

The Manchester Cotton Supply Association have lately received a great number of samples of cotton from India, and one of the specimens was of such a superior quality, that Mr. Bazley, M.P., who examined it, stated it was worth 1s. 6d. per lb., and he would give that price for any quantity of it. Mr. Smollett, M.P., who had passed 30 years in India, recently lectured on the subject of cotton in Manchester, and stated that cotton could be raised in any quantity in that country, and at low prices, if there were a reform carried out in the method of taxation. The people of India are taxed in a most arbitrary manner, and industry is thereby repressed.

The British government is making great efforts to develop the natural resources of India and promote her commercial interests, especially by the construction of railroads for inland communication. The statistics of Indian railroads show great development. During the year 1858, the East Indian Railroad carried 1,172,000 passengers, and made an estimated profit of 6½ per cent on its capital. The Great Indian Peninsula Railroad, which is as yet open for a short distance only, shows a net per centage of 4½. The Madras Railroad yields 3½ per cent. The rate of dividend on ordinary share capital in England is 3.06, which is less than the worst of the Indian lines.

The French public is bestowing a great deal of interest and capital upon the isthmus of Nicaragua. A company has been formed at Marseilles, consisting of several large shipowners, who have purchased a grant of considerable land and mines, and valuable timber land, consisting chiefly of ebony, in Nicaragua. They have sent out two ships already with emigrants, consisting mostly of machinists, engineers and a few chemists, to form the nucleus of a colony. Another company is about being formed in the same city for constructing a railway on the isthmus of Rivaz, a tongue of land which separates the lake of Nicaragua from the Pacific. The French are going to make a desperate effort to obtain a foothold in Central America.

It has been found that puddled steel plates, employed in the hulls of steamers, are not suitable material for this purpose, in consequence of their rapid corrosion. The small steam launch which was built for Dr. Livingstone's African expedition was principally composed of this metal, and has proved a failure on account of rapid rusting. Another small vessel of nearly the same size, built of Howell's "homogeneous metal" (a species of steel also manufactured at Sheffield), has proved sound so far as it relates to corrosion; and Dr. Livingstone has stated that such metal is well adapted for boats in tropical climates.

INDUSTRY—MANUFACTURES—COMMERCE.

What we Pay for Silk.—The total value of silk fabrics exported to the United States from the city of Lyons alone, during the year ending Dec. 31, 1859, and for which invoices were authenticated at the office of the American consul, Joel W. White, was 6,148,808.17 francs; or in United States currency (at 19 cents per franc), \$1,168,273.55. Our total import of silk from France, during the year 1859, was:—Piece goods of silk, \$9,645,111; hosiery, &c., do, \$113,937; floss silk, \$1,074; caps, bonnets, and hats, \$68,979; raw silk, \$32,729; sewing silk, \$23,306; twist, \$3,531; piece goods of silk and worsted, \$672,047; silk manufactures not specified, \$900,147—total, \$11,460,861.

Virginia Woolen Manufacture.—The Richmond Enquirer states that a number of new factories are in the course of erection in that city, and that a new woolen mill will be in operation by the first of March next, and will consume weekly from 8,000 to 10,000 lbs. of wool. A large sugar refinery is nearly completed; and four or five gentlemen with abundance of capital are about to establish a great tannery, with which an extensive boot and shoe shop is to be connected. In addition to these a manufactory of fire-arms, in which Col. Colt is interested, will soon be at work.

Silver from Lead Ore.—At the Eagle foundry, in Duquaque, Iowa, where lead smelting is carried on by M. Walter, a considerable amount of silver has been taken out during last year. It has hitherto been supposed that there was not a sufficient amount of silver in our western lead ores to pay for any extra cost in smelting, but it has been found that as much silver may be extracted as will pay for the whole cost of smelting. Many of our

lead ores may yet become very remunerative on account of the silver contained in them.

