shortest time by sending a sketch and description of the invention Thegovernment fee for a Caveat, under the new law, is \$10. A pamphlet of advice regarding applications for Patents and Caveats, in glish and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

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; 29 Boule Martin, Paris; and 26 Rue des Eperonniers, Brussels. think we can safely say that THERE-FOURTHS of all the European Pat ants secured to American citizens are procured through our Agency,

Inventors will do well to bear in mind that the English law does no limit the issue of Patents to Inventors. Any one can take out a Patent

Circulars of information concerning the proper course to be pursued in obtaining Patents in foreign countries through our Agency, the re quirements of different Patent Offices, &c., may be had gratis upon application at our princing office, No. 37 Park-row, New York, or eithe of ourBr a ch Offices

Rejected Applications

We are prepared to undertake the investigation and prose jected 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 verygreat. The principal portion of our charge is generally left de dent upon the final result.

All persons having rejected cases which they desire to have pros ted are invite correspond with us on the subject, giving a briesstory of the case, inclosing the official letters, &c.

Assignments of Patents.

Thessignment 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 entAgency, 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 atour extensive offices, No. 37 Park-row, New York, where any questions regarding the rights of Patentees, will be cheerfully answered.

Communications and remittances by mall, and models by express (prepaid), should be addressed to MUNN & CO., No. 37 Park-row, New



- D. A. C., of Colorado Territory.-It seems to us that the walls of a gun would be weakened by making cylindrical holes in them parallel with the bore, even though the iron around these holes should be cooled by water circulating through them, on Rodman's
- G. W. K., of Pa .- The specimen which you send us is magnetic oxide of iron, one of them ost valuable iron ores.

 F. W. T., of Md., and W. M. A., of Ohio.—The experi-
- ments, both in this country and England, have shown that the largeriron plates are, and the more solid their supports, the better will they resist the force of shot. It may be, however, that some degree of elasticity would tend to prevent the frame of the vessel from being crushed in.
- Invention, of N. Y .- Lead may be silver plated by means of electricity, though it does not adhere very firmly.
- M. L. G., of N. Y .- Your suggestion to have the turret of the Monitor revolve on rollers, has already appeared in our paper, as well as all of your other suggestions. See the communication from ers in another part of this number.
- A. W., of N. Y.—We have been informed that the first pasenger locomotive run in this State, was on the old Mohawk and Iudson River Railroad, between Albany and Schenectady.
- T. H. M., of Munich.-We do not see anything especially worthy of notice in your mode of constructing war vessels. stantially the same views have been suggested to us before.
- M. E. M., of N. Y.—There is no standing premium for the production of a perpetual motion. This subject, of late years, has eased to attract the attention of men of science. If you have any
- J. W. G., of Iowa .- It appears to be useless to undertake to get letters to you through your post office. We have written you two letters, one under date of March 12th, the other April 15th. We take note of your remarks about the steam wagon enterprise. It has always appeared to us a doubtful scheme to undertake to run steam carriages on common roads, as an economical experiment.

 D. C. G., of Iowa.—You ask, "If A obtains a patent for a
- machine, sells territory to B, and, after selling to B, A gets a patent for an improvement on the same machine, has A the right to sell the original machine with the patented improvements, on B's territory, or has B the right to use the said improvements? Answer.-A has no right tosell the original machine ented improvement in B's territory, nor has the latter any righ to use or sell the paten improvement of A.
- E. J. A., of N. H.—Cannot furnish No. 3, Vol. VI., as it is out of print. No person can tell what caused the intermittent flow of waterin your log, without an examination of its position, and a knowledge of all the circumstances connected with the phe
- A. E.W., of N. Y .- Very little of the timber of California is suitable for manufacturing purposes, and all the fron and steel used in that State are imported.

- M. J. C., of Iowa.-Hydraulic cement is made of a peculiar limestone. A cement similar to it may bemade by mixin dust of burnt brick with highly-burned common lime. To Plaster of Paris, gypsum is roasted in brick troughs until all its water is expelled, after which it is exposed in sheds to the atmosphere, and finally ground to powder for common use. make good mortar, but for plastering the interior of buildings it is
- P. R. S., of Conn.—You have a perfect right to use indiarubberrollers in making clothes wringers, but we think you will find difficulty in getting them made by any reliable company. The Metropolitan Washing Machine Company seems to control the manu facture of the article
- . S., of Mass .-- We have carefully read your article on the Art of Measuring Time. It is too long for our would be fit to publish it would need a good deal of pruning.
 its present condition we cannot use it.
- R. B., of C. W .- The embossing plates or dies for envelopes may be made either of cast or wrought iron, steel or brass Bronzedies are used in some embossing presses. They are first east, then finished by hand.
- J. A., of Ill.—Gutta percha and india rubber are insoluble in alcohoi, but whether they would make good canteens or other vessels for holding whisky, we do not know, for we are not acquaint ed with any person who has made the experiment.
- A. B. L., of Conn.-Give as your opinion respecting the cause of the belt working toward the edge of your counce you have intimated that you know it.
- H. W. H., of Ind .- Nassau is the chief port in New Providence, one of the British West India Islands. for smugglers running the blockade on our Southern coasts
- . S. H., of N. Y .- A common hair lotion for coloring the hair is composed of alcohol one pint, a table spoonful of castor oil one-fourth of an ounce of sugar of lead, and the same quantity of flowers of sulphur. The sulphur should be mixed with the alcohol for about six hours before the other substances are added. Applied to grey hair it changes it generally into a dark brown color etimes sold as a hair restorative for about one dollar per quart
- F. A. M., of N. Y .- A ventilating hat, with a series of holes in the sides and nother set in the crown, is not new. Such hats are quite common in this city and in Philadelphia.
- A. K., of Ky.-Watches the steel parts of which have been converted into magnets, can only be completely renovated by substituting new steel parts for the old. Steel magnets may be de ized by heating them to a low red heat.
- M. S. H. and J. L., of N. Y .- E. Geyline resides, in Philadelphia, J. Stephenson in this city-place of business, Novelty
- J. P., Jr., of Iowa.-There is no work published, to our knowledge, which contains the information you request, respecting "ornamental painting for cars, &c."
- L. M. D., of Ohio.-Transparent varnish for covering polished iron, may be made with white seed lac dissolved in alcohol.

