Scientific American.

white light. These lamps range in price from Scientific American ^{white light.} s2 to \$2,25.

NEW YORK, OCTOBER 20, 1849.

Great Fair of the American Institute. No. 2.

During the past week, the Fair has been unusually attractive and visited by quite a number of distinguished personages, among years, as it may be said, it was water burning. whom was Millard Fillmore, Vice President of the United States Republic, N. A. On Friday evening, the Hon. Levi Woodburry delivered the Annual Address in the Tabernaele. He alluded to the boast England made (which we believe never was made) that America had once to come to her for a mouse-trap, and he pointed exultingly to the machines and works of art displayed, as a proof of the advancement of America in Manufactures, and works of art. He endeavored to combat the opinion held by many, that, "improvements in machinery, by lessening labor, was an injury to the working classes." He said that "the great improvements which had been made in machinery, instead of destroying labor, had multiplied it." This is true, but the grand object of improvement in machinery, is to relieve mankind from the drudgery of severe and unhealthy toil, and place his occupation in a more intellectual position, viz., to superintend, instead of being the machine.

On last Saturday evening, George Gifford Esq., N. Y., delivered an address on Patent Laws. The audience was small, but select. A copy of it was requested by the Institute for publication. We will notice it when it is published. In one notice (headed New Ball Axle), in our last article on the Fair, we would make a correction, and state that Mr Alfred E. Smith of 93 Maiden Lane, N. Y., is one of the proprietors to whom orders may be addressed. We would again state that the wheel can be shipped and unshipped in an instant by this invention, without the aid of hammer or wrench. And lest any one should mistake its nature from the title then given it, we would say, as is there explained, that no ball is used to couple, as in the case of Chinnock's, the swell on the axle as stated, is conical.

STILLMAN'S STEAM ENGINE INSTRUMENTS.

There is a case of Steam Engine Instruments, by Mr. Paul Stillman, of the Novelty Works, N. Y., which are of undoubted merit, and which we can confidently commend to all those who require such things. There is a Steam Guage of the usual form, Patent Manometer Steam Guage, Patent Manometer Vacuum Guage, Patent Register, Engine Indicators, &c. For beauty of finish, and correctness of workmanship, no instruments of the kind surpass Mr. Stillman's.

SMITH'S VERTICAL PARALLEL GATE.

The Vertical Gate, about which so much was said, and regarding the operation of which we were decidedly in the dark, from the accounts we had of it, and as seeing is believing, so we must say of this gate, that it is a very simple and good invention. The inventor is Mr. Lorenzo Smith, of Easton, Mass., and his Agent is Mr. D. Keith of 133 Fulton street, N.Y. The gate is made like two parallel rulers, of four bars, secured to two upright side bars, and by swinging each side leaf of bars upon their axis, they are raised up at the sides. vertically and closely parallel.

LOCKS.

A beautiful and capital lock is exhibited as

HYDRO-CARBON GAS.

For some evenings past the machine shop was lighted up with gas made on the premises, by White's invention, which was noticed in our last volume. It was a beautiful light, and was an evidence of the great advancements made in science within the past ten The gas is made by decomposing water, by dropping it into a red hot retort, in which there is a chain or pieces of iron, which absorb the oxygen of the water, and the hydrogen escapes into another retort, in which is some resin submitted to fire. There the two gases combine, forming the hydro-carbon gas. From this retort, the gas passes through cooling pipes, and then away to the reservoir. At first, Mr. White did not pass the hydrogen into the resin retort, but mixed them in a separate chamber, but by mixing them in the retort a saving is effected.

ALCOHOLIC VAPOR ENGINE.

A very neat apparatus for heating rooms, &c., was exhibited by Mr. Farewell, as applied to the generating of steam, by the vapor of alcohol. The object of showing it, as thus applied, was to exhibit its nature and the extensiveness of the application, either for generating heat, to boil water, roast meat, to the blow-pipe, or to a lamp for illumination. The invention is patented by Mr. Thos. K, Anderson, and is owned by Anderson, Farewell & Erwin, of Painted Post, Steuben, Co., N. Y. The nature of the apparatus is, by its own heat, to generate the substance for combustion sufficient to become a self-feeder. We will publish an engraving of the lamp next week, and say some more about it then.

