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REMOVAL.

On or about the 1st of February next, the Publication Office of the SCIENTIFIC AMERICAN, and the Patent Agency Department connected therewith, will be removed from 128 Fulton street to the spacious offices in the new building, Nos. 37 Park row and 145 Nassau street; the principal entrance being on the eastern side of the City Hall Park. This change we find necessary in order to meet the continual growth of both departments of our business; and we shall expect, at the time above specified, to show our friends, and such of the public as may feel disposed to call upon us, the most complete and thoroughly organized establishment of the kind in the world.

McCormick's Reaper Patent Extension.

The patent granted Jan. 31, 1845, to C. H. McCormick, of Chicago, Ill., for an improvement in Reaping Machines, expires on the last day of this month, and application has been made by the patentee to have it extended for seven years from that date. Several correspondents have written to us asking why we have not come out and opposed this extension, giving as a reason, that as we have always been opposed to monopolies, they wonder why we have been silent regarding this important case. It is true we always have been—and always intend to be—opposed to unjust monopolies, but our correspondents do not seem to know the position which we occupy in regard to this and all similar questions. We have always publicly opposed the extension of patents by special acts of Congress, because such legislation is *ex parte* and contrary to the spirit of our institutions. It is a very different thing, however, when the application for the extension of the patent is made under the laws provided for this very purpose by Congress itself, and when every application is judged by the principles of law and the testimony brought forward, for and against it.

The Patent law, section 18, Act of 1836, provides that a patentee may have his patent extended for seven years from the expiration of his first term, provided he has not been sufficiently remunerated for its use. To obtain such an extension he must show proof of the value of his invention, and the amount of remuneration which he has received; and all those opposed to the issue are notified to appear and show cause why it should not be granted. After a fair hearing on both sides for and against the extension, the Commissioner of Patents decides upon the testimony presented whether he will refuse or allow the extension. This is the law, and while it exists, we are bound to respect and obey it, and can present no obstruction to its execution. The Commissioner is the most competent person to pronounce judgment in such cases, because he has, or should have, all the evidence on both sides upon which to predicate his decision. There is, therefore, a radical distinction between this application for extension and the one sought to be lobbied through Congress by the same claimant. On page 325 of Vol. XII. of the SCIENTIFIC AMERICAN, we gave full expression to our views upon this subject, as applied to the extension of Goodyear's India Rubber Patent, so that we need not now repeat them. We will, however, present a few observations in reply to some of the reasons which have been submitted to us why this patent should not be extended.

First, It is said, "this is not McCormick's invention, as was clearly proven in the trial between him and John H. Manny, and others, where the reel and divider was the subject of litigation."

If this is true, those who are opposed to the

extension, have the right to present such proof, and will be guilty of neglect if they fail to do it, and if the point can be established the Commissioner will refuse the extension.

Second, "McCormick has been amply remunerated for all his expense."

He must prove that he has not been so rewarded, so the *onus* of the question is thrown upon the petitioner, while those opposed to him have also the privilege to submit counter proof. Mere yeas and nays will not suffice. Figures and facts must be produced to establish every point.

Third, "No farmer who has a reaping machine, unless it is McCormick's, can use it, if this case is extended; and it will be one of the most complete monopolies ever established."

There is great force in these reasons, and they appear to bear the impress of a truthful conclusion. According to a late re-issue of this patent, the claim seems to cover every reel device for effecting a division of the grain to be cut from that which is left standing; and if this extension is granted, other makers of reaping machines and farmers will have to look out for lawsuits. They will have the right to prove that it is not McCormick's invention, but rather than enter into a judicial contest most of them will submit, although believing themselves wronged thereby.

Mr. McCormick claims, we understand, that his invention is worth \$45,500,000 to the country; that he has made about 23,000 machines, and has only received about \$200,000 for them, \$90,000 of which went for materials. He has therefore made a large margin for special pleading before the Commissioner, and those who are interested in opposing the extension, must be active in getting their remonstrances into his hands before the 27th inst.

The case is an important one, no doubt, and it is well for all concerned that it comes before the office at a time when its Chief Officer is so well qualified to adjudicate upon it.

Freight Railroads Wanted.

When it was first proposed to construct a canal through the interior of New York State, Col. John Stevens, of Hoboken, the inventor of tubular boilers, and a gentleman of great mechanical genius, suggested the building of a great central railroad as a substitute. Had his idea been carried out, our country would have had the honor of being the parent of the railway system. The canal, however, was constructed, and proved to be a most successful and beneficial undertaking, and it was not until many years afterwards that a single line of railway was laid in our country. It is impossible to tell how different the results would have been, had the proposed railway been adopted; but it is now a matter of fact and history, that since railroads have been introduced, they have nearly monopolized the whole business of carrying passengers to and fro, through the interior of our country. For this particular purpose it is universally acknowledged they possess an advantage over all other traveling systems, but it is denied by most persons, and some who have a very high reputation for engineering ability and experience, that they are adapted for the transportation of very heavy freight. This opinion, we think, is correct, as it regards the operation of railroads according to their present construction and management, but this does not militate against the principles of railroad economy for such purposes, under conditions of a different character. We believe that railroads may be constructed and operated economically for the purposes of carrying heavy freight.

