F. Frazer, Henry Morton, Samuel J. Cresswell.

They also say :—"Messrs. Cornelius & Baker are, like thousands of others using steam power, not professional engineers; they therefore depend upon the advice of others in regard to all matters connected with their steam-generating apparatus. Their responsibility would seem to rest with the choice of advisers and with their close supervision of those under them in responsibie positions. We believe that they have in the latter case been careful in selecting an engine tender, and watchful over his actions; we can find no testimony to impeach the sobriety or competency of this engine tender; but we believe he has not made as careful and as frequent examination of the internal condition of the mud-drum as he should have done; but in this he is not singular; we have heard, and are hearing daily, since this explosion, of mud-drums giving out in various parts of the city, and the warning has led to an examination of others which, although they have not exploded, are too thin to be safe."

[All the leading journals of Philadelphia concur in expressing the opinion that Messrs. Cornelius & Baker had exercised every precaution in their arrangements and endeavored to make assurance doubly sure. They are not to be held to blame for the accident or the result of it, but as the jury say in their verdict, the corrosion might have been discovered by the man in charge of the boiler.—Eds.

THE LAW AND PRACTICE OF RE-ISSUES.

An important question was lately presented to the Commissioner of Patents by the application of Mr. Andrew Whitely for the re-issue of Letters Patent under which he held only a sectional interest.

The Commissioner, in conformity with the past practice of the office, refused the re-issue, on the ground that the law does not authorize a re-issue to an assignee holding less than the entire property in the patent, althouge he admits that it is the uniform practice of the office to grant a re-issue to the patentee himself, even when he does not hold the entire property in the patent.

We have not seen the arguments used by the counsel in this case, but we have before us the printed "Opinion of the Commissioner," prepared, we are informed, by the chief clerk of the Patent Office, who is a lawyer by profession. Mr. Hayes, in this "Opinion," has given the practice of the office, the law upon which it purports to rest, and the opinions of several of the judges of the Supreme Court upon some of the questions which arise in construing the law.

The authority for the surrender and re-issue of Letters Patent is found in § 13 of the Patent Act of 1836, which reads as follows, leaving out those sentences which do not bear on this inquiry:—

"§ 13. Whenever any patent which has heretofore been granted, or which shall hereafter be granted, shall be inoperative or invalid by reason of a defective description . . . it shall be lawful for the Commissioner, upon the surrender to him of such patent, and the payment of, &c., . . . to cause a new patent to be issued to the said inventor for the same invention, for the residue of the period then unexpired for which the original patent was granted, in accordance with the patentee's corrected description and specification. And in case of his death, or any assignment by him made of the original patent, a similar right shall rest in his executors, administrators or assigns, and the patent so re-issued, together with the corrected description and specifications, shall have the same effect and operation in law, &c."

§ 6, of the Patent Act of 1837, enacts, "that any patent, hereafter to be issued, may be made and issued to the assignee or assignees of the inventor or discoverer, the assigment thereof being first duly entered of record, and the application therefor being duly made, and the specification duly sworn to by the inventor."

§ 13, of the act of 1836, clearly puts the inventor and his legal representatives or assignees upon the same footing with respect to re-issues, while § 6 of the act of 1837 enables an assignee to take out an original patent in his own name, and thus be entitled to the designation of patentee. It will be seen that § 13 uses the words *inventor* and *patentee* as convertible terms, but the § contains proof in itself that the inventor alone is meant in the first part of the section, and the legislator who framed the bill ought to have carried along in his mind that a preceding § (10) recognizes persons as patentees who are not also inventors, for it expressly authorizes the legal representatives of a deceased inventor to become patentees. But this looseness of phraseology does not bear upon the present inquiry, because the effect of § 6, act of 1837, and of the last clause of our quotation from § 13, is to invest legal representatives and assignees, in certain cases, with the same rights as the inventor himself, in taking out Letters Patent in their own names.

Mr. Hayes, in this "Opinion," has explored the ground which is covered by the controversy with much learning, and we need not look beyond his researches for authorities and guides in examining the question for ourselves. But he must allow us to state our surprise that after examining the statute, and applying thereto the settled principles of interpretation, he comes to the conclusion that it is "wiser to continue to tread in the ancient paths, and not to change a practice sanctioned by the wisdom of my predecessors."

For ourselves, we object to a conclusion founded on the assumption that the ancient paths and practices of the patent office are beyond amendment. We can enumerate several changes which the enlarged views of modern Commissioners have impelled them to make; and, upon a pinch, we might enumerate others which a proper appreciation of the mighty agency of the inventive genius of the country upon social and political life would speedily bring about. The law of 1836, which Mr. Hayes regards as a monument of legal precision, is yet, judging from his reasoning, not so clear a statute as to justify the present Commissioner in doing, what he expressly says on page 7, of the "Opinion," "would be conformable to public expediency, and a sound construction of the law," when the new construction (though, as we shall see, enjoined by the Supreme Court of the land) goes against the "ancient practice."

