Scientific American

NEW-YORK, MAY 28, 1853.

Encouragement to New Inventions.

Among many of our monied business men, and too frequently among officers of Railroad Companies, there is a want of information in regard to many valuable improvements and inventions, which might be adopted by them to advantage, and perhaps equally as much to the advantage of others. It is a duty which Railroad Companies owe to our community to adopt such means as shall insure safety and convenience, as well as speed and profit. They should seek for those inventions which tend to avert danger and enable them to carry out their plans for the safe conducting of trains of cars to the best advantage—a neglect to do so is a crime, and should be regarded as such by the community. By many officers of railroads, a disposition to treat inventors and inventions with perfect indifference, is notorious. Presidents and Directors on some of our railroads will hardly pause to notice an improvement of any kind.

We have been told of an incident which may be properly related in this connection:—A friend called upon the President of one of the Eastern Railroads, with the model of an invention of his own, connected with one of the most important departments of railroad management. The President was absent, but the chief clerk very politely volunteered the information that, if present, he would have no time to look at models of any kind. With Yankee perseverence, however, the model was again brought, and the clerk's information proving but too true, it was taken away again. The President and his friends learning, however, that the inventor was a man of some influence, changed the usual routine of proceeding, by sending an apology for neglect, and a request that he should again submit his model for examination. This being done, all the parties who examined it were led to express their approbation of the improvement suggested. But the act speaks—it tells us that inventions or improvements, however valuable to the community, receive no notice from these officials, unless they are presented by some of the lords of the soil—some of the monied few. The poor inventor, however meritorious, however ingenious his contrivance for insuring safety or convenience to those who are travelling with such rapid speed—is repulsed without even a passing notice. When large dividends are the cherished aim of Railroad Companies, and officers are appointed whose sole object appears to be to carry out these ends, it can hardly be supposed that new suggestions or new improvements, which have safety or convenience for their object, without a special regard to profit, could meet with a very courteous reception. These are generally the men who suppose that few additional improvements in railroad engineering will ever be made; from such, inventors can expect little encouragement, and they should not look for it from that source.

The idea is prevalent in many places that inventors are but speculators, and perhaps the President above referred to has imbibed the same sentiment, if so he should be apprised that this is not the case. 'Tis true, worthless inventions sometimes fall into the hands of speculators who care little for them but to make the most from their purchase; but inventors, as a class of men, are benevolent, honest-hearted men,—men who feel grateful for a kind reception, and who appreciate a benevolent act from those who have the ability and the spirit to test their improvements, and encourage those that are worthy of encouragement. These apparent improvements may be encouraged in a variety of ways, and frequently at a very trifling expense. It is not unfrequently the case that an important improvement may be tested in a short time by the aid of an engine or car that has been laid aside for ordinary use. Railroad Companies often have the means at hand to render assistance in this manner, which might ultimately benefit themselves as well as the world at large. Experience proves that mechanical and scientific discoveries benefit all—they are a blessing to the poor as well as to the rich.

The Impertinence and Ingratitude of Scribblers.

Centrifugal Force and Horace Greeley.—Ingratitude is a vile sin, but alas, it is a very prevalent one. Our constant readers will remember that we published engravings of the static pressure—centrifugal force engine on page 339, Vol. 6, Scientific American. The description of this engine was presented in the name of Stephen Pearl Andrews, who, to his own satisfaction, proved that there was a wonderful principle in the said engine, whereby a force was obtained which came from nothing, cost nothing, and increased by the square as the velocity of the machine was doubled. A certificate from a professor of mathematics accompanied such description, as a mark of high authority we suppose, like a scarlet feather stuck in the nose of an Indian Princess. We exposed the fallacy of the whole scheme, on page 341 said volume, but philosopher Andrews, not content with our expose of the ignorance of its advocates, must needs reply to our strictures; this we allowed him to do on page 363, said volume, and only allowed ourselves one column to reply to his three. He made matters still worse, and exhibited the most profound ignorance of calculating the dynamic power of machines. Not yet content because we did not allow him more room in our columns, he went and found plenty of room in the "N.Y.Tribune," to publish all of his own remarks that had appeared in the Scientific American, and many incorrect gratuitous assertions beside. At that time for at least three months, we think, two papers in this city contained two and three columns of falsehoods and personal abuse of us every week, all of which we heeded not, as we have an abiding faith that right and honesty will always triumph at last, and iniquity meet its just reward. Two years have passed away since then; one of the said papers, although of seven years' standing, has been laid in its coffin, the other has been sold to a new proprietor and is in a very sickly condition. The "Tribune" of the 17th inst. contains an expression of gratitude from Stephen Pearl Andrews, which must be very consoling for the abuse which Mr. Greeley allowed that gentleman to shower upon us through his paper.

