

Scientific American

NEW-YORK, DECEMBER 25, 1852.

Intelligent Mechanics.

From the means which we have of obtaining correct information upon almost every question, we are fully persuaded that we have very few intelligent mechanics in our country in proportion to the amount of population, and their own numbers. We are sorry to say this, but the truth compels us to do it. This should not be, for the means are abundant whereby they can obtain information to make them respected for every mental qualification. The desire, however, must exist in the mind, and it is for the want of this desire—this mental quality—to read good works and study good authors, that so much ignorance abounds.—Instead of reading useful periodicals and books, the great majority of them are delighted with the flashy stories and flippant literature of authors whose names and fame will never reach above nor beyond the very garbage of bookdom.

On our advertisement page there are two advertisements for men capable of conducting two separate trades; the one a practical chemist for dying and finishing woolen goods; the other a practical machinist. We know it is not easy to find a person who has toiled as a hard working mechanic in possession of the means required in the advertisement for the managing machinist, and this is the reason why such an advantageous offer is presented. This very fact should teach our mechanics how much it would be for their own benefit to employ their leisure hours in acquiring useful information, and obtaining such a mastery of their trades as to be able to conduct the same, and thus be ready to ascend to higher situations whenever opportunities like those on our advertising page are presented. We have frequent applications for practical intelligent mechanics who can superintend a business, and we know from experience how difficult it is to obtain them. Every man who works at a trade, no matter what that trade is, should learn it so thoroughly as to be competent to conduct the same in all its branches. Every mechanic should strive to be master of his business. There is philosophy in every trade, and why should not carpenters, tailors, machinists, dyers, millwrights, coopers, &c., be as intelligent as doctors, lawyers, and merchants? There is no use, as many mechanics do, of complaining about the aristocracy of this and that class; it is worse than foolishness; the aristocracy of mind is higher than that of wealth, and always commands respect. A gentleman writing to us some time ago, for a machinist to superintend his foundry and machine shop, said he would give him above \$2,000 per annum, but would be willing to give more could he get the proper person. "I want a good mechanic," was his language "and a gentleman, one who is courteous, intelligent, and with whom I can associate as a friend." The elevation of our working men is one object about which we are solicitous; we have often preached about it through these columns, and will continue to do so upon every proper occasion. It has been our object to present a chaste literature along with scientific and other useful information, but our circulation is only among the most intelligent of our mechanics, consequently the great mass for whom our remarks of this kind are designed will not see them. We will, however, thank those who do read them to talk upon the subject from time to time with their brother craftsmen, in order that they may feel the force of the old adage, "knowledge is power," and many be led to see the error and foolishness of their ways, and adopt a course of life which will lead them to ascend to the front ranks of Intelligent Mechanics.

Steam Engines.

The engines offered for sale in our advertising columns are worthy the attention of those desirous of purchasing a good article at a rare bargain. It should be remembered that the engines are new and the boilers have not been long used. We attend to the boxing and shipment without any additional cost to the purchaser. Such bargains are not often presented to the public.

The Ether Controversy.—Dangerous Legislation.

We have our regular elections for members of Congress, Senators, and chief officers of the general government. Men are sent to the seat of government to legislate for the welfare of the nation, by making such laws as are necessary for the good of the people, and adopting such measures as will add to the prosperity and honor of the United Commonwealths. It is supposed that these men are acquainted with the wants of the public, and that they will examine every subject legally brought before them, with scrupulous care, and act upon the same in all honesty, without favor, fear, or partiality. Within a few years there has grown up a most dangerous system of outer legislation; this is called the "Third House of Congress," and is composed of what are termed "lobby members." Our country must awake to the dangerous influences of this "house," for they are often seductive and unscrupulous. Of this we are fully persuaded by the evidence placed before us respecting the "Ether Discovery," and the attempt that was made to get a grant at the last session of Congress, of \$100,000 for its use in the navy, army, and hospitals of the United States. In 1846 Dr. C. T. Jackson, and W. T. G. Morton, dentist of Boston, secured a patent for rendering persons insensible to pain, by inhaling ether, so that surgical operations, such as extracting teeth, amputating limbs, &c., could be performed during the short period of insensibility. By some means it appears that Mr. Morton has obtained the ruling control of the patent, but a certain Mr. Eddy, of Boston has, (at least had) also an active share in it. To compensate Mr. Morton for his discovery, he petitioned last Congress, and the petition was referred to committees in the house and Senate. When Dr. Jackson heard about this attempt of Morton, he hurried to Washington to present his claims. An amendment, however, was tacked to one of the hurried appropriation bills in the Senate which proposed to award \$100,000 to Mr. Morton, but this award never was made.

