# Scientific American.

# Scientific American

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#### Knowledge is Democratic.

make, are applicable to men of every age and mind that), the moon in her usual course has in every condition of life. "Knowledge is always been brought in to fulfil part of the power :' wealth is only desirable because of contract. Now this would have been very those things which it can purchase to grati- wise, had the moon been a primary luminary, fy the desires, but there are some things which but no matter. Well it so happened on the cannot be purchased with wealth, and know- nights of Wednesday and Thursday of last ledge is one of them. Wealth can purchase houses, lands, adherents, and bauble honors, and a man may sit down and enjoy these things at once. An heir to an empire may be born, he may be the legal successor to thrones, armies, and navies; over all these he may exercise dominion and be their possessor, but no | traveller on his darksome way. The fault was man was ever born an heir to knowledge. | in the moon not fulfilling the part allotted to An idiot may be born a prince or lord, a fool her in the contract. As for the almanacs among beggars, while the son of a beggar may be more than a prince among kings and more than a titled lord among magnates. Books, i aldermen may make out of it, unless it be to teachers, and money may be lavished to procure knowledge, but the individual cannot obtain it from teachers or books, without personal effort. Knowledge can only be obtained by labor, and without this no man can obtain it; and however poor a man may be, if he labors to acquire knowledge, he cannot fail of success according-yes according-to the amount of labor he expends in the search of it. The nobles and magnates of European nations are well aware of the "power of knowledge." This is the reason why they have endowed splendid colleges to which they send their sons to labor as any plebian's sons must labor, in acquiring knowledge. Knowledge therefore, is democratic; it is true that more time and means may be at the command of the rich than the poor, and in this respect, the former have the decided advantage; but they are brought to the same level in one respect, they must work. One acquires knowledge faster than another, all have not the same faculties, but talent is in the mass. The majority of great men have sprung from the people. Shakspeare, Newton, Franklin, Watts, Burns, Fulton, &c., were men of ture consideration shall be found most advanthe people, the workers-plebians born, but kings of mind, while crowned monarchs beside them are but kings of mud.

There is another wrong notion abroad respecting "a learned man." Some suppose

We talk of this and that influence, levelling gers there direct, then their requests would be short but comprehensive and clear articles. The same care should be exercised in selecting the mass of men upwards, but the great elevareasonable, if backed up with the home authopaper for rooms, so as to have the colors har-Young Children in Factories. tor and democratic reformer is knowledge. rity. What if the American mails were carmonize with the situation. Carpets should be The Providence (R. I) Post states that there ried to Galway, without any provision by the The well behaved intelligent man is respected selected with the same regard to the associaare young children working in some of the British Government to make that a mail staalthough he may be poor, and we wish this tion of feelings. Houses facing the north side Rhode Island mills, of such tender ages that they fact to be spread far and wide, and to be felt tion? Why the mails might be there for a of streets, when painted dark brown, really appear to be more fit for cradles than working by every man. The possessor of knowledge month without reaching the London Post Oflook as if they were "done up" brown. in a factory. During the past winter they who enjoys the simple pleasure of reading, is fice. The best way the Irish people can do have been employed from half-past five in the more rich strictly speaking, than the rich ig- is not to go round the world begging for an Quarrels of our Countrymen in London. morning till 8 o'clock in the evening. We do norant man and he feels conscious that he Irish Atlantic Mail Station, but to jump in Our correspondent merely hints at a misnot know anything about the positive correcthas the means of gratifying a desire-of enjoy- and invest their funds in steamships and make understanding among the exhibitors from our ness of the above : it appears too terrible to country, who are now in London. There has Ireland a commercial country. Let Dublin, ing an enjoyment (tautological though the expression be) of a more pleasurable nature Galway, and Cork look to Belfast, and take an been a disputa, and we are sorry for it-all believe. What are the Quakers of Rhode Islthan any which can be enjoyed by the most example from her in respect to commercial en- proceeding from the floundering and blunder- and about ? wealthy barbarian who cannot say his A B C. terprise. It would be more reasonable for the ing certificates granted at Washington, to M. Shortest Passage Ever Made Across the Atpeople of Boston to petition for the departure | C. F. Stansbury and Mr. Riddle. It seems lantic. New York Gas Lights. of the American Mail Steamers from that port, that Mr. Stansbury received a commission to The American Republican Mail Steamship Our corporation authorities are great philo- it being at least one day's sail nearer to Eng. see all the goods safely on board the St. Law- ""Pacific" arrived at this port on Saturday at sophers. Whatever progress others may have | land, but would not the idea be laughed at?' rence, and safely delivered at the Exhibition, 10 A. M., after a passage of 9 days and 20 made out of the common well-beaten track of Why? Because the mail contractors are a when his powers were to cease, after which hours from Liverpool, the shortest on record old common sense, they exhibit a patriotic New York Company, and they have rights Mr. Riddle's were to commence, and to wind The Pacific has made the two shortest passages spirit of conservatism, for which each member which cannot be annulled by the government. up with the termination of the Exhibition. ever made across the Big Pond. deserves more than a civic crown, or the equi- It is the same with the Cunard vessels, but Well, it seems that Mr. Stansbury got himself When news of the Pacific's arrival was vocal honor of being supposed to be capon- the Irish corporations seen to think that gov. introduced as the Commissioner, and was in- announced at the Exchange, three cheers were lined, when wearing the heraldric honors of ernments should do every thing for that people troduced to the Queen as such, when lo ! who given for the Collins' Line. [<sup>DD</sup> ex-alderman &c. To the honor of our corpo- and the people nothing for themselves. The should arrive but Mr. Riddle, and his certifi-It is expected by many now living that they rate authorities be it spoken, they slone seem people make the country, not the government. I cate is at once recognized by the Commis- will yet cross the Atlantic in seven days. 립