NEW, OLD, HYRO-STEAM WHEEL.

A gentleman exhibited a wheel contained in a tin case, at the one end of which was ejected a jet of steam, which boiled the water in the tin case, and set the wheel a galloping at no small speed. It is a machine well qualified to wash and boil potatoes at one operation.

OLD FASHIONED BUCKET WHEEL.

On the Bridge there stood for some days (but is now stowed in a corner) one of the old fashioned revolving bucket wheels, which dates back to the days of Cyrus. When we first saw it, a son of Africa was descanting upon its merits with an eloquence which was quite amusing, as it was a subject to which he did ample justice, owing to the dark ages in which it originated.

PIANOS.

Among the many splendid Pianos on exhibition at the Fair we notice one from the manufactory of Messrs. Boardman & Grey, of Albany which has an attachment of a new and peculiar kind, invented by themselves and for which they have secured letters patent. It is called the Dolce Compana Attachment, and gives to the Piano a sweetness of tone, of which we did not think it capable under any circumstances. It can be applied to any Piano, being so constructed as to be attached or detached at pleasure. It is operated by the pedal, and at the will of the performer swells the tones of the instrument loud and full, like the organ. or modulates to the soft and melodious tones of the Æolian. We shall no longer look upon the Piano as a harsh and unmelode ous parlor ornament, as with this attachment of Messrs. Broadman & Grey's it is capable of discoursing most eloquent music. The lalies we know will endorse our sentiments in

Scientific Memoranda. DISCOVERY OF VENTILATION

The London Literary Gazette says that a Dr. Chown of London has enrolled a patent Improvement in Ventilating Rooms and Apartments, for the perfect efficacy of which, we believe, there cannot be a doubt, and on a principle at once most simple and unexpected the improvements are based upon an action in the syphon which had not previously attracted the notice of an experimenter, viz., that iffixed with legs of unequal length, the air rushes into the shorter leg, and circulates up, and discharges itself from the longer leg. It is easy to see how readily this can be applied to any chamber, in order to purify its atmosphere. Let the orifice of the shorter leg be disposed where it can receive the current, and lead it into the chimney (in mines, into the shafts,) so as to convert that chimney or shaft into the longer leg, and you have at once the circulation complete. A similar air-syphon can be employed in ships, and the lowest holds where disease is generated in the close births of the crowded seamen, be rendered as fresh as the upper decks. The curiosity of this discovery is that air in a syphon reverses the action of water, or other liquid, which enters and descends or moves down in the longer leg, and rises up in the shorter leg! This is now a a demonstrable fact; but how is the principle to be accounted for ? It puzzles our philosophy. That air in the bent tube is not to the surrounding atmosphere as water, or any heavier body, is evident; and it must be from'this relation that the updraft in the longer leg is caused, and the constant circulation and withdrawal of poluted gases carried on. This action is not prevented by making the shorter leg hot while the longer leg remains cold, and no artificial heat is necessary to the longer leg of the air syphon to cause this action to take place. Extraordinary as this may appear, says the editor, we have witnessed the experiments made in various ways, with tubes from less than an inch to nearly a foot in diameter, and we can wouch for the fact being perfectly demonstrated.

It will take an experiment or two, to demonstrate the correctness of the above, but we point it out in order that some of our readers, (and there are many of them,) who have time to spare, may try a few experiments to test the truth or falsity of this alledged discovery.

ANOTHER GREAT LONDON DISCOVERY.

In one of the late numbers of the London Illustrated News, there is an illustrated description of a wonderful machine to annihilate every conflagration that dares to raise its head. A certain Mr. Philips, it seems, is the inventor, and the Fire Annihilator consists of a small machine, charged with a composition of charcoal, nitre, and gypsum, moulded into the form of a brick. There is what is called an igniter, consisting of a glass tube enclosing two bottles, one containing a few drops of sulphuric acid, placed over another containing a mixture of the chlorate of potassa and sugar. This glass tube is placed in contact with the brick, and there is an outside water chamber in connection withithe brick. (Who would have ever thought that a brick could knock out the eye of fire here, but London is the place.) Well this simple apparatus is carried to the fire, slung over some stout fellows' shoulders, we suppose, or borne in triumph on a Charley's baton, and no sooner is the fire approached, than by striking the glass containing the acid with a vertical iron pin, it is shivered to pie-

Notice to Editors.

