

Scientific American

NEW-YORK, DECEMBER 6, 1851.

**Insecurity of Buildings.**

Again and again have we called attention to the notorious fact, that the buildings in this city are generally inefficiently constructed, and that a strong and powerful remedy should be applied to make them more secure; in other words, that no buildings should be allowed to stand, that did not embrace the safety of their walls without leaving a single doubt on the subject. In vain has the public press uttered its denunciations against the legalized murders by falling walls and tottering ballustrades in our city. Scarcely a week passes over our heads without some terrible accident, by which many wives are left husbandless, and children left orphans.

Last week we noticed the death of two men and the severe injury of two others, by the falling of the walls of a brewery, in this city. The catastrophe was a melancholy one, although it paled in comparison with the lamentable destruction of the forty-three little children, in Ward School No. 26, as noticed by us in our last number. But had the falling of the wall spoken of taken place a few minutes earlier, when nearly twenty persons were in the building, there can be no doubt but the majority of them would now be slumbering with the clods of the valley. Can nothing be done to prevent such calamities? Are we still to go on chronicling accident after accident of this nature to the dull cold ear of unfeeling or weak administrators of executive justice? It appears so. It was once said by the London Times that "nothing would prevent railroad accidents in that country excepting the death of a Bishop." It may be that it will require the death of a President, a Judge, a noted Minister, Mayor, or some such influential and conspicuous citizen, before anything will be done—efficiently done, to stop such accidents. There can be no doubt but the guilt of many persons, in the eyes of community, has been clearly established in respect to the deaths of a number of people, by such accidents. No, we will not call them accidents—we call them crimes; and yet who has been punished—who will lay his finger on the guilty culprit now justly suffering for his misdeeds? Not one. Do not the ashes of those who perished by the Hague street explosion look up to heaven, with silent but sure intercession for justice upon those whose culpable recklessness immolated them beneath the crumbling walls and scoria of that flaming death-pyre?

On the twenty-second day of last January, six buildings in the course of erection in 21st street, this city, fell with a sudden crash, instantly killing five men, and wounding, more or less seriously, nineteen others. The Coroner's inquest developed the most astounding recklessness on the part of those engaged in their superintendence and construction. The width of the foundation was only fourteen inches; miserable mortar was used, and, worse than all, there was but one man employed on the party wall who could carry up a chimney. Has any thing been done to the guilty in that case? We believe not; we never heard there was. It is our opinion that there are more miserable workmen (or else they are very immoral in respect to executing good work), among our bricklayers (masons) than any other trade in our city. The majority of them seem to be boys of such years, that unless they are superintended by an honest and proficient mason, they are sure to make bad work. But the majority of superintendents—the bosses—are to blame, for they should not allow a bad piece of work to leave the hands of any of their men. They do not seem to care, however; they have an eye rather to the dollar than honest duty. There is scarcely a brick wall in any house in this city—an obscured one—but is made with joints through which Tom Thumb might play at "hide-and-go-seek." The bricks of inside chimneys are thrown together as with a pitchfork, and the mortar appears to have been valued, weight for weight, with California old dust. These things are a disgrace to the trade; bad work of any kind is a disgrace to any trade to which

it belongs. There should be a reform, and a speedy one.

We feel sensitive on such a subject as this, for the honor of our workmen is involved, in a great measure, in it, and whenever that is the case, we feel ashamed and humbled for our country and fellow men.

**Amorphous Phosphorus.**

It is well known that phosphorus is one of the most useful articles, as employed, in friction matches, which are now so indispensable to our comfort. Hitherto, to labor with this substance involved fearful diseases to those who, from necessity or interest, devoted themselves to work with it. It was also very difficult to transport, and its storage was a serious consideration, as it ignited at a summer temperature. All these difficulties respecting phosphorus are now removed by the splendid discovery of rendering it amorphous, which strips it of all its dangerous qualities, but deprives it of none of its useful properties. This effect is produced by a simple change in the arrangement of its atoms, and is a phenomena equally new and important to chemical science. Some friction matches made with amorphous phosphorus were exhibited at the Great Exhibition. The discoverer is Prof. Schrotter, of Vienna, and he is not without strong hopes of resolving some of the other elementary crystallized substances into a similar state. Liebig, in the last edition of his letters, ventures to suggest, upon the strength of this discovery, that many of the minerals composing the crust of this earth, may be but crystallizations of one and the same body.