A discussion on *Love, Marriage*, and *Divorce*, was held in the "Tribune" between Henry James (an able writer,) Horace Greeley, and Stephen Pearl Andrews, and because Mr. Greeley acted towards him as we did, with respect to the use of the "Tribune's" columns, he has published the whole discussion in a pamphlet, with his own additions, and in his preface says:—

"Horace Greeley is not a philosopher—the farthest from it in the world———he has no grasp———never sees down into the centre of things———has no logical mind———Mr. Greeley is a bigot———Mr. Greeley is unfair, tricky, and mean———he is practically dishonest in an eminent degree," &c., &c.

Horace Greeley says about him:—

"Our only reply to all this is very fairly exhibited in his writings, and especially in this pamphlet. The clear-sighted reader will find him clever, acute, dialectically agile and logically sharp, and, so far as he reasons from his understanding rather than his baser appetites, well worth perusing and heeding.—This pamphlet does much credit to his intellect, but at the expense of his moral nature."

It would be out of place in us to make any comments on the qualifications of Horace Greely as an editor; they could not at least be disparaging respecting his ability, but he is evidently no judge of what constitutes *a logician*, when he considers Mr. Andrews a sharp one; his articles on the static pressure engine—that great *humbug* of which he was an advocate—ought to convince Mr. Greeley of this. The "Tribune" contained a great many articles on the new centrifugal force, by which some persons, we think, were led to take stock in the Static Pressure Association. Many of our daily papers, and we blame the "Tribune" greatly for this, flatter new projects, like the static pressure engine, the Paine Light, Hot Air Power, and other *humbugs*, by which means many of our people are thereby deceived.

The "Centrifugal Force" philosophers built one engine, which exhibited so much power, coming from nothing and costing nothing, that it has not been heard from since. Probably Mr. Greeley considers that the proprietor of such a wonderful machine must be "acute and agile."

Railroads in Cities.

In many places there seems to be a strong prejudice against having railroads pass through streets. We do not wonder why such a feeling should exist when steam power is employed to draw the cars, but we think such a prejudice is exceedingly unreasonable against having tracks laid in streets when the drawing power is the same as that which is used to draw numerous lines of omnibuses. The objections which can be urged against locomotives running in streets are many; such as the smoke of the wood employed for fuel; the blast, and the general speed at which they have been and are now run in all those cities through which railroads are laid. Locomomotive power would certainly never do for New York City unless through a perfectly secluded street for that purpose, and in such a case who could or should find fault?

We have never seen a good argument advanced against railway tracks in cities, yet when the Common Council of Williamsburgh—a young city adjacent to New York—granted the privelege to a company of laying down a track in that place, they were compelled to recede from their position by a universal indignation meeting of the citizens.—It would not indeed be just to run a railroad through a street against the wish of all the owners of property in that street, but the owners of property may be wrong in their opposition, and if they are, it is the duty of those who think so to try and convince them of their error, rather than cram an improvement down their throats. Let us present a few arguments in favor of railroads in cities on which the cars are drawn by horses.

1st. Railroad cars are certainly handsomer than omnibuses, they can at least be made so, and therefore they present a better appearance in going through a street.

2nd. The track is straight, and no fears need be entertained by a pedestrian crossing the street that they will swerve from their path, like an omnibus; they go straight on and neither turn to the right hand nor to the left, so that there is no danger but in crossing the rails, whereas the danger from omnibuses is manifest over the whole breadth of the street.

3rd. Railroad cars make less noise than omnibuses, and thereby are much preferable either for streets full of shops, or those composed of private residences.

