NEW YORK, APRIL 29, 1848.

Congress and Inventors.

We some time since noticed that a Bill had passed the U. S. Senate authorising the increase of the scientific corps in the Patent Office, and raising the pay of the Examiners and their assistants. We thought that the passage of the bill there, was a certain indication of it becoming a law. But we have been disappointed, sadly disappointed. The bill instead of being in the prospective of becoming a law, has a fair prospect of being left to confer a bad name upon the character of our country as represented by the members of Congress. The bill passed the Senate granting a salary of $2500 to the principal Examiners and $1500 to their assistants. The House of Representatives cut down the salary of $2500 to the principal Examiners, to $2000, and sent it back to the Senate. The Senate changed the bill to its original shape and sent it back to the House, where it now lies. We can tell the members of the House that the country demands a speedy action and a liberal one upon this bill. We believe that the majority of them are not aware of the qualifications required for an Examiner nor the labor he has to perform. The duties of an Examiner are more arduous than an Ambassador's or a Cabinet Minister's, and their pay is not disbursed by a tax upon the nation, but paid by inventors. Now inventors are the very persons that desire the increase of salary and an increase of Examiners. We know something of their wants and wishes. Congress must not adjourn without passing the bill, unless they desire to be remembered with ill will. If Congress adjourns without passing the bill it will be exceedingly injurious to the character of the present House. The Patent Office is about ten months behind in examinations, and we say that it is a shame for our Representatives to act towards our inventors as they have done. Why did they seek to cut down the $2500 to $2000? They surely do not know that there are but few men in the country capable of filling the offices referred to. Our inventors have made our country what it is in greatness and in wealth. Had it been our lot to have given a vote on such a bill it would have been for the addition of $500 more, not a reduction, and we know that our vote would have met the wishes of all our inventors. We want the business that is now lying piled up in the Patent Office exterminated and the books posted up as soon as possible. Congress alone is to blame for the present state of the Office, and not thr Commissioner.

Invention.

A true invention consists in the attainment of some result by a new mechanical arrangement, or by a new process. The desire to attain a certain result by other means than any known, necessarily quickens and directs the attention of a reflective mind towards the accomplishment of the object desired. The man who can arrange and combine, has what Phrenologists call the organs of *constructiveness, order* and concentrativeness, is sure of bringing into existence some apparatus or machine for the accomplishment of some purpose on which his mind has been fixed. This is one kind of invention. There is another, viz. the removal of an evil or the eradication of a defect in the construction of a machine to the harmony of its operations, or the complexity of its parts. And what new machine has been without fault? The steam engine of 1848 in comparison with the steam engine of 1800, is as the most perfect chronometer, to the old wooden clock. We have seen an engine of twelve horse power doing more work and occupying only one-thirtieth the room of the old *rattler*, as we used to call one of the old wooden walking beam snorers. The second kind of invention in machinery relates more to pruning and arranging than to strong thinking creativeness. The latter kind of invention is more the *property* of the skilful practical man, the former belongs oftener to those of another class. Fulton was not a machinist, Arkwright was a barber. The former is like the reaper that cuts down the ripe harvest field—the latter gathereth up the golden sheafs and bringeth them into the granary with songs of rejoicing. The two kinds of inventors are alike important and necessary to the perfection of a machine—splendid is the genius of that man who like Whitney or Watts or Stephenson's, embraces the boldness of conception with the fastidiousness of correct execution. Such a mind is like the burning mirror of Archimides: upon whatever object it is directed, the original elements are soon resolved and the exact combination portrayed, or re-resolved, and the result looms up like the sketchings of Angelo, grand and majestic, or like the harmonious pictures of Raphael, lovely and sublime.

No discovery except it be the result of research in the attainment of some end or the removal of some impediment to accomplish a certain object, can be called an invention.—Without the research spoken of, great discoveries have indeed been made, but they were not inventions, they were happy accidents.—It is to the honor of inventors, however, especially mechanical inventors, that such happy accidents have been but few and far between. The majority of useful inventions, have been the fruit of ardent labor, close study and patient research. The golden fruit of such mental qualifications and application have not in all cases been plucked by the worthy inventors themselves. Many an inventor has died of a broken heart and been laid in the grave of the poor—no monumental stone to tell were reposes the inventor of the water wheel, or the wind mill. The names of many of the inventors of useful tools and machines are buried in oblivion, while the fruit of their genius will continue to enrich the world to the end of time. Yet it is a pleasure to know that many inventors have been highly rewarded. Firmly and honestly have we and will we advocate the rights of true inventors—would that we could rescue from oblivion the names of many who deserve monuments, but who slumber unknown in name, fame or country. What have not inventors done for the world, more especially during the last century? Some crude scholastics would fain rob the present age of its glory and demean it beneath the rude, though no doubt the grand discoveries of the ancient era. We now can almost behold the thought of man running along the suspended nerves of the telegraph and leaving the earth behind in the race. The steam engine travels like a thing of life over our roads and through our streets, "or mounting the ocean wave stately and grand." What in ancient invention can compare to this. Yet for all our grand discoveries—numerous though they be—more than five hundred patents being granted in our country in one year—the end of invention is not yet. We are not perfect and never will be, but if we wish to progress we must aim at nothing less, our mark must be a high one. He therefore who would wish to benefit himself and his fellow men by invention, must first conceive some valuable object to be attained and then study out the best plan to attain it, or if there is an impediment in the way of accomplishing a desirable object, study out the best and most economical way for its removal. With these views kept continually before the minds of our ingenious people, our great nation must steadily progress in discovery—while there is a single desire to be gratified there is room for invention.

