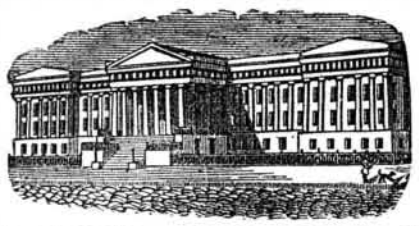

☞Reported expressly for the Scientific American, from the Patent Office Records. Patentees will find it for their interest to have their inventions illustrated in the Scientific American, as it has by far a larger circulation than any other journal of its class in America, and is the only source to which the public are accustomed to refer for the latest improvements. No charge is made except for the execution of the engravings, which belong to the patentee after publication.

LIST OF PATENT CLAIMS
Issued from the United States Patent Office.
FOR THE WEEK ENDING MAY 6, 1851.

To Linus Yale, Jr., of Newport, N. Y., for improved Lock and Key.

I claim, first, the self.detaching and attaching key, for the purpose and object described.

Secondly, in combination with said key, I claim a powder-proof key-hole, consisting of two or more parts so constructed that the outer part is turned by the key, while, at the same time, the inner parts, with the pod or pods of the key enclosed are disconnected and moved entirely away from the outer, the same movement causing solid metal to occupy the space left, and thus to effectually bar an entrance of any kind to the lock, when its parts are in a position possible to be unlocked.

To Thomas Vanderslice, of Valley Forge, Pa., for improvement in Meat-Cutting Machines.

I claim the herein described mode of adjusting the cutters by means of the adjusting plates.

To Charles Burt, of Belfast, Me., for Exploding Harpoon.

I claim, first, the interior of the harpoon made as a pistol barrel, with percussion lock protected from water or outward accident, and the trigger of which can be actuated by means of a pull on the line, and the resistance of the flesh, substantially as described.

Second, I claim the making the point of the harpoon the projectile which is shot into the whale, in the manner and for the purpose substantially as described.

Third, I claim the arrangement of the trigger in the shank under the barb, in the mode described, preventing the explosion of the charge until the line is drawn by the whale or the harpoon.

To J. R. St. John, of New York, N. Y., (assignor to James Renwick, G. F. Barnard & E. B. St. John,) for improvement in Hand-Logs.

I claim, first, the arrangement of the log glass, lever, pinion, and wheel, whereby the motion to the clock-work by the reel is communicated to the index during a definite period of time, determined by turning the log glass on or off the lever, the parts being so proportioned, and the dial so divided, that the index, moving while the sand is running in the log glass, shows the rate of speed at which the vessel is moving per hour of time, during fourteen seconds, or any other known space of time; the parts being arranged and operating substantially as described or in a manner equivalent, to produce the same results by like means.

Second, the application of a parachute to the purpose of a "log ship," and the combination therewith of the cylindrical wedge or its equivalent, to enter between the tubes to keep the "log ship" spread, when in the water, and disengaged when hauled on to "fetch home," so that the log ship closes and turns end for end with the water, and is easily hauled on board, said log ship being used with the reel and registering parts herein described and shown, or with any other means of supplying and determining the amount of line run out during a known period of time, substantially as described and shown.

To Nelson Goodyear, of New York, N. Y., for improvement in the manufacture of India Rubber.

I claim the combining the india rubber and sulphur, either with or without shellac, for making a hard and inflexible substance hitherto unknown, substantially as herein set forth.

And I also claim the combining of india rubber, sulphur, and magnesia, or lime, or a carbonate, or a sulphate of magnesia, or of lime, either with or without shellac, for making a hard and inflexible substance hitherto unknown, substantially as herein set forth.

To J. R. Kain & Spencer Lewis, of Tiffin, Ohio, for improvement in Bedstead Fastenings.

We claim providing the upper section or part of the cylindrical box, with a triangular and two parallel wedge-shaped wings, made sharp and projecting from its periphery, in such a manner that the triangular projection shall open a groove or way in the post, which shall be closed by the entrance of the parallel wedge-shaped wings, which follow as the section is driven into the post, and thus crowd the wood in front of the shoulder of the triangular projection, and form a complete lock thereto, as described.

We also claim dividing the cylindrical box longitudinally into two equal partsor sections, the line of division inclining upward at an angle of about 10 degrees from a horizontal plane, by which the edges of the upper section are made to serve the purpose of wedges for forcing the teeth of the lower section into the post and holding it securely, as described.

To J. A. Cutting, of Philadelphia, Pa., for improved Spark Arrester.