4th. One horse on a railroad can draw as much as three on the best pavements, and thus as a certain saving to any city, the rails have greatly the advantage in avoiding the expense of tear and wear of pavements, and outlay for animal feed. This saving is effected by obviating the great resistance and friction of pavements by the substitution of rails. Where this can be done and is not, a preference being in favor of clumsy omnibuses, a person is forcibly reminded of those dark times when people went to mill with a stone in one end of the bag to balance the grain in the other, to help the poor animal that carried the bag. The arguments we have presented in favor of railroads in cities as substitutes for omnibuses running over pavements, we think are incontrovertible, we know the last one is. Instead of injuring the value of property, a good city railroad running through a street should raise its value, especially if the rails are substituted for one or two lines of omnibuses.

Speed of the Norwalk Train.

In the first despatches sent to this city respecting the speed of the train which ran into the draw at Norwalk, and by which so many of our fellow beings lost their lives, it was stated that the locomotive passed over the gap, which is 60 feet wide, and struck the abutment a short distance only, below the horizontal line. Since that time the locomotive has been raised and it had never struck the abutment at all, consequently it did not leap over the gap. A question has arisen, then, as to the speed of the train, as some said it was going 40, others 25, and others only 15 miles per hour. It is difficult to tell at what rate it was going, but if it had been running at the rate of 47·15+ miles per hour it would have struck the middle abutment 16 feet below its top. Bodies fall by the attraction of gravity at the rate of 16 feet the first second, and a train running at the rate of 47·15+ miles per hour, has a velocity of 60 feet per second, which is the width of the draw. As the abutment is stated to be about 40 feet high, and as the engine did not strike it, the probability is, that the train was running at the rate of about 20 miles per hour.

Pennsylvania Polytechnic College.

A new college has been incorporated by the Legislature of Pennsylvania, whose objects meet with our hearty approbation, and we hope and trust that it may soon be firmly established. It is designed to teach mathematics and civil engineering; mechanical philosophy and the principles of machines; metallurgy, and every branch of chemistry, together with mining, engineering, mineralogy and geology. The Trustees of this Institution have not asked for State aid to establish and support it, they rely upon the generous assistance of the people of Pennsylvania in particular, and if they do not come to its aid they will be recreant to their own interests. The State of Pennsylvania is rich in mines and minerals, and a thorough knowledge of all that relates to subjects connected with engineering, minerals, and chemistry, should be taught her youth.

It is expected that the college will open in the month of September next with a full faculty; a well supplied analyical laboratory, sections and models of mines and machinery, a geological and mineralogical cabinet, field operations, and architectural and mechanical drawing, to afford ample facilities for thorough and practical instruction. Students will be enabled to pursue one or more studies for a year, term, or less period, and after examination, will be granted certificates of capacity accordingly. Candidates for Degrees will be examined on all the branches, but may pursue the studies a longer or shorter time, according to industry and ability.

Particular information about fees, &c., may be obtained by young men who would desire to attend said college, or by fathers who may desire to send their sons there, by communications addressed to John McIntyre, Esq., Walnut street, above Sixth, Philadelphia.

Commissioner of Patents.

The Hon. Chas. Mason has entered upon his duties as Commissioner of Patents, and we hope he will adopt the earliest possible measures to facilitate the examination of applications which have largely accumulated in the Office within the past year. Inventors, as a general thing, cannot afford to remain so long deprived of protection or of a decision respecting the novelty of their inventions. Theirs as well as the interests of the public, demand a larger examining force: no completed application ought to remain in the Office over two months. From what we can learn of Mr. Mason, we believe he possesses peculiar fitness for an office of such magnitude, and confidently predict for him a faithful, liberal, and comprehensive administration.

Non-Protecting Lightning Rods.

The house of Nathan Frye, at Salem, was struck by lightning on the 30th April, and much injured. What is remarkable about this case is the fact that it was supposed this house was thoroughly protected by two large rods, very properly put up and tipped with gold.—[Exchange.

[We have been informed that these large rods terminated in charcoal, and ran up part of the way, after being carried down some distance. They were, therefore, not correctly arranged. Lightning rods should always terminate in moist ground, a well, or cistern.

Jesse Hutchinson, of the Hutchinson Family of Singers, died at Cincinnati last week, at a Water Cure establishment in that city. He was on his way home from California, where he had been sick for a long time.

