

Scientific American

NEW-YORK, MAY 29, 1852.

The Benefits of Patents.

It has been suggested by some of our daily papers who endeavor to make the public believe they are acquainted with all subjects, that it would be well, instead of granting patents, to have a Government Board, composed of distinguished men, to whom inventions should be referred for examination, and if found to be new and useful, the inventors of them should be paid accordingly, out of the Treasury, and the inventions made free to the public. No other plan, worth a moment's consideration, has been proposed as a substitute for the present patent system. This is evidence to those acquainted with this subject, that such persons know not what they talk about. In many cases, however, they may deceive the people by their sophistry; this is the reason why we, as a matter of duty, find it necessary to combat, and allude to such ideas, more often than we otherwise would.

As a measure of common justice, every inventor who benefits community by his improvements, should receive his reward,—“the laborer is worthy of his hire.” If he be not rewarded, community acts the part of a robber and ingrate towards him, when there is no fault on his part. Well, allowing our present system of patents to be suspended, and a Government Board constituted to carry out the object of special rewards for useful inventions, how would it carry out continually the great principle of its organization? According to the manner of conducting our government politics, a very excellent and impartial Board of Examiners might be appointed when one party was in power, and then, in the course of four years, a most partial and inefficient Board might be appointed when the next party came into office. Offices are often filled by party favorites of no great qualifications, and a Board of such men might grant a large reward for a poor and miserable invention, and on the other hand, reject a most meritorious one. In this way the whole community would be taxed to pay a premium for discouraging useful inventions. And even if the Examining Board were made permanent, like our United States Judges, the members of it would be liable to fall behind the light of the age—all Government Boards do, if not frequently renovated. Our mercantile marine is in advance of our navy; and England is behind us in nautical architecture, not because she has no philosophic and scientific men at the head of her dockyards, but because improvements spring from the mass of the practical, driving people, of which there are so many in the United States.

Such a system as the one recommended instead of granting patents, would very soon be condemned by our whole people, for every one would then have to pay for a rewarded invention, whether he used it or not, and this would be all the more galling, because all would, in many cases, have to pay for rewards bestowed upon men who had done nothing to deserve them. The present system of patents, taxes no person who does not receive a benefit, for no one is required to pay for a patent if he does not use it; he can use it and pay for it, or he may let it alone, and get along the same way as he did before the improvement was invented and patented.

We are now prepared to point out the great benefits conferred upon society by patents,—we mean in the struggle for superiority with that spirit by which one man endeavors to surpass his neighbor by improvements. This spirit to excel, and to attain riches, when well and honestly directed, is certainly commendable. Let us take, for an example, two rival manufacturers engaged in the same business; one, let us suppose, is more wealthy than the other, and this gives him an advantage to purchase better machinery, and, to use a good pithy American phrase, “he goes ahead;” the other manufacturer, his rival, never knew what it was to say *fail*, and he is an inventor,—is there an American who is not? He toils hard all day, and studies much at night, and at last he quietly has a model made, and then comes a patent from Washington for James

Ridgely, manufacturer, of such-and-such a place, for making bed posts; it can turn out twice as many in the same time, and do the work much better than any machine in use. He now feels safe, and his rival looks somewhat blue; but he, too, has the true American *grit* in him—he, too, can invent. By-and-bye he makes a superior improvement to that of James Ridgely, and, in a short time, a patent is issued to John Jenkins, for an improvement in turning bed posts, which will turn out three times the quantity of Ridgely's—and now Jenkins goes ahead again. Thus it is, our improvements, fostered by the refreshing dews of our patent system, gush along like thousands of rills, fed from as many prolific plodding American brains. If the system of granting patents were to cease, the spirit of improvement would flag, and perhaps die out. It is owing to the cheap and easy mode of securing patents in the United States, in comparison with other countries, that we, as a people, have become celebrated as a nation of inventors:—McCormick's Reaper, Dick's Press, Day & Newell's unpickable Lock, Borden's Meat Biscuit, Colt's Pistols, &c., which commanded prizes, and the admiration of all men at the World's Fair,—were all the subjects of American Patents. He that is opposed to patents, however honest and sincere he may be, is, ignorantly, not a true friend to genius nor his country.