Fish Oils.—The inhabitants of Brooklin, Maine, are entirely engaged principally in fishing and seafaring. During the summer season a considerable business is carried on in the manufacture of porgy oil. From 500 to 1,000 bbls. have been made annually, worth from \$15 to \$20 per bbl. The flesh of the fish, after the oil is thus passed out, is very serviceable upon the soil of the town.

Railroad Cars.—Since last June, Messrs. Wharton & Petsch, car manufacturers, Charleston, S. C., have constructed for the Mississippi Central Railroad, 125 cars—80 of which were built in Charleston and 45 in New Orleans. The cost exceeded \$80,000. They have also built cars for roads in South Carolina to the amount of \$15,000.

What is the Meaning of "Merchantable?"—An interesting case has lately been decided in the Superior Court, Boston, in regard to what is called "merchantable" gunny cloth. The suit was by Messrs. Wm. Rice, and others against Messrs. Wm. C. Codman, and others, and the facts were substantially as follows:—The defendants sold to the plaintiffs (in 1858) 100 bales of gunny cloth at 15¼ cts. per yard, by an original invoice which represented its average weight at 2.15 lbs. per yard. The money for the goods was paid, though the goods were then in the government warehouse. The plaintiffs, after their purchase, sold 75 of the bales to a party who weighed a portion of the lot, and found, as was stated, that they only weighed 2.07 lbs. per yard. They shortly afterwards commenced suit to recover the 15¼ cts. per yard, which had been paid, and half a cent on every yard besides, which was the profit they expected to make; the whole, with the interest, amounting to \$4,450. The plaintiffs endeavored to prove that the word "merchantable quality" meant such cloths as weighed 2.125 lbs. to the yard. Judge Lord instructed the jury to return an answer whether the word "merchantable" was understood by Boston merchants, according to a common custom, to mean gunny cloth weighing 2.125 lbs to the yard. The verdict was in the negative; no such meaning was attached to the word in this case. A general verdict was also given for the defendants. They imported the gunny cloth and sold it according to the foreign invoice.

Flax Manufacture.—During the past nine years Mr. Stephen M. Allen, of Boston, has been engaged in experimenting with flax, and he has a mill near Boston, where various fabrics composed partly of cotton and flax are manufactured. He lately, in an address to the manufacturers of Rhode Island, stated that he believed flax could be cultivated and treated in such a manner as to make goods from it as cheap as those of cotton. He asks farmers to try the cultivation of flax. The sale of the seed alone would pay for all the labor. In reference to this subject the *Commercial Bulletin* (Boston) says: "The American Flax Company, of this city, have in operation at Watertown a mill where they have perfected their machinery to work up the straw into a fibrous material, which has been successfully spun into yarns, and woven into cloth with the different mixtures of wool and cotton. The straw, after passing through the crusher, comes out the quality of tow; it then passes through the various processes necessary to remove any of the woody substance and the gluten; and from the bleachery comes out a beautiful white, resembling cotton. We have seen plain cloth, calicoes, jeans and hosiery, with a mixture of from 25 to 50 per cent of flax cotton with the cotton and wool. With the former mixture the fabric presents a body superior to entire cotton; and with the latter the presence of the mixture (unlike the mixture of cotton and wool), is hardly discernable."

Shoemakers' Strike.—The shoemakers of Lynn and other towns in Massachusetts are now upon a strike for higher prices in most all styles of work. Some of the manufacturers, it is stated, are willing to advance, if all others agree to do so. It is admitted that the prices paid to journeymen are too low; but as there is a large quantity of goods on hand, it is held that manufacturers are not anxious to do much work at present, and that the strike will not affect them so injuriously as the workmen. Dr. Chalmers, in his political writings, counsels mechanics, when prices are low and the market overstocked, to cease from producing, as the best means of affording themselves a proper remedy.

THE RISE AND PROGRESS OF INVENTIONS.

ADVICE TO INVENTORS.

