SAW MILL.-O. A. Bassett, Norwich, N. Y.-This invention has for its object to furnish an improved friction feed for circular saws and other machines in which it is necessary to change the direction of the feed while the machine is

Brush.-John Brown Alden, Worcester, Mass.-This invention consists in making the body or stock of the brush in two pieces which are pivoted to gether, whereby the brush can be reversed or changed end for end.

FAUCET.-John Wilcox, Thompsonville, Conn.-This invention consists in constructing a faucet in such a manner that the liability to leak from any part is greatly lessened, the faucet valve being double packed and the pack ing of all the joints as well as that of the valve being secured in recesses provided for the purpose.

TRAVELING BAG.-Charles F. Blakslee, Brooklyn, N. Y.-This invention consists in perforating the frame in such a manner that the cloth or leather can be fastened directly to it without the use of any other piece or pieces of

BURGLAR ALARM .- C. Waterman, New York City .- This invention relates to a new and improved burglar alarm for doors and windows, and it consists in a new and improved means employed for locking the bell hammer and liberating the same, whereby the alarm, when a door or window to which the invention is applied is partially opened or opened sufficiently far to open ate the alarm; cannot be stopped by suddenly closing the door or window.

APPARATUS FOR DRAWING IRON FROM FURNACES .- David N. Williams Chicago, Ill.—This invention relates to a new and improved apparatus for facilitating the drawing of hot iron from furnaces, and has for its object the arranging or adapting of the several parts in such a manner that the tongs may be adjusted to draw the hot iron from the furnace in any required direc tion in a right line, thereby greatly facilitating the work, rendering it less laborious, and economizing in time.

COMPENSATING STAY OR BRACE FOR THE SPRINGS OF WHEEL VEHICLES. Samuel Jackson, Newark, N. J.—The object of this invention is to apply a stay or brace to a vehicle spring, in such a manner that it will work or move to conform to the yielding movement of the spring, and to serve as an efficient brace to the latter at all points or in whatever position the spring may be in.

CORN PLANTER.—Curran Henkle, Washington Courthouse, Ohio.—This invention relates to a new and improved means for distributing or discharging the seed from the seed box or hopper of the machine, and depositing the same in the furrow, whereby the planting or dropping of the seed s placed under the complete control of the operator, and a very simple and efficient device for the purpose specified obtained.

BURGLAR-PROOF SAFE AND VAULT.—E. M. Hendrickson, Brooklyn, N. Y -Thisinvention relates to an improvement on that class of burglar-proof safes and vaults in which chilled cast-iron walls are employed in order to preventan entrance being effected by means of drilling.

HOP FRAME.-Jacob B. Van Dewerker, Cobleskill, N. Y.-This invention relates to a new and improved frame for training hops, and has for its object simplicity and economy in construction, and facility in training the vines thereon, and in removing the bearing portion of the vines when in a proper condition to gather or harvest.

PUMP.—Hiram Tyler. Gaines. N.Y.—This invention relates to a new and improved double-acting pump, and it consists in a novel arrangement of valves and water passages, and in an improved construction of the valves whereby the pump is rendered very efficient in its operation, the parts not liable to get out of repair or become deranged by use, and the pump capable of being used either submerged or above the level of the water to be raised or forced up.

WINDOW FASTENING.-J. D. Smith, Naugatuck, Conn.-This invention relates to an improvement in that class of window fastenings, which are composed of a bolt provided with a spiral spring, the bolt working in metallic tnimbles fitted in the side of the sash.

HEAD BLOOK FOR SAW MILLS.—William Carlton, Dunkirk, N. Y.—This invention relates to a new and improved head block for saw mills, and it con sists in the means employed for adjusting the knees or standards against which the log to be sawed bears, and by which means the log is set to the

FASTENING FOR CORSETS.-James Bowers, New York City.-This inven tion relates to a new and improved fastening for that kind of stays or corsets which are composed of two parts, connected by a lacing at the rear part, and by a fastening at the front, which willadmit of the front ends of the two parts being readily connected or disconnected.

HEAD BLOCK FOR SAW MILLS.—George Burket and Samuel M. Gaskill, Bluffton, Ohio.-This invention relates to a new and improved head block for saw mills, and it consists in an improved mechanism for setting the log to the saw, and also in an improved reversing mechanism for gigging back the carriage.

SEWING MACHINE.-Walter Bennett, Hunt's Hollow, N.Y.-This invention relates to a new and useful improvement in that class of sewing machines in which a reciprocating shuttle is used, and the invention consists in the means employed for guiding the shuttle carrier or retaining it in proper position while being operated.

