighbors, and in his own discouragement at repeated failures. Our engraving gives a vivid representation of a scene after the severest of these—that which occurred by a defect in the material of the furnace which he himself had built.

It was after years of repeated effort and unwearying patience, that he at last succeeded in extracting out of some specimens which had been baked in a glass-maker's oven, a piece of pure, white enamel. This should have been sufficient to crown him with success, but alas, he was poor, he had a wife and children, with his ability he could easily have kept them in comfort by being content to accept things as they were, but he was pursued by that necessity of genius which is stronger than nature, which compels the disregard of the nearest ties in the accomplishment of the great object which is to add another leaf to the crown of all mankind.

There were no royal subventions then, no aristocracy interested in "art" ware, no china-manufacturers, unless we can call Palissy's clamorous crowd of eager and excited creditors by that name, who, seeing the partial destruction of his hopes, demanded that the pieces of his pottery which had escaped injury should be given to them; whereupon knowing better, perhaps, than they, the immortality to which his productions were destined, he would allow no imperfect specimens to live, and before the eyes of the angry, abusive citizens, before those of his weeping wife, and suffering, half-starved children, he broke every vase, cup, and plate into a thousand pieces, and stood with bowed head surveying the ruins which meant the wreck of a nation's hopes, as well as his own. Were those results of his first efforts in existence now, what priceless treasures they would be considered! A genuine Palissy dish is now a decoration fit for the palace of a king, and even the imitations of his ware, which are made by the Portuguese and the potters of other nations, are highly prized. The reason of this is, not alone that he discovered the secret of composition, of elemental conditions, but also because he set the example of truth to nature. Previous to his time, forms and decorations had been purely conventional. He employed such objects as he saw in the woods, fields, ponds, and upon the banks of the rivers, and had the courage first to discover and then to employ natural colors in depicting them. His ware is decorated with all sorts of rustic figures, lizards, stems, leaves, birds, flowers, fruits, and the like.

The pebbles which he had used in the composition of the mortar in making his furnace, and which would not stand the intense heat applied to them, but flew into a million fragments, did not prevent his final success, of course; but they help to show how many obstacles genius must overcome before it succeeds in wresting triumph from the inexorable hands which guard it.

Electric Light.

THE most interesting topic to-day in scientific circles is the subject of light by means of electricity, instead of gas, as employed at present. Up to September of the present year the electric light has been utilized only with the dazzling force with which the voltaic lamp floods large spaces, or can be made to concentrate upon a given object. The division and regulation of this light was the great problem which up to that time had remained unsolved, and the statement of Mr. Edison that with a five hundred horse-power steam engine, and fifteen or twenty Wallace electric machines he could light the whole lower part of the city of New York, with a white radiance almost equal to daylight, was so startling, and coming from such an authority, so weighty as to at once have the effect of reducing the price of gas stocks in England, as well as in this country to about half their previous market value.

Gaslight for dwellings has many disadvantages, and has been for a long time subject to intervals of aberration which made its use only just endurable. It vitiate the air with enormous rapidity. It is dangerous and requires constant care and watchfulness and emits poisonous exhalations, whenever any defect in the plumbing, which is almost always defective, or the exposure of street mains, affords an opportunity for escape. Besides these objections to the use of gas, there are others equally important. One of these is its deleterious influence upon the eyesight, another, its uncertain quality, and a third the fact that housekeepers are at the mercy of the gas companies, in fixing the amount they consume, and also its cost. This latter consideration has not been felt to be particularly onerous, because gas upon the average is a cheap method of obtaining a ready, if not a clear, and brilliant light. Many of its annoyances are the result of ignorance or carelessness, and upon the whole, the majority of persons were inclined to believe that chained lightning would not be a much more safe or reliable agent than coal-gas properly regulated.

