



**Cotton Cleaning.**—The seeds of cotton adhere to the fiber with great tenacity, and until these are removed, it cannot be spun and made into threads for weaving. At one time the separating of the seed from the fiber was all performed by hand; the price of cotton then was about fifty cents per pound. This restricted its use, as the price was but little, if any, less than linen. The invention of a single machine completely revolutionized the whole business; this was the cotton gin of Whitney, of which figure 1 is a vertical section: and a model of which is in the Crystal Palace. The cotton gin is composed of a series of circular saws, revolving on the spindle of a wooden roller in a box, between metal ribs, the saws draw in the cotton and scutch off the seeds between the ribs; a revolving brush roller behind the saws, strips off the cleaned cotton and acting as a fan, drives it out through a back spout into the cotton room. A is the frame; L is the box into which the uncleaned cotton is thrust; F the saw roller; H the brush roller with brushes c c; O is the slide board, and P the mote and seed box. The ribs are secured to a block at N, and M is another receptacle for dirt, seeds, &c., which are separated in front by the saws. The brush roller acts the part of a cleaner, as well as a fan.—The cotton gin has been much improved since the days of Whitney, but the principle in them all is the same as that embraced in his original one.

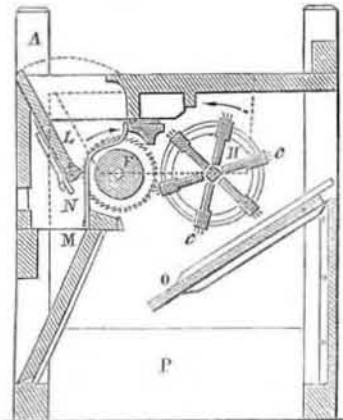
There are many at the north who have heard of the Cotton Gin that do not know the principle of its action nor the nature of its construction, the annexed figure will be instructive to them. There are others who have read of the cotton gin and know all about its construction and its inventor, Eli Whitney, and yet do not know that the fine "Sea Island Cotton" cannot be ginned by this machine, not but what it can separate the seeds from the cotton, but in doing so it would injure the fiber in such a manner as to destroy its value. The seeds of the Sea Island cotton do not adhere so tenaciously as those of the short staple, and this happily enables it to be cleaned by the "roller gin," figure 2. It is composed of two rollers, between which the uncleaned cotton is fed in, and the seed separated from it without saws, or scutching between ribs. a b are the two rollers, and c is the cotton. This is a sectional view, and is principally designed for exhibiting the difference between the two gins for cleaning different kinds of cotton. There are many modifications of the roller gin. Some gins have a top roller covered with leather, and an under one made of metal; others have the roller made with zig zag grooves, &c., on their peripheries. A good gin for cleaning the Sea Island cotton rapidly and safely, is still a great desideratum, we believe.

There are many kinds of cotton, which have different names, according to the locality in which they are grown. Georgia has long been distinguished for the excellent quality of its cotton, but it has not produced as much as some other States.

In the south-western part of that State the seed is planted about the beginning and onward to the latter part of March, and in some cold springs as late as the middle of April. The average period is the middle of March. It is planted in drills four feet apart, and the stalks are calculated to be ten inches distant. After it comes through the surface of the earth, it looks like buckwheat, until it is eight inches high, after which it branches off like the wild teasel.—It stands, at full growth, about four feet high in Georgia, but in the rich Mississippi bottoms it attains to the height of six and eight feet. Each stalk averages about thirty bolls (some have over one hundred.) The blossom lasts about three days—one day white, one red, one purple, and then falls off in six parts, like the shuck of a walnut, or like the liths of an opened orange. When the boll matures it opens

and lets out the staple to view something like our milk weed. It commences opening in July, and is ready to harvest when enough of bolls are opened to warrant picking. New bolls continue to be developed as the first ones ripen, like roses in our gardens, and the plants are picked over about half a dozen times. It is pulled off by hand, and comes out of the boll easily. A good hand will pick from two to three hundred pounds per day. At the early stage of picking it is not an uncommon thing for one planter to challenge another to test the smartness of their negroes. The picking of cotton is a light and agreeable kind of labor to the negroes, and a first-rate cotton-picker is a no small hero in the eyes of his fellows, and quite an object of interest and pride to his master. It is related that a plain but enthusiastic cotton-planter, after hearing and seeing Strakosch perform, with flying fingers, one of his favorite pieces on the piano, burst out in unrestrained admiration with—"What a glorious cotton-picker he would make."

S A W G I N .

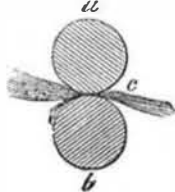


Various kinds of cotton are named according to localities, such as Alabama, Tennessee, Texas, New Orleans, Sea Island, Upland, &c., &c. There is a very great difference in the quality of cotton grown in one State and in one district. The Sea Island and the Upland are very different.