In reference to superior speed, with light draughts or loads, railroads have surpassed all early expectations regarding them, and if they do not carry heavy freight with profit, it is simply because they cannot combine two opposite qualities under one system. It is just as preposterous to expect them to possess

the qualities of speed and heavy draught combined, as an animal to excel as a racer on the turf and a draught horse in the furrow. The great expense incurred in operating railroads is for wear and tear, which is enormous, owing to unstable and ill-constructed tracks, and the great speed of the trains. Were our railroads constructed as permanently as those of Great Britain, it is estimated that more than thirty per cent of the working expenses would be saved annually, and we think they can be so constructed, that eighty per cent of these may be saved. The expenses for wear and fuel of railroads increase according to the square of the speed; thus, if on a railroad running at the rate of fifteen miles per hour, the speed is doubled, the fuel required will be four times as much as formerly, and the other expenses, such as wear and tear of rails, locomotives and cars, in the same proportion, and the liability to accidents will be increased in a still greater proportion. A locomotive on a straight line of good double track (broad gage) has run at the rate of forty miles per hour drawing 100 tons, engine included, with 1,280 pounds of coke for fuel. By reducing the speed on such a railroad to five miles per hour, which is greater than that on the canals, the working expenses (leaving out those of friction which only double with the velocity) would be reduced sixty-four times; that is, a locomotive which will draw 100 tons forty miles in one hour, with two cords of wood, will draw a like load 2,660 miles at the rate of five miles per hour with the same amount of fuel. We are but in the infancy of railways yet; the time will soon arrive when broad level and heavy tracks will be laid between all our large inland cities, for the purpose of carrying heavy freight exclusively, and they will do so economically. Such railroads are wanted now, as the expense for carrying freight on our present imperfect railroads is far too high, and merchants have just cause for complaint on this account.

The foregoing remarks are for the purpose of directing the public attention to this important question, and the sooner this is accomplished, the sooner will the results predicated be achieved.

Highly Important Patent Suits.
EIGHT-WHEEL CAR SUIT.

The case of Ross Winans against the New York and Erie Railroad Company, for a patent covering the eight-wheel cars, which was tried two years ago by Judge N. K. Hall, in the Circuit Court of the United States, at a term held at Canandaigua, in which a judgment was rendered against Winans by a jury, under the ruling of the court, and then appealed by him, was on Monday, the 10th inst., decided against Winans in the Supreme Court of the United States. The highest judicial tribunal affirmed the judgment of the Circuit Court. Thus ends one of the most important patent cases that was ever tried in this country, involving as it did in its issue millions of dollars, and affecting directly every railroad company in the United States.

The decision establishes the fact that Gridley Bryant, formerly Superintendent of the Quincy Railroad, Boston, and now of Scituate, Mass., and Horatio Allen, formerly chief engineer of the South Carolina Railroad, and now of the Novelty Works, New York, were the first originators of the eight-wheel cars, now exclusively used on the railroads in this country, and destroys the only eight-wheel patent ever granted for originating the eight-wheel car—the one to Ross Winans, of Baltimore.

SEWING MACHINE SUIT.

In No. 16 of the present volume of the SCIENTIFIC AMERICAN, we published a synopsis of a decision on questions of law raised in these cases, and mentioned that the cases had been argued on the merits, and were still held under advisement by the court. A decision has now been rendered on the merits in favor of what is known as A. B. Wilson's

Feed Patents, and injunctions ordered restraining the defendants from further improvements.

These suits were upon two re-issued patents for improvements in sewing machines—one dated January 22, 1856, and the other dated December 9, 1856. The former contains four claims. One claim is for the method of causing the material to be sewed to progress regularly by the joint action of the surfaces between which it is clamped—that is, stitch by stitch, and in such manner as to allow the operator to turn the cloth at will while the sewing is going on, to form seams of any desired irregularity of curvature. Another claim is for holding the material to be sewed at rest by the needle, or its equivalent, in combination with the method of causing the material to progress regularly. Another claim is for such an arrangement of one of the feeding surfaces in relation to the needle that it will strip the cloth from the needle as the needle is retracted after forming a stitch. And the fourth claim is for such a combination of one of the feeding surfaces with some other part of the machine as to admit of its being removed from the other surface, and replaced at will to facilitate the putting in and taking out the material to be sewed.

The other patent contains a claim for a combination of a platform to support the material to be sewed, a sewing mechanism to form a seam by a succession of stitches, and an automatic mechanical feed by which the cloth is grasped, but to which it is not attached, and in which it can be turned laterally at will.

The decision rendered by the court was in favor of the plaintiffs, Messrs. Wheeler & Potter vs. Steadman & Holland.

The case was ably argued on both sides—for the complainant by Ralph I. Ingersoll, Roger S. Baldwin and George Gifford, and for defendants, James T. Brady and Edward N. Dickerson.

Mr. Gifford's argument—which is an able one—has been sent to us in pamphlet form.

India Rubber Patent.

An unsuccessful attempt was made in the House of Representatives, on the 7th instant, to bring up the report of the Committee of Patents in favor of the extension of Chaffee's India Rubber Patent. Mr. Washburn, of Illinois, and Mr. Jones, of Tennessee, objected to the bill, therefore, under the rule requiring a unanimous consent, it could not be brought on. It strikes us that the Committee of Patents in the House would be doing the country much more service by attending to the acknowledged defects in our Patent system than in undertaking to revive defunct Letters Patent which belong now to the public. This, however, is a mere matter of opinion, and we suppose, should we press the inquiry into the matter, we would be told that we do not understand the temper of the House, or some other equally frivolous excuse for evading important issues.

Tardiness at the Patent Office.

We are having inquiries by every mail from applicants for patents, as to the cause of delay in the issuing of their patents.

In reply to such inquiries, we can simply say that the Patent Office is so overcrowded with business that its work has latterly accumulated somewhat, and that, while some of the classes of cases are acted upon almost immediately on presentation to the Office, the Examiners in other classes are nearly three months behind in their examinations.

This delay ought not to exist in any department, with the present force of Examiners, and we trust Commissioner Holt will see to it, that every case which has been before the Office for six weeks may be acted upon immediately.

Professor Mitchell, of Cincinnati, is lecturing on astronomy in this city.