Mr. Edison has, however, done so many wonderful things, that it is easy to believe he can do more, and his honesty, simplicity, and truthfulness are such, that those who know him believe he would not make a statement until he was certain of his facts. Electricity is so wonderful a power, and has already, through the Morse telegraph, been made to execute such surprising feats, during the present century, that old prejudices have given way, and there are few persons but willingly acknowledge that some things may yet prove true, which, as yet, have not found place in their creed or philosophy.

The question started by Mr. Edison's claim, as to whether the way had been found to subdivide electric light indefinitely, so as to produce any number of small, clear, steady lights, out of one strong general current, has been practically answered. If the light can be so divided, as to illuminate the Capitol at Albany, a building in which a Fair is in progress, several factories in different parts of the country, a bridge over the Missouri, and the Palace Hotel in San Francisco, there is no reason why it should not be further divided, and adapted to the illumination of dwellings. Time only is evidently required, ultimate success is certain.

An important feature of the new light is this: that, according to Mr. Edison, when a single light is turned off, the supply in that direction is stopped, the current being regulated by its extinction, with much more certainty and greater precision than in case of gas. It is very well known that when gas lights are extinguished in a

dwelling, the volume of gas is somewhat increased, though not to the full extent, in those which remain burning, and if not regulated, will result in long gas jets, spurting up to the top, or beyond the top of a globe, and threatening serious damage. If the electric light proves to be what it promises, it will not only emit a pure, steady, brilliant flame, without odor, and without injurious action upon the atmosphere, but it will be self-regulating, that is, so far as not to increase the volume of light in other burners when one is extinguished. The electric light has had, and still has to experience the same difficulties and hindrances that all great changes and improvements have to encounter, not only in establishing their own validity, but in the settled and inevitable opposition of that widespread element which represents the forces now in existence. The steam engine was not born full-grown. The first attempts to work by steam-power were feeble, uncertain, and unsatisfactory, and were pooh-poohed by the large class that could not understand what lay behind the little struggling, infantile expression of a great comprehensive principle.

It has been said with truth, that a thousand forms of banks of oars, paddle-wheels, screw propellers, power pumps, and other devices for making a boat go were invented, cast aside, taken up again and again, re-invented by men who were not aware of what had been already thought of and pondered over during that period of forty years, until out of the whole vast throng of crude notions the world finally decided upon two forms of propelling apparatus as practical, and put them into general use throughout the field of marine engineering. Exactly the same thing is going on now with reference to electric lighting. Since 1845, when the voltaic arc emerged from the laboratory as a thing which could possibly be put to practical use, the problem of the electric light has enlisted the attention of a large number of able men in Europe and America. Experiments have been making in hundreds of laboratories. Valuable ideas have been occasionally hit upon and patented, and every ten years or so the announcement has been made that the means for subdividing the electric light has been found, and the attention of the world has been riveted for a while upon some new lamp which has run a brief course of popularity, and then has dropped out of sight never to be heard of again, until some new inventor has come upon the same idea and brought it out afresh, believing it to be new.

There are many experimenters now in the field besides Mr. Edison. There are the Brush lamps which are largely used, but which are incapable of extended subdivision. There is the Wallace lamp, and more recently a Mr. Sawyer of New York city has won attention by displaying the results of his experiments with electricity, in the shape of several lights from one current. The light is produced by incandescence, and in this respect is similar to that of the philosopher of Menlo Park, whose experiments are understood to have been all made in this direction. The light by the Sawyer lamps is beautifully soft and luminous, very agreeable to the eyes, and perfectly steady. It is suitable for use in private dwellings because it can be turned off and on, and regulated with ease like ordinary gas. But whether it can be made practicable so far as cost, and the regulation of the means of supply are concerned, is a question, but one of time only, so far as its solution is concerned, for that it will be satisfactorily answered by some one, and the yellow, smoky agent which we now employ for lighting purposes, be superseded by a clear, soft, pure, and greatly more powerful medium, there is no longer any doubt. Gas stock is destined to go down.