Hot Air Engines.

We have lately required some communications, making inquiries about hot-air engines, and one mentioning “Ericsson's Caloric Engine,” and asking our opinion about it. Reference is made to an article in the Boston Evening Transcript, which speaks very flatteringly upon the subject. So far as our opinion goes, we have expressed it already. It would be a great improvement indeed, if the common atmosphere were used instead of huge boilers filled with water, but why is it that large boilers are required for steam engines, and found to be more economical than small ones? Our knowledge of these things is experimental, practical, and not speculative. We cannot, by reasoning, find out what kind of fuel is best, neither can we, by sophistry, discover whether air is better than water, or water better than air for propelling machinery by heating these substances. The economy of propelling agents is determined by stern experience and careful observation. The loss of heat, by the use of steam, is but very small in the Condensing Engines of our river boats; it is greater in steamships where the salt sediment has to be blown out frequently. No Caloric Air Engine whatever can economize more fuel than Condensing Engines, unless it has a better principle of combustion. Heat, or caloric, is the great motive power sensible to us, when combined with some known substance, such as water, air, or carbonic acid gas,—and it is certainly good reasoning to say, that it requires the same amount of heat always to produce the same effect. It cannot be otherwise, or we could not obtain any correct ideas of the qualities of heat. The engine, therefore, which will economize most of the heat generated to produce a certain effect, will work with the least expense unless it has other disadvantages. The advantages claimed for the Caloric Air Engine (all steam engines are caloric engines) have yet to be substantiated. The employment of hot air to propel machinery is not new now—nor is this Engine young with Capt. Ericsson. Those newspapers that publish flaming accounts of new inventions, very often exhibit a great deal of ignorance.

The following extract from the Boston Transcript does this:

“The idea of substituting a new and superior motive power for steam will no doubt strike many minds as extravagant if not chimerical. We have been so accustomed to regard steam power as the *me plus ultra* of attainment in subjecting the modified force of nature to the service of man, that a discovery which promises to supersede this agency, will have to contend with the most formidable preconceptions as well as with gigantic interests. Nevertheless, it may now be predicted with confidence that we are on the eve of another great revolution, produced by the application of an agent more economical and incal-

culably safer than steam. A few years hence we shall hear of the ‘wonders of caloric’ instead of the ‘wonders of steam.’ To the question, ‘How did you cross the Atlantic?’ the reply will be—‘By caloric, of course!’ On Saturday I visited the manufactory, and had the privilege of inspecting Ericsson's caloric engine of sixty horse-power, while it was in operation. It consists of two pair of cylinders, the working pistons of which are 72 inches in diameter. Its great peculiarities consist in its very large cylinders and pistons, working with very low pressure; and in the absence of boilers or heaters, there being no other fires employed than those in small grates under the bottoms of the working cylinders. During the eight months that this test-engine has been in operation, not a cent has been expended for repairs or accidents.”

We must say there is nothing new in all this; In January, 1834, the “Repertory of Patent Inventions,” in London, published a review of an unpublished pamphlet, written by Mr. Ericsson, on this subject, he having, at that time, taken out a patent for his Hot Air Engine, so he has been more than sixteen years before the public. It was stated, in 1834, that Mr. Ogden, the U. S. Consul at Liverpool, was a joint inventor with him, and application was made that year to Congress for a Special Act for a patent to Ericsson & Ogden, for what reason we know not. Various substances have been brought forward from time to time, to supersede the use of steam, such as gunpowder, carbonic acid gas, &c. In 1827, R. & J. Stirling, of Glasgow, Scotland, took out patents for a “Hot Air Engine,” the principle of which had been devised by them ten years before that. A hot air engine, by R. Stirling has been employed at Dundee since 1844, and in 1846 he read a paper before the institution of Civil Engineers, England, and in answer to a question of Mr. Gordon, he said, “the economy of his engine depended upon the reiterated use of the same air giving out and absorbing the same caloric.” This is the benefit which is claimed for the Ericsson Engine. We have not heard of a single engine on Stirling's principle being used on a steamboat in Britain—this, however, is no argument against the Ericsson Engine, for many good inventions have laid dormant for some time, after having been brought once before the public.