I claim, first, the air flues in the lower part of the diaphragm constructed in the manner and for the purpose herein described.

Second, I claim the pipes or conductors in combination with the air chambers (two) arranged substantially as herein described.

Third, I claim the combination and arrangement of the air flues with the air chamber, reverberating cone, inclined and curved flues, for the purpose and in the manner herein fully set forth and described.

To Nelson Newman, of Cincinnati, Ohio, for improvement in Pumps.

I claim the combination and arrangement of the valve chest, water passage, pump cylinder, and air vessel, as herein described, so that the whole can be cast in a single piece, and the valves and suction pipe supported and secured in place by another piece also cast in the form herein described, whereby the cost of making the pump, and its liability to get out of order, are both lessened without impairing its efficiency or rendering it more difficult to repair.

To R. E. Schroeder, of Rochester, N. Y., for improvement in Lime Kilns.

I claim the flues encircling the cupola and provided with apertures or flues (five) for admitting the heat and flame to the action upon the limestone, from various points, substantially as described, in combination with the air chamber encircling the cupola as described.

And I claim, also, the aperture and passage therefrom, for saving the heat arising from the manufactured lime while being removed, all operating conjointly in the manner and for the purpose herein fully set forth.

To John Gorrie, of New Orleans, La., for improved process for the artificial production of ice. Ante-dated Aug. 22, 1850.

I wish it to be understood that I do not claim as my invention any of the several parts of the apparatus in themselves, but I claim, first, the employment of a liquid uncongealable at the low temperature at which it is required to keep the engine, to receive the heat of the water to be congealed, and give it out to the expanding air.

Second, I claim the employment of an engine, for the purpose of rendering the expansion of the condensed air gradual, in order to obtain its full refrigeratory effects, and at the same time render available the mechanical force with which it tends to dilate, to aid in working the condensing pump, irrespective of the manner in which the several parts are made, arranged, and operated.

Third, I claim supplying the water gradually and slowly to the freezing vessels, and congealing it by abstracting the heat from its under surface, substantially as set forth.

And lastly, I claim the process of cooling or freezing liquids by compressing air into a reservoir, abstracting the heat evolved in the compression, by means of a jet of water; allowing the compressed air to expand in an engine surrounded by a cistern of an unfreezable liquid, which is continually injected into the engine and returned to the cistern, and which serves as a medium to absorb the heat from the liquid to be cooled or frozen, and give it out to the expanding air.

To Florentin Joseph de Cavaillon, of Paris, France, for improvement in purifying Illuminating Gas.

I claim the purifying powder for illuminatinggas, said powder consisting of sulphate of lime, either natural or artificial, in connection with some inert substance, or substances, partly inert and partly rendered purifiers, when compounded in the proportions substantially as described herein.

To T. J. Sloan, of New York, N. Y., for machine for assorting screw blanks, etc.

I claim the combination of the series of shifting ways, with the main or stationary ways, for the purpose and in the manner substantially as specified.

And I also claim the detector, substantially as specified, in combination with the stationary and shifting ways, substantially in the manner and for the purpose specified.

RE-ISSUES.

To J. B. Hyde, of New York. N. Y., (assignor to T. J. Croggon, administrator of T. R. Williams, deceased), for improvement in machinery for hardening bats in felting, &c. Originally patented Dec. 14, 1840.

What is claimed as the invention of the said Thomas Robinson Williams, is the method substantially as described, of forming the bat by the combined use of two endless aprons which receive the sliver from the doffer, or a carding engine, or otherwise, between them, and from the bat on one of the belts, whilst the other acts as a support, substantially as described.

To J. B. Hyde, of New York, N. Y., (assignor of ThomasCroggon, administrator of T. R. Williams, deceased), for improvement in machinery for forming bats for felting, &c. Originally patented December 14, 1840.

What is claimed as the invention of the said Thomas Robinson Williams, is, first, the method substantially as described of hardening the bat, by passing the same between two series or tiers of rollers, covered with cloth, or otherwise, and arranged over each other, the one series being provided with a reciprocating, endwise motion, for the purpose of felting the bat; and the other series with a progressive rotary motion, for the purpose of feeding the bat through, with or without the use of a trough, containing hot water and soap-suds or other matter, substantially as described.

(For the Scientific American.)
Practical Remarks on Illuminating Gas.

[Continued from page 270.]