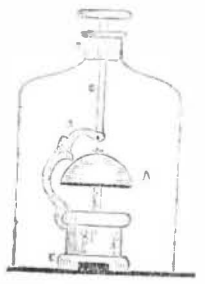
A Good Offer.

We have a communication now in our possession requesting a thorough practical and steady man to superintend the erection of a shot tower, and the manufacture of shot. Our correspondent has the best location for a shot tower in the State of New York, or in the world, and has capital to engage in the business A partner acquainted with the business, would not be an objection. We can give more information to those who may desire it.

Mr. McTavish has lost his seat for Dundalk, in the British Parliament, in consequence of his being an American citizen by birth!

Phenomena of Sound.

When a thin elastic plate is made to vibrate one of its ends being held firm, and the other free, and its length limited to a few inches, it emits a clear and musical sound. If it be gradually lengthened, it yields notes of different characters, and finally all sound ceases, the vibrations becoming so slow that the eye can follow them without difficulty. This instructive experiment gives a clear insight into the nature of musical sounds, and, indeed, of all sounds generally. A substance which is executing a vibrating movement, provided the vibrations follow each other with sufficient rapidity, yields a musical sound, but when those vibrations fall below a certain rate, the ear can no longer distinguish the effect of their impulsions. The number of vibrations which such a plate makes in a given time depends upon its length, being inversely as the square of the length of the vibrating part. Thus if we take a plate and reduce its length, the vibrations will increase in rapidity; when half as long, it vibrates four times as fast: when one fourth, sixteen times, &c. all sounds arise in vibratory movements, and musical notes, differ from one another in the rapidity of their vibrations, the more rapid recurring or frequent the vibration, the higher the note. There is, therefore, no difficulty in determining how many vibrations are required, to produce any given note. We have merely to find the length of a plate which will yield the note in question, knowing previously what length is required to make a determinate number of vibrations in a given space of time. Thus it has been found that the ear can distinguish a sound made by 15 vibrations in a second, and can still continue to hear though the number reaches 48,000 per second. That all sounds arise in these pulsating movements, common observations abundantly prove. If we touch a bell, or the string of a piano, or prong of a tuning fork, we feel at once the vibratory motion, and with the cessation of that motion the sound dies away. But the pulsations of such a body are not above sufficient to produce the phenomena of sound. Media must intervene between them and the organ of hearing. In most cases the medium is atmospheric air, and when this is taken away the effect wholly ceases.



Under the receiver of an air pump, place a bell, the hammer of which can be removed by means of a lever, which is worked by a rod passing through the stuffing box. The bell is placed on a leather drum or cushion, this drum is necessary to prevent the transmission of the sound through the solid part of the pump, while the air is yet in the receiver the sound is quite audible, but on exhausting it becomes fainter and fainter, and at last can no longer be heard. On readmitting the air, the sound gradually increases, and soon acquires its original intensity. The sounding body therefore requires a soniferous medium to propagate its impulses to the ear. Air is far from being the only soniferous medium. Sounds pass with facility through water. The scratching of a pin, or the ticking of a watch, may be heard if applied to the end of a very long log or plank of wood. Any uniform elastic medium is capable of transmitting sound; but bodies which are imperfectly elastic, or have not an uniform density, impair its passage to a corresponding degree.

(*To be Continued.*)

Ballard Vale Machine Shop.

There is a machine shop at Ballard Vale, Mass., which is a model of an establishment. They are going to build engines and all kinds of machinery and castings. Files are to be made by power, and the whole is sealed with a sign of success, for there is a reading room attached to the works, supplied with papers and periodicals for the use of those employed.

Important Patent Case.

On the 14th inst. a case for infringement of Woodworth's patent, was decided in the Circuit Court of the United States at Boston, Justice Woodbury presiding. The contending parties were Woodworth *vs.* Edwards, and the action was brought for the first of the claim of Woodworth's patent for planeing, tongueing and grooving boards and plank.

The defendant was using a machine for planeing, under a patent granted to Benjamin Brown, of Burlington, Vermont, dated Oct. 21, 1845. The defence set up in addition to the patent granted to Brown, was that the patent granted to Woodworth in 1828, was not valid. 1st. On the ground of priority of invention. 2d. That in obtaining an extension of the patent on the 16th of November, 1842, a fraud was practiced. 3d. That a further extension granted by Congress on the 26th February, 1846, had also been obtained by fraud. 4th. That the patent having been surrendered on account of a defective specification, that a fraud had been perpetrated on the Commissioner of Patents, and that he had been induced by collusion to re-issue a patent with an amended specification for a different invention, including pressure rollers, and 5th, that Hale, Hill, Bentham, Muir, Smith and Emmons in 1824 and 1829, had put in operation substantially such a machine as the one claimed by the plaintiff.

The presiding Justice we have been informed, charged the Jury that the patent granted was already decided by the Supreme Court, and that they had nothing to decide upon but whether there was an infringement or not.

The case was seventeen days on trial, and the Jury rendered a verdict for plaintiff of $580, and costs.

Patent Infringement.—Reaction Water Wheel.

We have been informed that a case of infringement of a patent was tried at the December term of the United States Circuit Court at Springfield, Illinois. Suit was brought by Zebulon Parker against Charles Atkinson and others of Illinois, for making one Compound Percussion and Reaction Water Wheel, by placing eight of T. Roses's reaction wheels upon one horizontal shaft and applying the water to it with a vertical or circular motion by means of concentric cylinders enclosing the shaft, and for using the same some six months. The verdict of the jury in the case was for plaintiff and assessed the damages at two hundred dollars and costs.

Notice.

See article on the Economy of Power in Cotton Factories, on the next page.

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