It is stated that a proposition for the annexation of the Sandwich Islands, is now before the administration at Washington.

Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING MAY 17, 1853

PENDULUM LEVELS—By T. A. Chandler, of Rockford, Ill.: I claim the method of supporting the angular journals of the arch of a pendulum indicator in turning and self-adjusting bearings, of similar form to the angular journals, as set forth.

VIOLINS—By Moses Coburn, of Savannah, Ga.: I claim the apertures in the sides, instead of in the top, and for producing the effect set forth.

VERTICAL PIANOS—By Edwin Fobes, of Boston, Mass.: I claim the arrangement of the straining pins, with their axes, vertical, or nearly so, and parallel, or nearly so, to the general plane of the strings, and to stand above the iron frame, as set forth, the string of each hitch pin having guide rollers applied to it, as set forth, my improvement enabling me to obtain sundry important advantages in the construction and tuning the piccolo pianoforte.

I also claim extending the sounding-board upwards, above the bridge, and in rear of the bridge plate in the treble, and so as to be capable of vibrating, in rear and above said bridge plate, as set forth.

UMBRELLAS AND PARASOLS—By Samuel Fox, of Sheffield, Eng. Patented in England, April 6, 1852: I do not claim the bending or corrugating a metallic plate, or bar, for the purpose of imparting strength thereto. But I claim making umbrellas and parasols with ribs and stretchers of plate steel, bent in the trough-like shape, as specified, in combination with eyes and connections, applied essentially as described, whereby they are rendered comparatively much lighter than, and still posse-s all the requisite strength of those made with solid or round rods of metal, in the ordinary way, and at the same time the formation of the eyes and connections is facilitated.

SOFA BEDSTEADS—By L. L. Gilliland & J. R. Wagoner, of Dayton, Ohio: I claim the hinged front board, so arranged that by the turning over the seat, to convert the apparatus from a sofa into a bed, the front board shall turn down to prevent it from forming a hard ridge, under the sacking, which would be uncomfortable to lie on, and when the seat is turned back again, to re-convert the bed into a sofa, the front board shall be lifted up again by the act of turning the seat back into the proper position to support the sacking of the seat.

Also, the arrangement of the head and foot boards so that the act of shutting up the bed will depress them, and opening it out will elevate them again, as set forth.

The arrangement of the turning seat of the sofa, and the sackings of the bed and seat, in such a manner that, by the turning of the seat to form the bed, the sacking of the latter shall be stretched, and by the turning up again of the seat, to reform the sofa, the sacking of the latter shall be stretched, as set forth.

CALENDAR CLOCKS—By J. H. H. Hawes, of Ithaca, N. Y.: I claim causing a calendar clock to supply its own changes, for the irregularities in the length of the month, and showing on its dials the exact and no fractional parts of a day, week, or month, by means of the combination of the wheels, having thirty-one divisions, both of which run together, and independently of each other, at intervals, on the same arbor, and the lifting pieces for supplying the necessary changes in the length of the months, the whole being operated by the hook piece, as described.

Also, in combinalion, the wheel of seven parts, working, spring-tight, with the wheel and the catch piece, so that the two wheels may move together and independently of each other, for the purpose of allowing the day of the month indicator to run, during the time that the change is taking place from the end of a short month, to the beginning of the next month, while the day of the week indicator passes from one day to another, in regular succession, as described.

COOKING STOVES—By Matthaus Helm, of Cincinnati, Ohio: I claim the open bottomed space or chamber, behind the fire encircled at the sides and top, by flue, and closed at the ends, by shifting or movable doors, as described, constituting an accessible and well ventilated arrangement for roasting purposes.

CUTTING WOODEN SCREWS—By A H. Longley, of Lebanon, Ind.: I claim giving an equal progressive to the cutting tools, in combination with a differential rotary motion, for the purpose of cutting the screws at the same time the hole is bored or the tenon is made as set forth.

UPHOLSTERING FURNITURE—By Frederick Mathesius, of New York City: I claim covering the seats or other parts of upholstered furniture, or other articles and things, by means and with the aid of elastic ligaments or springs attached to the edges of the covering, and to the framework of the article covered, in such manner that the outer or fancy covering, however much used or pressed down, upon being relieved from such pressure, will resume and retain an even and smooth surface, using for that purpose india rubber, springs, or any other elastic material, which will produce the desired or intended effect.