The process of making oil gas is much more simple than that of coal gas; as the purification is wholly dispensed with; the constituents of the oil being such that there is no combination of sulphurettedhydrogen or ammonia. In the arrangement of the generating apparatus, the two processes differ essentially. The oil is not introduced into the retort and subjected to decomposition in quantity as is the coal; for in such a case the greater part of the oil would distil over, without undergoing much alteration, and the portion only which is in immediate contact with the heated surface would be converted into combustible gas. What is required and the chief object to be obtained is, to bring a small quantity of oil to a high temperature, in order that all its particles may be decomposed at once; and for this purpose the following arrangement for generating is used:

The ordinary oil gas apparatus consists of a small cylindrical retort of cast iron, set in a furnace, and brought up to a proper temperature by fire which is conveyed around it by suitable flues. The retort is partially filled with coke, brick, or some other similarmaterial, for the purpose of presenting a larger amount of heated surface; the oil is then conducted from a reservoir above, through a pipe in a small stream into the retort upon the heated surface, when it is immediately decomposed; gases are given off, accompanied with a considerable quantity of vapors which are liquid at common temperatures, and a large deposition of carbon takes place in the retort.

The coke or bricks are changed every fortnight or three weeks, as the interstices become obstructed by the deposite of carbon. The best results are obtained when this gas is produced at a low temperature; as this temperature suffices to convert the oil into gas, but is not sufficiently high to decarbonize it to any great extent. The secondary and the only product of this distillation is an oily fluid, consisting of tryile, dytryile; and a third hydro-carbon.

From the retorts the gas is conveyed into a condenser similar to the one described under coal gas, and from thence, after passing through the meter where the quantity is registered, it is conducted into the gas-holder, where it is ready for distribution, which is performed in the same manner through street mains as the coal gas. In some manufactories, of late years, the gas before entering the street mains, is allowed to pass through a "mixer," by which from 20 to 23½ per cent. of atmospheric air is permitted to unite with it; and it has been stated by the patentee, (for by the way this mixer is a patent article) and others interested, that this is an improvement, and enhances the value as an illuminating agent. It must appear, I think, very evident to an unprejudiced mind that mixing air with gas is a corruption by this foreign compound and not an amelioration. It may be an improvement as regards quantity, I admit, but the quality will be lessened in an exact ratio to the adulteration.

A serious objection to oil gas, is the gradual liquefaction which its important constituents undergo; the gas contains too large a proportion of vapor, which is constantly condensing while standing even at common temperatures; and not only a great loss is sustained, but no small inconvenience from the clogging and stopping of pipes. In England much controversy was carried on between the oil and coal gas companies; large amounts of money were expended in the erection of oil gas establishments, and great skill and strict economy were used to promote success; to sustain them no effort was wanting on the part of those who had invested their money; and, in opposition to facts which were glaringly evident to the most careless observer, it was proclaimed that the illuminating power of oil gas was threefold greater than that of gas made from coal, and that it possessed, therefore, three times its value, whereas it has been demonstrated, that, by converting oil into gas, a loss of nearly one-third of its value for purposes of illumination is sustained. The following extracts from the Enclycopedia Britannica will fully substantiate these statements. "Oil being decomposed at a loss of nearly fifty per cent., the conversion of it into gas, after a protracted but ineffectual competition with coal, has been gradually abandoned on the large scale, even in those places where, from the interests of the whale fisheries, there were the strongest inducements to foster the unfounded prejudices which prevailed for some time against the use of coal gas. The exaggerated advantages which it was pretended would be derived from compressing oil gas, and thus rendering it portable, served to prolong the gross delusion on the subject. Nor were these delusions fully removed, until a demonstration was given of the failure of the scheme, in the decay of costly edifices and expensive apparatus, which, in defiance of all sober calculations had been constructed for carrying it into effect." "The capital expended upon oil gas establishments is actually applied to reduce to the extent of thirty per cent., the intrinsic value of the raw material, which it was pretended to improve in an equal degree; add to this the loss of gas in the main pipes, which is found to be fully twenty per cent., and it follows that the light from oil gas is obtained at twice the expense at which it may be procured from the oil itself."

Manufactories for the generating of gas from oil have also been erected in this country, and the gross delusion has been somewhat prolonged by the introduction of the supposed improvement, viz., the mixer; but the results have been the same, the amounts expended have been sacrificed, the works abandoned and superseded by a cheaper light, and it is now very generally acknowledged by all scientific persons, that gas made from oil can never successfully compete with that generated from coal.

J. B. B.