The minority report of the House of Representatives, by the Hon. Edward Stanley, of N. C., and the Hon. Alex. Evans, of Md., the latter a scientific gentleman of reputation, completely establishes the fact, as we believe, that Mr. Morton has no just claims to the discovery of etherization. It is an able and strong report, but we cannot agree with some of its conclusions. The claims of Mr. Morton are founded upon having first applied etherization in October 1846, to perform a successful operation on a patient. The claims of Dr. Jackson are not upon having performed the first experiment upon a patient, but in having discovered anaesthesia in the winter of 1841 or 1842, by inhaling ether vapor to destroy the injurious effects of chlorine gas, upon his own lungs, which he had inhaled during some of his experiments. The experiment upon himself convinced him, to use his own language, "that he could be rendered insensible to pain for some time before unconsciousness took place, and that this state of insensibility of the nerves continued for a sufficient length of time to admit of a surgical operation, and that ether could be safely inhaled into the lungs to an extent before believed to be dangerous." He never, it seems, did perform a surgical experiment with it before 1846, but he communicated his opinions and experience to a number of respectable gentlemen whose testimony is beyond reproach. It is also asserted, and proof is adduced, that he informed Mr. Morton how to make his first experiment, and gave him his first idea of etherization. So far, Dr. Jackson's claims are impregnable; but what constitutes the true foundation to the title of this discovery. The report of the minority says, "no experiments of verification performed by another can take the right of a discovery from him who first formed the induction, and prescribed the means of verifying it." By this principle of judging, Sir Humphrey Davy has previous claims. He said, "as nitrous oxide in its extensive operation, appears capable of destroying pain, it may probably be used with advantage during surgical operations, in which no great effusion of blood takes place." Here is the induction, and we find that in November 1844, about two years previous to the first experiment by Mr. Morton (as directed by Dr.

Jackson,) Dr. Wells, of Hartford, Conn., at his own suggestion, had one of his teeth extracted by Dr. Riggs, while under the influence of nitrous oxide gas. From the evidence before us, Dr. Wells was the first person in the world who applied and practised etherization in surgery.

It may be said that nitrous oxide is a dangerous gas, and the claims of Dr. Jackson will rest upon the safety of discovering sulphuric ether. This is a different question; such a claim would be for the kind of substance used, not the effect obtained beyond its greater safety. By the remarks of Dr. Warren, of Boston, in the November number of the Boston Medical and Surgical Journal, it appears that he does not consider chloroform, or sulphuric ether safe agents; and he prefers a compound chloric ether.

What is it that constitutes a true title to a discovery? This is an important question, and one very difficult to settle sometimes.—For example, it is suspected that oxygen is a compound body; this view has been published in the series of articles, Vol. 5, Scientific American, by Dr. Nelson, but as yet it has not been demonstrated. If it should yet be discovered that oxygen is a compound body, who will be entitled to the claim of discoverer? The one who gave the hint which led to the experimental proof, or the demonstrator? The latter surely, but the former deserves his share of the honor also. Upon this principle of reasoning, Dr. Wells' claims to etherization stand out practically the strongest. Dr. Jackson is said to be very cautious, and in this respect not unlike some other discoverers, but if a person has made a valuable discovery, why is he cautious about it, if he has confidence in its merits; At the present day, when the means of establishing honorable claims to new discoveries are so easy, only a few lines published in a proper journal, there is no excuse for any man allowing his claims to be usurped some years afterwards. In this respect we greatly blame Dr. Jackson; if he had acted right, he would have prevented all this trouble about etherization now, all this lobbying at Washington, this great expense to our country, by taking up the time of Congress and committees; and last not least, the proposal of taking \$100,000 out of the treasury of the United States to pay one for a discovery made by another. Dr. Jackson has not been well treated, we believe, but we suppose he sees now how his own long silence—in the proper quarter—has been the means of causing so much trouble and expense and heart-burnings in our country, and as we have reason to believe, expense, trouble, and suffering to himself.