SEEDING HOES—By J. A. Pease, of New York City: I claim the combination and arrangement of a double bladed hoe, with seed box and drop, as described, for the purpose of planting separate kernels of corn at equal distances apart.

POCKET COMBS—By Wm. J. Thorn, of Westbrook, Me.: I claim the manufacture of pocket combs, with semicircular joints in combination with strips overlapping them, as set forth.

CASTORS FOR FURNITURE—By Wm. W. Wade, of Springfield, Mass.: I claim the arrangement of the right-hand screw on the spindle, in combination with or respect to the arrangement of the left-hand screw, into the socket of the socket piece, and to the bearing surfaces of the said parts, whereby the spindle is not only preserved in the socket piece, by the two screws, but allowed freely to rotate, when its bearihg surface is in contact with the bearing surface of the socket, as described.

GRADUATED CUTTERS FOR CLOTH AND OTHER SUBSTANCES—By H. D. Walcott, of Boston, Mass.: I claim, in its connection with the cutting knife, the improvement of making the bed to move or rotate transversely, in combination with the surface of it, which acts in conjunction with the knife, of variable length or lengths, in order, by moving or turning the bed around under the knife, different lengths of cut may be produced, as set forth.

Also, the improvement of combining with the knife and tubular cutter, and a rotary shaft or cylinder, placed under them, the two triangular or trapezoidal beds or surfaces, arranged on the shaft or cylinder, as described, whereby a cut or button may be made of any desirable length either with or without a hole at one end, as stated.

CLEANSING AND COOLING BLOCK DIES IN RIVET MACHINES—By D. L. Weatherhead, of Philadelphia, Pa.: I claim is clearing cinders, scales and other obstructions, from a socket die, made in a solid block, for the purpose of heading rivets, by forcing in at the closed end of the die, a stream of water, that washes out the cinders, &c., every time a rivet is discharged; the inner end of the socket of the die being closed so that the pressure of the head of water, is rendered available, for forcing obstructions out of the die, as set forth.

LIME KILNS—By S. J. Seely, of New York City: I claim the process described of calcining limestone in a kiln, by the aid of furnaces and an artificial draught of air, through the furnaces and the kiln, maintained by a mechanical blower.

I also claim the combination of a suction blower at the top of the kiln, and a forcing blower at the bottom thereof, as set forth.

Also, the method of regulating the production of steam, to generate the power for the engine, in proportion to the duty required of it, by setting the steam blower in the same furnace that supplies the heat, for calcining the limestone, as described.

TRACK CLEARERS TO HARVESTERS—By Wm. F. Ketchum (assignor to R. L. Howard), of Buffalo, N. Y.: I claim the scraper or raking board, constructed as described, and combined with the rake piece at an angle less than a right a rigle, as set forth.

CORRUGATED PLATES FOR STEAM BOILERS, &c By Richard Montgomery (assignor to Elizabeth Montgomery), of New York City: I claim the corrugated metal plate, as described, with flat margins of greater thickness than its middle.

AIR ENGINES—By J. A. Woodbury, of Winchester, Mass., Joshua Merrill, of Boston, Mass., & Geo. Patten, of Charlestown, Mass.: We claim the mode specified of using air as a motive power, said mode consisting in the employment of a receiver, in which is to be highly compressed, heated, and maintained at or about a uniform pressure, a suitable working cylinder and piston with the ordinary appendages, an air pump, or pumps, worked by the ordinary appendages, an air pump, or pumps, worked by the engine for supplying the receiver, when the same are connected or combined with suitable devices, as set forth, for cutting off and working the air expansively, and according to the degree of compression of the air, as set forth.

We also claim, in combination with such an engine, the device for regulating the pressure of the air in the receiver, and economizing the power of the engine, said device consisting of the weighted bar, entering the receiver through a stuffing box, and connected, at its opposite end, with the stop cocks attached to the chambers of the air pumps, as described, intending to use any known means for accomplishing the two-fold purpose of regulating the pressure of air in the receiver, and opening the pump chambers ta the atmosphere so that the pump shall be relieved from unnecessary labor.