 The metal should be warm when it is put on. This varnish is easily scratched. We recommend a coating of pure linseed oil, boiled with a small quantity of the sulphate of zinc, as being superior to the lac varnish for covering the polished iron work of plows, to prevent it
- W., of N. J.—You can only find out by experiment what colors can be mixed with coal tar for the purpose of painting outhouses. Common brown paint is made by mixing "Spanish Brown," white lead and lampblack with linseed oil. Although oil paint is most expensive at first for out houses, it is cheapest in the nd, because it endures so much longer.
- H. G. L., of Ind.—One-fourth of an inch of outside lap in your slide valve, we do not think, will affect its operation to any ible extent when set with lead.
- B. S., of Pa.—In softening steel it only requires to be highly heated, but in order to preserve its surface from oxydation, it should be covered with some paste, such as that of flour, or buried in charcoal dust and excluded from the air.
- H. J. T., of N. Y .- The iodide of lead is prepared by adding a solution of the iodide of potassium to a solution of acetate of lead, when a yellow insoluble precipitate falls to the bottom o the vessel. This precipitate is the iodide of lead, the spangles of which are of the color and luster of burnished gold.

 J. McD., of Pa.—Fulminating mercury is produced by
- adding a solution of the nitrate of mercury to alcohol. The process is very cangerous, and the operation must be performed with great caution. This substance is chiefly used for priming percussion caps
- R. W. S., of Mass .- Any cast iron for molding may be treated in a very simple manner to secure improved castings. Take a pole of green timber and stir up the fluid iron when it is first run into the ladle, then allow it to become still, skim of the scoria from the surface and pour the metal into the molds.
- G. McD., of C. W .- Water power is much cheaper than steam power, for a woolen factory, in your part of the country, because coal is comparatively high in price. Near the market, such as in the vicinity of our great cities, and where coal is cheap, steam nomical, all things considered
- O. W. A., of N. J.—We advise you to use the chloride of lime as a disinfectant in your cellar. A pound of copperas dissolved in a pailful of hot water and poured into your sink, will remove the
- T. J. E., of Mass. Most of the fine cotton thread used in America is made in Scotland, where thread making has formed a special branch of manufacture for nearly two centuries. The City of Paisely is distinguished for thread manufactories, and for the weaving of fine shawls. Clark's thread has a very high reputation.
- R. H. T., of N. Y.—The pickle which is employed for ade with equal parts of nitric and muriat acids, diluted with four times their bulk of water. Sulphuric acid diluted with three times its weight of water, and used hot, also makes a good brightening pickle for brass, which must be thoroughly washed in hot water afterwards, and then dried in warm saw-dust,

- P. B., of Vt .- The samples of supposed gold which you havesent us are iron pyrites. Gold in its natural state is soft and metallic and very different from hard crystallinc orcs like those have deceived you
- M. L. R., of N. Y .- A strong solution of isinglass is the best cement you can use for joining leather bands. It may ke kept from becoming moldy by adding to it some whisky and a little of the essential oil of cloved, or a little camphorate spirits
- R. W., of N. H.-Methylated spirits are obtained by distilling wood in irou retorts. Beach, birch and maple yield large quantities of wood spirits. It requires an experienced person to conduct the operations of distilling wood. The clear, strong, acetic acid that is employed in making the acetate of iron, is obtained by distilling wood
- W. W. R., of Ohio.—The nitrate of silver is prepared by adding small pieces of pure silver to nitric acid(aquafortis) until effervescence ceases. The solution then formed is clear and caustic It stains the hair, skin, and almost all animal substances, black. When boiled for a considerable period, it deposits beautiful clear crystals. It is very poisonous. Stains of nitrate of silver may be moved by the cyanide of potassium. We advise you not to use it coloring your hair.
- J. W. L., of H .- Scrub your starch vats and wash them regularly with hot water, in warm weather, and you will prevent the fermentation to which you refer, whereby you have lost so
- T. S. McF., of Miss.-Fire clay is abundant in New Jersey, and American made fire bricks are equal to those that are mad England.
- C. G. A., of Mass.—The returns of the census for 1860 are being prepared for publication.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, July 9,