**Discoveries.**

The discovery of a "perpetual motion" has long been a hobby with many men. Many have deluded themselves in pursuit of this phantom, for it is nothing else, and many knowingly have deluded others. An ignorance of principles—excepting by chance, as it were—always involves the certainty of making mistakes. A man thoroughly versed in the philosophy of mechanics never will spend a moment of time in inventing a machine, which, in any condition or under any circumstances, is to give out more mechanical power than the amount of force which propels it. This is an established law, for if a machine could give out more power than that which impels it, then that machine could move itself without the aid of any other power, which is impossible.

It is a great anomaly in our Patent Laws, that while they protect the application of a principle in mechanics, they afford no protection to the discoverer of a philosophic principle.

The inventor of the Electro Magnetic Telegraph did not discover a single philosophical principle of its operation, and yet its whole action and operation depends upon philosophical principles. When we look back only a few years, and see that Galvanism, Electro-Magnetism, Electrotyping, and the Daguerreotype, have been discovered, who can doubt, but that many other discoveries, equally as important and wonderful, will yet be made.

**Whitelaw & Stirrat's Water Wheel---the Overshot at a Discount.**

One of Whitelaw & Stirrat's water-wheels, manufactured at Cold Spring, N. Y., by Mr. Findlay, and embracing his improvement, was shipped from this city, last week, to Vera Cruz, from whence it is to go up the mountains to Miraflores, to the cotton factory there, of which Mr. Robertson, is agent. It is to take the place of a thirty-foot overshot. One of these wheels has been tried for the past six months, and so satisfactory has its performance been, that the second over-shot is to be removed, in order that the new wheel may take its place. The falls in Mexico are high, and the supply of water during some parts of the year, is very small; this re-action wheel is better adapted to meet these conditions, it seems, than the old over-shot.

**The Woodworth Patent---Its Extension.**

We understand that great efforts are to be made, during the coming session of Congress, to get this patent extended by another special act. It is our opinion that this cannot be; a most determined resistance and influence will be exerted against it; and, as we learn, the influence against it will be stronger than for it.

**Gutta Percha Pens.**

Among the most recent inventions, says an English paper, are gutta percha pens, which are stated to be far more durable than goose quills, and more available than the metallic materials. This appears to us to be a rational improvement. No metal pen can equal the goose quill except in retaining the writing point longer. Gutta percha pens will no doubt have the soft flexibility of the goose quill.

We would call attention again to the desirable invention of a pencil that would altogether answer the purpose of pen and ink; this would be one of the grandest discoveries of the age, because one of the most useful, and it would no doubt make the fortune of the inventor. We know a gentleman who pursued this subject for a long time, and on one occasion hit the mark, but he never was able to do so a second time. That it was done once is an evidence that it can be done again. Inventors, here is a subject for you.

**Verdict of the Jury in the Greenwich Avenue Calamity.**

Last Friday the Coroner's Jury closed its inquiry into the causes of the late calamity in Greenwich Avenue school. They condemned the construction of the stairs, that is, their plan, also the plan of having the doors open inwards. They attach no blame to the teachers, and but a shadow of blame to the constructors of the stairs. The verdict says, the children became suddenly alarmed by the illness of Miss A. Harrison, got excited—unaccountably excited, by an impression that the house was on fire, and rushed out of doors. This, no doubt, was the primary cause of the mournful calamity. Respecting the stairs, the jurors' opinion—not verdict—is as follows:

"We would be understood then, not as condemning the good intentions or honest purposes of those designing the work, but the design itself, the structure as it left the hands of the master-mechanics, we do, in the most unqualified terms, condemn as being unsuited to the purposes designed, bad in their arrangement, at all times insecure and dangerous, and never properly and thoroughly secured by the builder. We regret most deeply the necessity of this latter remark."

**Gas Light in Factories.**

There are several manufacturing establishments in this country, which are illuminated in the evening by gas, made on the premises. This is without doubt more economical and far more convenient than any other mode of lighting, and would be more generally adopted but for indistinct notions of its use in cities, where its explosions and bad odors are common themes of remark. This, probably, is one reason why so few trouble themselves to inquire into the process of its manufacture or the practicability of its use on the small scale.

