Scientific American

NEW YORK, APRIL 12. 1851.

Give us the Name of the Inventor. English Patent Laws.

Some time ago, there was no small amount of agitation in England respecting the necessity of reforming the patent laws. The agitation appears to have almost died away, and we suppose the present session of Parliament will terminate without any reform being accomplished. The subject of ecclesiastical titles is now agitating all England, Scotland, and Ireland, dwarfing the subject of making good laws, for the encouragement of men of genius—those men whose skill has built the Crystal Palace, and whose genius is about to be exhibited in a more glorious and enduring contest for old England, than Poictiers or Waterloo. The law-makers of every country, our own not excepted, are so weded to the selfish interests of high dignitaries, titular fools, and party scheming, that they have but little time to devote, to reforming bad patent laws which hang like millstones about the necks of really great men, though not conspicous because they are generally poor.

There is one reform which we would like to see carried out in England, and that at the earliest possible period,—it is one for which the London Patent agents must be held somewhat responsible. We mean the granting of English Patents in the names of the real inventors, the same as we do in America. Within the past two weeks, we have noticed no less than three American inventions for which English patents have been granted, but not in the name of the inventors; no, but in that of the patent agents, with the forcible inference, "communication from abroad." Let us have the names of the inventors, let them have the full credit of their inventions if they have nothing more. One of the inventions we speak of was Dr. Gorrie's machine for making ice, which has been more than once noticed in our columns; the second is the hat body machinery illustrated on another page, and the third is "Paine's Light." Specifications of patents appear in English Journals granted to A, B, C, D, the patent agents, who are no more the inventors than we are. This is not right, although it is customary. It is true that patents are granted to those who introduce improvements, but it would show some feeling of rectitude, if the names of the improvers or discoverers were inscribed on the face of the patents. We hope this subject may receive the attention which it merits, and lead to the performance of a very simple duty, but the more necessary to be performed on that very account.

Patent for "Paine's Light."

By the last number of our worthy contemporaries, the London Patent Journal and the Mechanics' Magazine, we have illustrations and descriptions, of "Paine's Light," which has recently been patented there. There is something in the descriptions given which we cannot well understand; but for this we would have given them to our readers this week. We wait to receive more full (if there can be) explanations, and then we will present the drawings and descriptions of the same, which are very different from those of Dr. Colton, that have been printed in so many of our papers. Mr. Paine is going to Washington in a few days, with a fine machine as a working model of it, and we may be able to present some views of the same.

It is our intention to pursue this subject until the whole truth is laid before our readers.

The World's Fair in America.

A meeting of Delegates of the various Railroad and Steamboat Companies, was held on Thursday last, at the Astor House, to take into consideration the increased facilities for travellers which will be required on the occasion of holding a "World's Fair of the Industry of all Nations," at New York, in 1852. Gen. John S. Darcy was appointed Chairman, Louis Perrine, and James S. Green, Esqs., were appointed Secretaries. Resolutions were passed in respect to the proposed Exhibition being held on Governor's Island. The meeting adjourned to assemble again at 12 o'clock on the 13th of this month, at the same place. The directors of railways, steamboats, and the proprietors of stages, are invited to cooperate in this work, and send representatives to this meeting.

We sincerely hope that a "World's Fair" will be held in America; we brought the subject before our readers more than a year ago. We can have a World's Fair worthy of our great country, and one that will do honor to America, if the right kind of men *take hold* of the work. As the subject has now been brought before our people, we will sacrifice some honor if we do not carry it through. The French say we are a people of *splendid resolves*; let us do more than resolve in this affair. Let it not be like that mockery of a pageant, the New York Washington Monument.

Rice and its Cultivation.

Rice is the principal food of the millions of Hindostan, China, and many other nations. To provide against its rapid decomposition in those tropical climates, nature has provided it with a very indestructible coating. The haulm, or chaff of rice, is a vegetable sand paper. After being milled, rice is readily destroyed by the weevil; but rough rice is exempt from the depredation of every species of insect—if stored carefully, therefore, it will be as good for food at the end of twenty, perhaps a hundred years, as it was the very day it was gathered from the field. The indestructibility of the chaff has long been known—the ash of the chaff of rice contains ninety-seven per cent. of silica.