G. H. H., of N. Y., \$20; J. L., of Wis., \$20; H. R., of Ill., \$20; R. & P., of Mass., \$20; J. H. & G. W. S., of N. Y., \$20; S. H., of Ind., \$45; W. M., of Ohio, \$20; H. C. F., of Vt., \$20; T. W. W., of Mich., \$20; T. & M., of Conn., \$20; J. K. B., of Ill., \$20; J. H., of Pa., \$10; G. C., of N. Y., \$20; E. M., of N. Y., \$10; J. C. P., of N. J., \$20; D G. C., of N. Y., \$20; E. M., of N. Y., \$10; J. C. P., of N. J., \$20; D. W. H., of Cal., \$40; E. H. S., of Pa., \$15; A. J., of Conn., \$25; D. S., of Cal., \$250; R. J. A., of Mich., \$15; S. M., of N. Y., \$15; J. H. McG., of Ohio, \$15; S. H., of Ind., \$15; J. F. D., of Ind., \$25; J. P. A., of Ill., \$25; J. B., of Ill., \$25; R. H. C., of N. Y., \$25; A. F. P., of N. Y., \$25; C. S. L., of N. J., \$15; N. S., of Conn., \$15; R. C., of Mich., \$15; E. W. Van D., of Ohio, \$15; B. & B., of Ill., \$25; W. L., of Iowa, \$25; J. B., of N. Y., \$15; W. H. L., of Ind., \$15; D. T. G., of 1nd., \$25; J. M. T., of Iowa, \$10; S. H., of N. H., \$25; J. M. H., of Pa., \$25; J. M. & W. C. W., of Iowa, \$25; M. C. B., of Minn., \$25; G. D. H., of Ill., \$15; W. O. F., of N. Y., \$15; A. S. L., of N. Y., \$250; H. N. O. P., O. N. I., \$15; A. S. L., O. N. I., \$250; H. B., of Iowa, \$15; J. W. R., of Conn., \$10; B. R., of Mass., \$250; J. K. H., of Ind., \$20; H. N., of N. Y., \$10; J. M., Jr., of Ill., \$15; J. C., of N. Y., \$10; J. A. R., of N. J., \$25; P. W. McK., of N. J., \$25; J. C. R., of N. Y., \$25; H. W., Sr., of N. J., \$25; T. & B., of N. Y., \$25; A. C. G., of N. Y., \$30; B. R., of N. Y., \$35.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent

Office from July 2 to Wednesday, July 9, 1862:—

I. B., of Ill.; J. A. R., of N. J.; J. P. A., of Ill.; A. T. P., of N. Y.; R. H. C., of N. Y.; P. W. McK., of N. J.; J. C. R., of N. Y.; J. F. D., of Ind.; C. H., of N. Y.; H. W., Sr., of N. J.; A. J., of Conn.; T. & B., of N. Y.; D. W. H., of Cal.; A. C. G., of N. Y.; B. R., of N. Y.; B. & B., of Ill.; J. M. H., of Pa.; W. L., of Iowa; R. A. G., of Wis.; J. K. H., of Ind.: J. D. L., of N. Y.: J. M. & W. E. W., of Iowa: M. C. B., of Minn.; S. H., of N. H.

Special Notice—Foreign Patent.—The population of Great Britain, is 30,000,000; of France, 35,000,000; Belgium, 5,000,000, Austria, 40,000,000; Prussia, 20,000,000; and Russia, 60,000,000. may be secured by American citizens in all of these coun tries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe. Nearly all of the patents secured in foreign countries by Americans are obtained through our agency. Address Munn & Co., 37 Park row, New York. Circulars about foreign patents furnished free.

TO OUR READERS.

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 bona fide acknowledgment of our reception of their funds.

INVARIABLE RULE .-- It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that is required to accompany the petition, specification and oath, except the government fce.

PATENT CLAIMS .- Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the pat entee and date of patent, when known, and inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued 853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of Instructions to Inventors, containing a digest of the fees required under the new Patent Law, &c., printed to the German language, which persons can have gratts upon application at this office. Address MUNN & CO.,
No. 37 Park-row, New York.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion pay able m advance. To enable all to understand howto compute the amount hey must send in when they wish advertisements inserted, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretofore, the publish rs reserve to themselves the right to reject any advertisement they ay deem objectionable.

Back Numbers and Volumes of the Scientific American

VOLUMES I., II., III., IV., V., VI. (NEW SERIES) COMplete (bound or unbound) may be had at this office and from all periodical dealers. Price, bound, \$1 50 per volume, by mail, \$2—which include postage. Price, in sheets, \$1. Every mechanic, inventor or artizan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their num bers for binding. Numbers 3, 4, 6, 8, 9, 10, 11, 12 and 16, of Vol. VI. are out of print and cannot be supplied.

Binding.

We are prepared to bind volumes in handsome covers, with illuminated sides, and to furnish covers for other binders. Price for binding, 50 cents. Price for covers, by mail, 50 cents; by express, or delivered at the office, 40 cents

THE CHEAPEST MODE OF INTRODUCING INVENTIONS.

INVENTORS AND CONSTRUCTORS OF NEW AND useful Contrivances or Machines, of whatever kind, can have their Inventions illustrated and described in the columns of the SCIENTI FIC AMERICAN on payment of a reasonable charge for the engrav

No charge is made for the publication, and the cuts are furni the party for whom they are executed as soon as they have been used. We wish it understood, however, that no secondhand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages We also reserve the right to accept or reject such subjects as are pre-seuted for publication. And it is not our desire to receive orders for engraving and publishing any but good Inventions or Machines, and such as do not meet our approbation in this respect, we shall decline

MUNN & CO.