That the country may have a clear idea of this important question, we will try to ascertain what the law has been construed to mean. We have quoted § 13, act of 1836. The Supreme Court in December, 1861, says that "a surrender of the Patent XXX. (for re-issue) extinguishes the Patent. It is a legal cancellation of it, and hence can no more be the foundation of a right after a surrender than could an act of Congress which has been repealed." There are previous decisions of inferior courts which assert the contrary doctrine. All such are, of course, to be henceforth disregarded.

What is a surrender? It is not the personal act of delivering the original Letters Patent merely. For a patentee or assignee who holds the patent and does not own all the rights created by it, cannot, at his pleasure, destroy the rights he does not own. Therefore a surrender implies that he who gives up the Letters Patent gives up also the entire property created and existing under it. An actual concentration of all such property in him is not necessary, but there must be a concurrence of all the parties interested. It is not to be held, however, that in case a new patent does not re-issue from any cause, as from the refusal of the Commissioner to consent to the changes demanded, that the original patent is dead. It is sound common sense to hold that the actual cancellation of the original does not take place until the Commissioner has issued a new patent, for until that is done the whole transaction is not completed. The surrender and receiving of the patent must be taken as one act, and it is not an act accomplished until the new patent is issued. Therefore the Patent Office does right in returning to the patentee the original patent whenever it refuses the changes asked for. The country may ask why and upon what grounds the Commissioner, after the decision of the Supreme Court of December, 1861, continues to re-issue Letters Patent to patentees who hold only a part of the rights created by the patent? We cannot answer the question. The "Opinion" before us gives no reason save the wisdom of "treading in the ancient paths."

Again, the country may ask why the Commissioner makes a difference between a patentee holding a sectional interest, and an assignee holding a sectional interest? If the Supreme Court erred, and the ancient practice is correct, why discriminate against an assignee, when the law does not? We have seen that a patentee need not be the inventor. If he is an assignee before the issuing of the patent, it may be issued in his own name, and then he is called patentee. If afterwards, then he gets the same property rights, but not being named in the patent, he is then called assignee. But the difference is only in the name, not in the thing. The property rights are the same. He is the same man, with the same rights, in the courts, no matter what his designation may be.

We hope the Commissioner will give further attention to this subject, and, if the decision of the Supreme Court of December, 1861, is the law of the land, that he will enforce it against all who, holding sectional interests, seek re-issues; and if it has been subsequently overruled by the Court, that he will do what the law does—give equal rights to all who surrender Letters Patent with the entire interest therein, whether called assignees or patentees.

RELATING TO PATENTS.

It may be well for parties who are interested in new inventions to remember that our firm of Munn & Co. have taken out far more patents, and have therefore had much greater experience in the profession, than any other agency in the world. Those who confide their business to us may therefore rely upon having it done in the best manner on the most moderate terms.

In addition to these advantages, we make it a general rule to assist the interests of our clients by giving publicity, in the form of editorial notices, of all the new and meritorious inventions that are patented through our agency. The fact that we have carefully studied these improvements during the process of preparing the patent papers, enables us to speak knowingly in regard to their best features. The publicity thus given to inventions, owing to the immense circulation of the Scientific American among intelligent readers, is often of the utmost benefit to patentees. In some cases it has engaged the active co-operation of enterprising capitalists and manufacturers, in patents which otherwise would have remained dead, and has resulted in the most important pecuniary advantages to inventors and patentees, as hundreds of them are ready to testify; although the sum total of our charges for preparing their patent papers has rarely exceeded the small amount of twenty-five dollars. Whatever carping, jealous or envious persons, or little agents, may say to the contrary, we are justified in affirming that all who really wish to promote their own interests will do well to employ the Scientific American Patent Agency.

A Heavy Forging.

The Pittsburgh *Dispatch* says that one of the most intricate pieces of forging ever attempted west of the Alleghenies has just been completed by Wm. Porter & Co., of Temperanceville. The mass is designed for the stern of the iron-clad *Umpqua*, now building in Monongahela borough, and is designed to support and resist the thrust of the two propellers with which that vessel will be furnished. The bearings for the propeller shafts are eight by twelve inches, and are separated nine feet six inches by an oval rail, seven niches broad by two inches thick. They are supported from the keel plate by similar oval braces, seven inches broad and three inches thick, the three rails forming a massive, inverted triangle, some six feet from base to apex. The huge lugs by which this triangle is fastened to the frame of the vessel are four feet long, eight inches broad, and three inches thick, and are united to the bearing, one to each bearing by a short connecting rail. No mere verbal description could convey a just idea of the difficulty of forging such a mass of iron, in such a shape, and at one time it was not supposed that the work would be undertaken here. The forging will be temporarily fitted in its place this week, and will then be planed, bored for the shafts, and permanently fastened.

Mr. Cyrus W. Field contradicts the statement that the *Great Eastern* has been sold to the French Government. An agent of that Power applied for her and was told that after the Atlantic cable was laid she could be purchased for £250,000.

Ammonia is composed of 3 atoms of hydrogen to 1 of nitrogen, $H_3 N$; by weight 3 lbs. of hydrogen to 14 of nitrogen.