Scientific American.

that is required is, to make the leather fit the shoe as accurately as I desire the shoe to fit the foot, and that no projecting portions be left either behind or at the sides of the heels; and instead of the leather being cut square at the heels, I would have it slightly arched inwards from heel to heel. It is necessary, however, to prepare the foot before the leather is put on, and the best way of doing it is to smear the whole lower surface of the foot and frog with common tar; gas-tar must be especially avoided, as it dries and hardens the horn, instead of keeping it moist and promoting its growth, as common tar does; then the hollow on each side, between the frog and the crust, from the point of the frog back to the heels, should be filled with oakum dipped in tar. and pressed down until the mass rises somewhat above the level of the frog on each side, and gives it the appearance of being sunk in a hollow. A small portion of oakum may be spread over the sole in front of the frog, but none must be put on the frog itself, excepting the bit in the cleft, which is necessary to prevent dirt working in from behind. The best way of dealing with this bit is to pull some oakum out straight, twist it once or twice, fold it in the center, then dip it in tar and press it into the cleft, and carry the straggling ends across the frog, to mix with the mass on the side of it. Oakum is a much better material for stopping the feet than

350

tow. The hind foot is differently formed from the fore foot, and requires to be differently shod ; nevertheless, the same principle of fitting the shoe to the foot, whatever its shape may be, bringing in the heels close to the frog, and placing the nail holes so as to permit the inner quarter and heel to expand, applies with equal force to the hind as it does to the fore shoes.

GOODYEAR'S PATENT EXTENSION. COMMISSIONER HOLT'S DECISION.

UNITED STATES PATENT OFFICE,) June 14, 1858.

In the matter of the application of Charles Goodyear, for the extension of a patent granted to him for "improvement in india rubber fabics" on the 15th day of June, 1844, and which was re-issued in two separate patents on the 25th day of December, 1849, under the designations of "improvement in processes for the manufacture of india rubber," and "improvement in felting india rubber with cotton fiber"-

It appears that on the 30th of January, 1844, the applicant, through his agent, (Newton) obtained from the English government a patent for this invention or discovery, known in popular parlance as a "process for vulcanizing india rubber," and on the 15th of June thereafter the patent now sought to be extended was issued from this office. It is assumed and insisted by the contestants that the American patent should have borne even date with the English, and that, in law, it expired with it on the 30th of January last, and, in consequence, it is denied that the Commissioner has any authority to entertain a petition for its renewal. What shall be the date and duration of a patent is a question which must be decided by this Office on each original application, and in the case under consideration it was determined that it should bear date the 15th of June, 1844, and should secure a monopoly of the invention for fourteen years thereafter. If this was irregular in view of the English patent, it did not render that issued by this Office void, as was held by the Supreme Court in 15 Howard 112, O'Reilly et al. vs. Morse et al. Being at most voidable, it would seem that it should be treated as valid until vacated by the judgment of some judicial tribunal. At all events, whatever may be the power of the courts over the instrument, it is not believed to be competent for the Commissioner in a summary, and in some respects a collateral proceeding like this, to revise and reverse a former decision of this Office, under which so many h cision of this Office, under which so many a few charitable friends. They are represent-rights have been vested. Were his power, ed as gathering sticks in the woods, and on tain cases, as the profit of that great public

however, plenary in the matter, I should not | the edges of the highways, with which to cook hesitate to hold that the provisions of law cited do not sustain this objection. which has been taken in the nature of a plea to the jurisdiction.

The Commissioner, assuming that the 8th section of the act of 1836, and the 6th section of that of 1839, being in pari materia, must be construed together, goes on to argue, from the fact that the specification and drawings for the American patent being filed on the 15th day of January, 1844, fifteen days before the issue of the English patent, that this case is relieved from the operation of the provision of the statute of 1836, which declares that nothing therein contained "shall be construed to deprive an original and true inventor of the right to a patent for his invention, by reason of his having previously taken out Letters Pat ent therefor in a foreign country, and the same having been published at any time within six months next preceding the filing of his specification and drawings. And, whenever the applicant shall request it, the patent shall take date from the filing of the specification and drawings; not, however, exceeding six months prior to the actual issuing of the patent."

"But should it be treated as subject to it," says the Commissioner. "as the American patent was issued four and a-half months after the publication of the English, the most that could be claimed would be that the applicant might 'on request,' have had his patent antedated, so as to have reached back to the filing of his specification and drawings, but he was not bound to do so. It is manifestly a privilege bestowed, and not a duty, imposed upon him. He did not choose to avail himself of that privilege, and hence the patent went out, properly bearing its actual date.