I am inclined to believe that the luxury of gas might easily be enjoyed in many of our country villages, especially in factory villages. In large establishments, particularly where steam power is used, what is to prevent the facile manufacture of coal gas enough for the concern and for the village around, with but little increase in the consumption of fuel? With an ordinary cast-iron gas retort, about 3,500 cubic feet of gas can be made per day—a quantity sufficient for a large factory and a small village. Could not the retort be arranged inside the fire place of the boiler, without any inconvenience or increased consumption of fuel? Perhaps the employment of one extra hand in the fire room would be necessary. The amount of English coal required per annum would be small, while the refuse coke would be useful in making steam. In point of economy, is not coal gas about three times cheaper than oil or tallow? Mr. Editor, just ask some of your enterprising and ingenious readers to investigate this subject.

JOHN GO-AHEAD.

[A number of factories with which we are acquainted, and which a few years ago used oil exclusively, now use coal gas made on the premises. In conversation with an agent of a factory, about a month after the introduction of the coal gas, he said, "I am surprised that we used the dirty oil lamps so long, they were more troublesome, dangerous, and expensive than gas by fifty per cent at least." It would not be possible to arrange the retort in the

boiler furnace, as suggested above, nor would it be so convenient for changing the same. It is best to use two retorts, and we like the fire-clay kind the best; but these cannot be obtained at present, we believe. We hope those factories and villages which are yet revelling in the darkness of oil light will give attention to friend "Go-ahead."

**The Proposed Exhibition at New York.**

The proposal for holding an Industrial and Fine Arts Exhibition at New York, in the spring of next year, to which we have previously referred, appears to realize the best expectations of the projectors. Although no steps have yet been taken for ascertaining the number of persons in the United States who may wish to avail themselves of the opportunity of displaying the varied products of their industry, upward of one thousand applicants for space have already been received by the agents in this country, mainly from British and foreign exhibitors in the late Great Exhibition. We are informed that among the intending exhibitors are His Royal Highness Prince Albert, who has signified his intention of forwarding some of his farm produce, and the Duke of Devonshire, who contemplates sending various articles from his extensive collection of works of art. Baron Marochetti has engaged to execute an equestrian statue of General Washington; Mr. Carew a colossal statue of Daniel Webster, M. Monti is engaged in the production of one of his veiled figures, and Mr. Manning has consented to send his Prometheus, a statue of Her Majesty and Prince Albert, and several other articles of sculpture. The building in which the exhibition is to be held will, it is stated, cover an area of seven acres, and Sir Joseph Paxton is at present engaged in the preparation of a design which he intends to submit to the promoters of the undertaking. The 1st of February is the last day for receiving applications for space, and the Exhibition is expected to open on the 15th of April. Mr. Riddle, the American Commissioner, has returned to New York, where the experience which he has obtained in the management of affairs connected with the Great Exhibition will, no doubt, be brought to bear in making the necessary arrangements for the proposed transatlantic Exhibition.—[European Times.]

[The above is something in which the European Times is far ahead of the American Times. The good people of New York are entirely in the dark about this new Crystal Palace. Some of our folk have been pulling the wool over the eyes of the people on the other side of the water. Nevertheless we would like to see such an exhibition, but we don't want one unless it is capable of cutting a figure.

**Great Rat Trap.**

Mr. J. H. Chester, of the city of Cincinnati, has taken measures to secure a patent for a very ingenious "rat trap." It is so constructed that when Mr. Rat enters and reaches forth to snatch the bait, his weight acts upon a spring trap door, which suddenly opens and precipitates him into a dark chamber, in which he can see only one speck of light, for that he rushes into another chamber, and by doing so sets the spring of the trap door by touching a lever, and in this manner the trap is re-set and kept set for any length of time by the animals themselves, so that without any trouble but to the rats, a whole box full may be caught.

**Improved Stove.**

Mr. Giles F. Filley, of St. Louis, Mo., has taken measures to secure a valuable improvement in Cooking Stoves, which consists in placing a chamber at the back and bottom of the fire grate, said chamber communicating with a flue underneath the oven. The object of the chamber is to equalize the heat around the oven, and this is done effectually by it, as the heat of the chamber passes into the flue under the oven, and the oven at that point, in ordinary stoves is the least heated, while the oven directly behind the grate is over-heated.

Geo. Peabody, Esq., the eminent American banker in London, has given \$1,000 to the Maryland Institute, which is to be appropriated to the establishment of a chemical library and school.



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 NOVEMBER 23, 1851.

To E. B. Bigelow, of Clinton, Mass., for improvement in Wires for making Pile in Woven Fabrics.