In 1828 Messrs. Parkinson & Crossley, of London, took out a patent for improvements in “Hot Air Engines,” and Dr. Arnott, in his “Elements of Physics,” published in 1829, in treating of light and heat, presented a design for a “Hot Air Engine.” The application of hot air as a mover of machinery is, therefore, not a thing of to-day—it is twenty-five years since the Stirlings took out their first patent, and eighteen years since Ericsson took out his, and the question of comparative economy, from an impartial source, between the hot air and the steam engine, has yet to be laid before the public.

Street Sewers—Iron Pipes.

Among the many nuisances to citizens, and obstructions to travel in our streets, we must set down the construction and repairing of sewers as a class of the very worst kind. Sewers are generally very deep, and from the time the operation of digging is commenced, until a sewer is completed, the street is wholly obstructed. The time required for such operations, is so long in comparison with paving a street, that the nuisance is more aggravated on this very account. Some important remedy, we hope, will soon be suggested and carried into practice. City drainage, by underground sewers, is important to public health. Our sewers are simply brick arches, and are inferior in many respects to those which were constructed more than two thousand years ago in Rome. With a considerable back pressure of water, caused by high tides, &c., or by obstructions, our sewers are liable to burst, for they are not very strong structures. When one bursts, the water soon finds its way to the surface of the street. The repairs of sewers are very expensive, because it requires so much time to make them. One great remedy would be a preventive of sewer disruption, by making them of stronger material. For example, if large cast-iron tubes were employed instead of brick—these never would burst by

any water pressure to which our sewers are generally subjected. They could also be laid down much faster than brick arches. Their flanges have only to be coupled together in laying them down, and this can be done very fast by competent men. The only objection which may be urged against the use of iron pipes is their liability to oxydize and decay; but then they are used for water pipes, and last for a very long time, as cast-iron is altogether different from wrought-iron, and does not oxydize readily. They might be glazed both inside and out, to prevent oxydization; or a composition of black lead and coal tar might be applied to them, both inside and out, which, when dried, would act as an effectual coating for a century.

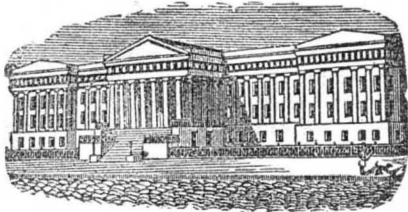
Whatever the opinion of city engineers and architects may be at present, about brick sewers, we are of the opinion that the time is not far distant, when cast-iron pipes alone will be used in their construction. This will also be the case with pipes for house as well as city drainage.

New York Times and the Patent Laws.

The “Times” of last Saturday, with that perversity of common sense peculiar to the egotistical and ignorant, and which should not characterize that otherwise able paper, takes up the subject of Patent Laws again, and discusses some of the principles of the New English Patent Law. The Bill has been introduced under the care of Lord Brougham, and Earl Granville. “Entertaining,” says the “Times,” similar views to those repeatedly expressed in the “Daily Times,” the noble Earl avows decided opposition to all patent enactments, but gives way to prejudice; the bill makes use of what is commendable in the American system; the originality is to be inquired into, and advancing upon *our ideas*, it is provided that the *utility* of the invention shall always be a branch of the inquiry. The introduction of this principle of utility into the official examination, we would therefore recommend as an improvement upon *present modes*. What ignorance, just like that displayed by the “Times” about a caveat. Advancing upon the “Times” ideas, forsooth; what conceit; why, it is specially provided for in our Patent Law of 1836, that an invention shall be new and useful, Sec. 7, Act 1836 says,—“If the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor.” Is this advancing on the “Times” ideas of 1852? The “Times” says “it is probably foolish to anticipate an abandonment of prejudices in favor of a system as hoary as patent rights.” We believe so; but we were not aware that the patent right system for inventions was very hoary. It only dates from James I. The principles opposed to patents which the “Times” admires, we know to be hoary. They belong to the age of “the good old robber plan, that he would take who had the power.” It is a great anomaly, to advocate on the one hand a system of protection in manufactures to men of wealth, and at the same time condemn the system of protecting the inventions of Whitney, Blanchard, Morse, &c., which have conferred so many blessings upon our people. Reasoning upon the principles of logic and morality embraced by the “Times,” it was wrong for Whitney to find fault with those pirates who broke into his office and stole his invention—he was not a true man for so doing; he ought to have been content with the gratitude of his fellows. Such principles, we must say, are of that progressive species, which would destroy present good systems, and establish on their ruins the practices of a dark, degraded, and benighted age.

