

JOURNAL OF PATENT LAW.

THE SALE OF INVENTIONS—THE INCHOATE RIGHTS OF INVENTORS TO EXTENSIONS OF THEIR PATENTS.

The rights of inventors to the uses and profits of the subject of their inventions, and the rights of patentees under valid Letters Patent, whatever they may be, are the result of a superior civilization, and owe their existence to the demands of the age, as well as to the more perfect moral sensibility of this era. The enactments of Congress by which these rights are secured are founded both upon sound policy and upon an abstract perception of the natural right of the inventor to the thing invented. And although reasons of expediency or state policy may, in the first instance, have been the sole moving cause of the passage of our patent laws by the general government, yet, now, no intelligent man would ascribe our present patent system to so poor a motive; but he would rather claim for it a foundation built upon the rocks of ever-enduring justice and right.

By the light of both of the above-stated principles, judicial decisions must interpret the statute laws, as well as write the future common law of patents. The comparatively short space of time in which the rights of inventors, and the analogous rights of authors to the exclusive sale of their books, have been acknowledged, leaves, of course, a vast amount of improvement to be learned from experience, and yet to be applied before our system is perfect. Gradually, the rights of inventors will become better defined, especially as their contributions to the wealth of society increases, and as the importance of interests involved brings cases involving their rights before the courts. Thus, in the case of *Clum vs. Brewer*, we have it declared that the inchoate right of an inventor to the exclusive privileges under an extension of Letters Patent is the subject of a sale, by the inventor, if he so chooses to part with it; and although an invention does not necessarily carry this inchoate right, such a sale may be inferred from the instrument, evidencing the sale of the invention.

The above-cited case arose under Samuel F. B. Morse's patent "system of electro-magnetic telegraphs for the conveyance of intelligence by words and signs, or by either;" and the question to be decided by the court was whether the contract of sale to the defendant, conveying "one undivided fourth part of the invention prior to the securing of Letters Patent," also conveyed the same proportion of interest in the exclusive privileges accruing from an extension of the patent beyond the original term of fourteen years. This involved the question as to whether the inchoate right of the inventor to an extension of the term could be the subject of a sale; and if this was answered in the affirmative, the further question as to whether, from the terms of the contract, this was the intention of the parties.

Upon this question, Justice Curtis, who delivered the opinion of the Circuit Court, said:—"I have looked into the documents on which the title of the respondents depends, and will now state my opinion thereon. The defendants claim under Francis O. J. Smith, whose title was originally granted to him by Morse, by a deed dated in March, 1838. At the date of the deed no Letters Patent had been obtained. The deed could not convey, and does not purport to convey, an interest in any particular Letters Patent. It purports to convey 'one undivided fourth part of the invention.' As is said in the Supreme Court, in *Gayler vs. Wilder*, 'the discoverer of a new and useful improvement is vested by law with an inchoate right to its exclusive use, which he may perfect and make absolute by proceeding in the manner which the law requires.' It was one quarter part of the inchoate right which the deed undertook to convey. But the inventor has not only an inchoate right to obtain Letters Patent securing to him the exclusive right to his invention for the term of fourteen years, but also a further inchoate right to have the term extended, provided he shall fail, without fault, to obtain a reasonable remuneration, for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into public use. Though it has not been expressly determined that the last right is the subject of a contract of sale, I conceive there can be no reasonable doubt that it is so. The reasoning of the court, in *Wilson vs. Rousseau*, assumes, and, indeed, asserts, that it is so. And there is nothing in the nature or incidents of such a right to distinguish it as a subject of sale

from the inchoate right to obtain an original patent. Each appertains to the inventor by reason of his invention. Each is complete, and its completion depends upon the compliance by the inventor with conditions and the performance by public officers of certain acts prescribed by law. It is true, the title of an inventor to an extension is still further qualified by a further condition, of his failure to obtain remuneration from the enjoyment of the exclusive right for the first term of fourteen years. But though this is an additional condition, which may render parties less willing to contract, its existence does not change the nature of the right, and it no more prevents it from being the subject of a contract of sale than any other condition which is attached to it. Considering, then, that the title of an inventor to obtain an extension may be the subject of a contract of sale, the inquiry in this case is whether part of it was intended to be sold. I am inclined to the opinion that a sale of the invention before Letters Patent are obtained, does not necessarily carry with it the exclusive right for the extended term. Because this right is not a mere incident of the invention. Its existence is made to depend, not only on matter which is subsequent to the invention, but exclusively personal to the inventor himself, and only he or his personal representatives can obtain it. But at the same time it must be admitted that where an inventor has in terms sold to another person a part of his invention, he has done that which is quite consistent with an intent to have that other person participate in all the rights which he, as inventor, can acquire by law: and that where the invention is the subject sold, it would be natural to expect to find in the instrument of sale something showing an intention that the purchaser should be interested, not merely in the original Letters Patent, but in any extension thereof securing the exclusive right to the same invention which was the subject of the sale."

The judge here went into an extended argument to show that the deed from Morse to Smith conveyed on its face an intention to pass this inchoate right to an extended patent if any should be issued; but we have already quoted enough to illustrate the points of law upon which we started, and to show how, in the progress of time, the rights of the inventor are becoming better understood and more firmly established.

THE FRESNEL LIGHT.