The novelty and original patentability of this invention, as well as its great public utility, are fully established by the report of the Examiner, and by the depositions on file. But two leading questions, therefore, remain to be disposed of :-

First, Has the applicant used due diligence in developing his invention, and in introducing it into public use?

Second, Has he, from the use and sale of the invention, received a reasonable remuneration for the time, ingenuity, and expense bestowed upon the same, and the introduction thereof into use?

Upon the first point, the testimony alike of the applicant and of the contestants is concurrent and conclusive. From the first moment that the conception entered his mind until his complete success-embracing a period of from sixteen to eighteen years-he applied himself unceasingly and enthusiastically to its perfection, and to its introduction into use, in every form that his fruitful genius could devise. So intensely were his faculties concentrated upon it that he seems to have been incapable of thought or of action upon any other subject. He had no other occupation, was inspired by no other hope, cherished no other ambition. He carried continually about his person a piece of india rubber, and into the ears of all who would listen he poured incessantly the story of his experiments, and the glowing language of his prophecies. He was, according to the witnesses, completely absorbed by it, both by day and night, pursuing it with untiring energy, and with almost superhuman perseverance. Not only were the powers of his mind and body Not thus ardently devoted to the invention and its introduction into use, but every dollar he possessed or could command through the resources of his credit, or the influences of friendship, was uncalculatingly cast into that seething caldron of experiment which was allowed to know no repose. The very bed on which his wife slept, and the linen that covered his table, were seized and sold to pay his board; and we see him, with his stricken household, following in the funeral of his child on foot, because he had no means with which to hire a carriage. His family had to endure privations almost surpassing belief, being frequent-ly without an article of food in their house, or fuel in the coldest weather; and indeed it is said that they could not have lived through the winter of 1839 but for the kind offices of

their meals, and digging the potatoes of their little garden before they were half grown while one of his hungry children, in a spirit worthy of his father, is heard expressing his thanks that this much had been spared to them. We often find him arrested, and incarcerated in the debtor's prison; but even amid its gloom his vision of the future never grew dim-his faith in his ultimate triumph never faltered. Undismayed by discomfitures and sorrows which might well have broken the stoutest spirit, his language everywhere, and under all circumstances, was that of encouragement, and of a profound conviction of final success. Not only in the United States did he thus exert himself to establish and apply to every possible use his invention, but in England, France, and other countries of Europe, he zealously pursued the series In 1855, he appeared at the World's Fair in Paris, and the golden medal and the Grand of the Legion of Honor were awarded to him as the representative of his country's inventive genius. Fortune, however, while thus caressing him with one hand, was at the same moment smiting him with the other; for we learn from the testimony that these brilliant memorials passed from the Emperor and reached their honored recipient, then the occupant of a debtor's prison among strangers and in a foreign land—thus adding yet an-other to that long sad catalogue of public benefactors who have stood neglected and im-poverished in the midst of the waving harvest of blessings the g had bestowed upon their race. Throughout all these scenes of trial, so vividly depicted by the evidence, he derived no support from the sympathies of the public. While the community at large seem to have looked on him as one chasing a phantom, there were times when even his best friends turned away from him as an idle visionary, and he was fated to encounter on every side sneers and ridicule, to which each baffled experiment and the pecuniary loss it inflicted added a yet keener edge. The mercenary naturally enough pronounced his expenditures (so freely made) culpably waste-ful; the selfish and the narrow-minded greeted the expression of his enlarged and farreaching views as the ravings of an enthusiast; while it is fair to infer, from the depositions, that not a few of the timid and plodding, who cling, tremblingly apprehensive of change, to the beaten paths of human thought and action, regarded him as wandering on the very brink of insanity, if not already pursuing its wild and flickering lights. Such in all times has been the fate of the greatest spirits that have appeared on the arena of human discovery, and such will probably continue to be the doom of all whose stalwart strides carry them in advance of the race to which they belong. With such a record of toil, of privation, of courage, and perseverance in the midst of discouragements the most depressing, it is safe to affirm that not only the applicant used that due diligence enjoined by law, but that his diligence has been, in degree and in merit, perhaps without parallel in the annals of invention.

Before entering upon an examination of the second leading question, several preliminary issues raised by the contestants must be met and decided.