The Upland cotton is shorter in the staple than the Sea Island, but there are some very fine kinds of it. The mixing of the different staples, to produce a good yarn, requires great practice and skill, and in respect to its cultivation, no plant has received greater attention.

There can be no doubt but the great increase of the consumption of cotton can be traced to the invention of the Cotton-Gin—the simple machine which is here presented to illustrate this article. Before the invention of the Cotton-Gin, it took a female one whole day to clean one pound of cotton, and the best machine—the roller-gin with fluted rolls—which was in use in 1788, for cleaning cotton, could only finish about thirty pounds in twelve hours.—The great consumption of cotton for manufacturing is attributable to its cheapness; but it never would have become a cheap fibrous material by the old processes of cleaning, and our country never would have become a great cotton country, if the Cotton-Gin had not been invented.

R O L L E R G I N .



It was early discovered by Tench Coxe, Esq., and a number of enterprising gentlemen of the South, that any amount of cotton could be raised in the Carolinas and Georgia, but owing to the difficulty of cleaning it, a great obstacle stood in the path of its extensive cultivation. In 1792, while the continent of Europe resounded only with the tread of armed hosts in battle array; England, separated from the strife, became the workshop of the world, and the demand for her manufactures was greater than she could supply; so likewise was the demand for cotton. It was at this juncture that a mechanical genius arose to meet, it may be said, the wants of the world. Eli Whitney, a native of Worcester, Mass., a highly educated

and ingenious man, while a guest with the widow of General Greene, in Savannah, Geo., was appealed to by the lady to devote his attention to the construction of a machine to gin cotton, as it was in vain to think of raising it for the market while the means to clean it were so inefficient. Whitney at once commenced experimenting, and after much study and toil completed his Cotton Gin in the early part of 1793. At its first exhibition, all who saw it were astonished at its power, for it separated more cotton from the seed in one hour than one man could do by the old method, in many months. Whitney, in 1802, when presenting a petition to the Legislature of South Carolina, respecting his treatment by some men who opposed his just claims, said, "my machine enables one man to do the work of a thousand."

At one period the cultivation of the Sea Island was confined to a string of islands stretching from Georgetown, in South Carolina, to the St. Mary's River, in Georgia, a distance of about 200 miles, embracing a belt of coast not over 15 miles wide; but in a letter addressed to the "Scientific American," and published on page 123, Vol. 8, by H. L. Weeks, of Columbus, Geo., it is stated that in Thomas County, in that State, there is a planter who has grown Sea Island cotton for 21 years, at a distance of 125 miles from the Atlantic coast. In the fertile counties of Middle and West Florida, more Sea Island cotton is grown than any other kind.

**Nankin Cotton.**—The color of pure Nankin cotton goods, is the natural color of the cotton. Its native place is China, but it has been cultivated in Georgia, and goods have been made from it at some of the factories in Rhode Island. We have been informed that its cultivation has been abandoned, however, on account of its unprofitable nature.

**Red Cotton.**—During the past year some cotton of a red color was received in Manchester, from Aubeokuta, in Africa, but it was brought to that place from the interior of the country, where it was said to be grown in great quantities, and was very prolific. We have never seen any of this kind of cotton, but that such a peculiar quality of it was grown in Africa, is stated in Bancroft's old work on the subject of Dyeing, which was printed before our Revolution.

**Manchourian Cotton.**—On the eve of the departure of the American Japan Expedition, we directed the attention of the President, to obtaining some information about the Manchourian cotton, described in the travels of Huc. We hope the expedition obtained definite information respecting that cotton which is grown in a country lying as far north as the city of New York.

**Literature Devoted to Cotton Planting.**—The "American Cotton Planter," a monthly magazine, edited by Dr. Cloud, of La Place, Ala., is a very excellent periodical, from the pages of which we have derived much information. "The Cotton Plant" is another paper published at Washington, D. C., and devoted to interests of the cotton culture. "De Bows' Review" is a powerful and able magazine; the "Southern Cultivator," published at Augusta, Geo., contains a vast amount of information about cotton; in short, the majority of our Southern cotemporaries devote much attention to this great Southern agricultural product. In one of our Southern exchanges, however, we were surprised by the advocacy of opinions which, according to our judgment, would prove highly injurious to our cotton planters. It was no less than a recommendation to cultivate less in order to raise the price. This might answer for one or two years, but it would certainly lead to the cultivation of a greater quantity in other countries; the true policy of our planters is to cultivate as much as they can, at the least expense to themselves.

**Western Locomotives.**

We have received a letter from T. S. Reed, of Milwaukee, who states that there is a locomotive shop in that city called the "Menomonee Machine Shop," which has built a number of excellent locomotives—eight at least—which are now running on the Milwaukee and Mississippi Railroad.

We have also received a communication

from Theodore P. Robinson, of Detroit, Mich., in which he informs us that the "Michigan Central Railroad Company" built a heavy freight locomotive four years ago, and have built four freight and one passenger engine since that period. He says, "they are superior to the Eastern engines in strength, durability, and finish." The motive power of said railroad is under the superintendance of S. F. Newhall.