During the period of Fourteen Years which has elapsed since the business of procuring patents for inventors was commenced by MUNN & Co., in connection with the publication of this paper, the number of applications for patents in this country and abroad has yearly increased until the number of patents issued at the United States Patent Office last year (1859) amounted to 4,538; while the number granted in the year 1845—fourteen years ago—numbered 502—only about one-third as many as were granted to our own clients last year; there being patented, through the Scientific American Patent Agency, 1,440 during the year 1859. The increasing activity among inventors has largely augmented the number of agencies for transacting such business, and at this time there is scarcely a town of 4,000 inhabitants, but has its patent agent, patent lawyer, patent solicitor, or patent attorney, all of which terms are used to convey the same idea—viz., that their services are offered to the inventor or patentee for a pecuniary consideration.

In this profession, the publishers of this paper have become identified with the universal brotherhood of Inventors and Patentees at home and abroad, at the North and the South; and with the increased activity of these men of genius we have kept pace up to this time, when we find ourselves transacting a larger business in this profession than any other firm in the world. Year after year, we have increased our facilities for transacting patent business, by gathering around us a large corps of the most eminent engineers, draughtsmen and specification writers that can be procured. Among these gentlemen are those who have been connected with the United States and Foreign Patent Offices. The latest engagement we have made is the association with us of Hon. Charles Mason, formerly COMMISSIONER OF PATENTS, and favorably known to the Inventor as their friend and advocate. The memory of his acts while holding this high position will be cherished by many an honest inventor with gratitude as long as he lives.

The arrangement made with Judge MASON renders our facilities for prosecuting all kinds of patent business complete, however ample they were before; and without being accused of egotism, we may safely assert that no concern has the combined talent and facilities that we possess for preparing carefully and correctly applications for patents, and attending to all business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c.

FREE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable are advised to make a sketch or model of their invention, and submit to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh streets, Washington, by experienced and competent persons, under the direction of a gentleman who has spent a lifetime about the Patent Office. Over 1,500 of these examinations were made last year through this office, and as a measure of prudence and economy, we usually advise inventors to have a preliminary examination made. Address MUNN & CO., No. 37 Park-row, New York.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared on reasonable terms, by sending a sketch and description of the invention. The government fee for a caveat is \$20. A pamphlet of advice regarding applications for patents and caveats furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention, if susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition is composed for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fee, by express. The express charges should be prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park-row, New York.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief history of their case, enclosing the official letters, &c.

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 39 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that three-fourths of all the European patents secured to American citizens are procured through our Agency.

Inventors will do well to bear in mind that the English law does not limit the issue of patents to inventors. Any one can take out a patent there.

Circulars of information concerning the proper course to be pur-

sued in obtaining patents in foreign countries through our Agency the requirements of the different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our branch offices.

INTERFERENCES.

We offer our services to examine witnesses in cases of interference, to prepare arguments, and appear before the Commissioner of Patents, or in the United States Court, as counsel in conducting interferences or appeals.

For further information, send for a copy of "Hints to Inventors." Furnished free. Address MUNN & CO., No. 37 Park-row, New York.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Many persons have been ruined from adopting the "penny-wise and pound-foolish" maxim, when an investment of a few dollars, to have been informed of their rights, would have saved them much anxiety and money. Written opinions on the validity of patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is solicited. Judge MASON assists in all examinations of this kind.

For further particulars, address MUNN & CO., No. 37 Park-row, New York.

EXTENSIONS OF PATENTS.

Valuable patents are annually expiring, which might be extended, and bring fortunes to the households of many a poor inventor or his family. During the past fourteen years, we have had much experience in procuring the extension of patents; and, as an evidence of our success in this department, we would state that, in all our immense practice, we never lost but two cases—and those were unsuccessful from causes entirely beyond our control.

It is important that extension cases should be managed by attorneys of the utmost skill to ensure success. All documents connected with extensions require to be carefully drawn up, as any discrepancy or untruth exhibited in the papers is very liable to defeat the application.