sceptical age to have departed from all the world beside. Thus when a contract with a gas company to supply our streets with gas light, (gas was not made to light our streets The few remarks which we are now about to | with light, but to supply the city with gas, week, that the moon failed according to the almanac, to fulfil her share in the contract. and consequently our city was without light. The streets during the storm were so dark, that even "a lantern dimly burning," would have been an object of delight to cheer the lonely wherein that part of the moon's contract is specified, why we don't know what our philosophic pass some penal statute, to force the nightly luminary into future obedience. As a people we are far in advance of other nations in captains of ships take advantage of every opsome things, but not in municipal management-that's a fact, more especially in the manner of illuminating our streets.

### Atlantic Mail Station on the West of Ireland,

"We learn from Ireland," says the Tribune, "that the advantages which the harbors on the Western coast of the Island, and especially Galway, offer to American commerce, are about to be set forth in a memorial to the President and Congress of the United States, which will bear signatures of great respectability from Dublin and other parts of the Island. It is contended that the voyage would average at least forty hours less than to Liverpool, and might be accomplished with greater safety and with less delay from unfavorable winds. The memorial will ask to have the U. S. Mail Steamers stop at Galway instead of going to Liverpool. We have no doubt its petition will be respectfully considered, and that such action will be taken on it as on matageous to the interests concerned. If it is a fact that the transit between Europe and America can be made more quickly and safely times as long as another will now be able to by way of Galway, that must eventually be the route."

It is all a piece of nonsense to suppose that that a man cannot be learned unless he is a preservative and enduring qualities. Rosin great astronomer, or can speak twenty or thireither the American or British Governments cate with the Editor, he desires them to do so varnishes are liable to crack and blister, not ty languages, and soon; and others that a man will pay the least attention to the unreasonaby letter in as few words as possible. Write, the linseed oil varnish. must be profoundly acquainted with all the ble notions of Irish corporations or any other and re-write, so as to condense and clarify :---In painting rooms we have noticed some grand mistakes, and they are not uncommon. this will be found to be of great benefit to sciences. There are very few who acquire a corporations. The payability of mail routes profound knowledge of more than one science, In the choice of color, much, yea, everything, those who write. We have many corresponis the first question, not the practicability. depends on situation. A room that 18 much | dents who can and who do this, in a commendas a single science requires a lifetime of study. The route between Halifax and England is shaded should be painted a lively color, and able manner. We do not address this to them. Such men as Humboldt and Henry are excepshorter than between Liverpool and New York, tions; but although a few men become emiyet it was one of the wisest moves ever made one that looks to the north should be painted. Thoughts are more easy to condense on paper nent in a number of sciences, the fact is beby the British Government, in allowing the a warm color, one looking to the south may than by tongue, so every man should also write yond dispute, that a man must pursue con-Cunarders to come direct to New York. If Galbe painted a moderately cold color. We have to us clearly and in a compact style. We tinually one branch of science to become proway was a shipping port of any consequence, seen rooms looking to the north painted light | have received a number of communications, foundly versed and eminent in it. -if it would pay to carry freight and passenlately, which have been laid aside. We want blue, they always looked cold and cheerless.