Our friends of the "Standard," Greenwich N. Y. inform us by letter that they have not received the Sci. Am. since they published the new prospectus. We thank them for it, and shall consider it a favor from all editors if they will do the same in case they do not receive the paper. We hope not to overlook a single instance. Within the past year a few complaints have appeared in print against us for not sending the paper. We hope not to hear any this year, and if publishers will only inform us of a non-fulfillment on our part, we will promptly forward the paper. We presume that no respectable editors will attempt to complain of us through the columns of their papers when they fail to receive ours in exchange. We have never known an instance.

Patent Office Report for 1848.

We have received another section of this Report. It contains very valuable matter and some good engravings of apparatus used in the sugar manufacture. The information con. tained in it is mostly agricultural. We like the matter well enough, but here we are nearly at the years's end, and the 5000 copies of the Report with the Patent claims, are not vet issued. This is scandalous, but we believe that it is all the fault of the miserable contract with the printers. The matter of this report is found in very bad company, viz., bad print and paper. We are much obliged to Commissioner Ewbank for this Report-the contents of which we value highly.

What Water can Do.

The Boston Bee says that Abby Hutchinson -that was—is at a water-cure establishment in that city; and is recovering very rapidly, having gained in weight three pounds during the past week. She has lived twenty-one days without taking a particle of food-swallowing nothing during the time, with the exception of cold water.

[If the above don't set a bee in some ears, we don't know what will. Just think of Mrs. Paton living 21 days without food. Why talk of miracles ceasing-not while Abby is alive.

New Discovery in Agriculture.

An extraordinary fact mentioned the other day at the sitting of the Academy of Sciences. One of the members stated that the agricultural society of Brest had, upon the proposition of a member of the committee, sown some wheat upon land without any preparation of plowing or digging, and in one of the worst soils possible, and after having merely walked over the ground to press the grain on the surface, had it covered with fresh straw to the thickness of two inches. The product was, it is asserted, more abundant and much superior in quality to wheat raised from the same seed in the ordinary way. Some ears of corn, the seed of which had been placed upon windowglass covered with straw, were also exhibited.

[The above is now fourteen years old, and has proved to be a fallacy. We take the article from a late exchange, to point out the moral.

Riots at Philadelphia.

There was a great riot at Philadelphia last week ;-houses were burned, and a number of persons were shot dead, and others wounded. Why does the State of Pennsylvania not throw all the suburbs around Philadelphia, under the jurisdiction of the city proper. It is the most disgraceful place for riots in the wide world. and certainly there is little to boast of in the way of true liberty, where Franklin lived and

the invention of Mr. Lewis Lillie, of Ida st., Troy, and sold by Mr. Starbuck, of No. 69 Nassau st., N. Y. This lock is recommended by a great number of bankers and men well qua lified to judge of its merits.

SOLAR LAMPS.

A very beautiful kind of miniature solar was to come up before the C. Court in Boston, lamp, for those who have much writing at last week, likewise that of Wilson vs. Barnight, was exhibited by Messrs. Endicott & num, about planing machines at Philadelphia, Summer. The light of one is equal to that of and that of Morse vs. Bain, before Judge Mun six sperm candles, and it can burn either oil or roe. An injunction has been applied for by lard. A pound of lard lasts about twenty Morse. According to the custom of the Courts hours. The air is admitted to the flame all of Equity, this cannot be granted, until the around it, inside and out, thus supplying it validity of the plaintiffs patent has been eswith plenty of oxygen, consequently there is tablished at a Court of Law, which has not no part of the flame blue, but all is a bright yet been done.

this matter from the manner in which they flocked around the instrument at the Fair.

Patent Suits.