Critical Dissertation on Steam, Air, and Gas Engines.

After the successful application of steam to propel machinery, ether, alcohol, and various vapors were proposed as substitutes, because it was supposed that liquids which boiled at a lower heat than water—gave off their vapor then—would economize fuel. This opinion was entertained by both scientific and unscientific men, and although Mr. Ainger pointed out this error in an article read before the Royal Society in 1830, the very last number of the Franklin Journal copies an article from the London Chemical Gazette, by J. Apjohn, Professor of Chemistry, Trinity College, Dublin, in which he proves to his own satisfaction that all fluids which boil at a lower temperature than water must necessarily economize fuel if applied as substitutes for steam in propelling machinery. We will point out his error, and in doing so establish the principle that although water does not boil at such a low temperature as many other fluids, its vapor possesses a greater elastic force just in proportion to the heat applied to it.

The principle which Mr. Apjohn lays down to prove that alcohol and ether which boil at a lower temperature than water, are more economical in fuel, to exert a force in propelling machinery is this:—"The specific and latent heat of water combined, is 1129°00, that of alcohol 875°50, that of ether 534°70." "The mere inspection of these figures," he says, "is sufficient to show that with alcohol about three-fourths, and with ether somewhat less than one-half the caloric required for water will suffice to produce the same mechani-

cal effect." What reason does he adduce? Here it is, "the vapors of different liquids have at their respective boiling points the same elastic force, equal volumes of them will produce equal mechanical effects." This is a grave error to be propagated by a professor of chemistry; it is not the basis upon which to found any proposition for proving the economy of one liquid over another to produce mechanical effect and we will show why. The mechanical effects of vapors are inversely in proportion to their densities; thus although alcohol floats on water, and ether on alcohol, yet the vapor of water (steam) floats above the vapor of alcohol, and the vapor of alcohol above that of ether. The density of water is 10, alcohol 8, ether 7; the density of their vapors is water 6, alcohol 10, ether 25. M. Cagniard de la Tour put some water into one glass tube, ether into another, and alcohol into another, and hermetically sealed them. By applying heat ether became gaseous in a space scarcely double its volume, at a temperature of 320°, and exerted a pressure of no more than 38 atmospheres; alcohol became gaseous at a temperature of 404½ in a space of thrice its volume with a pressure of 139 atmospheres; water acted on the glass chemically, but by adding some carbonate of soda to it, it becomes gaseous at a temperature of 648° in a space four times its volume, consequently, as an increase of a double volume in alcohol vapor increased the pressure nearly four times, from 38 to 139 atmospheres, the pressure of the vapor of water would be in the same proportion 556 atmospheres; less elastic, according to the pressure to be sure, but under the same pressure there can be no doubt, that according to its latent and specific heat, it would exert a force in proportion over alcohol and ether. Water vapor has 25 times more latent heat than alcohol vapor, but the specific gravity of the latter is 25 times greater, this shows that the same bulk of vapor will be produced from them both—alcohol and water—with the same expenditure of heat; hence there can be no advantage—no economy in substituting alcohol for water as a source of vapor in the steam engine. The error of Mr. Apjohn lies in taking his deductions from the product—vapor—of heat and a fluid, not from the heat and fluid first. It is the case with too many people, they do not go to the root of the matter, hence their deductions, from laying down a false proposition, may look very plausible, but at the same time be very erroneous. Alcohol, ether, carbonic acid gas, &c., are more expensive and troublesome to obtain than the vapor of water. Some of them would act chemically on the machinery also. They do not possess the quality of being so easily and suddenly condensed as steam, and thus they have not the same qualities to recommend them as substitutes for it. This is the reason why volatile fluids which boil at a lower temperature than water, when applied in engines (and there have been many of such engines,) have always failed to compete with steam. We intended to produce some reasons why hot air engines have also failed to compete with steam, but this we must leave till next week.

To Subscribers.