The Woodworth Patent.

We hope that the U. S. Senate will act upon this question soon. It should be settled at once, one way or the other, and not left over to cause more excitement and agitation throughout the country. The thousands of petitioners who have presented their opinions on this question to their respected Senators, expect of them more than the mere presentation of their petitions, and surely it must commend itself to Senators, to see that those petitions receive some answer.



Reported Officially for the Scientific American  
LIST OF PATENT CLAIMS

Issued from the United States Patent Office  
FOR THE WEEK ENDING MAY 18, 1852.

**CARDING**—By Jonas Holmes & Ephraim French, of Lee, Mass.: We claim traversing the doffer or dofers of a card, or setting the teeth upon them, serpentine or zig-zag, or in such other curves, points, or angles as may suit the taste or fancy of the operator; also to traverse them, when so set, if desirable, so as to take the wool or other materials, from such parts of the main or other cylinder of the card, and deliver it to the condensing rollers or other apparatus, so as to make roving variegated, either in colors or materials, or both, when said colors or materials are fed upon the card, substantially as described.

**STOVES**—By G. W. Kennison, of Newburyport, Mass.: My invention consists in a combination of the following particulars or elements, viz.: first, a close drum or chamber, made with one or more air inlets, and their closing slides, or doors, in the lower part, and a fuel opening and door at or near its upper part.

Second, a fire pot or chamber of combustion, placed within the said drum, and having a grate in its lower part, and a smoke discharge pipe leading out of it at or near its upper part.

Third, an air space under the fire-pot grate.

Fourth, a space between the external sides of the fire pot and the internal sides of the drum, and made to freely communicate with the space under the grate.

Fifth, a space above the fire pot, or place for the fuel, and made to freely communicate with the space around the fire pot.

Sixth, a fuel supply opening and door, and an air register in the top of the fire pot, the whole being arranged and made to operate together, substantially as described.

**SHIP'S BLOCK**—By Chas. H. Platt, of New York City: I do not claim the metal plate for connecting the cheeks, for that has been previously employed; but I claim the employment or use of the metal bands or hoops, said hoops or bands encompassing the cheeks and fitting in grooves in the peripheries of the cheeks, the hoops or bands having eyes formed in them at the upper end of the block through which the bolt passes, securing the cheeks the proper distance apart at the upper end of the block, as set forth.

**UMBRELLAS**—By J. V. Tibbets, of New York City: I do not lay special claim to the device consisting of a female screw slide working over or on a screw rod, and operating together, for opening and closing the frame of the umbrella, as the devices to effect this may be varied; but I claim distending or opening the umbrella by the rods which have heretofore simply served as studs to the covering, and been permanently attached thereto, the covering being secured to the apex of the central rod, and the lower ends of the distending rods; and this I claim, whether the inner ends of the distending rods be made to descend or the central rod to ascend with the apex of the covering, in distending the umbrella.

I also claim the manner of securing the cover to the frame, viz., by means of swivels attached to the cover and screwed on to the ends of the rods, as described.

I also claim the application of the springs of the rods to the slide, operating in the manner and for the purpose described.

**IRON SAFES**—By Wm. Alford & J. D. Spear, of the District of Southwark, Pa.: We claim the application of chalk, or whiting, which has been subjected to the action of acids, and has been partially deprived of the carbonic acid, the material which we use being, in fact, the waste, or residual matter left from the manufacture of what is called mineral water, after chalk or whiting has been subjected to the action of acids for the purpose of expelling a portion of its carbonic acid, this residual matter consisting, substantially, of the substances named in the analysis before referred to in the construction of double iron chests or safes, in the manner described, or in any other manner substantially the same.