Though this light was described and illustrated several years ago in the *SCIENTIFIC AMERICAN*, we give place to the following communication, as interest in the subject has again revived:—

MESSRS. EDITORS:—An article going the rounds of the papers, and descriptive of the progress of the government works on Minot's Ledge, where it is in contemplation to place a "Fresnel Light," of the first order, has suggested the seasonableness of presenting to the readers of the *SCIENTIFIC AMERICAN* a brief exposition of the principles and operation that triumph of French science and art.

Suppose an ordinary lamp, without any contrivances to increase and diffuse its light, to be placed on a tower overlooking the sea. When this is lighted, part of the rays fall on the ground beneath it and are lost; part go forth in an upward direction and are of no use; part diverge toward the land and do not subserve the purpose of guiding the mariner; a small part only goes forth over the sea, and even this by constantly diverging becomes continually more feeble and scattered, so that at a short distance, but very few rays of light enter so small a space as the sailor's eye. To remedy this, let such a lamp be placed in the focus of a parabolic concave reflector, and, by a property of the parabola, every ray which falls on the parabolic surface is reflected in a direction parallel to that of every other reflected ray. Thus a great portion of the rays are not lost by being scattered upwards, downwards and towards the land, but are collected into a cylinder of light parallel to the axis of the mirror, and capable of being transmitted to the greatest distances with the same brightness, except that a small portion of the light is absorbed by the vapors of the atmosphere. But this construction is not without its disadvantages; for the cylinder of reflected light can have no greater breadth than that of the mirror, and, of course, is not visible at any considerable distance, unless turned exactly towards the eye. A familiar example of this prin-

ciple is afforded in the experience of every one who has watched the approach at night of a locomotive carrying one of these parabolic lanterns. Directly in front of the engine the brilliancy rivals that of the sun. But to one standing at the side of the track the light appears quite like that of an ordinary lantern. To remedy this defect, several of these reflectors, each containing a lamp in their focus, were arranged in a circle. But even then there were many spaces left totally dark. Finally a regular rotary movement was given to one lamp and reflector, and in this way its light was sent forth at intervals. Such an alternate appearance and disappearance of the light was found to be a great convenience to the sailor, by enabling him to distinguish the beacon light from a star near the horizon, or a bonfire built on the shore.

On the above-stated principles a great majority of the lighthouses throughout the world were constructed, until the invention of the "Fresnel Light." This light—the joint product of the genius of Fresnel and Arago—was devised to furnish a remedy of one serious defect in the system of lighting by parabolic reflectors, viz., the absorption of so large a quantity of light by the mirrors themselves. It occurred to those eminent savans that glass lenses might advantageously be substituted for reflectors. It was discovered, however, in practice, that it was impossible to cast lenses sufficiently large, without containing numerous striae and irregular veins, which seriously impaired their value. Fresnel undertook the task of solving the problem thus presented of manufacturing a lens sufficiently large and perfectly clear. The desired result was accomplished, by casting a peculiarly shaped lens, called the *Lentille à échelons*, or the lens by steps. On the one side it presents the appearance of an ordinary lens, but on the other side is scooped out and cut away in successive layers of steps. By this device the refractive property of the lens is preserved without making it so thick.

In addition to the above invention, Fresnel (in conjunction with Arago) constructed a new lamp to be used with the new lens. It is well known, that the superiority of the Argand over all other lamps is owing to the introduction of a current of air containing fresh supplies of oxygen to the interior of a circular wick. It occurred to the academicians, that a lamp constructed with several concentric wicks would impart a proportionable increase of brilliancy. And so the event demonstrated. The brilliancy of their lamp was 25 times that of the best lamps with only a double current. This lamp, here described, transmits, through the Fresnel lens, a light equivalent to that of four thousand Argand lamps united, or eight times the light sent forth from a silvered parabolic reflector. The first of these was erected in 1823, on the coast of France. They are now fast superseding ordinary reflectors

E. L. P.

Norwich, Conn., August 16, 1860.

A NEW COLD SOLDER.—The Paris correspondent of the *London Photographic News* says that M. Gershein has formed a useful alloy of copper, which resembles somewhat the amalgam of copper produced in 1848 by M. Pettenkofer, of Munich. Pure copper is first obtained by reducing oxyd of copper by hydrogen, or precipitating the metal from some of its salts by zinc filings; 20, 30, or 36 parts of this pure copper are taken (according to the degree of hardness desirable); they are moistened well, in an iron or porcelain mortar, with concentrated sulphuric acid, of 1.85 specific gravity, and to the paste thus obtained are added 70 parts, by weight, of mercury; the whole is well stirred. When the copper is perfectly amalgamated with the mercury, the compound is washed with boiling water to dissolve all the sulphuric oxyd; and, after cooling, the amalgam becomes, in eight or ten hours, hard enough to scratch tin and gold. This amalgam is not attacked by weak acids or by alcohol, ether, &c. It adheres firmly to all substances, whether they maybe metallic compounds or surfaces of glass or porcelain, and can be employed as a mastic or cement to join metals, &c. To this effect, it is rendered soft and pliable by heating to 375° (centigrade), then heating it in a mortar heated to 125° (centigrade), until it has taken the plasticity and consistency of wax. The peculiar properties of this amalgam make it very useful for a variety of purposes, especially for soldering metals where heat cannot be employed.