**Steam Engines--Experiments at the Crystal Palace.**

In No. 15, of the "Scientific American" we published the correspondence between Mr. Page, and Joseph E. Holmes, Superintendent of Machinery. In connection with that, the following are tables of the correct results kindly furnished by Mr. Holmes:—

CORLISS & NIGHTINGALE'S ENGINE.	
Time when the facts were noted	H.M. H.M. H.M. H.M. H.M. H.M. H.M.
No. lbs. pressure of steam to the square inch	7 00 7 10 7 20 7 30 7 40 7 50 8 00
No. of revolutions of the fly wheel or stroke of piston	42 32 27 22 15 10 7
Time when the facts were noted	
No. lbs. pressure of steam to the square inch	H.M. H.M. H.M. H.M. H.M. H.M. H.M.
No. of revolutions of the fly wheel or stroke of piston	8 10 8 15 8 20 8 25 8 30 8 35 8 39
LAWRENCE MACHINE SHOP ENGINE.	
Time when the facts were noted	H.M. H.M. H.M. H.M. H.M. H.M. H.M.
No. lbs. pressure of steam to the square inch	7 00 7 10 7 20 7 30 7 40 7 50 8 00
No. of revolutions of the fly wheel or stroke of piston	46 46 45 43 40 34 36
Foreign Scientific Memoranda.	
DEATH OF AN INVENTOR.—Capt. Warner, an English inventor, whose experiments in destructive missiles created a great deal of sensation a few years ago, died suddenly, in London, a few weeks since. He was in high hopes of coming to an arrangement with the Turkish government for the use of his invention, and it is presumed that over-excitement had operated fatally. He has left a wife and seven children without provision. It is believed the secret of his invention is among his papers. He stated that it would be found there. He bore the rank of Master in the Navy.	
STEAMSHIP PERSIA.—This new ship for the Cunard Line, is fast approaching completion, at Glasgow. She will be 45 feet broad in the beam, and in length 360 feet; her tonnage will be 3,060. The engines will have hundred inch cylinders with a ten feet stroke.	
STEAMER GOLDEN AGE.—This fine American steamer, with over-head beam engines, which carried a cargo from this port to Liverpool, has left the latter city on her voyage to Australia. She took with her 160 passengers; in passing down the Mersey she astonished all the on-lookers by her great speed.	
GOLD EXTRACTED WITHOUT QUICKSILVER.—J. Harris, of London, has written a letter to the "Mining Journal," giving the following account of extracting gold from metallic ores without the use of mercury. The mines of Reichenstein, in Silesia, abandoned for more than four centuries, have been recently opened with advantage, in consequence of the application on a large scale of a method invented by Prof. Plattner, for separating gold from the waste of arsenical ores. The ore of Reichenstein is an arsenical pyrites, containing about 200 grains of gold in the ton. The ore is roasted in a reverberatory furnace, surmounted by a large condensing chamber, in which the arsenious acid is condensed as fast as it is volatilized. There then remains on the floor of the furnace oxide of iron, mixed with a certain quantity of arsenic, together with the whole of the gold. This is placed in a vessel so arranged that a current of chlorine can be passed through it, by which the gold and iron are taken up, and afterwards separated from the residuum by the aid of a certain quantity of water, and the gold is afterwards precipitated from this solution by sulphuretted hydrogen. To prevent the admixture of iron at this stage, a small dose of hydrochloric acid is introduced. The auriferous compound having been separated from the liquor, is washed and heated in an open porcelain crucible, to drive off the sulphur, by which the gold is reduced to the metallic stage by fluxing in the usual manner.	

TO CORRESPONDENTS.

J. C., of N. Y.—What would you do with the gases of water, if you obtained them by solar heat—which you cannot do by the largest lens you can employ? Hydrogen gas is of no value at all in the arts, except in combination with carbon. Do not expend any money on such a project.

W. F., of Mass.—You have not taken the compressible quality of air into your calculations. The use of one fluid to act upon another, as a propulsive power, will amount to about one half of loss, compression develops its latent heat, then the water condenses it, thus forming a partial vacuum, which will retard the progress of the vessel.

J. A., of O. W.—We do not like the conical stone mill; your wheel is perhaps as good as any of the same nature. There is not much difference between it and others—and as you are acquainted with it, some expense and trouble may be saved by getting another like it. If we were in your place, however, we would get an outside discharge wheel, for the new mill.

R. G., of N. Y.—We cannot properly answer your last inquiry, in regard to getting the rotary files made. There is, we think, a file making establishment at Sing Sing, N. Y., and we advise you to apply to the proprietor for the information desired. His name we do not know.

R. Forman, of West Point, Bath Springs, P. O., Tenn. wishes information in regard to the best plans of saw mills in use; manufacturers will find it to their advantage to send him their business circulars.