I do not limit myself to any particular form or mode of attaching the weight, as this may be variously modified. But I claim combining with the flat pile or figuring wire, employed in weaving looped or piled fabrics, and attached to or near one thereof, a weight, for the purpose and in the manner substantially as described.

To Elias Howe, Jr., of Cambridge, Mass., for improvement in Fastenings for Garments.

I claim the opening, closing, and fastening together, the two sides of a garment, or other article, by means of the clasps and ribs, operating in combination, substantially in the manner described.

I also claim the method of connecting the clasps one to the other, in pairs, and in the series of pairs, by the links, cord, and beads, substantially in the manner set forth.

To H. H. Huntley, of Cincinnati, O., for improvement in Cooking Stoves.

I claim the driving flues opening from the floor, as described, and, in combination with this, the chamber, for the purpose described.

To Geo. W. Carleton, of Brunswick, Me., for improvement in Cooking Stoves.

I claim the employment of the three movable plates, constructed and arranged as described, viz., one of the plates being hollowed, affording a passage or flue, when not cut off by the damper through which the heat passes, warming the ovens formed by the plates, the plates being capable of being withdrawn from the stove, or varied in a vertical position, by which arrangement the stove can be converted into an air-tight or draught wood or coal cooking stove, cooking range, or a wood or coal draught or air-tight radiating stove; or into a Franklin stove, substantially as set forth.

To Jonathan & John J. G. Collins, of Chester, Pa., for improved Safety Apparatus for Steam Boilers.

First, we claim the bent tube formed and arranged substantially as described, to contain mercury, in combination with the lever of the safety valve, or its equivalent, and connected with the steam boiler by means of a swivel and a pillar connection, or its equivalent, whereby the varying pressure of steam varies the actual weight upon the valve.

Second, we also claim the combination of the connecting rod and the lever, and the shaft for connecting the mercurial gauge, with the catch box, and the projection on the catch box, whereby the mercury in the gauge, being the weight, holds down the safety valve, or sets it at liberty, by the pressure of steam from the pillar and swivel, said pillar being supplied with steam from the boiler or boilers, as described.

Third, we also claim the combination of the rod with the spiral spring upon it, and a small pulley at the top of it, with the notched pulley for holding the catch box together, so long as the full part of the said pulley is on the small pulley, or setting it at liberty, when that part of the pulley that is cut out comes opposite the small pulley, and thereby allowing it to ascend, as described.

To Elijah Goldthait, of Fort Wayne, Ind., for improvement in Plows.

I claim, first, the cutter, or its equivalent, to separate the sward for the first furrow, at a proper distance from the coulter, acted upon by the prop and lever, or their equivalents.

Second, I claim the piece fastened to the heel

of the mould board, in combination with the cutter to turn wide furrows.

Third, I claim the mode of connecting the tongue and plow, respectively, to the axle, by means of the link and the loose tenon on the tongue, substantially as described, so as to allow the team to walk entirely aside from the furrow or direct course of the plow, in plowing prairies, marsh, or other land with soft under strata, and make the plow run smoothly and work well; and so as also to enable the plowman to take an extraordinarily wide furrow, with one member of the team walking in the furrow, with a common yoke, thus dispensing with the long yoke now commonly used for that purpose.

Fourth, I claim the rope and lever, or their equivalents, in combination with the mode of connecting the tongue and plow to the axle, substantially as described and for the purposes set forth.

To Daniel King, of Brooklyn, N. Y., for improvement in Centrifugal Sugar Drainers.

I claim centrifugal machines for separating fluid from other matter, constructed and operating as set forth, with detachable vessels, containing the substance to be operated upon, irrespective of the exact mode of attachment, the number of vessels used, or the form.

To T. H. Mortimer & J. M. Gardiner, of Charleston, S. C., for improved method of operating Rudders. Patented in France June 11, 1851.

We claim controlling the operation of the rudders, in such a manner as to bring either into operation while the other is stationary, by means of the sins or studs on their tillers, in combination with the grooves or slots in a wheel or disc, receiving motion upon an axis or by the equivalents of the same, substantially as described.

To Orrin Newton, of Pittsburgh, Pa., for improvement in the manufacture of Door Knobs.

I claim the combination and arrangement of the arms, sliding plate, springs, and lever, substantially as described, operating in the manner, or any analogous way, for the purpose set forth.

To Milo Peck, of New Haven, Ct., for improvements in Drop Presses.