DISTILLATION OF BROMINE AND IODINE.-David Alter, Freeport, Pa. The nature of this invention relates to an improvement in the distillation of bromine and iodine by the use of an alkali to absorb the fumes of bromine and hydro-bromic acid, which would otherwise escape during the produc tion and distillation of the above-named substances.

MILK CAN.-John L. Finch, Warwick, N. Y.-This invention consists principally in the combination of an iron outer case, with a milk can constructed in the ordinary manner, except that the narrow hoops usually put around milk cans are omitted.

HAY RAKE.-John I. Munroe. Burlington, Mass.-This invention consists inapplying elastic tips to the rigid teeth of an independent toothed hay rake, to enable them to pass over obstructions without gaping and scattering the hay already collected, and the combination of a divider with the frame of the rake, which, when the teeth are raised to discharge the collected hay may at the same time drop down into the spread hay, and separate or divide it so that when the rake teeth descend and the divider rises the said teeth may drop down into the space thus cleared, and no hav be left scattered or trailing behind the rake.

Hanging Receprocating Saws .- Josephine Stewart, Owasso, Mich.-This invention consists in so arranging the different portions of the machine that the saw may be forced back during its upward stroke, to avoid unnecessary friction, and to permit the escape of the saw dust. When it descends, the saw is drawn forward against the timber to be sawn, combined vertical and horizontal motion is thus imparted to the saw.

BENDING MACHINE.-E. D. Gird and W. K. Gird, Cedar Lake, N. Y.-This invention relates to a machine for bending wood, iron, or other material, to

WAGON BRAKE.-R. O. Codding and G.W. Pringle, Coddington, Ohio.-This invention relates to a brake which is applied to the front wheels of a wagor in descending a hill, to relieve the team from the pressure of the load.

LOCK -William J. Hare New York City -This invention relates to a lock the principal working parts of which consist of two spring jaws, which catch into a neck on the stud or nose, secured to the door, hd, or other part, to be locked, and which are forced apart by the action of a key on one or more wedges, which enter below the spring jaws, and compel them to release the stud or nose in such a manner that a simple and secure lock is obtained. which cannot be readily picked or blown open, and which can be applied with advantage to doors of any description, or to trunks or other articles of

MACRINE FOR CUTTING SHINGLES AND BARREL HEADS .- S. E. Anthony. Stillwater, N. Y.—This invention relates to animproved machine for cutting shingles and barrel heads, and of that class in which circular saws are employed. The invention consists in the employment or use of an endless bolt carriage, constructed in such a manner that it may work over pulleys, and using in connection therewith one or more circular saws and beds, and an automatic dogging device, all being arranged to operate in the most efficient

BRICK MACHINE.-Philip H. Kells, Adrian, Mich.-This invention relates to heard at the Patent Office on Monday, the 27th day of Maynext.

a mold wheel which is supported by carrier wheels; the clay is pressed into the molds by the blades of the pug mill, and a contracting throat, and is cut off, forming the upper surface of the brick by the passage of the mold under a cutter board. The brick is raised and discharged from the mold by a follower moved from below by the passage of its carrier wheel upon an inclined plane on the bed track.

KINDLING ARRANGEMENT FOR STOVES .- Harvey L. Byrd, Baltimore Md.-This invention consists in a basket which contains kindling; and hinged under the grate of the stove, so as when elevated, and the contents ignited, to start the fire in the coals chamber of the stove.

COMBINED RULER AND BLOTTING PAD.—Messrs. Walker & Sneeden of New ark, N. J., have patented a simple and convenient blotting paper holder and ruler combined, which will be very desirable for the counting house. The edges of a short and broad rule are grooved, the paper is cut just wide enough to cover the underside and the grooves, and a clamp of bent wireis slid on from each end, resting, and holding the edges of the blotting paper, in the grooves This ruler may be freely used on the ledger, or on paper where successive or cross rulings are to be made, without the necessity of looking out for the

Inventions Patented in England by Americans. [Condensed from the "Journal of the Commissioners of Patents."]

PROVISIONAL PROTECTION FOR SIX MONTHS.

64.—Treating Benzole and other Hydrocarbon Liquids, etc.—John Johnson, Wilmington, Ill. Jan. 10, 1867. 138.—CONSTRUCTION OF STEAM GENERATOR.—George Gould, Troy, N. Y. Jan. 19, 1867.

182.—FIRE-ARM.—Sylvester H. Roper, Roxbury, Mass. Jan. 24, 1867.