F. H. S., of Md.—We have carefully noted the contents of your letter in regard to the rule of the Patent Office. The views are undoubtedly correct, and we hope you will be able to apply them in your own case.

J. Y., of —.—Cheap soap depends on the price of materials, and the work which the soap has to perform. As your materials contain a great deal of grease, you can make a very good soap for your purpose, by dissolving common hard soap by hot water in a barrel, and for every pound of soap add half a pound sal soda, dissolving them all together. A little practice will enable you to use it judiciously according to the amount of grease or dirt in your wool; the free soda dissolves the free grease. Some manufacturers use nothing but weak soda ley for this purpose.

S. H., of Ky.—Your method of straining saws by means of a screw nut connecting the rods is old and very well known; we fail to discover any patentable novelty in your arrangement.

R. A. N., of Tenn.—We discover no new feature in your alleged improvement in grates; substantially the same thing has long been known. We are pleased to learn that your city is fast becoming interested in machine manufacturing, there is no reason why the South and West should not eventually become active competitors for this branch of trade.

J. B. A., of N. Y.—We cannot give you better advice, in re-setting your boilers, than to recommend the building of two or three fire bridges like those represented in No. 18, Vol. 7, Sci. Am.; any mason will set them for you. We are not acquainted with any person particularly devoted to boiler setting.

T. O. W., of Pa.—We have had models almost precisely similar to your sketch in our office. You would not stand the most remote chance of getting a patent; we advise you to abandon the idea of making an application.

G. W. W., of Ind.—We are unable to find any novelty in your description of a reaper and raker. We could not advise you to apply for a patent.

D. P., of Vt.—In July, 1850, Addison Everett, of Middlefield, Mass., secured a patent for a wooden bowl turning machine; an engraving of it was published in No. 52, Vol. 5, Sci. Am.

W. N., of N. J.—“Constructing a saw in the form of an endless belt running round two drums” is not a new invention.

E. B., of N. Y.—We can discover but very little novelty in your machine for crushing; in its construction it closely resembles other machines where balls are used in basins. We think a very limited claim can be secured, but is hardly worth an application.

O. P. S., of Ohio—Your long communications are quite too much for us, therefore you will please to withhold them in future. We have not the necessary time to devote to them.

J. L. F., of Miss.—Fine iron filings made into a paste with sal ammoniac, dissolved in water, is a cement employed for filling the seams of iron vessels, such as boilers, but red and white lead mixed with finesand, some putty, and a little oil, make a very excellent cement.

B. Y., of Pa.—Your communication is placed on file in this office; we do not discover anything useful in the engine, it is too complicated in its construction.

C. W. G., of Ct.—We have never seen a rotary engine constructed in the manner shown in your sketch; you had better try it, as we doubt its goodness.

L. W. H., of N. Y.—An air-tight trunk for re-action water wheels, is not new, and this, as we understand by your letter, is what you claim: such trunks are already covered by a patent.

F. C., of Mass.—Your improvement is new; many times a simple improvement in small tools is useful and valuable to the inventor. Perhaps we are justified in saying that too little attention is paid to this branch of mechanical contrivances.

T. M. J., of Iowa—We have seen a scraper made in the same manner as you describe; the handles, instead of being fastened permanently at the sides, extend forward to the bail, and the scraper allowed to turn on pivots. You cannot secure a patent for it.

J. B. W., of Mich.—Make the body of your emery wheel of cast-iron, and have it truly turned, cover the periphery with copper, and use the emery on this; the emery sinks into the copper. Scott's is the best work on millwrighting in print—a good work, up to the present practice is much wanted.

W. C. D., of Fla.—We thank you for bringing the past to remembrance; we have the copy and hope to give it attention soon.

A. R. H., of Lake Superior—It is not a new thing to smelt iron and ores by the flame of fuel, in a stack apart from the fire chamber. We give the advice freely. You will see a furnace for this purpose, illustrated in our last Volume.

J. J. T., of Ky.—You will find the contents of your cylinder by multiplying half the circumference by half the diameter, and this by the length; the circumference you will find by multiplying the diameter by 3.14159.

T. P. K., of Pa.—You are right about the rule to calculate the lever power, but the toggle gives out the power different from the common levers.

M. S., of N. Y.—The only invention we know of for “burning the wick of a candle,” is to surround it with sperm or stearine. We are not sure that we understand you in respect to the clock, but if we do, the same thing is done in many clocks.

D. McC., of Ky.—Your engine is sufficient for all your purposes, but your boiler is defective, when it cannot supply over 20 lbs. pressure on the square inch. Take it down, and set it over again, the furnace is badly constructed.

G. & Co., of Boston.—We have not been able to obtain correct information of Mr. P. If you direct a letter to J. S. Sloan, of Sloansville, Floydburg, Oldham Co., Ky., he will, we believe, be able to give you the desired information.