**SAW-SETS**—By Asahel G. Bachelder, of Lowell, Mass.: I claim the dog or set, so constructed and arranged as to traverse or slide upon a rod or bar in a direction parallel to the toothed edge of the saw, for the purpose of setting the same, substantially as described.

**STRAINING SAWS IN SAW MILLS**—By Edward Booth, of Philadelphia, Penn.: I claim the employment of the lever, or its equivalent, the spring connected to the lever by a rod or link, which is secured or attached to the lever near its fulcrum, both operating together and in combination with a reciprocating saw connected to the lever, and the whole being constructed, arranged, and operating substantially as described.

**CARTRIDGES FOR BREACH-LOADING GUNS**—By Wm. W. Marston & F. Goodell, of New York City: We claim the application of the leather breech-piece to cartridges used with breach-loading guns, such leather breech-piece serving the purposes of a foundation for its own cartridge, a protection to the breech-pin, a wad for the next cartridge, in succession, and of a swab to clean out the soilage caused in the barrel by the antecedent explosion, producing a safe cartridge for pieces that load at the back of the breech, and in which explosion is also caused in the line of the axis of the barrel, substantially as described, but without regard to the sizes of arms with the cartridges, and irrespective of the machinery or mechanical means, by which the cartridge itself is made.

**SWINGS**—By Edward Maynard, of New York City: I claim the combination of the wire frames constructed as set forth, with the net work and swing cords.

**COTTON BATTING**—By E. P. Rider, of Brooklyn, N. Y.:—I claim uniting two or more layers of cotton batting together by means of any glazing material, thereby producing a new article of manufacture, which I term cotton felt, to be used for upholstery and all other purposes to which it is applicable, as set forth.

[This is an important invention for upholsterers, and we predict that, within a few years, cotton will be the principal article used for nearly all kinds of upholstering purposes.]

**CHURNS**—By Clarkson Rhodes, of Morrow Ohio: I claim hanging the series of beaters or dashers by

rods extending from the shaft, the lower ends of which rods support the fulcrum on which the beaters or dashers move (not confining myself to the number or form of the dashers), the said dashers being operated by the rods and bell cranks, substantially as set forth.

**OVENS**—By T. N. Reid, of Baltimore, Md.: I claim the construction of said oven, with recesses on the side, or sides, for fuel, substantially as set forth, and in combination therewith, the cooking chambers, as described.

**HAY RAKES**—By C. R. Soule, of Fairfield, Vt.: I claim so constructing revolving spring tooth rakes, as to bring the centre of revolution nearer the lower ends of the teeth, than can be done by having them revolve on the head, around which the teeth are coiled (which is the usual mode), by which means I cause them to revolve much quicker, and in giving a much shorter distance than otherwise can be done, while, at the same time, they revolve much easier and more readily, in consequence of having the second head, coil, &c., to balance, or nearly so, the re-

maining heft of the teeth, &c., which will be on the other side of the centre of revolution, or nearly so, thereby giving the required length and elasticity to the teeth, with a quick and easy revolution, which I accomplish as set forth, or by means analogous thereto.

**CEMENTS**—By B. S. Welch, of Brooklyn, N. Y.: I claim the primary cement, as described, formed of the hydrate of lime in a finely subdivided state, and resin in a finely subdivided state, mixed together with water in a cold state, for the purpose set forth.

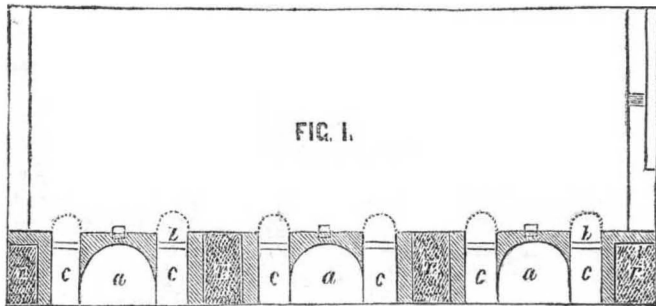
#### DESIGNS.