217.-Volute Spring.-Charles Morrill, New York City. Jan. 26, 1867. 219.—MACHINERY FOR ROVING AND SPINNING WOOL AND OTHER FIBROUS MATERIALS.—Edwin Allen and Henry T. Potter, Norwich, Conn. January 25, 1867

341.-BENCH VISE.-John S. Hoar, Mass. Feb. 6, 1867.

394.—Process for Preparing Raw Hide for the Manufacture of Va-Hous Articles.—William H. Towers, New York City. Feb. 12, 1867. 71.—Making Photographic Transfers.—Arthur G. Morvan, South Bergen, N. J. Jan 11, 1867.

93.—LOOM FOR KNITTING.—Augustus C. Cerey and Hugh K. Moore, Malden, Mass. Jan. 14, 1867.

99.—PIPE MOLDING AND CASTING APPARATUS AND BLACKWASHING THE MOLDS.—George Ross, Newport, Ky. Jan. 14, 1867.

121.—Tinting or Coloring the Sufface of Paper or other Materials or Fabrics.—George Streat, New York City. Jan. 17, 1867.

175.—Cotton-bale Tie.—John Lee, Blakely, Ga. Jan. 23, 1867.

185.—MACHINERY FOR BLOCKING HATS.—William C. Griswold and Julius Sheldon, New York City. Jan. 24, 1867. 199.—Spinning and Twisting Machinery.—George Chatterton, Providence, R. I. Jan. 25, 1867.

260.—Maching for Manufacturing Exelets.—William R. Landfear, Hartford, Ct. Jan. 30, 1867.

3,403.—PREVENTING ROT IN POTATOES AND GRAPES, ETC.—John F. Bennett, Pittsburgh, Pa. Dec. 28, 1866.

55.—PNEUMATIC APPARATUS FOR THE TREATMENT OF DISEASES IN AN ATTENUATED ATMOSPHERE.—George Hadfield, Cincinnati, Ohio. Jan. 8, 1867. 100.—ROTARY ENGINE.—Truman Merriam and James Cushing, Waterloo Wis. Jan. 14, 1867.

188.—Combined Tack Driver and Carpet Stretcher.—Thomas Jebb, Buffalo, N. Y. Jan. 24, 1867.

202.-HAMMER.-Joseph A. Veazie, Boston, Mass. Jan. 25, 1867. 212. — TELEGRAPH CONDUCTOR AND CABLE.—John M. Batchelder, Cambridge, Mass. Jan. 26, 1867.

-WATER CLOSET.-David Lichtenstadt, New York City. Jan. 25, 1867. 255.—Gas Regulator.—Joseph S. Wood, John J. Carberry, John Baker, Jr., and Oscar D. McClellan, all of Philadelphia, Pa. Jan. 30, 1867. 389.—Machine for Cutting Screws.—Henry Brown, New Haven, Ct. Jan. 31, 1867.

285—OBTAINING METALS FROM THEIR ORES.—John Wyckoff, Brooklyn, N. Y. Feb. 1, 1867.

311.-Bale Tie.-Charles W. Wailey, New Orleans, La. Feb. 4, 1867. 323.—MAUING FOIL OF LEAD COATED WITH TIN.—William W. Huse, New York City, Feb. 5, 1867.

NEW PUBLICATIONS.

THE MECHANICIAN AND CONSTRUCTOR, for Engineers, Comprising Forging, Planing, Lining, Shaping, Slotting, Turning, Serew Cutting, etc., by Cameron Knight. London, Edward R. S. Sandar, St. S. Sandar, St. Sandar, S don: E. & F. N. Spon.

This is a serial publication, large quarto, sixteen pages of letter press, and four of fine plates in each number. It is issued monthly, to be completed in about twenty-four numbers, at \$1 each. From the two specimen numbers before us we conceive a very favorable idea of its merits and purposes. Unlike many publications ostensibly designed for the instruction of the mechanic, it does not assume that he is already a mathematician, or even a thorough workman, but begins ab initio, furnishing valuable information in its first chapters to the workman as well as to the apprentice and beginner. No de tail, in the manipulation of the metals used in constructing machinery appears to be regarded as too simple for the author's attention, and while de scribing and illustrating the proces es, he gives much valuable advice, valuable even to the experienced. The work is really excellent, and will prove valuable to every machinist and practical engineer. It is got up in superior style. For sale by John Wiley & Son, No. 535 Broadway, New York City.