I claim the general arrangement and combination of the crank and shaft, with its sweeps moving in the same direction with the moving gear or pulley, and the ratchet wheel, jointed together and running loose upon the shaft, constantly in the same direction, substantially as I combine them, for the purpose described.

I also claim the lock in combination with its sweep and springs, and with the crank, to stop its motion not too abruptly, and to hold it until it is unlocked, by the hand or foot of the workman, substantially as described.

To D. F. Phillips, of Republic, Ohio, for improvement in Cider Mills.

I wish it to be understood that I make no claim to originality of invention to any part of the mill, separately considered; nor do I claim as new any part of the arrangement of the press, grinding cylinder, or hopper. But I claim the arrangement of the parallel slicing knives, in combination with the reciprocating follower, made as described, with channels and ribs on its inclined face, when used with a grinding cylinder and concave, made and arranged as described, for first slicing the apples and then delivering the slices, successively, to the grinding cylinder, to be reduced to pumice in the manner described.

To Franklin Skinner, of Dunkirk, N. Y., for improvement in Shingle Machines.

I claim, first, the peculiar form and mode of adjusting the riving plate, the same being self-adjusting by means of the spring upon which it rests, and the end of the plate contiguous to the riving knife being bent upward, (to accommodate irregularities in the grain of the shingle timber), as specified.

Second, the employment in combination with a shingle shaving machine, of the rolls, levers, hanging rod, spring, and bent lever, or their equivalents, the whole being arranged and operated in the manner and for the purpose described; the levers, rod, and spring acting upon the rolls, and pressing them uniformly towards each other, for the purpose of unwinding or straightening the rived shingle in the first instance, and the bent lever (being operated by the motion of the connecting rod, and acting upon the spring) having the effect

of increasing the force or pressure of the rolls upon the shingle (as the latter passes between them), for the purpose of preventing the splitting of the shingle, in advance of the cutters, as they approach the thin end of the shingle, as set forth.

To Wm. M. Smith, of Georgetown, D. C., for improved Valve for Oscillating Engines.

I do not claim the circular valve, nor the manner of reversing the engine by turning the valve. But I claim the arrangement of the piston valve, with a ground face, in a cylindrical steam chest, as described, by which the necessity of packing about the trunnion and plummer block is avoided, consequently saving much friction in the trunnion.

To F. A. Stevens, of Burlington, Vt., for improvement in Railroad Car Brakes.

I claim the combination and arrangement of the levers, link rods, and shoes, or rubbers, substantially as described, whereby each wheel of both trucks of a car is retarded with an uniform force, when the brake is put into operation.

#### RE-ISSUE.

To Solyman Merrick, of Springfield, Mass., for improvements in the Screw Wrench. Dated Aug. 17, 1835. Extended May 14, 1849. Re-issued Nov. 25, 1851.

I claim combining with a wrench, in which the inner jaw slides on a bar permanently attached to the outer jaw and making part of, permanently attached to the handle, substantially as described, a screw-thread and nut, connecting the movable jaw with the said bar between the said movable jaw and that part of the handle grasped by the operator, in the manner and for the purpose as described.

I also claim the arrangement of the screw upon the circular edges of the flat bar, in the manner and for the purpose described.

#### DESIGN.

To Ezra Ripley & N. S. Vedder, (assignors to Low & Hicks), of Troy, N. Y., for Design for a Parlor Stove.

#### Pneumatic Pile Driver.

A very excellent paper upon this mode of sinking piles was recently read before the English Association of Civil Engineers, by G. J. Hughes, C. E. The bridge erected upon the piles crosses the Medway at Rochester (Eng.)