American rice is far superior to that of any other nation,—Georgia and South Carolina raise the best rice in the world. The Charleston rice sells for just double the price of Bengal, in the London market. When rice is sent on long voyages, it soon spoils if it has been dressed, therefore it is best to send rice in its rough state across the Atlantic. It will be seen by our list of patents, this week, that a patent has been granted to Mr. Peter McKinlay, of Charleston, for an improvement in Rice Hullers. The most improved rice dressing machines are of American invention, and have been introduced into Europe. There the rice is dressed after being sent over in the rough state. This mode of treating the grain has greatly enlarged its European consumption, as it is perfectly sweet after the voyage, when not hulled. The superiority of American rice depends either on climate or superior cultivation—the latter in all likelihood. About seventy years ago, almost all our rice was the product of inland swamps, but the greatest part of the rice crop is now grown on flats, near the sea coast rivers, which are subject to overflows. Tide swamp lands, well adapted to the growing of rice are found almost exclusively within the limits of the two Carolinas and Georgia; on the rivers emptying into the Gulf of Mexico there are lands on which rice may be planted, but the rise and fall of the tide in the Gulf being only two feet, the fall does not admit of drainage sufficient for successful cultivation. For similar reasons, that of climate being superadded, the culture has not been attempted north of Cape Hatteras, where the rise and fall of the tide is only three feet. On the coast of Georgia and the Carolinas the tide rises and falls from six to seven feet. These tide swamp lands are limited to a small extent of sea-board. They commence at that point on the southern rivers, where the salt water ceases and the fresh begins. These fields then extend up the rivers on both shores for a distance of about 12 or 15 miles, and in some places less. In hot summers, the lower lands are affected with the salt, when the planters cannot irrigate. At the upper limit, wet seasons bring down freshets, which oftentimes prove very destructive, the crops being immoderately submerged. Midway between these limits there lies a body of land, of no great extent, measurably exempt from both these causes of damage, which are usually denominated lands on the best pitch of the tide; these are the most valuable lands in those States. Of the sixteen or seventeen millions of acres included within the limits of South Carolina, these tide swamp lands constitute so small a fraction, that were they abstracted from the mass of the State their loss would scarcely be perceptible—yet the gross product of these, in an average of seasons, does not fall short of two millions of dollars per annum.

Artificial irrigation has been practiced in oriental countries from time immemorial;—in Egypt and Hindostan, artificial irrigation is performed, in many cases, by gangs of laborers handing up buckets full of water, from the river up the bank, from which it is sent away over the flat lands in small channels. Pumps and the Persian Wheel were and are used for this purpose; and bullocks working a gin, to actuate the Archimedian screw pump, forcing up water from rivers, is not an uncommon method of irrigation practiced in the East Indies. At the South, artificial irrigation has received no small attention: an improved machine for that purpose has been introduced into Charleston by our friend Mr. N. H. Lebby, which promises to confer many advantages upon the cultivators of rice. It is thus described by the Charleston Courier. "In compliance with the invitation extended by Mr. Lebby, quite a number of visitors assembled yesterday to witness this curious and successful application of machinery to a purpose in which our rice planters especially are deeply interested. It is adapted both to draining and irrigating lands, and when set in motion by a steam engine of 6 horse power, is capable of raising from five to six thousand gallons per minute, which might be greatly increased by additional motive power. It has been inspected by several experienced planters, and pronounced to be a most valuable agricultural appendage, sufficiently simple to be worked without difficulty by the negroes on plantations, and not liable to get out of repair. The credit of this clever adaptation of well known philosophical principles to the improvement of the culture of one of our great staples, belongs to a young Charlestonian, who, to a natural genius for mechanism, adds the fruits of years of laborious study and practice, in his high and honorable vocation. Mr. Leboy's industry and attention to business have been rewarded with a liberal share of constant active employment, and were his establishment extended to double its present capacity, so brisk are the openings for the efforts of this deserving class of our community, that we feel confident the increased investment of labor and capital would prove profitable and desirable to all concerned."

This machine embraces a valuable improvement of the submerged turbine wheel, which we hope will be the means of opening up a vast field for improvement by the introduction of a cheap system of artificial irrigation.

An American Machine for Turkey.