THE AMERICAN CONFLICT. By Horace Greeley. Hartford, Conn.: O. D. Case.

We are indebted to the publisher for the second volume of this elaborate work by Horace Greeley. The first volume, which treated of the political causes which led to the secession of the Southern States followed by armed resistance to the authority of the Federal Government, had a larger sale than any other work of the kind which has yet appeared from the press. The present volume, which contains 782 pages, embraces a complete review of the war from the surrender of Gen. Twiggs, at San Antonio, Texas, to the final capitulation of the trans-Mississippi forces under command of Kirby Smith. In treating of the sanguinary events of the war, the author has employed his acknowledged resources in grouping together the tragic move ments of armies and navies with great effect.

GUIDE MAPS AND HAND BOOKS

Of Iowa, Minnesota, and other western States and Territories, are published by Blanchard & Cran, Chicago: presenting their agricultural, commercia and manufacturing resources, physical geography, geology, mineralogy, climate, insitutions, and statistics which are very valuable and useful to all who take an interest in the progress of our country.

EXTENSION NOTICES.

Hamilton L. Smith, of Gambier, Ohio, having petitioned for the extension of a patent granted to him the 7th day of June. 1853, for an improvement in paper files, for seven years from the expiration of said patent, which takes place on the 7th day of June, 1867, it is ordered that the said petition be heard at the Patent Office on Monday the 20th day of May next.

James Rees and Robert Crichton, executors of Henry Carter, deceased and James Rees, of Pittsburgh, Penn., having petitioned for the extension of a patent granted to the said Henry Carter and James Rees the 22d day of November, 1853, and antedated June 3d, 1853, for an improvement in nut ma chines, for seven years from the expiration of said patent, which takes place on the third day of June, 1867, it is ordered that the said petition be heard at the Patent office on Monday the 20th day of May next

William S. Hyde, of Townsend, Ohio, having petitioned for the extension of a patent granted to him the 21st day of June, 1853, for an improvement in cultivator plows, for seven years from the expiration of said patent, which takes place on the 21st day of June, 1867, it is ordered that the said petition be heard at the Patent Office on Monday the 3d day of June next.

Ralph J. Falconer, of Washington, D. C., having petitioned for the exten sion of a patent granted to him the 7th day of June, 1853, for an improvemen in Hose Coupling, for seven years from the expiration of said patent, which takes place on the 7th day of June, 1867, it is ordered that the said petition be heard at the Patent Office on Monday, the 20th day of May next.

Giles F. Filley, of St. Louis, Mo., having petitioned for the extension of patent granted to him the 14th day of June, 1853, for an improvement in cook ing stoves, for seven years from the expiration of said patent, which takes place on the 14th day of June. 1867, it is ordered that the said petition be

Auswers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters, must, in all cases, sign their names. We have a right to know those who seek information from us: besides, as sometimes happens, we may prefer to address the correspondent by mail.

SPECIAL NOTE.—This column is designed for the general interest and in-struction of our readers, not for gratuitous repties to questions of a purely business or personal nature. We will publish such inquiries, however when paid for as advertisements at 50 cents a line, under the head of "Business and Personal."

M. C., of Ga., says that he applied in 1859 a method of discharging bilge water from leaky ships by means of an outward projecting pips through the bottom of the vessel. It was applied to a steamer plying between Savannah and Florida and proved verv efficient while the vessel was in motion. We do not exactly know when this device was first em ployed, but have the impression that it dated before 1859. See page 185.

R. H. S., of Mass.—Globe valves of composition are of excellent form and material to conduct heat, and if connected with the water space of the boiler by a short pipe will certainly get hot. Even if the heat no more than that of beiling water-212°-it is too great for the bare hand. Cover the hand wheel with woolen lagging, or attach a wooden cross for handles to the wheel. . . . Equal quantities of tallow and lard, not salted is better than tallow alone to mix with white lead for covering the polished parts of machinery. The tallow makes the paint too hard to be readily removed. Mix until the paint is of proper consistency to work with the brush.

-.-You will see in our last issue, No. 13, that we have referred to the subject of contrifugal motion as applied to belts. We think you are wrong in attributing centrifugal force only to bodies revolving rapidly. We intend to refer to this matter again,

A. S., of N. B.-Your claim for the largest cylinder engines for New York city up to 1866 is correct. England has built a larger one, but not for marine, but for pumping purposes.

A. S. Y. R., of N. Y.—In speaking of a bow rudder of the ${\it Dunderberg}$ we used the word "bow" to designate "forward." The rudder is forward of the propeller, over the shaft, and may be called an equipose" or "ballanced" rudder.