Publishers SCIENTIFIC AMERICAN,

OIL! OIL! OIL!

For Railroads, Steamers, and for Machinery and Burning. PEASE'S Improved Engine and Signal Oil, indorsed and recommended by the highest authority in the United States. This Oil possesses qualities vitally essential for lubricating and burning, and found in no other oil. It is offered to the public upon the most rehable, thorough and practical test. Our most skillful engineers and machinists pronounce it superior to and cheaper than any other, and the only oil that is in all cases reliable and will not gum. The SCIENTIFIC AMERICAN, after several tests, pronounces it superior to any other they have ever used for machinery." For sale only by the Inventor and Manufacturer, F. S. PEASE, No. 61 Main street, Buffalo, N. Y.

Buffalo, N.Y.

N. B.—Reliable orders filled for any part of the United States and Europe.

3tf

TEVENSON'S JONVAL TURBINE WATER WHEELS, which gave the greatest useful effect over all others, at the trials at Philadelphia, are manufactured by J. E. STEVENSON, at the Novelty Iron Works, New York.

COMBINED BAG HOLDER AND CONVEYER. WANTed by all who have bags to fill and handle.—Price \$5; two for
\$5. Local and traveling agents wanted to sell or manufacture. State
and county rights for sale. Send letter stamp for particulars. IR. HOFFER, Mount Joy, Pa.

2 4*

TO PHOTOGRAPHERS.—IMPROVED PHOTOGRAHIC Camera, Patented March 25, 1862, by A. B. WILSON (Fatentee of the Wheeler and Wilson Sewing Machine), adapted to all photographic work; such as Lambscapes, Steressopic Views, Carte Visites, Amortypes, de. Can be used by amateurs and others from printed directions. Send for a circular. Address A. B. WILSON, Waterbury, Conn.

MACHINIST'S TOOLS.—SECOND-HAND LATHES Planers, drilling machines and shop cranes. Apply to C. W. COPELAND, No. 122 Broadway, New York City.

NEWBURY'S MACHINERY DEPOT, 16 MURRAY street.—Manufacturers and Dealers in Power and Hand Printing Presses, Proof Presses, &c., also new and second hand machinery Steam Engines, Bark Mills, Smut Mills, Hat Formers, Saw Arbors, &c. A. & B. Newbury, Manufactory, Windham Center, N. Y. 2 10*

RIFLING MACHINES OF THE SPRINGFIELD PAT-tern now finishing and for sale by H. B. BIGELOW, New Haven, 2 4*

CIRCULAR SAW MILLS AND SHINGLE MACHINES of the most improved construction, embracing the patents of H. Wells & Co. JOHN H. LIDGERWOOD & CO., 175 Pearl street, New York.

ROR SALE.—THE PATENT RIGHT FOR COX'S ROTATION AND REGION OF A PRINCIPLE AND REGION OF A PRIL 26, 1862. Address KENYON & THEO-BORE COX, No. 22 William street, New York City.

BURDON, HUBBARD & CO. MACHINISTS.—MANU-facturers of Steam Engines, Sugar Mills, Saw and Grist Mills, Boilers, Hydraulic Presses, Pumps and Gearingfor working mines, &c. &c. No. 102 Front street, Brooklyn, N. Y.

UARTZ MILLS OF THE MOST APPROVED KIND.

Manufactured by BURDON, HUBBARD & CO., 102 Frontstreet, Br., oklyn, N. Y. Also agents and manufacturers of the Russ Patent Premium Amalgamators, the best and simplest in use for saving both fine and course gold.

NEW SHINGLE MACHINE—THAT WILL RIVE AND Shave 24,000 Shingles in a day, for sale by S. C. HILLS, No Platt-street. New York.

GRINDSTONES OF ANY SIZE OR GRIT, FOR WET our or dry granding, can be furnished on receipt of a one-fourth ounce sample sent by mail to J. E. MITCHELL, No. 310 York avenue, Philadelphia, Pa. 1 cow's

WINANS'S ANTI-INCRUSTATION POWDER (FIVE IMPORTANT TO INVENTORS. YV years in success'ul operation), effectually removes at vents the scale in steam boilers, without injury or foaming cents to 50 cents a week. Circulars with full particulars free. WINANS, No. 11 Wall street, New York.

MY PATENT DOUBLE SAW BENCHES, A SURPERIOR Machine. Price \$55, circulars free. My new surfacer and clap board planer, at only \$85, is unrivaled; rights sold low. Address C. P. S. WARDWELL, Lake Village, N. H.

MODELS FOR THE PATENT OFFICE, MADE WITH extra care at V. BEAUMONT'S machine shop, 177 Hester street, corner of Mott street, also spinning and press work.

PICKERS.—RICHARD KITSON, HEAD OF WORTHEN street, Lowell, Mass.—Manufacturer of Kitson's Reviews STORIEMS.—MOHARD KITSUN, HEAD OF WORTHEN street, Lowell, Mass.—Manufacturer of Kitson's Patent Cotton Mixer, Kitson's Patent Cotton Opener, Kitson's Patent Cotton Picker, Kitson's Patent Cotton Waste Machine and Rag Picker; also Build's English Scutchers (pickers), of the following celebrated patterns:—Walker & Hacking, Lorg & Brothers, Taylor, Lang & Co, Manufactures Needle-Pointed Card Clothing, for Carding Hemp, Jute, Flax, &c. Parties in want of second-hand pickers can be informed where to procur them.