Of all business connected with patents, it is most important that extensions should be intrusted only to those who have had long experience, and understand the kind of evidence to be furnished the Patent Office, and the manner of presenting it. The heirs of a deceased patentee may apply for an extension. Parties should arrange for application for an extension at least six months before the expiration of the patent.

For further information, as to terms and mode of procedure in obtaining an extension, address MUNN & CO., No. 37 Park-row New York.

ASSIGNMENT OF PATENTS.

The assignment of patents and agreements, between patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park-row, New York.

PATENT CLAIMS.

Persons desiring the claims of any invention which has been patented within 14 years can obtain a copy by addressing a note to this office, stating the name of the patentee, and date of patent when known, and enclosing \$1 as fee for copying. Address MUNN & CO., No. 37 Park-row, New York.

CAUTION TO INVENTORS.

Messrs. MUNN & CO. wish it to be distinctly understood that they neither buy nor sell patents. They regard it as inconsistent with a proper management of the interests and claims of inventors, to participate in the least apparent speculation in the rights of patentees. They would also advise patentees to be extremely cautious into whose hands they entrust the power to dispose of their inventions. Nearly fifteen years' observation has convinced us that that the selling of patents cannot be conducted by the same parties who solicit them for others, without causing distrust.

BUSINESS CONDUCTED CONFIDENTIALLY.

We would inform inventors that their communications are treated with the utmost confidence, and that the secrets of inventors confided to us are never divulged, without an order from the inventor or his acknowledged representative.

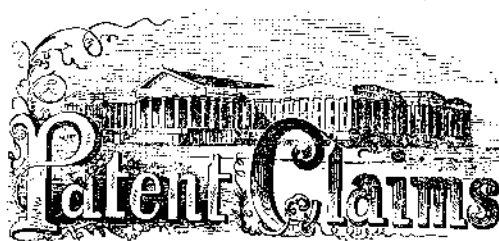
MODELS BY EXPRESS.

Inventors sending models to our address should always enclose the express receipt, showing that the transit expenses have been prepaid. By observing this rule we are able, in a great majority of cases, to prevent the collection of double charges. Express companies, either through carelessness or design, often neglect to mark their paid packages, and thus, without the receipt to confront them, they mulct their customers at each end of the route. Look out for them!

HISTORY OF THE "SCIENTIFIC AMERICAN" AND IMPORTANT INFORMATION TO PATENTEES.

We have printed a supplementary edition of the SCIENTIFIC AMERICAN, with illustrations of the building, externally and internally, showing the spacious rooms in which our immense patent business is conducted, and with life-like representations of the artists, engineers and specification writers at their daily labors. The same paper contains information on the many intricate points arising in patent law and practice, and contains the best popular treatise on the subject ever published; it should be in the hands of all who are interested either in procuring, managing or using patented inventions. The legal information contained in this paper is the result of FOURTEEN YEARS' experience as patent solicitors, and it cannot be found in any other treatise on patent law. It also contains information in regard to Foreign Patents and Extensions. It is published in octavo form, sixteen pages, and mailed upon the receipt of two three-cent stamps. Address MUNN & CO., No. 37 Park-row, New York.

It would require many columns to detail all the ways in which the inventor or patentee may be served at our offices. We cordially invite all who have anything to do with patent property or inventions to call at our extensive offices, 37 Park-row, New York, where any questions regarding the rights of patentees will be cheerfully answered. Communications and remittances by mail, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New York.



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING FEBRUARY 21, 1860.

[Reported Officially for the SCIENTIFIC AMERICAN.]

* Pamphlets giving full particulars of the mode of applying for patents, size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

27,195.—Robt. Anderson, of Brooklyn, N. Y., for an Improvement in Machines for Hulling and Finishing Rice:

I claim a series of revolving beaters of alum-dressed hide, acting to finish the rice, substantially in the manner specified.

