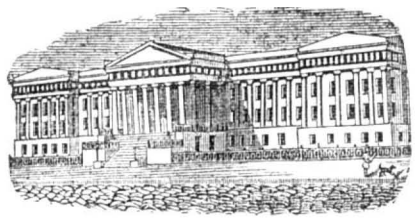

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LIST OF PATENT CLAIMS
Issued from the United States Patent Office.

FOR THE WEEK ENDING MARCH 25, 1851.

To Geo. Heffley, Samuel Conrad, and Jas. Wigie, of Berlin, Pa., for improvement in adjustable land sides of Plows.

We claim providing a right-angled heel plate with a hook, for the purpose of interlocking with a hook-shaped projection, attached to the land bar, forming a hook joint, said heel-plate forming the bottom and side of the land bar, and having its rearward portion susceptible of vertical adjustment, by means of a screw, and when adjusted being clamped by a horizontal screw bolt, its shank being placed in a segmental slot, to admit of its moving with the heel-plate, as described.

To C. W. Krebs, of Baltimore, Md., for apparatus for securing shutters in any required position.

I claim the right to the rods, pintles, sockets, screws, and apertures connected, arranged, and acting substantially in the manner and for the purpose described.

To Michael Norton, of Cambridge, Mass., for improved Sash Hook.

I claim the spring to throw the turning hook outwards, the spring-catch, G, (applied to the frame of the hook), and the projection, H, (extending either from the curved rail, or the lower window sash), in combination together, and with the said clamp hook and rail, the whole being made to operate substantially in the manner specified.

To Lewis Thorn, of Philadelphia, Pa., for improvement in Extension Tables.

I claim, first, the slides E and F, in combination with the cross-bars and folding rails; and second, the recess for the reception of the loose leaves; being formed substantially in the manner and for the purpose set forth.

To N. W. Speers, of Cincinnati, Ohio, for apparatus for moving and securing shuttles, etc.

I claim the manner of opening and closing window shutters from the inside, and securing them firmly at any point in their semi-circuit, by means of the horizontal screw shaft inserted in an opening in the lower portion of the window frame metallic nut surrounding the same, and the bar or plate attached to the shutter, substantially as described.

To R. C. Stevens, of Syracuse, N. Y., for improved apparatus for drawing and measuring liquids.

I claim the combination of measures with faucets, cocks, or gates, used in drawing liquids from can casks, barrels, &c., in such a manner, that, by opening the faucet attached to the cask, the measure will be filled; then, by closing the same, the desired amount may be drawn by opening the corresponding faucet in the measure; the whole combined substantially as described and for the purpose set forth.

To E. G. Lamson, of Shelburne, Mass., for improvement in Scythe Fastenings.

I claim the combination of the two wedge shaped bearers, the confining bolt, and the support at the extreme or other end of the shank, as constructed, substantially in the manner specified, the whole being for the purpose of enabling a person to change the positions of the blade of the scythe, in a direction transversely of the plane of the blade.

To Heman Whipple, of Port Richmond, N. Y., for improvement in machines for preparing clay for making brick.

I claim the use of a revolving screen, constructed of bars set at a slight inclination from the horizontal position, having lugs or crushers within it, each lug being hung or suspended at one end, on a bar, and prevented from touching or rubbing the screen, by a cord or chain attached to its other extremity, and rod, supporting it, or constructed and operating in any manner substantially the same and for the purpose herein set forth.

To Henry Klepfer, of Cincinnati, O., for improvement in upright Pianofortes.

I claim the arrangement of the sounding board in upright pianos between the strings and the performer, substantially in the manner described.

To Nathaniel Lamson, of Shelburne Falls, Mass., for improvement in Scythe Fastenings.

I claim the arrangement of the hole or holes of the head of the confining clasp, in such manner, with respect to the axis of the screw that when the said screw is turned one hundred and eighty degrees, the position or positions of the hole or holes, may be changed in such a manner as to secure one or more new and different positions for the shank, the same being for the purpose as specified.

To F. B. Stevens, of New York, N. Y., for improvement in Balanced Valves.

I do not claim, as my invention, valves having seats of such relative diameters, that they shall be retained thereon by the pressure of steam; but I claim the above description of valve, where the disc is held by a support running up through the hollow valve, so forming the valve that the upper seat shall be larger in diameter than the lower one, by means of the ring attached to the valve, and by means of the ring attached to the seat, or by any means substantially the same, for the purpose of retaining the valve in its seat, by the pressure of steam, whenever its position or location, in respect to the steam passages, is such that the pressure of steam is below the valve when closed.