NOTICE TO INVENTORS AND MANUFACTURERS.

—We are the exclusive owners, under Goodyear's patent, of the rights to manufacture, use and sell Vulcanized India Rubber, "so far as it may or can be used," for rolls and coverings for rolls for washing, wringing and starching machines. We know that the "clothes squeezer" must be a necessity in every family so soon as known, and we desire to encourage other parties in the manufacture of it. We, therfore, ileense makers of good wringers upon liberal terms, and furnish them promptly with the best of rubber rolls—a large supply of which we keep constantly on hand. All parties infringing our rights will be prosecuted to the extent of the law. Address, METROPOLITAN WASHING MACHINE CO.. Middlefield, Conn.

20 tf. DAVID LYMAN, Treas.

U NIVERSAL CLOTHES WRINGER.—WE BELIEVE this to be the most powerful, most durable, and most convenient wringer invented. Agents wanted to canvass towns and counties all over the United States. Address METROPOLITAN WASHING MACHINE COMPANY, Middlefield, Conn. AGENTS, R. C. Browning, No. 2½ Dey street, New York City, and Rubber Clothing Company, No. 37 Milkstreet, Boston, Mass.

A NILINE COLORS.—FUCHSINE, BLUE DE LYON and VIOLET IMPERIAL, of the products of Messrs. RENARD, FRERES & FRANC, Lyons, France Secured by Letters Patent of the United States, granted July 31, 1860, and July 30, 1861. The undersigned are prepared to offer for sale, or to receive orders for the above products. A. PERSON & HARRIMAN, Nos. 60 and 62 Murray street, New York City. Sole agents for the United States. 1712*

ARGE MANUFACTORY AND STEAM POWER FOR ARGE MANUFACTURY AND STEAM POWER FOR Sale or to let, in Bridgeport, Conn., a Large Frame Manufactory, 133 feet long, 33 feet wide and four stories high; was built a few years since for a carriage manufactory, but is now supplied with a 40 horse power engine and boiler in complete order, with shafting and steam-heating pipes throughout. It is centrally and pleasantly located, and well calculated for light manufactures. Numerous parties in Bridgeport would like to hire power. The whole will be sold or let on reasonable terms. Also for sale or to let a large manufactory in Westport, Conn., built of brick, with an engine of 200-horse power. Apply to F. T. BARNUM, American Museum, New York City, or Bridgeport, Conn.

OLID EMERY VULCANITE.—WE ARE NOW MANUfacturing wheels of this remarkable substance for cutting, grindingand polishing metals, that will outwear hundreds of the kind commonly used, and will do a much greater a mount of work in the sam
time, and more efficiently. All interested can see them in operation a
our warehouse, or circulars describing them will be furnished bymail.

NEW YORK BELTING AND PACKING CO.,
Nos. 37 and 38 Park-rew, New York.

AUTH'S PATENT SHAFTING, PISTON RODS, MANdrels, Plates, &c., of iron or steel, Address the subscribers (who are the only manufacturers under Mr. Lanth's patents in the United States, and who have the exclusive control of said patents), for circulars containing statements of the results of experiments made by William Fairbairn, of Manchester, England. and Major William Wade of U. S. A., also other valuable testimonials. JONES & LAUGHLINS, Pittsburgh, Pa.

EMPLOYMENT! AGENTS WANTED!! A NEW EN-terprise.—The Franklin Sewing Machine Company want agents. Literprise.—The Franklin Sewing Machine Company want agents at a salary of \$40 per month and expenses paid. For particulars address, with stamp, HARRIS BROTHERS, Box 302 Boston, Mass. 20 tf

DAIRD'S PATENT PREPARATION FOR THE PRO-tection of Steam Boilers from Incrustation.—It does not injur-the metals; is a great saving of fuel; does not foam, and works equally well in salt and fresh water. For sale by JAMES F LEVIN, No. 2 Central Wharf, Boston, Mass. New York depot, COLES & CO., No 91 West street.

TULTON'S COMPOUND, FOR CLEANSING STEAM boilers of scale.—This article is powerful to remove scale. and will not injure the boiler. Western agents, WALWORTH, HUBBARD & CO., Chicago, Ill. Sole proprietor, E. H. ASHCROFT, No. 82 Sudbury street, Boston, Mass.

GUILD & GARRISON'S CELEBRATED STEAM UILD & GARRISON'S CELEBRATED S TEAM
Pumps—Adapted to every variety of pumping. The principal
styles are the Direct Action Excelsior Steam Pump, the improved
Balance Wheel Pump, Duplex Vacuum and Steam Pumps, and the
Water Propeller, an entirely new invention for pumping large quantities at a light lift. A Isoone 50-horse steam engine, good asnew, will
be sold cheap. For sale at Nos. 55 and 57 First street, Williamsburgh, and No. 74 Beekman street, New York.

GUILD, GARRISON & CO.

MILL STONE DRESSING DIAMONDS, SET IN PAT ent Protector and Guide. For sale by JOHN DICKINSON patentee and sole manufacturer, No. 64 Nassau street, New York Cit-Also manufacturer of Glazzer's Diamonds. Old Diamonds re-set. 21 12*

COMBINED SHINGLE AND HEADING SAW.—UNE-Oqualed for simplicity and economy of power and timber. How trated in No. 20, present volume, Scientific American. Address TREVOR & CO., Lockport, N. Y.