SEED PLANTERS—By Wm. Cressler, of Shippensburg, Pa.: I claim, in combination with the adjustable tubes, the seeding wheel, with its flange and partition, for adjusting, receiving, and carrying the grain and other material to be sown with it, around the opening, whence it is conveyed to the ground.

Events of the Week.

"WHAT IS DOING TO THE ERICSSON.—This fine ship lays at her dock foot of North Eighth st., Williamsburgh, preparing to undergo extensive alterations and improvements in her machinery. A temporary shed has been constructed near her dock, wherein to stow her machinery, most of which is to be taken out, in order to facilitate the improvements. In removing the machinery it will be necessary to displace a portion of her deck.—Workmen were yesterday engaged in taking out the ashes and brick from her furnaces, &c. To-day it is expected this job will be completed, when the work of removing the machinery will be prosecuted with earnestness. Several months yet must necessarily elapse before she will be ready for her destined voyage to Europe."

This extract is taken from the New York Daily Times of the 18th inst. When we have presented any information respecting new repairs or alterations making in the hot air ship, we have quoted the same from some paper (like the above) which had previously proclaimed *the complete* success of the Ericsson. It is not that we are not as well, or even better informed about what is going on in the Ericsson, than any paper in our city, that we make extracts like the above from our daily papers, but because we wish to corroborate all we have said about the failure of this ship, by giving the testimony of such journals as most lauded the new power at first, and who made bold to assert that "the days of steam were ended."

We cannot tell what may be affected by alterations of which we know nothing; we have spoken about what we know has taken place. Nothing would have given us greater pleasure than to have been able to say, "hot air is superior to steam power," as we welcome every *improvement*. We have received a number of letters from various places, in which Prof. Rainy has lectured on the Ericsson, informing us that on every occasion he took the liberty to misrepresent us. We keep a record of his sayings and bide the proper time to use them. We cannot believe that the gentlemen connected with the Ericsson have anything to do with his *itinerancy*, and they are therefore not responsible for his statements.

TO PREVENT INCRUSTATIONS IN BOILERS.—To persons having the care of steam engines the following from the "Lawrenceburg Register," may be valuable:—"Mr. Ira Hill has informed us that he has accidentally made a valuable discovery, by which the deposition of lime upon steam boilers may be obviated. Two or three shovels of saw-dust are thrown into the boiler; after which process he states he never had any difficulty from lime, although using water strongly impregnated with it. He has always found the inside of his boiler as smooth as if just oiled. Whether the lime attaches itself to the floating particles of saw-dust, instead of the boiler, or whether the tanic acid in the oak saw-dust forms a salt with the lime, which will not attach itself to iron, remains to be explained. The saw-dust was placed in the boiler for the purpose of stopping a leak. The experiment is cheap and easily tried.

[Saw-dust is not a new discovery for the prevention of incrustations in steam boilers.—In 1846 a patent was obtained for the use of mahogany saw dust to prevent incrustations in boilers; exhausted tan bark and dye woods have also been used for the same purpose.—Blocks and chips of oak wood have also been used, and our constant readers are perfectly familiar with these facts, as *saw-dust* is described on page 397, Vol. 3, Scientific American, as being applied for this purpose. If Mr. Hill will refer to said page he will find this mentioned, but the discovery may be new to him.

A NEW PROPELLER.—A beautiful propeller named the Vequero, has been built in this city for the coast trade of Cuba. The hull was built and modelled by George Steers, the designer of the yacht America. It is of unsurpassed symmetry and beauty. Her total length is 151 feet; depth of hold 10 feet; breadth of beam, 24 feet 4 inches; and is driven by a pair of oscillating engines; cylinders, 26 inches diameter; length of stroke, 28 inches; diameter of propeller, 8 feet; pitch, 10 and 11 feet; geared, 2½ to 1; draft, 9 feet consumption of fuel, 5 tons per twenty-four hours; burthen, 340 tons, carpenter's measurement. The engines, by S. H. and E. Farron are of great efficiency and perfection.

This vessel on her trial trip last week, made 16 miles per hour with her sails set.

Cincinnati Steam Fire Engine.