W. T. U., of Tenn.—We will soon attend to your request.

J. H., of Ill.—Yours has been received.

F. M. P., of N. Y.—You cannot estimate the horse power of a high pressure engine by the bore of the cylinder and length of stroke. The velocity of piston, and the pressure of steam on the square inch throughout the whole stroke, is the only way to arrive at a knowledge of its power.

Money received on account of Patent Office business for the week ending Saturday, Dec. 31:—

W. A. H., of Halifax, \$50; O. B., of Ind., \$30; J. T. B., of N. Y., \$25; R. S. T., of N. C., \$55; J. W. B., of Ark., \$30; J. L., of O., \$30; D. M. R., of N. H., \$40; J. C. R., of N. Y., \$10; B. V. B., of N. Y., \$30; S. S. H., of N. Y., \$30; G. M. C., of N. Y., \$35; D. B. H., of S. C., \$35; C. & S., of Mass., \$30; J. H. B., of N. Y., \$25; V. & K., of N. J., \$30; S. G. B., of N. Y., \$40.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Dec. 31:—

D. M. R., of N. H.; B. F. McL., of O.; C. & S., of Mass.; J. H. B., of N. Y.; S. S. H., of N. Y.; S. G. B., of N. Y.

LITERARY NOTICES.

THE GENESSEE FARMER—This agricultural periodical, published every month at Rochester, N. Y., has no superior in our country. The Editor, Dr. Lee, is an able Agricultural Chemist, and a veteran in agricultural literature. Every number contains 40 royal octavo pages of closely printed matter, and illustrations of agricultural machines &c. Its subscription price is only 50 cents per annum. This magazine commences a new volume (5th) second series, and it contains one-third more reading matter, and is otherwise much improved. It should have a million of subscribers, for its matter is always good, solid, scientific and practical.

GRAHAM'S MAGAZINE—For January, is received through Messrs. Dewitt & Davenport, of this city. It has a fine engraving of Clark Mill, Eastria Street, of General Jackson, besides others of merit. The contributions are from well known authors. The number throughout is very fine. This Magazine is one of the very best now published, and deserves to be well sustained.

PUTNAM for January has been received, it is as usual, full of interesting matter. The publishers seem inclined to enter in the new year with a number which shall give promise of good things for the year to come.

HOT CORN is the title of a new book from the establishment of Messrs. Dewitt & Davenport. It is the republication of an enlarged form of the stories that have from time to time appeared in the “N. Y. Tribune,” from the pen of Solon Robinson, Esq. The effect of this book cannot be other than good, and we commend it heartily to our readers.

HOUSEHOLD WORDS—This gem of Monthlies makes its regular appearance, freighted with the best of reading. Dickens, Leigh Hunt, and other eminent English writers, are its contributors. McElrath & Barker, American publishers, Spruce st. N. Y.

THE KNICKERBOCKER—This favorite Magazine loses none of its popularity, even though Harper's, Putnam's and Graham's are making so many friends. It is as bright and sparkling as ever and enjoys a host of admiring readers. Samuel Hueston, publisher, 139 Nassau street, N. Y.

AMERICAN AGRICULTURIST—An advertisement of this valuable journal of Practical Agriculture, appears in another column. It is a good publication.

Another number of the “Book of the World,” by Weick & Wieck, Philadelphia, publishers, has been received.—the illustrations are superb.

A Chapter of Suggestions, &c

PATENT LAWS, AND GUIDE TO INVENTORS—We publish and have for sale, the Patent Laws of the United States—the pamphlet contains not only the laws but all information touching the rules and regulations of the Patent office. Price 12 1/2 cents per copy.

RECEIPTS—When money is paid at the office for subscriptions, a receipt for it will always be given, but when subscribers remit their money by mail, they may consider the arrival of the first paper a bonafide acknowledgment of the receipt of their funds.

BACK NUMBERS AND VOLUMES—In reply to many interrogatories as to what back numbers and volumes of the Scientific American can be furnished, we make the following statement: Of Vols. 1, 2, 3, and 4—none. Of Vol. 5, all but six numbers, price, in sheets, \$1; bound, \$1.75. Of Vol. 6, all; price in sheets, \$2; bound, \$2.75. Of Vol. 7, all; price, in sheets, \$2; bound, \$2.75. Of Vol. 8, none complete, but about 30 numbers in sheets, which will be sold at 50 cents per set; of Vol. 9, none.

GIVE INTELLIGIBLE DIRECTIONS—We often receive letters with money enclosed, requesting the paper sent for the amount of the enclosure, but no name of State given, and often with the name of the post-office also omitted. Persons should be careful to write their names plainly when they address publishers, and to name the post-office at which they wish to receive their paper, and the State in which the post-office is located.

PATENT CLAIMS—Persons desiring the claim of any invention which has been patented within fourteen years, can obtain a copy by addressing a letter to this office, stating the name of the patentee, and enclosing \$1 for fees for copying.