ONE 50-HORSE STEAM ENGINE, AS GOOD AS new, will be said cheap on application to GUILD & GARRI-SON, Nos. 55 and 57 First street, Williamsburgh, or No. 74 Beekman street, New York City

TERRYVILLE CLOCK SPRING COMPANY.—MANU-facturers of Polished Clock, Watch and Toy Springs, Terryville 19 25*

THE CRAIG MICROSCOPE—PATENTED FEBRUARY 18, 1862, magnifying 100 diameters or 10,000 times, yet so simple that a child can use it. Sent by mail, postage paid, in receipt of \$2 25. Liberal discount to the trade. Address HERRY CRAIG, 182 Centre street, New York City. Eight mounted objects will be sent for \$1.

MILLSTONE-DRESSING DIAMONDS, AND GLA-ziers' Diamonds. J. E. KARELSON, Manufacturer, No. 69 Nassau street, corner John street, New York City. 22 10*

MESSRS. MUNN & CO., PROPRIETORS OF THE SCIENTIFIC AMERICAN, continue to solicit patents in the United



States and all foreign countries, on the most reasonable terms. They also attend to various other depart ments of business pertaining to patents, such as Extensions, Appeals before the United States Courts Interferences, Opinions relative to Infringements. &c. The long ex perience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, extending over a pe-

riod of sixteen years, has rendered emper/ectly conversant with the mode of doing business at the United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability ns is freely given, without charge, or sending a model drawing and description to this office.

Consultation may be had with the firm between NINE and FOUR o'clock, dally, at their Phincipal Office, No. 37 Park Row, N York. We have also established a Branch Office in the 124 WASHINGTON, on the CORNER OF F AND SEVENTH STREETS, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it. Inventors and others who may visit Washington, havingbusinessat the Patent Offices are cordially invited to call at their office.

They are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction o this business they have Offices at Nos. 66 Chancery Lane, London, 29 Boulevard, St. Martin, Paris, and 25 Rue des Eperonniers, Brussels. We think we may safely say that three-fourths of all the European Patents secured to American citizens are procured through Agency.

A pamphlet of information concerning the proper course to be purwhen in the manufacture of the Patent of the Patent office, &c., may be had gratis upon application at the Principal Office, or either of the Branches. They also furnish a Circular

of information about Foreign Pat nts.

The annexed letters from former Commissioners of Patents we mend to the perusal of all persons interested in obtaining Patents :-

MESSIS, MUNN & Co.:—I take pleasure in stating that while I held the office of Commissioner of Patents more than one-fourth of all the office of Commissioner of Patents more than one-fourth of all the business of the office came through your hands. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, amarked degree of promptness, skill and fidelity to the interests of your employers. Yours, very truty, CHAS. MASON.

Immediately after the appointment of Mr. Holt to the office of Post-master General of the United States he addressed to us the subsidied.

masterGeneral of the United States, he addressed to us the subjoined very grateful testimonial:-

wery grateful testimonial:—

MESSRS, MUNN & CO.:—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents while I had the bonor of holding the office of Commissioner. Your business was very large, and you sustained (and, I doubt hot, justly deserved) the reputation of energy marked ability, and uncompromising fidelity in performing your professional engagements.

Very respectfully, Your obedient servant, J. HOLT.

Messes. Munn & Co.—Gentlemen: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your Agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully, WM. D. BISHOP. Communications and remittances should be addressed to MUNN & CO., Publishers, No. 37 Park-row, New York.

MACHINERY.—S. C. HILLS, No. 12 PLATT-STREET
New York, dealer in Steam Engines, Boilers, Planers, Lathes,
Chucks. Drills, Pumps; Mortising Tenoning and Sash Machines;
Woodworth's and Daniels' Planers, Dick's Punches, Presses and
Shears; Cob and Corn Mills; Harrison's Grist Mills; Johnson's Shingle
Mills; Belung, Oil, &c.

PUMPS! PUMPS!! PUMPS!!!—CARY'S IMPROVED Rotary Force Pump, unrivaled for pumping hot or cold liquids. Manufactured and sold by CARY & BRAINERD, Brockport, N.Y Also, sold by J. C. CARY, No. 2 Astor House, New York.

MACHINE BELTING, STEAM PACKING, ENGINE HOSE.—The superiority of these articles MACHINE BELTING, STEAM PACKING, ENGRAL
canized rubber, is established. Every belt will be warranted superior
to leather, at one-third less price. The Steam Packing is made in every
variety, and warranted to stand 300 degs. of heat. The Hose never needs
oiling, and is warranted to stand any required pressure; together with
all varieties of rubber stap lect one chanical purposes. Directions, prices,
&c., can be obtained by mail or otherwise at our warehouse. NEW
YORK BELTING AND PACKING COMPANY.

JOHN H. CHEEVER, Treasurer,
Nos. 37 and 35 Park-row New York.

TRON PLANERS, LATHES, FOUR SPINDLE DRILLS Milling Machines, and other Machinist's Tools, of superiorquality hand and finishing, and for sale low. For description and prices less NEW HAVEN MANUFACTURING COMPANY, New Ha-

A MESSIEURS LES INVENTEURS—AVIS IMPORtant. Les Inventeurs non familiers avec la langueAnglaisee
qui préféreraient nous communiquer leurs inventions en Français, peu
vent nous addresser dans leur languenataile. Envoyez nous un dessir
et une description concise pour notre examen. Toutes communications seront regues en confidence.