27,196.—S. R. Atkins and J. R. Hitchcock (assignors to J. R. Hitchcock), of Plantsville, Conn., for an Improved Sausage-filler:

We claim a revolving presser, d, within the case, a, with the cut-off i, in the manner as and for the purpose substantially as described.

27,197.—F. L. Baily, of Boston, Mass., for an Improvement in Printing Presses:

I claim giving to the vibrating platen its periods of rest and motion for the purpose described, when operated by the arms, II, I, and shaft, 1.

Second, I claim the cavity, d, and screw, b, for the purpose set forth.

Third, I claim the combination of the rack, G, and cam, P, for the purpose set forth.

Fourth, I claim the combination of the guide, K, and vibrating platen, D, for the purpose set forth.

27,198.—E. C. Betts, of Huntsville, Ala., for an Improvement in Presses:

I claim, first, The combination of the rack bars, F F, and the lever G, when the latter is provided with the pawls, I I, and the movable fulcrum rods, H H, arranged to operate as and for the purpose set forth.

Second, The arrangement of the movable or sliding box, B, and follower rack bars, F F, operated as shown, to admit of the exposure and consequent accessibility of the compressed article, for the purpose specified.

27,199.—H. F. Bond, of Waltham, Mass., for an Improved Bread-slicer:

I claim the combination and arrangement of the eccentric gear wheels, B and C, the knife, G, the lever, E, the carriage, I, and the rack, D, all substantially as and for the purpose specified.

27,200.—Max Braun, of Brooklyn, N. Y., for an Improvement in Inkstands:

I claim the chamber, E, with flexible perforated diaphragm, e, hollow stem, D, and tubes, a, b, combined with a fountain cup, F, and arranged in the manner and operating upon the principles set forth.

[This invention consists in a peculiar constructed top for the ink-cup, and the novel introduction of a small finger force pump for increasing the pressure of the air in the ink in the cup, and in this manner forcing it up into a fountain cup, by supplying new air instead of densifying the air in the reservoir in the present manner where flexible diaphragms are used to raise the ink by pressing on them. The device is to be so constructed that the fountain cup can be filled with ink, or only partly filled, and so that all the ink in the fountain cup may be driven back into the reservoir by removing a portion of the air above the ink into the reservoir.]

27,201.—Hugh B. Brown, of Huntington, N. Y., for an Apparatus for Teaching Orthography, &c.:

I claim the arrangement upon axes in a frame, as described, of a series of blocks with printed or otherwise marked, and with blank sides, substantially as and for the purposes set forth.

27,202.—Wm. A. Carpenter, of Elgin, Ill., for an Improved Permutation Lock:

I claim, first, The employment of a bolt, C, which is of a form approximating to a circle, and is arranged so as to be adjusted on a solid spindle, C', which has an index, e, on its front end, in combination with the face plate of a safe door or lock which has a circle or a part of a circle of figures, or characters, D, marked on it, substantially as and for the purposes set forth.

Second, The combination of a series of bolts, C, of the form stated, having index spindles, d, C', e, with a series of circles or parts of circles of figures or characters, D, on the face of the lock or safe door, substantially as and for the purposes set forth.

Third, The combination with the bolts, C, having index spindles, C', d, e, of a turning shaft, H, a wedge plate, I, of the same shape circumferentially, at the bolts, a series of spring catches, F F, a series of short levers, G G, a series of stops, I, I, and a series of indented plates, E E, substantially as and for the purposes set forth.

27,203.—Thos. Castor, of Philadelphia, Pa., for an Improvement in Passenger Railway Cars:

I claim, first, The frame H, trussed and otherwise constructed, substantially as set forth, combined with and connected to the roof, P, of the car, and arranged on the same in respect to the opposite ends, C and C', of the car, as and for the purpose set forth.