to preserve that deep respect for almanacs (as The Cunard steamships are owned by a Scotch sioners of the Exhibition. The American exalmanacs of moonlight) which seems in this company; why not an Irish one? Scotland hibitors have held two meetings, and our pays about as much taxes, has only one half friend Mr. Macdaniel stated that he saw the the inhabitants, her soil is poor to a proverb, Commissioners hand back Mr. Stanbury's cerher nobles are continually in England, and yet tificate and place Mr. Riddle's on file. A vote one single company, in one city, owns more steamboats than all Ireland. Ireland has the missioner, and adopted unanimously. same advantages. Let Irish gentlemen stop talkthe true friends of Ireland.

#### Painting.

ceive the force of the scrub brush. When we take into consideration the preserving nature of paint, it may be said "it costs nothing." It is very unwise to allow the paint of houses to fade or be worn off to a certain point of abrasion, in order to save a little-the intended | competitors, and bring honor upon themselves saving is an extra expense. Well do careful portunity to put on the paint, they know that economy lies in fellowing the old maxim "a stitch in time saves nine." Almost all our farmers do their own painting, so do our mechanics who reside in the rural districts. employed, and there is no other kind so uni- brick presses. Verdict for plaintiff \$1,000. versally applicable, both for the outside and inside of buildings. In the mixing of paint, | than one session; it has been a long trial, and let us give a few words of advice, and first of in one instance the jury did not agree. The all, the cheapest is not the cheapest in the patent claimed to be infringed is a brick true sense of the word. White zinc is stated | press. to be a good substitute for white lead, we do not speak thus personally about it. Use only the best white lead if you use any, and employ John Brown vs. Leonard Johnson and Richthe best linseed oil boiled. A little turpentine ard W. Trundy-For infringement of patent is used in the mixture, and here is where we wish to give the caution, use but very little of it. It is well known that turpentine makes defence offered. Verdict for plaintiff for \$5 the paint dry much quicker, but it fulfils the old adage "soon ripe, soon rotten." The turpentine reduces the oil into a saponaceous compound, therefore, if much turpentine is used, the paint will wash away with heavy rains. Those who have seen one paint last three tell the reason. Boiled linseed oil, when dry, has a hard yet elastic skin; in this consist its

was taken to recogniz Mr. Riddle as the Com-

It seems that the certificates for Stansbury ing and go to work and do something for them- and Riddle were very carelessly made outselves. Ireland has noble rivers, a rich soil, just like the way they do business, sometimes, and a good climate, and yet what do we see ? : at Washington. But after it is well known Only one city in progress in all the island (Bel- that Mr. Riddle is the sole commissioner, fast), and that one in a barren part of the Stansbury, by the last reports, had refused, country compared with Dublin or Cork. Those formally, to deliver over the goods to him, and who dare not tell the Irish the truth are not there the goods of our exhibitors were lying piled up in heaps.

Our government is great for appointing scuf-The time is at hand when houses will be fy men to minor offices-men who, by such painted to restore the worn out coating, and conduct, bring disgrace upon our country. old paint, dingy, but of sound surface, will re- Others will think we are a set of disorganizers in word and deed. Well, it is a good thing that we have men, and many of them, too, who stand above such petty doings-men who are honored in every land. We hope that our exhibitors will yet stand high in the scale of and their country.

> The Exhibition will continue open about four months.

#### Patent Cases.

U. S. Circuit Court, New York, April term. Judge Nelson, Thursday 17th April.

Alfred Hall vs. John Wiles-For alleged in-White paint is that which is most generally  ${}^{\dagger}$  fringement of patent for the manufacture of

This case has occupied the court for more

On the same day, before Judge Nelson, the following cases were decided :

for gaff of vessel, the improvement being in a means to prevent its chafing the mast. No (for one gaff); amount trebled by the court.

Similar suits, with like results, were tried against Jas. Nesmith and Jose Maria d'Mello.

[The patentees, it will be observed, in these cases, were successful. We like to see infringers real, self-known infringers, put through. This does not always happen.

### Notice to Correspondents.

Those who have any business to communi-



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CP Reported expressly for the Scientific Ameri can, 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 fan a larger circulation than any other journal of its class in America, and is the only source to which the publio 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 WEEE ENDING APRIL 15, 1851.