We have a number of subscribers whose subscription term will expire with our next number (16.) If all subscribers would send in their subscriptions a week or two before they expire, it would save us from sending notices to them of the same, but many, no doubt, forget their dates and numbers, and it is the attention of such which we wish to arrest.—This volume of the Scientific American, so far has been distinguished above the past, and its future numbers, will, we assure all our readers, fulfill what we have heretofore said of it, of being "the cheapest and best mechanical paper in the world."

Stitching Shoes by Machinery.

The introduction of sewing machines for stitching shoes is becoming quite common. One establishment in Abington, Mass., uses no less than six. It is said that an operator, with the machine, will stitch in a day more than ten times the amount usually accomplished by a "stitcher," and that the cost is very materially reduced. Who, a few years ago, would have thought that our coats and shoes would ever have been stitched by iron fingers?



Reported Officially for the Scientific American

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING DECEMBER 14, 1852.

LINING FOR IRON SAFES, &c.—By Wm. P. Blake, of New York City: I claim the application of amorphous zinc oxide, as a lining for safes and refrigerators, and as a covering for steam pipes, steam chambers, locomotive boilers, hot air flues, and chambers, in such manner as to prevent the transmission or conduction of caloric, into or from such chambers or flues.

TRIP HAMMERS.—By J. C. Forrest & Geo. Baker, of Scheuettady, N. Y.: We claim the employment of the peculiar-shaped movable tappets of different sizes, the said tappets being arranged loosely on the driving shaft and moved back and forth, or one substituted for the other by means of the lever, in combination with the hammer, having a rectangular notched or peculiarly formed slot cut in it, the whole being constructed, arranged, and operated in the manner and for the purpose described.

Likewise, so arranging the lever, that when the large or small tappets are moved from one position to the other, or the small tappet made to occupy the place of the large one, the controlling spring will also be operated upon and made to assume a proper position to suit the size of the tappet, the arrangement for effecting this object consisting of a hook-shaped shifter and movable collar, which are constructed, arranged, and operated in the manner set forth.

FIELD ROLLERS FOR CUTTING STALKS AND WEEDS.—By Jos. H. Gest, of Batavia, Ohio: I claim the employment or use of the knife roller, said knives being either of straight or spiral form, in combination with the pins and fork, the knives, as the machine moves along, cutting the stalks from the roots, and also the stalks into pieces, while lying upon the ground, and the pins and prongs of the fork drawing the stalks within range of the knives, as specified.

BALL CASTORS.—By Robert Hinton, of Roxbury, Mass.: I claim the improvement in making the case of the ball castor, viz., of a combination of two halves or parts, the curved lip, and the ring, as constructed and applied together and to the leg or socket ferrule thereof, as set forth.

STONE PICKS.—By J. U. Houston, of Conway, Mass.: I claim the addition of a guard to the inner side of the hammer of mill-stone picks, which guard will intercept the chips of stone and protect the hand and person of the picker, using for that purpose the metallic guard described, or any other substantially the same, and which will accomplish the same result. I do not claim the mode of constructing the pick, as described, in other respects than as pertains to the guard.

FRUITS FOR CHAIN PUMPS.—By Clark Polley, of May's Landing, N. J.: I claim the globular elastic and adjustable bucket, for chain pumps, constructed as set forth.

APPARATUS FOR FRACTURES.—By Zimri Hussey, of Chillicothe, Ohio: I claim, first, the hip brace of semi-circular or nearly semi-circular form, and the strap passing over it and around the limb, the said strap and brace operating as set forth.

Second, the knee fork attached either to the upper or lower part of the double inclined plane, for the purpose of attaching a band which clasps the limb, to effect extension or counter extension at the knee, as explained.

Third, the application of the adjustable braces to the crests of the ilium, substantially as described, the said braces being attached to a seat piece, or its equivalent.

Fourth, the seat, in combination with an adjustable back-piece, attached to two double inclined planes, substantially as described, for the purpose of moving the cripple without changing the adjustment of the splints, for the purpose set forth.

SEED PLANTERS.—By Henry Nycum, of Uniontown, Pa.: I claim, first, the construction of the compound grain slide, as described, by which the amount of grain required to be sown is graduated at pleasure, as set forth.

Second, the mitre bar, constructed as described, to raise the apparatus for lifting the drill teeth and throwing the slides out of gear, completely out of the way of the operator, thus allowing him to get at the drill teeth, for the purpose of cleaning them of obstructions, with a facility altogether unknown in machines constructed with a horizontal bar in the rear.