MUNN & CO.,

SCIENTIFIE AMERICAN Office No. 37 Park-row, New York.

Bur Beachtung fir deutsche Erfinder.

Die Unterzeichneten haben eine Anleitung, die Erfinber.
Die Unterzeichneten haben eine Anleitung, die Erfinberen bas Berhaften angibt, um fich ibre Patente au fiche n, herausgegeben, und verabfolgen foldig gratis an biefelben.
Erfinber, weiche nicht mit der englischen Sprache bestannt find, tönnen fore Mittheilungen in ber beutschen Sprache machen. Eftigen von Erfindungen mit Iurgen, deutsich geschriebenen Beschreibungen beliede man ju abbresstren an Wunn & Co., 37 Part Row, Rew-York. Dafelbft ift ju baben

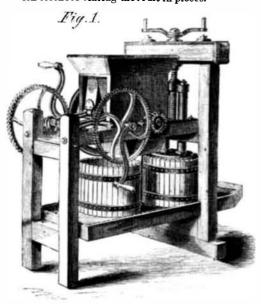
Die Batent-Gejeke der Bereinigten Staaten,

nebit ben Regeln und ber Wefchäftsort nung ber Patent-Office und Anleitungen für ben Erfütber, um fich Patente zu fichern, in ben Ber. Si. sowobl als in Europa. Ferner Ausgige aus ben gutegt. Ben frember Lanber und barauf bezugliche Bathfchlage; ebenfalls nugliche Winte für Erfinber und solche, melde patentiren wollen.
Preis 20 Cis., per Doft 25 Cis.

Improved Cider and Wine Mill.

The cider mill here illustrated combines the grinding apparatus and the press in one machine; the grinding apparatus embracing also a crushing device, so that a complete mill is formed in one compact machine.

Fig. 1, is a perspective view of the machine and Fig. 2, a vertical section. The fruit is placed in the hopper, A, and falls down between the rotating cylinder, B, and stationary concave, C, both furnished with teeth for tearing the fruit in pieces.



Two crushers, D and E, are suspended at their upper ends within the hopper, and are caused to swing toward and from the cylinder, B, by means of a crank shaft, f, Fig. 1, through the medium of the connecting rods, d and e, Fig. 2. Each of the crush-

machine by a set screw so that it may be adjusted at such distance from the cylinder, B, as may be deemed advisable. The several motions described are effected by gear wheels and pinions of ordinary construction.

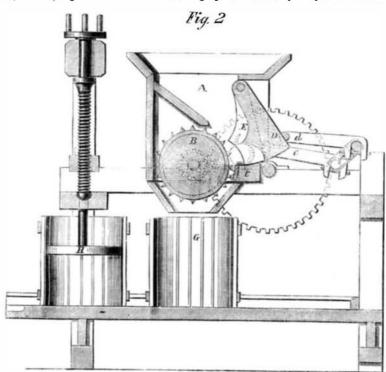
The inventor says that he has sold several hundred of these mills, and that in all cases they have given satisfaction; he has never yet had a single complaint. In several trials they have been awarded the highest premium for lightness of power, speed of work, &c. He further says that the mill will make from six to eight barrels of cider per day, that it is well suited for crushing and pressing grapes, that it forms an excellent cheese press and lard press, that it is very portable and occupies little space.

The patent for this invention was granted, through the Scientific American Patent Agency, October 29, 1861, and further information in relation to it may be obtained by addressing the inventor, J. R. Gates, or W. B. Wilson (to whom an interest in the invention has been assigned), both at Louisville, Ky.

Illuminated Photographic Work.

"Blessed among modern inventions be photography. It has no rival on earth except the printing press, but it works a thousand times quicker; it sheds a light upon all mysteries; it rules over darkness as a sovereign power, and brings to light, by light, an inexhaustible quantity of hidden treasures which mankind would, without its aid, have remained ignorant of for ever."

Such is the eloquent apostrophe to photography written by the eminent publisher, L. Curmer, in his prospectus of a magnificent edition of "Les Evan-' he is now publishing in Paris. Remarkable as are all the productions of this enthusiast, especially his "Imitation de Jesus Christ" his "Heures de la reine Anne de Bretagne," this new edition of the Evangelists surpasses them all, and this excellence is due entirely to photography. A short description of this bibliographical curiosity may not be without interest.



GATES'S CIDER AND WINE MILL.

ers has a projection on the side next the cylinder, B, forming this surface into two concaves, by which means the fruit is caught and held down while it is being torn by the revolving teeth. This is one of the principal features of novelty in this mill, and is claimed to give a decided superiority over mills which have no device for holding the fruit down while it is being crushed.

After the fruit is crushed it falls into the receptacle, G, which is formed of staves a short distance apart held together by iron hoops in the usual manner. Two of these cylinders are prepared, and when one is filled it is placed under the piston or follower, H, where the juice is expressed from the pulp, while the second cylinder is being filled. The piston, H, fits the cylinders not too tightly, and is forced down by a screw in the usual manner.