This month seems to be rife with patent suits. The Case of Blanchard vs. Kimball ed in building Fire Engines, that we have no invention.

so is steam from the water chamber, and these whisk out the fire in less than no time. We can assure our friends, who have stock investfears of their shares falling on account of this

New Dam at Hadley Falls.

This great work is nearly completed, as we learn from the Springfield Republican. We hope that it will stand the shock of the Connecticut, and brave for many years its angry waters, and that its fate may be more glorious than the last one.

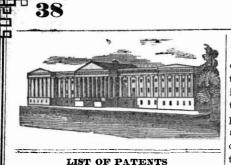
ces, then the acid falls on the sugar and po- died. Something should be done, and that tassa, the brick burns, gases are evolved, and quickly, by the State Legislature, for the pre vention of such scenes in future.

Centre of Gyration.

We have received a communication on the "Centre of Gyration," which is unavoidably delayed for a week or two, from the number of long communications which we have received before it came to hand.

A Hard Lot.

A Scotch gentleman recently sold 700 shares of the United States Bank, at \$2,50 per share the same having been purchased at \$127 cash in 1836. His loss was \$68,550, besides eigh years interest.



ISSUED FROM THE UNITED STATES PATENT OFFICE.

For the week ending October 9, 1849.

To Calvin Doane, of Wareham, Mass., for improvement in portable Ovens. Patented Oct. 9, 1849.

To William G. Masterson, of Amesbury, Mass., for improvement in Water Wheels. Patented Oct. 9, 1849.

To Thomas Maskell, of Franklin, La., for improved Jointed Centre Board. Patented Oct. 9 1849.

To James Leffel, of Springfield, Ohio, for improvement in Cooking Stoves. Patented Oct. 9, 1849.

To Charles Wilson, of Williamsburgh, N. Y., for improvement in Hydraulic Presses for Cotton. &c. Patented Oct. 9, 1849.

To Alexander Hall, of Loydsville, Ohio, for improvement in Churns. Patented Oct. 9, 1849.

To Charles G. Sargent, of Lowell, Mass., for improvement in Burring Cylinders. Patented Oct. 9, 1849.

To L. R. Livingston, J. J. Roggen & Calvin Adams, of Pittsburgh, Pa., and Amos Kendall and Alfred Vail, of Washington, D. C., for improvement in Supporters for Telegraph Wires. Patented Oct. 9, 1849.

To Edward Bancroft, of Philadelphia, Pa., for improvement in hanging Shafts in Mills Patented Oct. 9, 1849.

To Jacob Pritchett, of Philadelphia, Pa., for improvement in Ore Washers. Patented Oct. 9, 1849.

To Henry W. Hewet, of New York, N. Y., for improvements in Reciprocating Propellers. Patented Oct. 9, 1849.

To William Tabele, of New York, N.Y., for improvement in the manufacture of Band Boxes. Patented Oct. 9, 1849.

To William Clarke, of Dayton, Ohio, for improvement in Bed-plates for Paper Engines. Patented Oct. 9, 1849.

To Samuel Campbell of New York Mills, N. Y., for improvement in Lapping Machines. Patented Oct. 9, 1849.

DESIGNS.

To A. Cox & Co., (Assignees of Geo. W. Chambers,) of Troy, N. Y., for Design for Stoves. Patented Oct. 9, 1849.

To A. Cox & Co., (Assignees of Geo. W. Chambers,) of Troy, N. Y., for Design for Stoves. Patented Oct. 9, 1849.

To J. H. Burton, of Cincinnati, Ohio, for Design for Stoves. Patented Oct. 9, 1849.

To Sherman S. Jewett & F. H. Root, of Buffalo, N. Y., for Design for Stoves. Patented Oct. 9, 1849.

To William Savery, of New York, N. Y., for Design for Stoves. Patented Oct. 9, 1849.

To J. Cross & Son, of Morrisville, N. Y., (Assignces of Samuel W. Gibbs, of Albany, N. Y.,) for Design for Stoves. Patented Oct. 9, 1849.

RE-ISSUES.

To Erastus B. Bigelow, of Clintonville. Mass., for improvement in Power Looms for Weaving Plaids, &c. Patented April 10, 1845. Re-issued Oct. 9, 1949.