The annexed letter is from the inventor of the Cincinnati Steam Fire Engine, to Charles Cist, Esq., of "Cist's Advertiser," who has kindly furnished us with the original copy, which will interest our readers, as all rejoice in the progress of invention, and welcome every one that is new and useful:

"About twelve years ago I commenced making improvements in steam generators, and in the experiments have made various advancements towards a safe and speedy, as well as an economical mode of generating steam. These efforts have at last been embodied, with most of the improvements made in the time above stated, in the construction of a steam generator which was tried and crowned with entire success. I made the first one practically tested, with my own hands, in the establishment of Miles Greenwood, Esq., having obtained from him the use of a smith's forge and materials; I proceeded to work, and in a short time finished the generator; it was then put in connection with a six inch diameter steam cylinder, two feet stroke, and an old pump of a condemned fire engine belonging to the city; the whole thus thrown together, and by the assistance of Mr. Bray, the City Fire Engineer, and A. B. Lattu, was mounted on a wooden frame on wheels. A day was set for the trial, which was made in presence of many members of the City Council and citizens, numbering probably three thousand.

It was universally agreed, that from the time the fire was lighted until the steam was made from cold water, and the engine and pump at work lifting water from the cistern and pushing it through three hundred and fifty feet of hose, projecting over one hundred feet, from an inch nozzle, to where it struck the ground, occupied just five minutes. This trial was made on the 2nd of March, 1852.

On the first day of January, 1853, the firm of Lattu, Shawk & Co. had completed the steam fire engine now in the use of the city; and on the same day the trial was made, and was reported by the committee that 'in five minutes after the application of the match, there was steam sufficient to work the "doctor," which supplies the boilers with water; in ten, the engines were working finely, and in fifteen minutes the apparatus was at the cistern, by the intersection of Broadway an Second street. In four minutes more, making in all nineteen minutes, from firing and starting the, attachments were all made, and the apparatus lifting through two suctions, and throwing two handsome streams through inch nozzles. It variously threw from one to four streams; by concentrating six streams through a 1½ inch nozzle, it threw water to the distance of 224 feet. From one to three streams were thrown in various directions from the centre of Broadway over the Broadway Hotel and other four story buildings.'

After the engine was put into the hands of the city, an opportunity offered to test its full power, and show the amount of water it could lift from a cistern and discharge from the engine in a given time.

The cellar of an engine house was by an overflow of the street filled with water, the side were twenty-two feet apart in the clear, and the rear and front walls were seventy-two feet in the clear. The water line was marked when the engine was set to work and the time taken; in the space of one hour and ten minutes the water was lowered five feet, showing that twenty-six barrels were discharged per minute during the time of working.

At a recent fire on sycamore street the engine went eight squares, dropped the suctions, into the cistern, attached, and laid out six lines of hose six hundred feet each supplying at that distance, four hand engines, and throwing two streams on the fire, the time consumed from the time the engine started, until the water was thrown upon the fire, was twelve and a half minutes.

At a trial on Ninth street the engine lifted the water from the cistern and projected it, through an inch and three quarters nozzle, to the distance of two hundred and thirty-eight feet from the nozzle, to where it fell upon the ground, not measuring the spray.

The engine has been to all the fires since it has been in the hands of the city, and at all of them, has elected the universal approbation of the citizens.

There is now no more doubt of its usefulness and practicability, for putting out fires than there is doubt about the navigation of the Mississippi river against the current, or of the Atlantic Ocean by steam vessels.

There has been much effort necessary in the introduction of this machine, it required an acquaintance by experience, in its use, which alone could be obtained by time and a number of trials at fires; difficulty of training hands to manage it well, was a great tax on the patience of the City Fire Engineer, R. G. Bray, who also had the prejudices and much of the opposition of the fire department, to overcome which could only be done by gentle means, as violent opposition or arbitrary dictation would only have created more violence on the part of those opposed; the course pursued was the right one, as the result has shown.

The whole fire department has been re-organized and put in successful operation without any serious consequences, and brings with it order and unanimity of action.

ABEL SHAWK.

Cincinnati, Ohio, May 1st, 1853."

The "Charleston Standard" thinks that Mrs. Singleton, now living in the Williamsburgh District, in that State, is the oldest woman in the world; she is now in the 131st year of her age. Her mental faculties are still unimpaired.