The concave, C, is secured to the frame of the

The work consists of 400 pages of text, each surrounded with the richest ornamental borders, beside 100 miniatures from colored photographs, copies of rare manuscripts executed by Jean Fouquet, Hans Memling, Albert Durer, Julio Clovis, Angelico da Fiesole, Atavante, Lorenzo Monaco, and others, and preserved in the libraries of Paris, London, Oxford, Brussels, Munich, Turin, Milan, Venice, Bologna, Florence, Rome, Naples, St. Gall, Rouen, Lyons Grenoble, &c.

SINCE the breaking out of the rebellion there have been constructed at the Charlestown navy yard, four sloops of war and two side-wheel gunboats, the tunnage of which amounts to 7,604 tuns. The following is the list and tunnage of the respective vessels: Canandaigua, 1,590; Housatonic, 1,400; Wachusett, 1,046; Maratanza, 1,138; Tioga and Genesee, 1,216



THE BEST MECHANICAL PAPER IN THE WORLD.

VOLUME VII.—NEW SERIES.

The SEVENTH VOLUME of the NEW SERIES of the SCIEN-TIFIC AMERICAN commenced July 5, 1862.

The publishers embrace the opportunity to thank their old patrons nd subscribers for the very liberal support they have hitherto extended to this journal, and hope for a continuance of their support.

The circulation of the SCIENTIFIC AMERICAN is far greater than that of any other publication of the kind in the world, and is the only weekly newspaper of the kind published in the United States.

The SCIENTIFIC AMERICAN has the reputation, at home and broad, of being the best weekly journal devoted to mechanical and industrial pursuits now published, and the proprietors are determined to keep up the reputation they have earned during the seventeen years they have been connected with its publication.

The SCIENTIFIC AMERICAN is indispensable to every inventor, as

itnot only contains illustrated descriptions of nearly all the best inven tions as they come, but each number contains an Official List of the Claims of all the Patentsissued from the United States Patent Office during the week previous; thus giving a correct history of the progress of inventions in this country. We are also receiving, every week, the best scientific journals of Great Britain, France and Germany; thus placing in our possession all that is transpiring in mechanical science and art in these old countries. We shall continue to transfer to our placing in our poss columns copious extracts from these journals of whatever we may deem of interest to our readers.

No person engaged in any of the mechanical pursuits should think

of doing without the Scientific American. It costs but four cents per week; every number contains from six to ten engravings of new machines and inventions which cannot be found in any other publication. It is an established rule of the publishers to insert none but original engravings, and those of the first-class in the art, drawn and en experienced artists, under their own supervision, expressly for this

TO THE CHEMIST AND ARCHITECT!

Chemists and architects will find the Scientific American a useful journal to them. All the new discoveries in the science of chemistry are given in its columns, and the interests of the architect and carpenter are not overlooked; but all the new inventions and discoveries appertaining to these pursuits are published from week to week.

TO THE MILLWRIGHT AND MILLOWNER!

Useful and practical information pertaining to the interests of mill-wrights and millowners will be found published in the Scientific AMERICAN, which information they cannot possibly obtain from any other source. To this class the paper is specially rec

TO THE PLANTER AND FARMER!

Subjects in which planters and farmers are interested will be found discussed in the SCIENTIFIC AMERICAN; most of the improvements in agricultural implements being illustrated in its colum

TO THE MAN OF LEISURE AND THE MAN OF SCIENCE!

Individuals of both these classes cannot fail to be interested in the Scientific American, which contains the latest intelligence on all subjects appertaining to the arts and sciences, both practical and theoretical; all the latest discoveries and phenomena which come to ourknowledgebeingearly recorded therein.

WAR! WAR! WAR!

Our summary of the war news, which has been so highly compli-nented by our readers and cotemporaries, will be continued in the oming volume so long as the war lasts, accompanied with copious illustrations of new war implements of various kinds, such as cannon firearms, projectiles, &c., &c.

TO ALL WHO CAN READ!

Everyone who can read the English language, we believe, will be enefited by subscribing for the SCIENTIFIC AMERICAN, and receiving its weekly visits; and while we depend upon all our old patrons re-newing their subscriptions, we would ask of each to send us one or more new names with his own. A single person has sent us as many as a hundred mail subscribers, from one place, in a single year ! The publishers do not expect every one will do as much; but if the five thousand subscribers, whose subscriptions expire with the present volume, will each send a single name with their own, they will confer a lasting obligation upon us, and they shall be rewarded for it in the improvement we shall be enabled to make in the paper by thu⁸ increasing our receipts. The following are the

To mail subscribers:-Two Dollars a Year, or One Dollar for six months. One Dollar pays for one complete volume of 416 pages; two volumes comprise one year. The volumes commence on the first of JANUARY and JULY.

CLUB RATES.

Five Copies, for Six Months	34
Ten Copies, for Six Months	8
Ten Copies, for Twelve Months	15
Fifteen Copies, for Twelve Months	22
Twenty Conies for Twelve Months	28

For allclubs of Twenty and over, the yearly subscription is only \$1 40 Vames can be sent in at different times and from different Post-office

Specimen copies will be sent gratis to any part of the country. Western and Canadian money,or Post-office stamps, taken at par for subscriptions. Canadian subscribers will please to remit 25 cente extra on each year's subscription to pre-pay postage.

MUNN & CO., Publishers, No. 37, Park-row, New York.

FROM THE STEAM FRESS OF JOHN A. GRAY