Scientific American.

Trial by Jury in Patent Cases .-- No. 5. We promised in our last number to give our own views respecting the action of some of the United States, Circuit Courts in granting injunctions for alledged infringement of Patents, and we will now proceed to fulfil our promise. In our last number we quoted an article from the Charleston Mercury, citing case upon case to prove that the practice of the English Supreme Court was different from the decisions made by Judge Wayne, in South Carolina, and Judge Kane in Pennsylvania, and the reverse of the opinions set forth by Ex-Governor Seward, that is, "in the court granting an injunction, and assessing damages for plaintiffs, without a trial by jury, when the validity of the plaintiff's patent is ques tioned, and infringement denied."

The author of the articles in the Charleston Mercury is right, and he is wrong. The opinions and cases which he cites, do not give a clear view of the case, because they go to prove that it is not the custom of the Court of Chancery, in England, to grant any kind of injunction, in any case, upon application made for the same, whereas it is the custom, as we shall prove, in certain cases, viz., where the patentee's title had before been established at law (by jury) or when in long possession of the patent. In the case before Judge Wayne, in Charleston, the patent of the plaintiff had already been established at law, and there was exclusive possession for some duration. See Curtis, sections 324-5, and Carpmael on the Law of Patents, page 112. The Court of Chancery, in England, is the place where injunctions are granted, and Lord Eldon said, "The principle upon which the Court acts in cases of application for injunctions, is as follows :- where a patent has been granted and exclusive possession of some duration under it, the Court will interpose its injunction without putting the party previously to establish the validity of his patent by an action at law. But where a patent is but of yesterday, and an application made for an injunction, and there is opposition made to the goodness of the specification, or otherwise, the Court will not grant an injunction, but send the patentee to a court of law to establish the validity of his patent. (Curtis, sec. 324, and Carp. R., vol. 1, page 374; Webster's Digest, case 65.) It is the common custom in the Courts of Equity, in England, to grant no injunction, before the patent has been proven valid at a court of law. No Judge of our Federal Courts would be acting according to the spirit of equity, were he to grant an injunction for an alleged infringement of a patent, if the said patent had ne ver been tested, as to its validity at a court of law. But neither the case in Charleston, nor the one in Philadelphia, Wilson vs. Barnum, were at all like any others that ever happened in England, and should not happen here.

We will now undertake to point out the new ground upon which we stand.

The complainants in the cases referred to, were the owners of a twice extended patent on a machine for planing boards. The defendants, in both cases, also owned patents for machines for planing boards. Before the trial in Charleston, in more than one case the owners of the Woodworth patent, (plaintiffs in that case) had obtained judgment that the machine for which Gay secured a patent was an infringement of the Woodworth patent. Now is it right that a man, who is proven to be an infringer by an intelligent jury in one place, to go and set up the same machine in another place, and demand by law a second jury trial ployed in manufactures that the place would

feres with the first-is an infringement-it tomers; for they will always go, in the greatproper way to settle such things, viz., the conflicting claims of patentees. But is this commonly done? No. Any other course pur-

sued by the Circuit Courts we hold to be ille.

gal. Let us quote the law, to prove our point : Sec. 16, (Patent Laws.) " And be it further enacted, That whenever there shall be two interfering patents, or whenever a patent or application shall have been refused on an adverse desision of a board of examiners, on the ground that that patent applied for would interfere with an unexpired patent previously granted, any person interested in any such patent, either by assignment or otherwise in the one case and any such applicant in the other case, may have remedy by bill in equity; and the court having cognizance thereof, on notice to adverse parties, and other due proceedings had, may adjudge and declare either the patents void in the whole or part, or inoperative and invalid in any particular part or portion of the United States, according to the interest which the parties to such suit may possess in the patent or the inventions patented, and may also adjudge that such applicant is entitled, according to the principles and provisions of this act, to have and receive a patent for his invention, as specified in his claim, or for any part thereof, as the fact of priority of right or invention shall, in any such case, be "made to appear. And such adjudication, if it be in favor of the right of such applicant, shall authorize the Commissioner to issue such patent on his filing a copy of the adjudication, and otherwise complying with the requisitions of this act. Provided, however, That no such judgment or adjudication shall affect the rights of any person except the parties to the action, and those deriving title from or under them subsequent to the rendition of such judgment."