J. H. H., of Wis .- The cracking of the water-back plate of your range is undoubtedly due to your improved draft, and consequently increased heat. The water evaporates into steam faster than it is supplied allowing the plates to bnin. Make your space between the plates larger or use thicker and more strongly braced plates. Your suggestion of makingribson the plates may be a good one. We cannot be more definite unless we know all the facts.

A. V. V., of N. Y.-We cannot give you the size of flues used in the hoilers of ocean steamers unless we enumerate half the ocean steamers in existence. Some use tubes, some cylindrical, oval, and rectangular tubes, varying with the style of boiler.

H. W. S., of Me.-Mix your powdered plumbago with tallow or lard, and apply it as a paste to the parts where the friction is ex-

G. B. S., of N. Y.—The difference in the amount of water flowing through one 4-inch pipe and four 1-inch pipes, head and pressure being equal, depends upon the areas of the pipes and the relative friction on their inside surfaces. As one only of these data is necessary to show you that they are not analogous, we state the area of the 4-inch pipe to be 12.57 inches while that of the 1-inch pipes is only 3.14 inches.

H. B., of Ill.—Turbine wheels work successfully under a less head than three feet. Water power, except in some very peculiar cases, is cheaper than steam power. . . . We cannot understand how electricity could be generated in a pneumatic tube to interfere with the action of the machinery. . . . No objection we can conceive of exists which may not be overcome, against the use of lag screws to secure rails to sleepers. We do not, however, remember any case where it has been tested.

T. A., of O.—Printing ink is composed of burnt linseed oil, resin and lampblack. Its quality depends greatly on the proper preparation of the oil, and the intimate mixture, by grinding, of the ingredients M. D. K., of O.-We cannot give you reliable advice on coloring your gilding until we know the nature of the gilding process you

L. J. G., of Md.—A ventilating register in the center of the ceiling is not a new device. The position of the ventilating register, whether at the top or the bottom of the room has been much discussed. There is no very authoritative opinion on either side of the question.

H. C. R., of N. H. wishes to know the amount of carbon in lead pipe compared with that of cast steel. Steel is a chemical compound of iron and carbon, but there is no corresponding compound of lead and carbon. Steel contains from one to one and a half per cent of carbon

T. H. R., of N. J.—The adjutage for a fountain of water to secure the greatest flow has a length equal to two or three diameters and it has been found advantageous to slightly taper the tube outwards. This statement of the case is probably sufficient for all practical purposes and is all the information on the subject to be found in ordinary works on physics. We do not think the experimental data can be found for a precise answer to your question,

B. C., of N. H.—Will galvanized iron pipe injure well water? B. C. had excellent well water until it was brought into his house through a galvanized iron pipe. Now it is very hard and getting worse. He has another well of soft and excellent water 4 or 5 rods from the first onc. We find no sufficient chemical reasons to connect the hardness with the gaivanized pipe. The change will probably be found in the water before it enters the pipe and the hardness is due to snlphate of lime.

I. X. L., of N. Y -" Do you know of any process by which sand can be mixed so as to become as hard as granite?" Yes. Mixed with an equal weight of soda ash and melt into glass.

C. H. C., of Ill., sends us an ingenious device for a perpetual motion based on the assumption that there is some substance which being interposed between a magnet and its armature will intercept or neutralize the magnetic force. When we find such a substance we will entertain the possibility of perpetual motion.

E. P.. of Conn.—It is the contents of the egg shell, not the shell itself, which settle the coffee. If you carefully wash the shells from the adhering white of egg they will be useless. If the coffee is not ground too fine it settles well enough spontaneously. The practice of settling coffeewith eggs and fish skins is very properly going out of fashion.

L. N. F., of Md.—If you are a tyro in electro-plating you will get useful information in the present number.

Business and Personal.

The charge for inscrtion under this head is 50 cents a line.

Jno. H. Glover, Lawrence, Mass., wishes to communicate with parties who can make pure zinc seamless tubes, 2 feet long, small.

F. A. Clark, Plantsville, Conn,, wishes to undertake the sale of a popular and desirable patented invention.

To Die Sinkers and Letter Cutters.—Wanted to contract for a large number of steel dies and letters. Parties prepared to do such work will please address Rollin Defrees, Washington, D. C. E. N. Hays, Tuskegee, Ala., wishes to communicate with

makers of padlocks. H. Reed, Atlanta Ga., wishes to correspond with Tanners

and those contemplating building on his improvements about patented.