SCYTHES.—By Abram, Charles & Charles N. Clow, of Port Byron, N. Y.: We claim a scythe or cradle snath, composed of a wrought metal tube, which possesses the advantages of great durability and facility of being bent into any desired form, without increasing its ordinary weight, or impairing its usual strength and firmness.

Also the longitudinal rib or its equivalent, on the snath, in combination with a series of notches in the ring of the web, for the purpose of adjusting the web securely upon the snath, substantially as set forth.

STRAW CUTTERS.—By Joel Dawson, of Barnesville, Ohio: I claim, in combination with the rake and spring, the pressure piece and roller, constructed and arranged as set forth.

MACHINERY FOR FORGING METALS, &c.—By Wm. Field, of Providence, R. I. Ante-dated June 14, 1852: I claim, first, the mandrel or its equivalent, for chucking or gripping the metal to be forged, and holding the same in the proper position, and from time to time, changing its position between the reciprocating rollers, in combination with reciprocating rollers, for shaping the metal so held, whose action upon the metal is regulated by a pattern guide, substantially as set forth.

Second, the method of regulating the thickness and shape of the metal being forged, without stopping the rollers or withdrawing the metal therefrom by the simultaneous adjustment of the pattern guides, as described.

APPARATUS FOR CLUB FRET.—By Zimri Hussey, of Chillicothe, Ohio: I claim the side pieces which are attached to the adjustable foot pieces, connected and adjustable to each other, as described, by the back piece, plates, bolts, and slots.

PLow REGULATORS.—By Harvey Sprague, of Riga, N. Y.: I claim the combination of the arms with the connecting and regulating bar, the arms and the connecting bar forming an arch and working on an axle which passes through the beam, in the manner and for the purpose set forth.

SPIKE MACHINES.—By P. P. Traylor, of Baltimore, Md.: I do not confine myself to any particular form or arrangement of the several parts of the machine I have just described, provided the spike is headed and pointed by the mode of operation I have described, as a great number of changes may be introduced into the machine, that will not, in any way, affect the principle upon which it works; indeed, the improvements which I have made could be introduced with advantage either separately or together, into various machines now in use.

What I claim is the combination of the hinged pointing die, pressed forward by a spring, with the guard or stop, or the equivalent thereof, which guides the die and limits its forward movement, substantially as set forth.

SEED PLANTERS.—By M. D. Wells, of Morgantown, Va.: I claim the reciprocating bar, having wings projecting horizontally on the front and rear sides of the same, to scoop the seeds in the discharge apertures, arranged and operating in the manner and for the purpose specified.

GRAIN AND GRASS HARVESTERS.—By Wm. H. Seymour, (assignor to W. H. Seymour & Daniel S. Morgan), of Brockport, N. Y. Ante-dated Oct. 25, 1852: I claim the method of supporting the stand for the rake, at the back of the platform, by means of a brace extending to the outer end of the frame, and so arranged as not to impede the action of the rake or the discharge of the cut grain, the several parts being constructed and arranged as described. Also the method of protecting the gearing of the machine from injury by the working and twisting of the main frame, by mounting the said gearing in a supplementary metallic frame, constructed as described, and rigidly connected to one end of the main frame, upon which it is mounted, as set forth.

SCREW BLANKS.—By Cullen Whipple, of Providence, R. I. (assignor to the New England Screw Co.) Ante-dated Oct. 16, 1852: I do not claim the broad idea of pointing and chasing the blank in the same machine by different cutters, irrespective of the mechanism employed for the purpose, as I have made such a claim in another specification; my claim on this head is restricted to the mechanism described. I claim the arrangement of the pointing and chasing tools, on the same tool holder, in such a manner that they are operated by a common motion, as set forth.

CUTTING WHALE BLUBBER.—By Lydia Ann Ricketson (Adm. of Henry H. Ricketson, deceased), of New Bedford, Mass.: I am aware that in machines for cutting straw, or such like matters, a cutting cylinder has been made to operate on a bed roller, and that the knives on the said cutting cylinder have been arranged in a helix upon it. It is not claimed that such constitutes, in any respect, the invention of the said Ricketson, deceased.