Second, I claim the detachable spiral ladder composed of the pole, I, its "rounds" m, and connecting rib, n, when the said ladder is arranged in respect to the platform, B or B', and overhanging portions e or e', of the roof and connected to the same, substantially in the manner specified.

Third, I claim the guards, P P, constructed and applied to the car, substantially as set forth, when the said guards are arranged to be controlled by the foot of the driver through the medium of the vertical rods, R, and the levers, Q Q, or their equivalents, as set forth for the purpose specified.

27,204.—G. B. Clark, of Leonardville, N. Y., for an Improvement in Ventilating Apparatus:

I claim combining with the damper, F, and an air valve, J, or their equivalents, the slotted crossbar, H, guide bracket, o, and a twisted rod or wire, G, substantially in the manner and for the purposes specified.

[This invention consists in combining a damper and an air valve with a twisted rod in such a manner that the expansion or contraction of the said rod caused by the increasing or decreasing temperature of the stove-pipe causes the damper to close and the air valve to open, or vice versa. By these means the temperature of a room regulates itself in a simple and efficient manner.]

27,205.—E. B. Clement, of Barnet, Vt., for an Improved Churn:

I claim the arrangement of the toggle-joint, F, walking beam, E, crank, H, and connecting shaft, I, operating substantially as described and for the purpose set forth.

27,206.—A. H. Crozier, of Oswego, N. Y., for an Improved Machine for Cutting and Distancing Locks on Hoops:

I claim hinging the jaws which hold the hoop so as to allow them to vibrate, or arranging them to traverse, and mounting them on a spring, substantially as described, so that they may be moved to carry or feed the hoop to the cutter that cuts the lock or score; and in combination with the jaws for holding the hoop, I claim the cutter for cutting the lock.

I claim a yielding gage, so constructed as to allow the operator to vary the length of the hoops somewhat in proportion to the thickness or crooks in the hoop worked.

27,207.—S. S. Curtis, of Croton Corners, N. Y., for an Improvement in Cooking Stoves:

I claim curving the fire-brick, K, concentrically with the line described by the grate, g, when vibrated or turned substantially as and for the purpose set forth.

27,208.—J. A. Davis, of New York City, for an Improvement in Sewing Machines:

I claim connecting the lever, B, having its fulcrum near to the power shaft, as set forth, with or to the driver, C, by the spring, E, or flexible bar, as and for the purpose described.

27,209.—Sylvester Denton, of Penn Yan, N. Y., for an Improvement in Fences:

I claim the sill, A, upright, B, post, D, cleats, F, and brace, H, and the method of securing it, when constructed and arranged as specified and for the purposes set forth.

27,210.—George W. Dickinson, Jr., of Breckenridge, Va., for an Improved Surveying Compass:

I claim the arrangement of the scales, e f and h, in combination with the main screw, c, and with the additional semi-circle, F, and protractor, G, constructed and operating substantially as and for the purpose specified.

[The object of this invention is to arrange a surveyor's compass in such a manner that the same, by means of a series of adjustable scales, serves to solve all triangles, and consequently all rectilinear figures which may occur in the various operations of a surveyor, and at the same time it facilitates materially the drawing of said figures.]

27,211.—H. W. Dopp and William K. Mead, of Buffalo, N. Y., for an Improvement in Burners for Vapor Lamps:

We claim, first, The arrangement of the pipe, A, wick tube, e, and stop-cock, o', by means of which the fluid is supplied to either or both of the pipes or tubes, A and c; said cock being operated by means of a cam wheel, D, substantially as and for the purpose specified.

Second, Arranging the burner, G, with the heater, B, in the manner specified; the burner being secured to the heater, and the heater being provided with pins, E, which pass through the dark portion of the flame above the burner, substantially as specified.

Third, The arrangement of the burner, G, heater, B, pipe, A, and tube, C, together, substantially in the manner and for the purpose specified.