Mr. George Wright, of Washington, the inventor and patentee of a most ingenious machine for making percussion caps, being on his way to Constantinople with it, we take this opportunity of bringing it specially before our people, hoping its ingenious inventor may meet with higher rewards abroad, than he has in his native land. Elaborate drawings of this wonderful invention were exhibited to us by the inventor, in company with Klein Woodward. They intend introducing it to the attention of the Turkish Government, and purpose also to visit other foreign powers with this intent. Mr. Wright, the inventor, has been subject to the inconvenience of being destitute of the required means to secure this invention by patent, abroad. It would, however, puzzle any mechanic to construct one without the personal superintendence of the inventor.

The machine occupies a space of about 3 by 4 feet; it is supplied with copper, in sheets, 14 by 48 inches; the fulminate, or powder, is deposited in a small hopper for its distribution in the caps as they are formed. The machine, being supplied with the material, it is put in operation by steam power, and the sheet of copper is fed from right to left and left to right, alternately, rolling in at the proper interval. The star or blank, for the cap, being cut, it is quickly transferred to the forming die, where it is pressed into the required form. The cap is then lifted from the die by means of a punch beneath, and lodged in the periphery of the charging plate; it is then carried around by the plate, passing under the hopper, containing the powder, where, receiving its proper charge (half a grain), it passes on under the charging punch, where the powder is firmly pressed in the bottom of the cap. The cap is then thrown from the plate, falling into a drawer beneath prepared to receive them. It then continues its operation of cutting, forming, charging and pressing, in rapid succession, until the whole sheet, as if by magic, is transformed into caps in a finished state, ready for use. One man or boy, only, is required to superintend its operation, producing 5,000 caps an hour, or 50,000 per day. This is the only invention in the world which makes a cap complete at one operation.

The copper is not required to be cut into strips, but is used as it comes in sheets from tha rolling mill. These sheets may be of indefinite length.

Major A. Mordeci, commander of the Washington Arsenal, says, in his Report, for 1850, that this machine performs its work perfectly, and is the subject of admiration to all visitors at the Arsenal. Several officers of the Ordnance Department, who have examined the manufacture of percussion caps in several European countries, agree in the opinion that this is by far the most complete machine which has been made for that purpose.

The ingenious inventor has also arranged a machine for varnishing the caps, by means of which the work is done more expeditiously than it can be by hand.

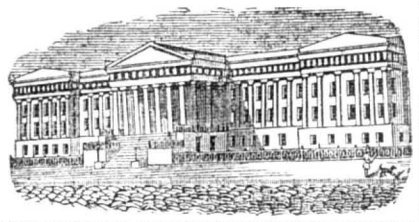
Electro-Magnetic Annunciator for Hotels.

It is well known that the American Bell Crank Annunciator for hotels, whereby a number is shown in an opening in a box in the office, agreeing with the number of the room in which the wire has been pulled, possesses not a little celebrity, and justly so. The one, however, about which we are now going to say a few words, is as far superior to any other that we have seen, as we can imagine.

The numbers of the various rooms are confined in a box, blocked out with small windows, like a chequer board; behind each window is a small recess and on the back partition of it there are the numbers of the different rooms stationary—one number opposite each small window. There are a set of slides, with a notch in each (each one capable of being moved singly), which are moved up by an arm to cover the numbers of the rooms, and hide them from view. These slides are iron, and when they cover the numbers a small pin catches each and holds it in position. Behind each slide is an electro magnet, connected with a wire to a battery, and a key with the number of the room on it is placed in each room, while the box spoken of is in the bar-room. By pressing upon the key the circuit is closed, a bell is struck in the bar-room, the slide spoken of before is attracted by the electro-magnet, falls down and the number of the room is uncovered in an instant, and shown in the small window. There is a wire for each key; the action is very rapid, and none of the parts liable to wear out or be broken. A small battery, to work this Hotel Telegraph, will only have to be renewed about once in three weeks, at but little expense, and the whole can be constructed for less money than any of the old annunciators. The inventor of this is Mr. Buckley, but we saw the instrument at the Telegraph Rooms of Mr. Norton, No. 177 Broadway, the assignee and manufacturer, and where one may always be seen. It is a beautiful and ingenious instrument, and we understand that all the new hotels are adopting it, and so they should.

The Crystal Palace.