PATENTERS—Remember we are always willing to execute and publish engravings of your inventions, providing they are on interesting subjects, and have never appeared in another publication. No engravings are inserted in our columns that have appeared in any other journal in this country, and we must be permitted to have the engravings executed to suit our own columns in size and style. Barely the expense of the engraving is charged by us, and the wood-cuts may be claimed by the inventor, and subsequently used to advantage in other journals.

ADVERTISEMENTS.

Terms of Advertising.

Table with 2 columns: Lines for each insertion, and Price. 4 lines for each insertion, 75 cts; 8 lines, \$1.50; 12 lines, \$2.25; 16 lines, \$3.00.

Advertisements exceeding 16 lines cannot be admitted; neither can engravings be inserted in the advertising columns at any price.

All advertisements must be paid for before inserting.

American and Foreign Patent Agency.

IMPORTANT TO INVENTORS.—The undersigned having for several years been extensively engaged in procuring Letters Patent for new mechanical and chemical inventions, offer their services to inventors upon the most reasonable terms. All business entrusted to their charge is strictly confidential. Private consultations are held with inventors at their office from 9 A. M. until 4 P. M. Inventors, however, need not incur the expense of attending in person, as the preliminaries can all be arranged by letter. Models can be sent with safety by express, or any other convenient medium. They should not be over 1 foot square in size, if possible. Having Agents located in the chief cities of Europe, our facilities for obtaining Foreign Patents are unequalled. We are also business agents for the American attention of one of the members of the firm, who is prepared to advise with inventors and manufacturers of all times, relating to Foreign Patents. MUNN & CO., Scientific American Office, 123 Fulton street, New York.

PIG IRON—The subscriber has always on hand a stock for the best brands of American and Scotch pig iron, for sale at the lowest market price. G. O. ROBERTSON, 125 Water st., cor. Pine, N. Y. 12 1/2c

1854.—MICH. CENTRAL RAILROAD For railroads and D. N. WHITING, Freight Agent for railroads and steamboats—Plymouth Rock and Western World.—and also General Forwarder, will forward freight of any kind, by any mode of conveyance, to any destination, with despatch and at the lowest rates; has trucks and machinery (having been a practical machinist); has all the skill necessary for the safe and expeditious handling of any machine or heavy article, such as Locomotives, Steam Engines and Boilers, Engine Lathes, Safes, &c. &c. Mark packages “care of D. N. Whiting, Buffalo.” goods thus consigned take precedence with the above boats in all cases.

LOCOMOTIVES FOR SALE—Two Locomotives, Engines, and Tenders, made to order for live-foot gauge (but which are not required at present as the road is not ready to receive them); 16 inch cylinder by 24 in. stroke; two drivers, one engine 6 feet diameter and the other 5 1/2 feet dia. outside cylinders—have a large proportion of boiler, and are expected to be economical working engines. Will be sold on very favorable terms and are now ready for delivery. For further particulars apply to CHAS. W. COPELAND, No. 64 Broadway, N. Y.

FIFTEENTH VOLUME OF THE AMERICAN AGRICULTURIST—The leading Weekly Agricultural Paper in the United States, containing in each weekly number sixteen large quarto pages, and furnishing a great variety of the earliest, most reliable, and practical information on all subjects connected with Farming, Planting, Gardening, Fruit Growing, Stock-Breeding, &c., including also correct Weekly Reports of the market prices of Stock and Farm Produce, which are invaluable to the Farmer. Terms—To Single Subscribers, \$2 a year (for six months); to clubs of three \$4.87 each; of five, \$7.00 each; of ten, \$12.00 each, and of twenty \$19.35 each. N. B.—Specimen Copies always sent free to all forwarding their names and post-office to the Publishers. Responsible Agents wanted in all parts of the Union, to whom good commissions will be paid. Published by ALLEN & CO., 123 Waterst, New York. 1\*

DYER—A situation is wanted by an experienced Cotton Dyer, who for ten years has conducted the Skein and Warp Dyeing in some of the most extensive manufacturing companies in America. Can give the best of references. Address letters, post paid, to R. M., this office. 16 1/2\*

EAGLE FOUNDRY—Steam Engine and Millwright Establishment.—The subscriber offers for sale his well-known establishment on Gadsden's Wharf, Charleston, S. C., convenient to the river for steamboat work or shipping and receiving machinery, &c. The workshop, tools, patterns, &c., are in good order and calculated for the manufacture of all kinds of engines, railroad work, and machinery of every description. For terms, we will be made easy, and possession given immediately, apply to JAMES McLEISH, Charleston, S. C. 15\*

IRON DRILLS.—Portable drills for drilling iron.—They are the most simple and convenient drill in use, having a newly invented feed motion, simple and efficient in its operation. They are constructed of iron, and weigh 30 lbs. We can recommend them as a first class article. Price \$25. Address MUNN & CO., at this office.