RE-ISSUES.

To Horace Billings, of Beardstown, Ill., for Composition for covering Hams. Originally patented 9th April, 1850.

I do not intend to claim as my invention the covering of meats or other articles, with paper and cloth, or other flexible material, previous to coating them with my preserving composition; but what I claim is the formation of a preserving composition for coating meats, cheese, fruits, vegetables, &c, by the union of rosin, shellac, or seed lac, and linseed oil, or other oil of a similar nature, substantially in the manner and in nearly the proportions as set forth.

To James Phelps, of West Sutton, Mass., for improvement in Washing Machines for cleaning rags. Originally patented Nov. 24, 1843.

I claim an adjustable, rotating water elevator and strainer, arranged substantially as herein set forth, in such manner that it can be raised or lowered in the vat of the washing or beating engine, to vary the quantity of water discharged therefrom; or can be raised entirely from the vat to stop the discharge of water, or for other purposes, as set forth.

I also claim a rotating prismatic screen or strainer, for straining the water from the paper stock, in the vat of a washing or beating engine, in combination with devices for discharging the strained water, the prismatic screen being not only more efficient than a cylindrical screen, but also admitting of more ready repair.

DESIGNS.

To Wm. & Wm. H. Lewis, of New York, N. Y., for Design for Pedestals and Columns.

To Joseph Pratt, of Boston, Mass., for Design for Parlor Grates.

Beware of Eating Red Wafers.

A coroner's jury, in London, lately held an inquest on the body of a child, 9 years old, who came to his death in the following manner:—The deceased was playing in the street with other boys, when, seeing some bright red wafers lying before the door of an oil-shop, they tasted them, and subsequently ate some. All the lads were taken ill, and deceased, who had eaten more then the others, died. The wafers contained red lead, and the symptoms of the boys' illness were those which ordinarily follow poisoning by that metal. The jury returned a verdict of "Accidental Death," with an admonition to the tradesman from whose shop the wafers had been incautiously swept.

(For the Scientific American.)

Practical Remarks on Illuminating Gas.

A lack of general knowledge in a large portion of our community, pertaining not only to scientific, but to matters of universal daily use, is very evident; and a want of inquiry into the causes of the phenomena of the events which are constantly transpiring before us, is likewise very apparent. The most trivial effect has its cause, although it may appear at first enveloped by a seemingly impenetrable cloud of obscurity, still upon a little wise reflection, to every cause can be assigned an effect, and every effect can be traced to its own legitimate cause.

In the present article it is attempted to include such an account as the limits will permit, of the principles and the processes of the manufacture of gas for illuminating purposes.

If the various inquiries, made by many in the community, are any criterion by which we may judge of the tenor of the information of the mind upon this subject, it is time that a practical work should be placed within the means of every person, and particularly such as are now deriving the benefits of this great blessing. The want of a general knowledge and understanding of the principles of illuminating gas, is forcibly and truthfully shown by the ease with which people are led away by new lights (and I may say, too, false lights) which are brought before an unwary public, either from a speculative motive, or to gain notoriety, or perhaps by individuals, who, having more zeal than knowledge, are wrought into a false belief, by tenaciously clinging to what they consider their own new ideas. To aid in the more general diffusion of practical knowledge is the writer's aim, and if he should succeed in adding one thought to any person's vocabulary of wisdom, from whence a single new idea may germinate, his object will be fully gained.

It is within the memory of nearly all of us when the principal streets and avenues of our city were *supposed to have been lighted* by oil at night, and travellers were obliged to grope their way among these now-luminous objects, which seemed to render the darkness more visible, and the surrounding gloom served as an admirable covering, under which depredators could operate unseen and undetected. But now, when we look around us and see the great change which has been brought about through the influence of men of science and ingenuity, and are permitted to pursue our various vocations under the influence of this genial and cheerful light, ought we not to feel greatly indebted to the highly gifted and enterprising individuals by whose talents and industry, so great a blessing has been conferred upon society. And it is to this blessing, this new light, I would call the reader's attention.