We have just received from London a splendid engraving of the interior of the Crystal Palace. It will occupy the 4th and 5th pages of our next number. It is probably the largest engraving ever published in a paper in our country. This engraving, we believe, will be very acceptable to our readers, as it can be bound up and preserved as a part of the progress of Industry.



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LIST OF PATENT CLAIMS
Issued from the United States Patent Office.
FOR THE WEEK ENDING APRIL 1, 1851.

To Henry Boot, of New Bedford, Mass., for improvement in Machines for Folding and Measuring Cloth.

I claim, first, folding the cloth as it passes through or between the calender rollers during the process of calendering, or by passing it through or between a pair of revolving rollers similar to calender rollers, the said calender or other rollers being hung in a carriage which receives a reciprocating motion above or across a table, and a tilting motion at each end of its stroke, so as to bring each roller alternately, to bear on the table as it (the carriage) moves in different directions across it, thereby laying the cloth under the rollers on the table, in folds or layers, in the manner substantially as herein described.

Second, I claim making the reciprocating motion of the calender rollers of a certain fixed length, such length determining the length of the fold, and thereby measuring the cloth, substantially in the manner herein described. At the same time I wish it to be understood that I do not claim the measurement of cloth by folding it in layers or folds of a certain length, unless such layers or folds are laid by calender or other similar rollers. [See an engraving on page 84, Vol. 6, Sci. Am.]

To Marshall Burnett, of Boston, Mass., for improved Horse-shoe Nail Machine.

I claim making a horse-shoe nail by means of a stationary former, and a series of travelling and rotating cams, arranged and operating substantially as herein described and fully shown.

To C. O. Crosby, of New Haven, Ct., for improved machine for sticking pins on paper.

In the machine which I have now fully and exactly described, for sticking pins crosswise of narrow fillets of paper, to prepare it when so stuck for winding, and winding the same into coils, there are several parts which are common, or such as have been used by others, which I do not claim separately nor in other combinations.

I do not claim the upper feeding channel or inclined conductors, when made of straight bars, nor cylinders with parallel sides, which have been used for conducting wood screws and similar headed articles; nor the downward curved conductors, nor any other feeding channels, unless they are combined with the conical form of rollers or the separator.

I do not claim or use any kind of crimping bars, jaws, or clamps, as they have been heretofore used.

I do not limit myself to the precise form or arrangement of parts, nor the particular devices for moving them, for these may be much varied, without changing the principle of my invention, as set forth; nor do I limit myself to the single process of inserting only one pin at once, on only one edge of the fillet, for on the same principle, with only circumstantial variation of the machinery, I can insert several pins at once, on the same edge of the fillet, or on both edges of it, and other similar variations can be made by any competent machinist without any essential or substantial variation from the character of my invention, as described.

First, I claim the conical form of rollers to constitute my feeding channel for arranging the pins and moving them forward in the channel with the most suitably decreasing rates of descending velocity, as described.

Second, I claim the combination of the parts and the adaptation of my machine for feeding the pins, separating, and delivering them, crimping the fillet, and sticking the pins crosswise of such fillet, and finally rolling the fillet into a coil, substantially in the manner described.

I also claim the screw separator, as described, placed in the feeding channel, to restrain the natural descent of the column of pins, so that they may be delivered as fast, and no faster, than they are required for sticking, substantially as herein described.

To Jehu Hollingsworth, of Zanesville, O., for improvement in Wheat Fans.

I claim two or more chambers and areas in combination with a fan, for the purpose of clearing and separating grain, by using one and the same blast (to clean it) over and over again, any number of times, as herein fully described.

To G. D. Jones, of Jersey City, N. J., for improvement in Mills for grinding paints and drugs.

I claim the construction of a mill in which the grinding surfaces shall consist of a plane or planes, operating upon a cone as herein described.

I claim also the lever in combination with the muller for the purpose of regulating the feed, the whole being constructed substantially in the manner as set forth herein.

To Peter McKinlay, of Charleston, S. C., for improvement in Rice Hullers.

I claim operating the pestle by having it attached to a rod passing through the bottom of the mortar and receiving motion through a crank, or its equivalent placed below it, substantially as set forth.

[This is a very excellent Rice Huller.]

To Chas. Menson, of New Haven, Ct., for improvement in blasting rocks, etc.

First, I claim the use of an artificial binder, by means of which to restrain the action of the blast in opposite directions, by offsetting said action against itself, substantially as herein explained.