TO MANUFACTURERS AND MILLERS—For sale, a valuable Mill Seat, within one mile of the city of Troy, N. Y. It comprises two four-story brick Flouring Mills, each of which have four run of stone, and are capable of doing the best of grinding. Two wood dwelling houses, and one barn, with considerable land adjoining the whole. The stream upon which the above seat is situated is known as the Poestenkill, and affords a strong power of 22 feet head, so that the mills could be converted into the purchaser's possession other branches of manufacture. The buildings are well situated, and the facilities a manufacturer would have are very great, owing to the position of Troy as a noted and increasing railroad center, and the accessibility to and from the city, of the property. The object of a sale is for partition among the heirs. For plans and further particulars apply to the undersigned. T. M. C. BUCKLEY, Troy, N. Y. 14\*

SAVE YOUR FUEL—And have your Engine regulated at the same time. Trampers' Spiral Governor and Steam Economizer can now be furnished to any amount, and of the best materials and manufacture. Orders should be addressed to Newburgh, N. Y., instead of Buffalo, as heretofore, and will be promptly attended to. JOHN TRAMPER, 13 5\*

MINING MACHINERY—Of most approved construction, furnished by FREDK COOK & CO, Hudson Machine Works, Hudson, N. Y. 15 6m

IRON FOUNDERS' MATERIALS, viz: Pulverized Sea Coal, Black Lead, Soapstone, Anthracite and Charcoal Facings. Also, best imported Fire Bricks, Fire Clay, Fire Sand, and Moulding Sand, for sale by G. O. ROBERTSON, 13 1/2c 125 Water street, corner of Pine.

EUROPEAN PATENTS.—MESSRS. MUNN & CO. pay special attention to the procuring of Patents in foreign countries, and are prepared to secure patents in all nations where Patent Laws exist. We have our own special agents in the chief European cities; this enables us to communicate directly with Patent Departments, and to save much time and expense to applicants.

1853. WOODWORTH'S PATENT PLANING, TONGUING, GROOVING, LABELING, and Moulding Machine.—Nifty-nine hundredths of all the planed lumber used in our large cities and towns continues to be dressed with Woodworth's Patent Machines. Price from \$150 to \$300. Two machines are at the Crystal Palace. For rights in all parts of New York and Northern Pennsylvania, apply to JOHN GIBSON, Planing Mills, Albany, N. Y. 1 amt

WEIGHING AND PACKING MACHINE—This machine is particularly adapted for the weighing and packing of ground spices, coffee, teas, saleratus, cream tartar, British luster, arrowroot, drugs, prepared flour, farina, starch, cocoa, oat meal, yeast powders, seeds, snuff, ground herbs, or any like material, which may require to be put in packages, from ounces to pounds. Its advantages over the old method of packing by hand, are manifest. One of these machines will, with the aid of one person, weigh accurately, and pack neatly, from 4 to 5,000 packages per day. It requires very little power to run it, and is not liable to get out of repair. Having purchased the exclusive right to manufacture and sell throughout the United States, we are prepared to execute orders for the machines or sale of sectional rights, on reasonable terms. N. B. HARRIS & Co., Proprietors of the Excelsior Steam Spice Mills, Philadelphia, Pa. 12 1/2

THE NEW HYDROPATHIC COOK BOOK, with Three Hundred Recipes for Cooking on Hygienic Principles, containing also a Philosophical Exposition of the Relations of Food to Health; the Chemical Elements and Proximate Constitution of Alimentary Principles; the Nutritive Properties of all kinds of Aliments; the Relative Value of Vegetable and Animal Substances; the Selection and Preservation of Dietetic Materials, &c. &c. By R. T. TRALL, M. D. With One Hundred Illustrative Engravings. 12mo. Price, 50 cents. Published by FOWLER & WELLS, No. 131 Nassau st., New York. Boston, No. 142 Washington st.; Philadelphia, No. 231 Arch st. 14 1/2

BAKERS IMPROVED STEAM BOILER FURNACE, as used at the Crystal Palace, &c. Apply to J. AMORY, 28 State st., Boston. General Agent. 11 1/2

HUDSON MACHINE WORKS and Iron Foundry at Hudson City, N. Y., are prepared to contract for castings for railroads, bridges, building, gas pipes and posts, water pipe, cast-iron ornaments, floor of cannon, &c. Steam engines and boilers, high and low pressure, sugar mills, Cornish lifting and forcing pumps for mines; stamps, mortars, and mining machinery; also superior hydraulic pumps and presses, and superior machinists' tools made to order. Special attention given to the making of patent machines. Orders by mail will receive prompt attention. FREDERICK COOK & CO. 73m F. COOK, H. McCLELLAND.