The term *Gas*, in chemistry, synonomous with air, is employed to signify any elastic, invisible, aeriform fluid, permanent at the common temperature of the atmosphere, and not wholly condensable by any known degree of cold, natural or artificial. Animal and vegetable substances contain embodied within themselves gas; and all matter of a fatty, resinous, or bituminous nature, contains carbon and hydrogen, which become liberated when the substance is decomposed by heat, and form a new combination; this new combination is composed of 1 atom of carbon and 2 atoms of hydrogen, its atomic formulæ, therefore, would be $C+H^2$, and is termed carburetted hydrogen gas. Carbon, literally speaking, is the base of all illuminating gases, its richness and value being wholly dependent upon it. Before we proceed farther, it may be well to look into the nature of these two constituents, in order to have a perfect understanding of these important elements, and thereby to become familiar with their properties.

CARBON—This substance is very generally diffused in nature; all animal and vegetable substances contain it as do many of the minerals, either in the form of carbon or carbonic acid, free or combined. In charcoal, soot, coke, and animal carbon, it is black, amorphous, and very combustible; in graphite it is black, with a chrystallized foliated structure; and in the diamond it occurs diamorphous, colorless, and is chrystallized as a four-sided double pyramid (octahedron). United with oxygen it forms carbonic oxide, and with still more oxygen, carbonic acid. Carbon exists in all varieties of natural coal, bitumens, petroleum, and naptha; and in the form of carbonic acid, is contained in limestone, chalk, and various other minerals.

HYDROGEN—This substance was discovered in the year 1776, by Cavendish, and was formerly called inflammable air; its name is derived from two Greek words, signifying *water* and to *generate*. It is the lightest of all ponderable matter known, 14½ measures of it weighing only as much as 1 measure of atmospheric air. It is colorless and, when perfectly pure, inodorous; it is inflammable in an eminent degree, though, like other combustibles, it requires the aid of a supporter of combustion. It is attended with a yellowish blue flame, and a very feeble light. United with oxygen it forms water, and in the same proportions it is, in the aeriform state, an exceedingly explosive compound.

The first account which history affords of the knowledge of the existence of illuminating gas appears to be in the year 1664, when Dr. Clayton made known that combustible illuminating gas was produced during the decomposition of coal by heat; and that this could be collected. It was observed and experimented on, a century after, by Drs. Hales and Watson.

Lord Dundonald built some coke furnaces in 1786 and amused himself by collecting the evolved gases in tubes and burning them, but without any definite object.

Since the year 1792, another Scotchman by the name of Murdoch, to whom we are indebted for the invention of the useful application of gas, occupied himself incessantly with experiments up to the year 1796; which efforts were crowned, in 1798, by the erection of gas works for illuminating the manufactory of Boulton and Watt. Independently, and about the same time, Phillip Le Bon, a Frenchman, succeeded in illuminating his house by an apparatus in which he evolved the bad gas from wood (probably a mixture of carburetted hydrogen, carbonic acid, and carbonic oxide gases). The first establishment for the manufacture of coal was erected in London in the year 1805. In the year 1808, Mr. Samuel Clegg constructed an apparatus for producing gas, and communicated to the Society of Arts in Manchester; and a silver medal was voted Mr. C. for his communication. Mr. Murdoch, the same year, made a communication on the subject of gas-light to the Royal Society, and was complimented with Count Rumford's Medal for the same. Gas was employed for street illumination in London in the year 1812, and in Paris in the year 1815. In 1823 there were four large gas companies in London, having in all forty-seven gas holders at work, capable of containing 917,940 cubic feet of gas, and were supplied by 1315 retorts, which generated, per annum, 397,000,000 cubic feet of gas; by which 61,203 private lamps, and 7,268 public or street lamps, were lighted in the metropolis. From that time to the present the formation of new companies, the erection of extensive manufactories, and large expenditures, have become requisite to meet the increasing demand of the citizens for this highly desirable and economical light. At the present time the annual consumption of gas in the city of London is 3,000 million cubic feet; equal to about from 50,000 to 60,000 tons.

J. B. B.

(To be Continued.)

Fresh Water Frozen Beneath the Sea.

Fresh water was found frozen into solid ice in the lead which conveys the Cochituate water under the sea water of Boston Harbor to East Boston, and which pipe is 36 feet below the surface of the water. The explanation of the phenomena is, that fresh water freezes at 32 deg. F., while sea water requires a reduction of temperature 4½ deg. lower, or to 27½ deg., before it solidifies. Thus, the salt water was doubtless cooled, below the freezing point of pure water, and conducted away the heat from the lead pipe, so as to lower its temperature sufficiently to cause a film of ice to form on the inside of the pipe, and by successive layers of ice the pipe was gradually filled.