To C. A. Broquette, of Ruy Neuve, St. Nicholas, St. Martin, France. for improvement in material for transferring colors in Calico Printing. Patented in France, April 1, 1849 ; in England, April 21.

I claim the use of extract of fibrine, to form, with or without any other oilv or fat matters. by the means which I have described, or any other equivalent means, a mastic, adequate to thickening and retaining on fibres, threads, tissues, of every description and of every material or substance, the archil color, and such other colors as are incorporated with that mastic.

I also claim the above process of preparing and purifying the extract of cassine, in order by the means which I have specified, or any other equivalent means, to impart to fibres, threads and tissues, of vegetable nature of every description, by means of a preparation of mordant, the property of better uniting to or attracting the coloring matter of archil, and in general other coloring matters, either in printing or dyeing, whether this preparation or mordant be applied on the fibres or threads of vegetable nature, previous to the weaving, or whether it be applied after the weaving on tissues of vegetable nature, or on tissues composed partly of vegetable and partly of animal substances.

[We understand this to cover the use of glue in color making : if so, we know of it being used perhaps before Broquette was born. The Patent Office, however, knows little about these practical arts.

To John Buckingham & J. H. Baird, of Watertown Conn., (assignors to The Scovill Manufacturing Co.) for improved Milling Tool.

The rotaring die for making impressions on metals and other substances, is a well known instrument, and we make no claim founded on that instrument, in itself considered. But we claim the combination of such die with an axle, on which the same may vibrate, which axle is at right angles with the axis of rotation, and not in the same plane, substantially in the manner and for the purposes set forth. To E. T. Hanon Valcke, of Paris, France, for im provement in Mill Stones.

I claim constructing the running stones of mills with oblique apertures, or passages, through the body of the stone, and provided with hoods or funnels, to collect the air during the rotation, and connected on the grinding face of the stone, with furrows, substantially as described, when this arrangement is combined with the use of vertical pipes leading from the extremity of one of the apertures or passages, to a funnel leading to the next succeeding oblique passage in the body of the stone, substantially in the manner and for the

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fected by means equivalent to those within named.

To R. F. Loper & John W. Nystrom, of Philadelphia, Pa., for improvements in the Steam Engine. We claim, first, the construction and ar-

rangement of the columns by which the steam cylinder is connected with the bed frame, in such manner that they constitute the air pump and condenser, substantially as herein set forth.

Second, the method herein described of actuating the cut-off valve of one steam cylinder, by a motion derived from the valve or valve rod, of the other cylinder, substantially as herein set forth.

Third. the adjustable supplementary valve in connection with apertures or ports in the steam valves, by means of which the steam can be worked at full pressure throughout the whole length of the stroke, without disengaging the cut-off valve.

To J. S. Marsh, of Lewisburgh Pa., for improvement in CookingStoves.

I claim the apertures and the passages by which the air containing the surplus heat from the oven is conveyed to the back of the firechamber, where it receives an access of heat, and afterwards to the flues, by which arrangement the heat is equalized between the two ovens, and the upper one is ventilated as set forth.

To S. S. Putnam, of Boston, Mass., for improvement in Window Curtain Fixtures.

I claim the method or means herein described, of fastening the confining bar in the groove of the roller in which the cloth is pressed; that is, by having the ends of said bar rebated as described, and fitting the caps at the ends of said roller over said rebated ends of said bar, as above set forth; this arrangement of the caps and bar. (the said caps or one of them, being loose, so as to move laterally, but not to revolve, the side of the rebated ends of the bar operating as shoulders, to prevent a revolution) enables me to adapt my improved fixture to windows of different widths.

To John W. Robbins, of Camden, Ohio, for improve ment in setting logs in saw-mills.

I claim, first, the vibrating dog having the distance of its head or tongue, with respect to the saw, adjusted laterally by a set screw, substantially as represented, so that by planing the tongue of the head, in each successive curf, and bringing the face of the log in contact therewith, the thickness of each consecutive board is exactly counterpart with the first. Second, I claim, for analogous purposes, at the rear end of the log, which is destitute of a curf, the vibrating dog, whose distance, in respect to the stationary block, is adjustable, by means of a set screw, the range between the head of the dog and the block, affording an easy and determined means of giving exactly the same thickness to the boards, at the rear end of the log.

To A. D. Spoor, of Troy, N. Y., for improvement in agitating Grate Bars

I claim the application to the movable grate, of two separate mechanical movements, whereby it may receive a rocking or a vertical vibratory motion, at pleasure, the several parts constructed and operating substantially in the manner shown and described.