But what is claimed is the wheel, composed of two or more spiral knives, made to rotate on an axis, arranged parallel and in the direction of the movement of the strip of blubber to be cut, as set forth, meaning to claim two or more spiral knives, formed, arranged, and made to operate with respect and in combination with a set of bed and feed rollers, substantially in the manner and for the purpose of cutting blubber as described.

DESIGNS.

BOX STOVE.—By James Wager, Volney Richmond, and Harvey Smith, of Troy, N. Y.

IRON RAILING.—By N. T. Horton, of Cincinnati, Ohio.

COAL STOVE.—By Gilbert Knapp & A. H. Neal, of Honesdale, Pa.

NOTE.—In last week's List of Patents, eight of the number issued were obtained through the Scientific American Foreign and American Patent Agency. In the above list five were obtained through the same source, thus demonstrating that, on an average, one American patent issues every day through this Office.

The Patent Office.

The Secretary of the Interior, in his Report makes some excellent suggestions respecting the Patent Office. He says:—

"There is probably no bureau connected with the government in whose operations the public at large feel a deeper interest than those of the Patent Office. It is inseparably associated with every interest of our country. The mechanic, the merchant, the manufacturer, and the farmer, are all concerned in every thing which diminishes the labor of production in any of the departments of industry. Our people are eminently practical and ingenious. They are constantly employed in the discovery of new means of accomplishing important results at a diminished rate of time, labor, and money. The steam engine, the cotton gin, and the magnetic telegraph, are striking and imperishable memorials of the success which has attended their efforts. In the early period of our history, when population was sparse and the prices of agricultural productions high, the labor of the country was directed mainly to the cultivation of the soil. But, as population progressively increases, more attention is devoted to mechanical pursuits and the invention of machinery by which the work of many may be accomplished by a few. Not a day passes without furnishing some evidence of this fact in the form of applications for patents for important inventions and discoveries. The mechanical interest has therefore become one of great magnitude, and it is justly entitled to all the protection and assistance which can be bestowed by Congress consistently with the provisions of the Constitution.

The general principle of our patent system seem to have met with universal approbation,

and to have been attended with beneficent results in practice. Since the organization of the office in 1836, it has advanced with rapid strides. At that state one "examining clerk" was enabled to make all the preliminary investigations which were required to ascertain whether the applicant was entitled to a patent; but such has been the increase of the business that six principal examiners and as many assistants are not now able to keep pace with it. The number of models in the office on the first day of January, 1836, was 1,069.

In the beginning of the year 1851, they had increased to 17,257, and at the close of the present year they will fall but little short of 23,000. If they should continue to increase in this proportion, making no allowance for the augmentation consequent on the increase of population, by the close of the present century they will amount to 150,000, and the whole of the present Patent Office edifice will not be sufficient for their convenient display. To provide against this contingency, as well as to accomplish other important results, I respectfully propose that the Commissioner of Patents be required to have prepared for publication a careful analytical and descriptive index of all discoveries and inventions which have been patented, accompanied by accurate descriptions and drawings which will fully explain the principles and practical operation of the subject of the patent. The advantages of such a publication would be almost incalculable. It would not only perpetuate the invention or discovery by avoiding the casualties by fire and other causes, but it would multiply and diffuse among the people at large the specifications and descriptions, and substantially bring home to every neighborhood to which a copy of the work might be sent the benefits of the Patent Office. In much the larger number of cases the necessity for preserving and displaying the models would be obviated. The pages of the published report would be a safer and more convenient depository for them than the cabinets of the Patent Office, and they would be accessible to everybody. Inventors in remote parts of the country would be placed on an equal footing with those residing near the seat of Government.—

When their thoughts were turned to a particular class of machinery, instead of being compelled to make a journey to Washington to see what had already been done in that department of the arts, they could at once turn to the analytical index and ascertain what progress had been made by others.

The report of Mr. Stansbury on the London Industrial Exhibition of 1851, to which allusion was made in my last annual report, has been delayed by causes beyond his control.—It will be ready to be laid before Congress in the course of a few weeks.