We candidly admit that the one half of this section is very opaque,—it is a badly constructed law, and should be revised; but there is enough in it to bear us out in the position we have assumed. It plainly says, by a bill at equity, notice to adverse parties, and other due proceedings had, the Court may declare either the patents void in the whole or in part. Now is this not plain—is there not enough in this to prove Judge Kane's decision wrong, and other decisions also ? It surely does. Our remedy for such evils is to brush up this neglected section of the Patent Laws.

[Remainder next week.]

Atlanta, Ga.

We have received from our friends in this thriving place, the report of a committee upon its manufacturing advantages, which seem not to be inferior to those possessed in any other place throughout the South. We would especially call the attention of capitalists, carpenters, machinists, mill-wrights, cabinet makers, and men of all the different mechanical branches, to some of the statements presented by the committee. The first one of these advantages is the central position that Atlanta occupies and the direct communication with the great emporiums of New York, St. Louis, New Orleans, Mobile, Savannah and Charleston, and all the intermediate towns and cities, it not being more than four days run to the farthest of them. A second advantage that Atlanta has as a site for manufactures, is that it is now the intersecting point of three railroads, and a fourth will soon be completed; and if only one-fourth of the capital was em-

should be declared null and void. This is the est numbers, to the point where the greatest variety can be had.

> The committee also represent the city of Atlanta as being pre-eminently healthy, with excellent water, and scarcely a swamp marsh or pond for several miles around. They advocate the advantages of erecting steam mills as the fuel for generating steam is abundant and cheap for miles around, and can be easily transported over the different railroads, that concentrate at this place. We rejoice to see our Southern brethren awaking to the importance of stimulating manufacturing and mechanical enterprize to come among them. There is no good reason why the North should be so much in advance of the South, in the great manufacturing interests. The field is open for larger operations in every branch of the arts, and the interests of the South and West demand that their resources should be developed.

That Fossil Ape.

The last Scientic American makes the following strange editorial announcement:

"A fossil ape is said to have been found lately in the upper tertiary stratum at Montpelier, Vt. This is an interesting fact, taken in connection with the fossil elephant discoverəd by Prof. Agassiz, in New England."

This is the first word that we who have always lived here on the ground ever heard of such an affair. We may have living apes among us, perhaps-such as have been imported from the cities-but no fossil ones. There was never any thing indigenous of the ape kind in Vermont, either man or brute, to become fossil. Where did the editor pick up this queer piece of information ?- [Vt. Green Mountain Freeman.

"We expect he meant to 'come' a joke on the Montpelier boys-or, perhaps, get up a take off 'on priest Thompson's fish and Agassiz's elephant."-[Vermont Family Gazette. [The Editor of the Green Mountain Freeman is not so green as he pretends to be on the subject. He knows well enough that Vermont is the most wonderful State in the Union. Was it not there where Capt. Thunderbolt lived and died with his sham leg and all that? And does he not know that the Green Mountains, as geologists say, were away over by Africa, or some such place, with monkeys and apes running helter skelter up and down the great big cocoa nut trees, in

" Those days of lang syne, When geese were swine, And pigeons chewed tobacco ?"

To be sure he does ; so he need not be quizzing us. Did not Josiah Priest prove that Orange County, N. Y., was once the Garden of Eden, from an old stump that was found there? Surely he does. Well, then, he need not be a bit surprised because he did not see the fossil ape, for we are not, and we han't seen it, neither.

Taxation for Free Schools.

The people of Indiana have declared in favor of taxation for the benefit of Common Schools. The amount of tax is to be ten cents on each hundred dollars' worth of real and personal property. The property of the State being \$140,000,000, the tax will be, next year, \$140,000. In adition to this arethe profits of the bank stock; the surplus revennes, and Saline funds; and three dollars on every policy of insurance on property within the State, by companies not chartered by the State. The ources will yield about \$200,000, which ad-