To Andrew Dennison, of Bruuswick, Me., for ma chines for ontting out the corners and scouring the edges of paper for boxes. Ante-dated April 4, 1851. I claim the combination of the knife and die, substantially in the manner and for the purpose herein described.

To Samuel Avery, of Phoenix, N. Y., for improvein annaratus of operating I claim making the cog wheel with such a length of teeth that, when its spindle is forced outwards by the spring, they shall engage with the teeth on both sides of the cog wheel, F, thereby locking the same and securing the slats in any desired position, substantially as herein described.

the ascending flues, the central discharge flue, the oven or air heating chamber, and its surrounding flue space, all as represented and specified.

To John & Wm. W. Wood, of Conshchocken, Pa., for improvement in the process of manufacturing glazed sheet iron.

We claim the employment of thick plates of iron as shield plates ; or, in other words, placing four (more or less) thin plates between two shield plates of double weight, in forming packs for rolling, so that each shield plate will make two plates of proper size to constitute the inside plates of another pack, for the smoothing and finishing process, or rolling.

#### DESIGNS.

To D. Arnold, of Providence, R. I., for design for Cooking Stoves. To John Abendroth, of Port Chester, N. Y., for de-

sign for Cooking Stoves.

#### (For the Scientific American.)

Practical Remarks on Illuminating Gas. [Continued from page 238.]

The coal to be decomposed is first broken into small pieces, say from 3 to 4 inches square, and is then introduced into retorts (generally of cast iron), which are brought up to a cherry red heat, or a temperature of about 27°, Wedgewood, by a furnace in which they are placed, and whose fire is conducted by a series of properly arranged flues under and around them; the coal is then reduced to a level of uniform thickness, and the retort rendered air-tight by a lid luted with plastic clay, which is placed over its mouth. The amount of coal introduced at one time or as it is termed, a charge, is constantly varying; the amount of the charge being governed by the temperature of the retort, the freedom with which the gas is liberated, and various local causes, but the general quantity used for one charge in a single retort, is 2 bushels, or from 150 to 175 lbs. The decomposition of the coal begins immediately after being introduced into the heated retorts, and continues several hours; the quantity of gas generated gradually decreasing towards the end. According to Peckston, in an eight hours' distillation, the relative quantities of gas given off are, first hour, 20; second hour, 15; third hour, 14; fourth hour, 13; fifth hour, 12; sixth hour, 10; seventh hour, 9; and the eighth

hour 8 per cent. of the whole quantity: this experiment was conducted with a uniform tem perature and the retorts constantly at a red heat.

Before we describe the remaining portion of the apparatus, it may be proper to make a few remarks upon the ingredients of this gaseous mixture, and also upon the new combinations formed while the decomposition is going on. This combination consists (after the separation of the tar and aqueous liquid) of olifient gas, light carburetted hydrogen, carbonic oxide, hydrogen, vapors of the volatile oils of tar, sulphuret of carbon, ammonia, sulphuretted hydrogen, carbonic acid, cyanogen, sulphocyanogen, sulphurous acid, hydrochloric acid, aqueous vapor, and nitrogen. The carbonic acid and a part of the free hydrogen have posited in the boxes, while the aeriform pordoubtless the same origin, being formed from tion is conveyed off, with but a very limited the moisture in the coal and from portions of quantity of the tar and oil in suspension. aqueous vapors that are generated, which, passing over the red-hot coke, are converted into two gases. The nitrogen of the coal is

diving flues, the ash-pit, the lateral chambers, dependent; the other ingredients are small quantities of impurities, which are constantly varying under different circumstances, and are mostly governed by the supervision and welldirected care of the manager.