C. B. HUTCHINSON'S PATENT STAVE CUTTING MACHINES—The best in use, and applicable alike to thick and thin staves, for barrels, hogheads, &c. also his Head Cutting and Turning, and Stave Jointing and Crozing Machines. This machinery reduces the expense of manufacturing at least fifty per cent. For machines or territorial rights, apply to C. B. HUTCHINSON & CO., Syracuse, N. Y. 24\*

ENGINEERING.—The undersigned is prepared to furnish specifications, estimates, plans in general, detail of steam-hydraulic machinery, high and low pressure engines, boilers and machinery of every description. Broker in steam vessels, machinery, boilers, &c. General Agent for Ashcroft's Steam and Vacuum Gauges, Allen & Noyes' Metallic Self-adjusting Conical Gages, Raper's Water Gauge, Sewell's Submeters, Deane's Hydraulic Lifting Press, Rochet's Patent Wire Rope for hoisting and steering purposes, &c. &c. CHARLES W. COPELAND, Consulting Engineer, 64 Broadway, 7 1/2\*

NICHOLS' PATENT PARAGON SAFETY CANS and Glass Metallic-lined Lamps.—These beautiful glass lamps protect against breakage as well as against explosion. They are infinitely superior to all others. Orders addressed to the N. E. or Sandwich Glass Co., Boston, Mass., will be promptly answered. 10 10\*

THE NEW HAVEN MANUFACTURING CO.—New Haven, Conn., having purchased the entire right of E. Harrison's Flour and Grain Mill, for the United States and Territories, for the term of five years, are now prepared to furnish said mills at short notice. These mills are unequalled by any other mill in use, and will grind from 20 to 30 bushels per hour of fine meal, and will run 24 hours per day, without heating, as the mills are self-cooling. They weigh from 1400 to 1500 lbs., of the best French burr stone, 30 inches in diameter; snugly packed in a cast-iron frame, price of mill \$200, packing \$5. Terms cash. Further particulars can be had by addressing as above, post-paid, to S. C. HILLS, agent N. H. M. Co., 12 Platt st., N. Y. 5 1/2

NEW HAVEN MANUFACTURING COMPANY Tool Builders, New Haven, Conn. (successors to Seranton & Parslow) have now on hand \$25,000 worth of Machinery Tools, consisting of power planers, to plane from 5 to 12 feet; sliding lathes from 6 to 18 feet long; 3 size hand lathes, with or without shears; counter shafts to fit all sizes and kinds of universal chuck gear cutting engines; drill presses, index plates, bolt cutters, and 2 size slide rests. The Company are also manufacturing steam engines. All of the above tools are of the best quality, and are for sale at 25 per cent. less than any other tools in the market. Cuts and list of prices can be had by addressing as above, post-paid. Warehouse No. 12 Platt st., New York, S. C. HILLS, Agent N. H. Manufacturing Co. 5 1/2

BEARDSLEE'S PATENT.—Practical operation of these Machines throughout every portion of the United States, in working all kinds of wood, has proved them to be superior to any and all others. The work they produce cannot be equalled by the hand plane. They work from 100 to 300 feet, lineal measure, per minute. One machine has planed over twenty millions of feet during the last two years, another more than twelve millions of feet Spruce flooring in ten months. Working models can be seen at the Crystal Palace, where further information can be obtained, or of the proprietor, GEORGE W. BEARDSLEE, 1 1/2

A. B. ELY, Counsellor at Law, 52 Washington street, Boston, will give particular attention to Patent Cases. Refers to Messrs Munn & Co., Scientific American 16 1/2

LEONARD'S MACHINERY DEPOT, 109, Pearl Street, and 60 Beaver, N. Y.—Leather Banding Manufactory, Y.—Machinists' Tools, a large assortment from the “Lowell Machine Shop,” and other celebrated makers. Also, a general supply of mechanics' and manufacturers' articles, and a superior quality of oak-tanned Leather Belting. P. A. LEONARD, 1 1/2

LOGAN, VAIL & CO. No. 9 Gold st., New York.—Agency for Geo. Vail & Co., Speedwell Iron Works, Morristown, N. J., furnish and keep on hand Portable Steam Engines of various sizes, Saw and Grist Mill Irons, Hotchkiss's Water Wheels, Iron Water Wheels, of any size, Portable Saw Mills, complete; Bogardus's celebrated Planetary Horse Powers; heating forges and castings for steamboats and rolling mills, Ratchet Drills of superior quality for machinists, Saw Gummers, Hand Drills, Tyre Benders, and shafting and machinery generally. 38 1/2

MCALLISTER & BROTHER.—Opticians and dealers in mathematical instruments, 48 Chesnut st., Philadelphia, Pa. Mathematical instruments separate and in cases, Protractors, Spacing Dividers, Drawing Pens, Ivory Scales, Tape Measures, Salometers, Spy Glasses, Microscopes, Hydrometers, &c. &c. An illustrated and priced catalogue will be sent by mail free of charge. 40 6m\*

NORRIS WORKS, Norristown, Pa. The subscribers build and send to any part of the United States, Pumping, Hoisting, Stamping, and Portable Engines, and Mining Machinery of every description. 41 1/2\*

MECHANICAL DRAWINGS—J. H. BAILEY, Mechanical or Architectural Drawings executed in all kinds of perspective. Office Tryon Row, No. 5, opposite the City Hall. 16 1/2\*