Second, I claim the use of the little packing wedge, or wedges, within the charge or blast chamber, substantially as described.

To Jabez Walker, of East Bloomfield, N. Y., for improved machine for forming a lock on sheet metal.

I claim the employment of a cam or cams on the tumbler, operating on two levers connected with the under side of a movable jaw, in combination with a spring or springs, substantially in the manner described, for the purpose of closing the lip and securing the plate, while folding and raising the lip and releasing the plate after the folding is completed.

[We have seen this machine operate, and can confidently say, it is a good one.]

To Jesse White, of Barnesville, Ohio, for improvement in Wheat Fans.

I claim the combination of the fan, air-trunk, and head, constructed and operating substantially in the manner and for the purpose herein described.

To J. M. Carr & J. Hughes, of Cambridge City, Ind., for improvement in Bran Dusters.

I claim the combination of two openings, both provided with valves or registers, with the runner and fan revolving within an upright cylindrical casing, the upper part of which acts as a beater, and the lower part as a bolting apparatus, substantially as described, for the purpose of separating the flour, which adheres to the bran after undergoing the ordinary bolting, the said process being regulated and adjusted to suit the circumstances of weather, &c., by admitting more or less air either above or below, by means of the registers, as set forth.

To Simeon Heywood, of Claremont, N. H., for improvement in connecting and disconnecting wheels and axles.

I claim the dog and the spring, combined and operating as set forth.

To David McCurdy, of Newark, N. J., for improvement in the manufacture of India Rubber.

I claim the combination of potash with rubber and sulphur, and submitting the same to a high degree of heat, whereby to produce the change upon rubber, known as vulcanizing.

To Henry Mellish, of Walpole, N. H., for improvements in Splint Machines.

I claim the combination of the cylinders with their cutters attached (for the purpose of giving a rounded form to the splints), and the cylinder with its spurs (for the purpose of dividing the splints in one direction,) with the circular cutter or saw, for the purpose of separating the splints from the timber, and a guide to guide the splints in the channel, the whole being arranged substantially in the manner and for the purposes set forth.

To Archibald Wieting, of Middletown, Pa., for improvement in Seed Planters.

I claim placing two or more hollow drill teeth in a direct line, one behind the other, managed and drawn by the same drag bar, the front tooth being made the largest, and so placed as to run somewhat deeper in the soil than its successor or follower, for the purpose of depositing fine manure or chemical agents, beneath the grain, when planted in rows, or otherwise as herein fully set forth.

To H. Gross & W. Campbell, of Tiffin City, O., for improvement in machines for cutting screws on bedstead rails.

We claim the peculiar form and manner of securing the V cutter to the cylindrical head, as described, that is to say, making the cutter as represented and letting the tapered end of the shank, into the recess, bringing the angular shoulder against the cylinder, and sustaining the bevelled points against the interior bevelled surface of the cylinder head, by which arrangement the instrument, during the operation of cutting is forced firmly against the head, the strain upon the confining screw being thereby greatly reduced, and the cutting tool itself strengthened.

To G. H. Knight, of Cincinnati, O., for Stone and Metal Conglomerate for paving, etc.

I claim forming a block suitable for paving, masonry work, or analogous purposes, of a conglomerate of iron and stone, by running the molten metal among broken stone, within a mould, either with or without the devices, substantially as herein described, for jointing and locking together, the contiguous blocks.

To J. J. Riddle, of Covington, Ky., for improvement in Brick Presses.

I claim the lip, hugging closely the rim of a wheel containing moulds, the said lip being a prolongation of a gradually narrowing feed trough, formed and operated, after the manner and for the purposes substantially as described, namely, the formation (by pressure of untempered clay) of a uniform and coherent brick.

DESIGNS.

To N. P. Richardson, of Portland, Me., for design for Air-tight Stoves.

To Frederick Schultz, of Philadelphia, Pa., for design for Air-tight Stoves.

(For the Scientific American.)

Practical Remarks on Illuminating Gas.

[Continued from page 230.]