> If the heat at which the distillation is carried on is not of a uniform temperature, in all cases, the results, even from the same coal, will vary, according to Clegg, from fifty to sixty per cent, both in quantity and quality. If the retort is too cold, nitrogen and hydrogen are liberated and unite, forming ammonia, vapor of bitumen, (which afterwards condenses forming tar, ammoniacal liquor, and essential oils) and carbonic oxide. If the retort is too hot, all the dense hydro-carburets are resolved into carbon and hydrogen ; the product is greater, but the specific gravity little more than that of hydrogen, and the illuminating power of the gas decreased in the same ratio. (It will be found that the illuminating power of gas generated under the same circumstances is almost directly as its specific gravity; the heavier the gas, that is the greater its specific gravity, the greater the amount of light given. If gas of specific gravity 0.300 gives the light equal to six candles, that of the specific gravity 0.500 will give the light of ten candles, or as 3 to 5. This theory has been doubted; but Mr. Clegg ascertained the same result in 1817 from many experiments). Dr. Henry found that below a red heat almost nothing but hydrogen atmosphere air and some tar pressed off with hardly any illuminating gas, but that at a high temperature illuminating gas alone appeared, composed of carburetted hydrogen, carbonic oxide, hydrogen and nitrogen. At the heat of 27°, Wedgewood, or that of melting copper, (which has been found to be the best) the bitumen is decomposed, at the same time the hydrogen is liberated and unites with its carbon forming olifient carburetted hydrogen gases, often of specific gravity 0.470. The operation should not be continued for too long a time, for the process would in the end te productive of almost exclusively carbonic oxide and hydrogen. The following table showing the result of an experiment by Henry, out of 100 parts of Wigan Cannel Coal, fully

estauliblies these se	atemen	118:-	-			
Time of collection.	Specific Gravity.	Carbur'ed Hydrogen	Carbonio Oxide.	Hydrogen	Nitrogen.	Abs b'd by
In the first hour,	0 650 0.620	82 5 72	3.2	0 8.8	1.3	13
	0 630	58	12.3	16	1.7	15
5 hours after com-	0.200	56	11	21.3	4.7	7
101 mensement.	0.345	20	10	60	10	(

After the heat has developed the gaseous and liquid products of the coal, the latter in the form of coal tar and ammoniacal liquor are deposited in receivers or tanks, while the former are conducted by the means of castiron pipes to the refrigerator or condenser, which consists of a series of vertical pipes, so arranged as to expose as much cooling surface as necessary, and connected with boxes upon which they rest ; the warm gas, as it issues from the retorts, passes through this series of pipes, and becomes cooled, whereby the vapors of water, tar oil are condensed, and re-

J. B. B. (To be Continued.) American Shawls.

obtained entirely as cyanogen and ammonia. Ingenuity has been the occasion of recent partly in combination, and the latter is also success of the eastern mills in manufacturing found with sulpho-cyanogen, and the other shawls. The fringes of these shawls, in Scotacids forming volatile salus; the free nitrogen, land, are made by hand. The idea suggeson the contrary, is the residue of the atmosted itself to one of the enterprising mill ownpheric air contained in the retort. Sulphuret- | ers at Lawrence, that if a machine could be ted hydrogen and sulphurous acid are due to invented for weaving and knotting the fringes, the sulphur generated from sulphuret of iron, the shawl could be made at so light a cost, as commonly called iron pyrites, which almost to enable the manufacturer to undersell the invariably accompanies coal, and great care Scotch in our market. An ingenious mechashould be taken that all coal containing this nic-a carpenter we are told-with some aid substance be rejected. In the former the sul- from his son, hit upon an invention for making phur unites with the hydrogen of the coal, the fringes by machinery; and to this circumand in the latter it unites with the oxygen of tance the great prosperity of the manufacture the water contained in the coal. The first four is owing .- [Exchange. of the ingredients named, viz., olifient gas, Some mistake in the above. The foreign shawls could be sold much cheaper only for light carburetted hydrogen, carbonic oxide. and hydrogen, together with the vapors of the the duty; the quarrel between two New York tar oil, form the proper bulk of the gas, and importing houses in this city last year, brought erwise, the results always produced being ef- of combining the fire-place, the descending or upon these the illuminating power is wholly out facts which warrant this conclusion.

purpose specified.

To John Krauser, of Reading, Pa., for improve ments in Iron Railings.

I claim securing the palings permanently to the horizontal rods or bars of iron, for the purpose of constructing an entire section of railing by means of the methods of operating the rods or bars with the palings having jaws, recesses, and bearings, as described herein, and together with other devices in castings, termed saddles or troughs, having dovetails and tenons cast to them, for the purposes herein named, and this I claim, whether the several parts be formed and adapted to each other, and operated precisely as represented and described, or oth-

To H. Hoffman & C. F. Hill, of New York, N. Y., for improvement in Ornamenting Marble. We claim the above described ink, and the wax color and etch water used in combination therewith, substantially as described.

To D. G. Littlefield, of Lowell, Mass., for improvement in Cooking Stoves.

I claim the peculiar arrangement or manner