The account of expenditures and receipts originally presented, it is admitted, was too general in its terms to be accepted as a combliance with the requirements of the statute. Hence subsequently in April an additional or amended account was offered, which, in con-sequence of the applicant in England, was not orn to by him until the 23d of that month. and was not filed in this Office, as thus verified until the 8th May. This amended statement was intended, not as a substitute for the original, but as a correction of certain inaccuracies which had crept into it, and as furnishing the details which law and usage de-It is objected that it should not be mand. considered, because, when first lodged here, it was without the oath of the applicant, and because, when that oath was appended on the 8th May, it was too late for the contestants to take their rebutting testimony. On this point the Commissioner brings

forward facts to excuse the alleged delinquency of the inventor, and to overrule the objection, and says in the absence of any specific averment, it is impossible to decide, in the language of a rule of this office, that a substantial injury has been wrought to the party raising the objection. On the other question, whether, in determining the adequacy of the remuneration re-ceived by the applicant, the receipts of his assignees and licences-admitted to amount to many millions-should be charged to the pat-tion taken by the contestants, but a more critical examination of the statute has led me to an opposite conclusion." He then gives his reasons in full for regarding the profits of as-

of which they are so important a part, and continues

The first step in determining the sufficiency of the remuneration is to ascertain, as far as practicable, the amount of the applicant's receipts and expenditures in connection with the invention. The apparently discrepant and informal character of the accounts filed has provoked much severity of criticism and some denunciation on the part of counsel. It is admitted that they have not the precision and symmetry which belong to the products of the counting-room, and which might have been imparted to them by the applicant, had he been a merchant's clerk, instead of the brilliant and impulsive genius that he is. In explanation of the generality and uncertainty for which it is insisted they are marked, it is in proof that the applicant never kept any s or memoranda from which more reliable statements could be prepared. In this respect his course of life has been in entire harmony with that of the class to which be belongs. Inventors and other men of high creative genius have ever been distinguished for a total want of what is called "business Completely engrossed by same fahabits.' vorite theory, and living in the dazzling dreams of their own imagination, they scorn the counsels and restraints of wordly thrift, and fling from them the petty cares of the mere man of commerce as the lion shakes the stinging insect from his mane. The law, in its wisdom, takes cognizance of human cha-ractor and deals with men and with classes of men as it finds them. It seems, in this instance, to have assumed and justly, that, if we would have the magnificent creations of genius, we must take them with all those infirmities, which seem as inseparable from them as spots are from the sun. Hence the statute does not require that the accounts of inventors shall have that formality and that severe exactitude which might well have been claimed of a merchant, with his ledger open before him. All that is insisted on is that the statement furnished shall be 'sufficiently in detail to exhibit a true and faithful account of lose and profit in any manner accruing to him from and by reason of said invention.' It is manifest that it is to the results-which indicate 'loss and profit'-rather than the minute elements of the transactions which form the subject of the account, that the law looks. The applicant's statement, as amended, appears to have been compiled with the most laborious care, and from every source of information accessible to him or his attorneys. It is regarded as fully conforming to the letter and spirit of the statute. The principal dis-crepancy between the original and amended statement is satisfactorily explained. The applicant held at the same moment three patents for processes connected with the manufacture of india-rubber, viz., that of Chaffee, that of Hayward, and that for his own vul-canizing process. In all his contracts, he transferred these three patents together, making no designation, in the body of the assignments, of the estimate placed upon either of them separately. In his original statement, he inadvertently charges to his own patent the whole of the receipts from this source; in his amendment, he sets the Chaffee and Hayward patents down as properly chargeable with one-fourth of the proceeds of such sales, and makes, accordingly, a corresponding deduction from his exhibit of receipts. The language of his first statement, properly interpreted in the light of the assignments themselves, justified this step. Whatever those patents may have cost him, they were his property, and it was due to truth and to the claim now under consideration that their actual value should have been ascertained. The witnesses who speak of them prove conclusively that the applicant has rather under than overrated them, which relieves him from all imputation in the matter.

After further examining the items adduced, and analyzing the evidence of both sides on this question of remuneration Mr. Holt concludes his remarks upon this subject with the following positive expression of opinion :-"It is probable-indeed, in view of the whole testimony, it is my firm conviction-that if it were possible to extract from the tangled mazes of the multifarious aud now half-forgotten transactions connected with the inven-tion, all the moneys expended therein, it would be found that, instead of there being a balance to its credit, the balance would be on the other side. I am justified in arriving at this conclusion from the fact, that, although the applicant has had no other occupation or business, yet, instead of having now in hand this sum of \$54,733 63, he is admitted to be penniless and overwhelmed with debt-and this, too, notwithstanding his life is shown to have been temperate, frugal, and in all re-spects self-denying. Being reimbursed his spects self-denying. Being reimbursed his actual 'expenses,' is this sum of \$54,733 63 a reasonable remuneration to the applicant for the 'INGENUITY and TIME' bestowed on the invention and the introduction thoreof into use ?"

[CONCLUDED NEXT WEEK.]