[We like the above; we hope that something of this kind of policy will be carried out for the benefit of inventors. It is now four years since we proposed the same thing, only we thought at the time that the Smithsonian Institute could not do better than perform such a task—an illustrated history of American inventions and discoveries. With respect to the models, it would please us if Mr. Stuart had recommended that those belonging to rejected applicants should be returned; of what use is it to retain them, they being only duplicates. Some thousands of them are rusting in the Patent Office cellar.

Extension of a Patent.

On the petition of Elizabeth Otis, administratrix of Wm. S. Otis, deceased, praying for the extension of a patent granted to him on the 24th of February, 1839, for an improvement in the Crane Excavator, for excavating and removing earth, for seven years from the expiration of said patent, which takes place on the 24th Feb. 1853.

It is ordered that the said petition be heard at the Patent Office on Thursday the 17th of February, 1853, at 12 o'clock M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specifically set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said

hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

S. H. HODGES, Com. of Patents.

Washington, Dec. 12, 1852.

Recent Foreign Inventions.

GAS RETORTS.—John Suarbrick, of Blackburn, Eng., Patentee.—The inventor takes clay as dug from the pit, and if it contains coal or other refuse, burns it until the coal is reduced to ashes; or if no coal exists in the clay, then he mixes the ashes with it, or other varieties of clay, until a suitable material for his purpose is obtained. He then grinds this with just such a quantity of water as will produce a stiff doughy mass. Having taken a mould of the size required (and which should be made in sections) and placed it in an upright position, he introduces a core-bar into it, wedging it firmly into the centre. The stiff clay is then rammed into the spaces between the mould and core, the wedges are withdrawn, and their spaces filled up with clay. The core-bar is then raised by a lever, and another section of the mould united to the first, the same operation being again repeated until the retort is fully moulded. The retort thus moulded is dry enough to be taken at once to the oven and baked. Retorts made of Stourbridge clay are much superior to those made of iron, for making gas.

COMBING WOOL.—S. C. Lister, of Manningham, England, patentee.—The gill-fallers are simply made of much narrower dimensions than usual—about from one-fourth to one-eighth of an inch. Small portions of the material can be operated upon at once, and less oil, it is stated, is required. He also combs cotton on fine combs.

MACHINE FOR DETERMINING A SHIP'S LONGITUDE.—John Moore, of Arthur's Town, Wexford, Ireland, patentee.—This instrument consists of two graduated brass circles intersecting each other, and a third circle equatorial to these two. The position of these circles is capable of being adjusted with reference to each other, and they are used in combination with a fourth circle, also graduated, which forms a great circle to the skeleton globe composed of the intersecting circles mentioned. The modes of using these circles vary with the nature of the particular position requiring to be solved.

SUBSTITUTES FOR SUSPENDERS, &c., IN CLOTHES.—J. Saillant, of Paris, tailor, patentee. He inserts into certain parts of articles of dress, such as pantaloons, vests, coats, &c., strips of india rubber, by which a good fit of the garments is secured and they thus are retained in their proper positions without the aid of straps, &c.

REFINING GOLD AND PRECIOUS METALS.—A. Parks, chemist, of Pembrey, Wales.—For separating gold, which is mixed with auriferous earth, it is first smelted with lead and the usual fluxes, and the compound thus resulting is melted, with the addition of one per cent. zinc to every ton, which contains ten ounces of gold. The zinc is added when the compound is in a melted state, and at about the temperature of molten zinc. After stirring so as to insure all the gold being taken up, the mixture is allowed to cool, and the zinc and gold are found in combination. The gold is separated from the zinc by an acid.

VACUUM SUGAR PANS.—J. Walker, of Wolverhampton, Eng., patentee.—The improvement consists in introducing into the body of the vacuum pan a series of vertical tubes, through which steam is admitted to facilitate the operations of evaporation and crystallization. The tubes are enclosed within a cylindrical casing between the sides of the pan, a vacant space is left. This arrangement causes an upward current of the solution in the pan, at the centre of the series of tubes, whilst a gentle descending current is produced between the cylinder and pan, by which compound motion the contents in the pan are prevented from burning.

COATING THE INSIDE OF TUBES.—John J. Russell, of Wednesburg, England, patentee.—This improvement simply consists in coating the inside of iron tubes with successive coatings of gutta percha in a state of solution. The coating is laid on with a brush or by pouring in the solution.—[Condensed from the "London Mechanics' Journal," "Expositor," &c.