27,212.—Eliakim B. Forbush, of Buffalo, N. Y., for an Improvement in Apparatus for the Ventilation of Railroad Cars:

I claim the arrangement of the revolving aprons, A A', water and ice tank, E, and stove, K (or other heating apparatus), in a separate apartment or room within the car, relatively to the blower, H, for the purposes described.

I claim the described arrangement of the distributing air pipes, S S' and T, when arranged relatively to the described apparatus for purifying the air from dust, as set forth.

27,213.—Wm. L. Force, of Keyport, N. J., for an Improvement in Oyster Dredges:

I claim, first, The combination of the sled runners, A A, and deflecting board, F, when the same are arranged in the manner and operate as set forth.

Second, I claim the flat-headed rake head in combination with the teeth, a a, when said teeth are bent over the front edge of the head; all in the manner and for the purposes set forth.

27,214.—James E. A. Gibbs, of Mill Point, Va., assignor to J. O. Wood, of New York City, for an Improvement in Sewing Machines. Ante-dated August 21, 1859:

I claim, first, The mechanical production of the interlaced chain-stitch in an organized sewing machine, by the combination with the reciprocating eye-pointed needle and discoidal thread case or rotary hook and bobbin, or their equivalents, of the described automatic feeding mechanism to the cloth when so arranged in relation to, and operating in concert with, the said devices as to cause each loop taken from the needle to be carried by the hook through the preceding loop, substantially in the manner described.

Second, The combination and arrangement substantially as described, of the eye-pointed needle, discoidal thread case, provided with two loop-taking hooks, with an automatic feed mechanism, operating in the manner set forth, so that a mere change in the direction of the feed shall effect the difference described between the several stitches.

27,215.—Jeremiah Heath, of Providence, R. I., for an Improvement in Heel Screws for Skates:

I claim the wheel and screw, arranged and operating substantially in the manner and for the purposes set forth.

[This invention consists in fixing in the center of a suitable wheel furnished with handles or holes punched in its periphery a suitable screw which is capable of being rotated with the roller, and which, by turning said roller, will be forcibly driven into the heel of the boot either before or after the skate is strapped to the foot.]

27,216.—Chauncey O. Green, of Troy, N. Y., for an Improvement in Cooking Stoves:

I claim the hollow, cylindrical transversely grooved grate bar, or grate bars, N, when arranged lengthwise of, and so as to be capable of revolution within, the oblong fire-box, A, and having communication at one end with the open air and at the other end communication with the smoke flues of the stove, by means of an air passage or air passages, arranged in contact with the outside of, or leading through, the part or parts of the oven not sufficiently heated by the fire-box and smoke flues, substantially as and for the purposes set forth.

27,217.—Joseph Grice, of New York City, and Robert H. Long, of Philadelphia, Pa., for an Improvement in Running Gear for City Railroad Cars:

We claim the vibrating truck, C, pivoted in advance of its axles in the line of motion of the car, in combination with the arcs, C' and C'', and friction rolls, K, with suitable bearing surfaces in the bottom of the car body; the whole constructed and operating substantially as specified for the purpose set forth.

And we also claim, in combination with a vibrating truck pivoted at a point not over the axles, the employment of sustaining arcs, so arranged on each side of the axles as to support the car and relieve the turning point of all weight, as specified.

27,218.—Thos. Hanson, of New York City, for an Improvement in Apparatus for Supplying Water to Buildings:

I claim combining the engine which is operated by the head of water with the pump, forcing water to the upper part of the building by means of a lever with a shifting adjustable fulcrum, substantially as and for the purpose specified.

I also claim the arrangement, substantially as described, of the engine and pump, so that the connecting lever can be removed and a hand lever substituted, as described, that the pump may be operated by hand when, from any cause, the pump cannot be operated by the engine.

I also claim the split packing rings and plates secured thereto, substantially as described, in combination with the conical boss on the piston rod, substantially as described, to render the piston self-packing by the pressure of the fluid.