**COOKING STOVES**—By T. A. Herrick, of Boston, Mass. (assignor to L. M. Leonard, of Taunton, Mass.)

**COOK STOVE**—By N. S. Vedder & Wm. L. Sanderson of Troy, N. Y. (assignor to Peter J. Clute, of Schenectady, N. Y.)

[Just one half of all the Patents in the above list (exclusive of the designs on stoves) were cases on which the applications were prepared at the Scientific American Office.]

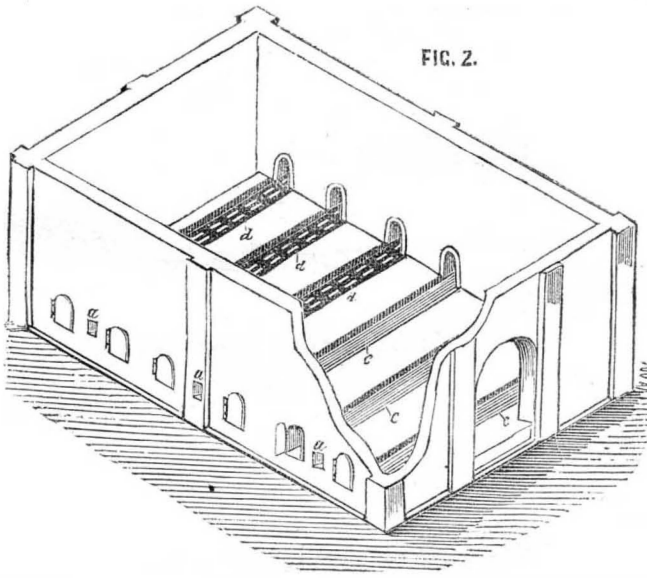
### LINTON'S IMPROVEMENT IN BRICK KILNS.



This invention is an improvement in the construction of Brick Kilns for burning coal or hard wood, and was patented by the inventor, William Linton, of Baltimore, Md., on the 20th of last January, 1852. The improvement consists in the form of the air chambers, and the bottom of the fire beds, and in the mode of introducing the air into the kiln for igniting and burning the fuel, and

causing a free, steady, and unimpeded heat, equalized throughout the body of the kiln, by which fuel is economized and the time required for burning the kiln shortened.

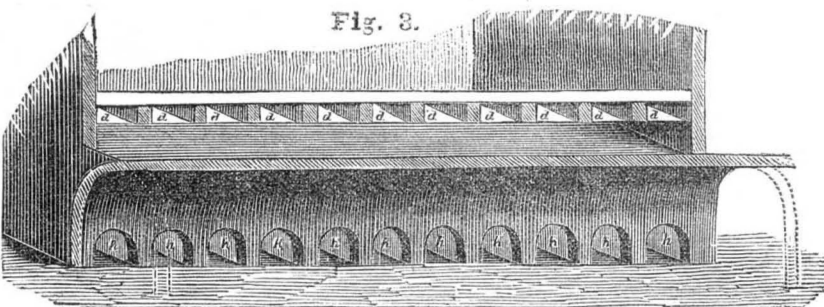
Fig. 1 is a sectional view of the air chamber, as situated a little below and between each of the fire beds. Fig. 2 is a general view of the kiln, with a portion of the wall removed to show the fire beds. Fig. 3 is a



sectional view of the air chamber, showing the openings or recesses.

The construction is as follows:—An arch, fig. 1, *aaa*, is formed a little below and between each of the fire beds, *bb*, in which openings, *ccc*, are made that serve to admit the air up into the fire beds, *bb*, through the conductors, *ccc*, (as at fig. 3, *hhh*, and *ddd*), made therein, so as to cause a free current of

air to every portion of the fire beds, for the purpose of equally igniting the fuel thereon. The ashes are discharged into the air chambers, and the fire beds are kept free. The bottom of the fire bed may be covered with an iron grating, as at fig. 2, *ccc*, and this is essential where coal is the fuel used, or where wood is the fuel they can be covered with brick, as at fig. 2, *ddd*. *aaa* are vent



openings leading to the air chambers. By the above improvement the inventor alleges he is enabled to burn 7,000 bricks with one ton of bituminous coal, and 4,000 bricks with one cord of oak or other wood.