The bridge was described, as being designed to consist of three large openings, a central one of 170 feet in width, and two others, each of 140 feet in width, spanned by cast iron segmental girders, and of a passage to admit masted vessels to the parts of the river, across which a movable bridge would be placed. Each of the river piers occupied an area of 1,118 square feet, and rested upon a series of cast iron cylinder piles, 7 feet in diameter, placed 9 feet apart longitudinally, and 10 feet transversely, so that there were fourteen under each pier. The cylinder piles in the abutments were 6 feet in diameter, of which the "Strood" abutment required thirty, and the "Rochester" abutment twelve. Each pile was composed of two, three, or more cylinders, 9 feet in length, bolted together through stout flanges; the bottom length had its lower edge bevelled, so as to facilitate the cutting through the ground. The bed of the river was originally presumed to consist of soft clay, sand, and gravel, overlaying the chalk, and accordingly the application of Dr. Pott's pneumatic method for forcing the cylinder piles into the ground, which had been successfully carried out in similar positions, was contemplated; but after a few trials, the ground was found to consist of a compact mass of Kentish rag-stone, so that the mere atmospheric action upon the piles, induced by a partial vacuum, would be ineffective in such a situation. It was therefore decided, that the pneumatic process should be reversed, so as to give each pile the character of a diving-bell; for which purpose one of the cylinders, 7 feet in diameter, and 9 feet in length, had a wrought iron bolt securely bolted to it, through which two cast-iron chambers, D shaped in plan, with a sectional area of 6 square feet, appropriately called air locks, projecting 2 feet 6 inches above the top of the cylinder, and 3 feet 9 inches below the cover. The top of each air lock was provided with a circular opening, two feet in diameter, with a flap working on a horizontal hinge, and an iron door, 2 feet by 3 feet 4 inches, with vertical hinges below the cover; each air lock was also furnished with

two sets of cocks, the one for forming a communication between the cylinders and the chamber, the other between the chamber and the atmosphere. Compressed air was supplied to the cylinder pile by a double-barrelled pump, 12 inches in diameter, and 18 inches stroke, driven by a six horse-power non-condensing steam engine. At first the expelled water was made to pass into the river, from beneath the lower edge of the pile; but when the stratum became so compact as to oppose a high degree of resistance to the passage of the air, an outlet was formed through the side of the uppermost cylinder, by the introduction of a pipe, having the form of a syphon, the long leg of which reached to the bottom of a pile, and was subject to the pressure of the condensed air on the surface of the water within, whilst the short leg, leading into the river had the effect of relieving the amount of compression, providing a vacuum was once obtained in the body of the syphon. Such an effect was readily produced by connecting the summit with the exhaust side of the air pumps, by a pipe which could be opened or closed at pleasure. To insure the downward motion of the pile, and to give it a weight which should be at all times superior to the upward pressure, two stout-trussed timber beams were laid on the top of the cylinder, in a direction suitable for bringing the adjacent piles into action as counterbalance weights, by four chains passing over cast iron sheaves.

Two light wrought iron cranes were fixed inside the cylinder, the jibs of which swept over the space between the air locks and windlasses, inside, for the purpose of hoisting the loaded buckets and lowering the empty ones.

The method followed in working the apparatus was found to be so simple in detail as to be perfectly intelligible to all the workmen employed. The pumps being set in motion, the flap of one of the air locks and the door of the other were closed; a few strokes compressed the air within the pile sufficiently to seal the joints, and whilst the pumping was in progress, the men passed through the air locks to their respective stations. When the water was shallow, the pile descended, by scarcely sensible degrees, as fast as the excavation by hand permitted; but when the water was deep, the excavation was carried down full 14 inches below the edge of the pile, which then descended, at once, through the whole space, as soon as the pressure was eased off.

We wonder what has become of this invention in our country. It was illustrated in Vol. 5, Scientific American, and has been patented here; but we have heard nothing about it in a long time.

#### American Astronomers in Europe.

The Paris correspondent of the Boston Atlas says:—

"The names of the Messrs. Bond (father and son) have been again mentioned with honorable praise by M. Arago before the Academy of Sciences, when communicating to that body the observations of Mr. W. C. Bond and Mr. G. P. Bond who discovered a new ring in the interior of the old ring of Saturn. M. Arago observes, however, that as to the question of the unity or variety of Saturn's rings, no definite opinion can be formed until astronomers shall have observed stars in the black bands, which seem to mark the limits of the several rings, and this cannot be done until Saturn, which is placed 330 millions of leagues from the sun, shall pass over that way, where stars are so numerous. The astronomers of the Roman Observatory have remarked five or six rings around Saturn."

#### Castor Oil for Light.

The Jacksonville (Ill.) Journal says, it may not be generally known that castor oil is better for lamps than sperm or lard oil, which is the fact. Some years since, when this oil was cheaper than either of the others, the editors of that paper used it in their parlor lamps, much pleased with the result; it gives a white, clear and beautiful light, and does not clog the wick. It sells in Illinois at one dollar a gallon.

A marble statue of the late Chief Justice Tindel has been placed on the town pump of his native place, Chelmsford, Eng., an odd conceit, which provokes not a little merriment.