The introduction of gas as an illuminating agent could not be confined to the narrow limits of Europe alone; American enterprise entered boldly into the work, and it was successfully introduced into the United States, in the city of Baltimore, in the year 1820, and shortly after the example was followed in Boston, New York, and Philadelphia; and within the past few years works for the manufacture of coal gas have been erected in many of our smaller cities, both seaport and inland, commercial and manufacturing, and are now in successful operation, dispensing not only the beautiful light to the gratification of their citizens, but remunerating the manufacturers in a manner wholly meeting their most sanguine expectations. It is not improbable that within a few years all the inhabitants of cities and towns, and even private manufactories and residences will be enjoying the dispensing and fascinating light; and the beautiful thought of Murdoch, in 1664, after having slumbered for nearly two centuries, will become a blessing widely diffused throughout the whole civilized world.

Illuminating gas occurs in nature, but the quality is much inferior, generally, as compared to that of the artificial product. It has always been observed, where matter of organic origin is undergoing gradual decomposition, that more or less carburetted hydrogen is evolved; this is noticed more particularly when the decomposition takes place under water, as we observe in ponds, marshes, and rivers. If a pole be thrust into the mud of a pond, bubbles of air will rise to the surface of the water, which may be collected in a jar; this air, (as it appears to be), is light carburetted hydrogen gas; it will ignite and burn with a yellowish blue flame; it consists of carbon and hydrogen, like the artificially produced illuminating gas, but it contains a smaller quantity of carbon, and therefore burns without giving a bright light.

The celebrated fires at Baku, on the Caspian Sea, are due to the ignition of a gas which issues from the earth, and which Herz has shown to be light carburetted hydrogen and some naptha vapor. In New York they have gone still farther, the practical tact of the Americans having already made use, for industrial purposes, of similar sources of gas at Fredonia, on Lake Erie, where the gas is collected in holders and used for illumination.

It appears from a paper of Mr. Richard Cowling Taylor, published in the Philosophical Magazine, for March, 1846, that the Chinese, although perhaps not gas manufacturers, have been acquainted with the use of coal gas both for illuminating and heating purposes, long before the knowledge of its application was acquired by Europeans. Beds of coal are frequently pierced in China, by the borers for salt water, and the inflammable gas is conveyed in pipes to the salt works, where it is used for boiling and evaporating the salt; other tubes convey the gas intended for lighting the streets and the larger apartments and kitchens. When there is still more gas than is required, the excess is conducted beyond the limits of the salt works, and there form separate chimneys or columns of flame. The burning fountain of Dauphine is of like origin; phenomena of a similar nature occur in the Cordilleras, in Hungary, Greece, England, and many other countries.

Coal Gas.—Bituminous coals are alone used in the generation of this description of illuminating gas; and it is owing to its bituminous qualities that coal is employed for this purpose. Bitumen, the quintesence of all gas coals, is a black, carbonaceous substance, found in the earth, generally combined with coal, but sometimes is found disintegrated upon the surface, and often constitutes considerable beds, as in the isle of Trinidad, where it occurs over an extensive district in scattered masses. It has not been observed among the primitive or older strata, but only in the secondary and alluvial formations. The origin of bitumen is as little known as that of most of the productions of nature; but that found upon the surface is supposed to emanate from some highly bituminous bed of coal in a distinctive state of distillation in the earth. The quantity of carburetted hydrogen gas obtained from coal is almost entirely due to the amount of bitumen contained therein, therefore coal, rich in bitumen, yields a large per centage of illuminating gas, while that poor in bitumen the contrary. Bituminous coal, when heated to a certain degree, swells and kindles, and frequently emits remarkably bright streams of flame; this flame is illuminating gas. We perceive the evoluotion of this elastic fluid during the combustion of coal in a common fire place; the only difference between the stream of gas in the fire place and that at the burner, is, that the former is ignited and consumed as soon as it is evolved, while the latter is conveyed into gas-holders, stored and distributed as the wants of the community may require.

Having described the substance from which coal gas is derived, we will now attempt to delineate, in as lucid a manner as possible the apparatus in which illuminating gas is generated from coal, and the different processes through which it passes, from the crude lump of coal to the beautiful fluid in its perfect state; and also the new combinations formed while undergoing decomposition. The apparatus for the manufacture of coal gas, which I shall endeavor to describe, is considered as perfect as any now in use, and has been adopted by nearly all the large coal gas manufactories in this country.

J. B. B.

(To be Continued.)

We request the attention of our readers in a particular manner to the above subject.