For further information apply to the patentee, corner of Lexington and Pine streets, Baltimore, Md.

#### Preservation of Milk.

Various plans have been brought forward from time to time, for keeping milk in a fit state, at least for using with coffee and tea.

Milk has been preserved in the following

manner:—Fresh milk is reduced by boiling to one-half, and beaten up with yolk of eggs, in the proportion of 8 eggs to every 10½ quarts of milk. The whole is then placed on the fire for half an hour, and skimmed frequently; it is next strained and heated in a water-bath for two hours. It is stated that this milk will keep good for two years, and if churned would afford good butter. Cream may be preserved by boiling five measures down to four; then, after cooling and skimming, it is put into a bottle, corked down, luted, and kept in the boiling heat of a water-bath for half an hour. This, it is said, will keep two years.

A much better method of preserving milk is that first pointed out by M. Dirchoff, the Russian chemist, namely, to solidify it by driving off the aqueous portion by a gentle heat. Specimens of consolidated milk were shown in the Great Exhibition; and it was stated that, after being dissolved in boiling water, and re-produced in the form of milk, the solution will keep pure for four or five days. As milk contains 873 parts water in every 1,000, it follows that 1,000 parts of milk will yield by evaporation only 127 parts.

#### Thunder of Waterfalls.

Dr. Tyndall, in the "Philosophical Magazine," makes the following observations on the production of bubbles in connection with the origin of the sound of agitated water:—When the smoke is projected from the lips of a tobacco-smoker, a little explosion usually accompanies the puff; but the nature of this is in a great measure dependent on the state of the lips at the time whether they be dry or moist. The sound appears to be chiefly due to the sudden bursting of the film which connects both lips. If an inflated bladder be jumped upon, it will emit an explosion as loud as a pistol-shot. Sound, to some extent always accompanies the sudden liberation of compressed air. And this fact is also exhibited in the department of a jet. If the surface of the fluid on which it falls intersects its limpid portion, the jet enters silently, and no bubbles, as before remarked, are produced. The moment, however, after the bubbles make their appearance, an audible rattle also commences, which becomes louder and louder as the mass of the jet increases. The very nature of the sound pronounces its origin to be the bursting of the bubbles; and to the same cause the rippling of streams and the sound of breakers appear to be almost exclusively due. I have examined a stream or two, and in all cases where a ripple made itself heard I have discovered bubbles. The impact of water against water is a comparatively subordinate cause, and could never of itself occasion the murmur of a brook, or the musical roar of the ocean. It is the same as regards water-falls. Were Niagara continuous and without lateral vibration, it would be as silent as a cataract of ice. It is possible, I believe, to get behind the descending water at one place; and if the attention of travellers were directed to the subject, the mass might perhaps be seen through. For in all probability it also has its "contracted sections;" after passing which it is broken into detached masses, which, plunging successively upon the air-bladders formed by their precursors, suddenly liberate their contents, and thus create the thunder of the waterfall.

#### Extension of a Patent.

On the petition of Phineas Bennet, of New York, N. Y., praying for the extension of a patent granted to him on the third day of August, 1838, for an improvement in apparatus for generating steam, for seven years from the expiration of said patent, which takes place on the third day of August, 1852.

It is ordered that the said petition be heard at the Patent Office on Monday the 26th of July, 1852 at 12 o'clock M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

THOS. EW BANK, Com. of Patents.

Washington, 1852.

#### Foucault Illustrated.

The Springfield Republican says, that Mr. Geo. M. Dimmock, a workman in the U. S. Armory, in that city, has invented an apparatus to illustrate the pendulum experiment of M. Foucault, demonstrating the rotation of the earth upon its axis. This apparatus is an artificial globe, with an adaptation of a pendulum, which is put in vibratory motion over a dial, divided into degrees, at any required latitude of the globe.