

41,405.—Machine Belting.—Hen y Taylor, Trenton, N. J.:

I claim the new article of manufactured, belting constructed substantially as above described and set forth.

41,406.—Motive Power.—Jose Toll, Locust Grove, O io. Ante-dated Jan. 24, 1864 :

I claim the arrangement of the doubly-cogged master wheel, E, meshing with the disconnected pinions I, I I and I I I, coincident with the lines of contact of a series of crushing or other rods, 1 2 3, the whole being combined and operating together in the manner and for the objects stated.

41,407.—Plow.—James Tomlinson, Racine, Wis.:

I claim a plow having a mold-board, share, and coultter, in the form of a scoop or spiral shell and provided with a curved land side, F, substantially as set forth.

[This invention consists in constructing the mealboard, share, and coultter, all in one piece and of scoop or hollow screw form with a point nearly in the center of the cutting part or share, whereby the furrow slice is cut rounding on the land side and turned over with far greater facility than by the plows of ordinary construction, the draught of the plow rendered comparatively light and the furrow slice in being turned not elevated as high as when turned by the ordinary plows, the invention at the same time being better adapted for a gang plow than those of ordinary construction. The invention further consists in a novel arrangement of a wheel and lever applied to the plow frame or beams in such a manner as to gage the depth of the plow or plows, and enable the latter to be raised out of the ground by the plowman with the greatest facility.]

41,408.—Boiler Feeder.—George I. Washburn, Worcester, Mass.:

I claim, first, Condensing a body of steam within an apparatus having no external outlet by forcing it from one chamber to another by the gravity of water, and causing it to pass beneath the surface of and in contact with the water in the chamber into which it is forced, substantially as herein described.

Second, in a condensing or pumping apparatus operating substantially on the principle specified, I claim the use of a check valve, o, operating as described, to prevent the reflux of water into or down the supply pipe.

Third, The combination of the hollow divided shaft, D, chambers, A1 A2 E1 E2, and valve, G, operating substantially as and for the purposes set forth.

Fourth, The combination of the rod, H, with the oscillating shaft, D, and valve, G, for imparting motion to the said valve as explained.

Fifth, The chambers, A1 A2 and C, and troughs, B1 B2, operating together in manner substantially as and for the purposes set forth.

41,409.—Railroad Car.—James Withycombe & Charles Reiblein, Cleveland, Ohio :

I claim supporting the bolsters, F F', of railroad cars, by the beams, C C C', C, and E E', arranged, and operating as and for the purpose set forth.

41,410.—Water Elevator.—James C. Barreter, Stamford, Conn., assignor to Joseph R. Van Marter, Lyons, N. Y.:

I claim the pulley, G, attached to the shaft, B, of the windlass, in connection with the disk, I, placed loosely on the shaft, B, the clamps, H H', and crank, J, all arranged to operate substantially as and for the purpose specified.

I further claim the eccentric, h, and the friction roller, g, or an equivalent bearing; when used in combination with the disk, I, and applied to a windlass to operate as and for the purpose set forth.

[This invention relates to certain improvements in windlasses for raising light weights, designed more especially for raising water from wells in buckets. The object of the invention is to obtain a windlass of simple construction which will admit of the bucket being lowered by its own gravity by a very simple manipulation of the crank and without having the latter turned with the drum of the windlass as the bucket descends, the filled bucket at the same time being held at any desired point when the crank is free from the hand of the operator.]

41,411.—Harvester.—Henry Fisher, A lance, Ohio, assignor to himself, Wm. M. Whitely, Jerome Fassler & Oliver S. Kelly, Springfield, Ohio :

I claim in combination with the stationary howl or cam, M, arranged as described, extending the rake-head back behind its fulcrum so as to raise and control the rotating rake by the action of the camway on its heel or rear end, substantially as described.

In combination with the rake, I claim the curved arm on the side of the rake to push the grain down in advance of the rake and insure its being cut before the rake shall move it on the platform.

41,412.—Cast-iron Pavement and Gutter.—Morton Pennock (assignor to himself & Samuel Pennock), Kennetts Square, Pa.:

I claim, first, The channel, B, under the metal plates, A, substantially as and for the purpose described.

Second, The combination with the plates, A, of a gutter, C, of metal with a channel, D, substantially in the manner and for the purpose set forth.

Third, The gutter, C, made of metal or other good conductor of heat and provided with a channel, D, substantially as and for the purpose specified.

[This invention consists in arranging a hollow space or channel under the metal plates which constitute the pavement in such a manner that by admitting steam or heated air into said channel, the pavement can be kept free from snow and ice; and it also consists in the arrangement of a metal gutter with a similar channel in combination with the pavement in such a manner that by admitting steam or heated air under said gutter the same can be freed from ice and snow and at the same time the water accumulating in it prevented from freezing.]

41,413.—Casting Packing-rings in Gas and Water Pipes.—Richard C. Robbins (assignor to himself, Henry L. Case, Jesse M. Keen & John W. Mason), New York City :

I claim, first, The forming ring, B, constructed as described, for the purpose set forth.

Second, The combination therewith of set screws arranged as described to secure it in place.

Third, The combination with the said forming ring, B, of the india rubber ring, G, substantially as described and for the purpose set forth.

41,414.—Frame for Traveling Bags.—Zachariah Walsh assignor to Cornelius Walsh, Newark, N. J.:

I claim the combination of the divided lip, d, d, and jointed frame, B, constructed and arranged as and for the purpose herein shown and described.

[This invention consists in constructing each side of the frame of the bag with one or more joints in such a manner that the sides of the frame may be distended or forced apart in order to open the bag, thereby avoiding the curved ends of the ordinary frames which, unless side locks or straps are used, admit of the hand being inserted within the bag at each end when the frame is locked.]

41,415.—Take-up for Circular Knitting Machines.—Samuel Ward, Amsterdam, N. Y., assignor to George Campbell & John Clute, Cohoes, N. Y.:

I claim, first, The arrangement of the take-up rolls in a frame, C, c, which is arranged to swing within the rotating frame, A, under the control of spring, g, and levers, I, or their equivalents, substantially as and for the purpose herein specified.

Second, The pawl, k, and stop lever, g, applied in combination with each other and with the ratchet wheel, f, frames, C, c, and A, a, and stationary cam, E, to operate substantially as and for the purpose set forth.

[This invention relates to the take-up of that class of circular knit-

ting machines in which the needle-plate or needle-ring has a rotary motion about its axis; and it consists in certain means of controlling the operation of such a take-up, by the tension of the knitted goods, whereby all parts of a piece of goods are made uniformly of any desired texture or tightness.]

41,416.—Machine for cutting Hay for Pressing.—Orson Waste & Charles Waste (assignors to Charles Waste), Cameron, Ill.:

We claim, first, The combination of the rollers, A A, with a knife working periodically, so connected and geared to the rollers as to cut the hay in proper lengths for packing, substantially as set forth.

Second, We claim the combination and arrangement of the catch, F, with the weight, E, and knife, C, substantially as and for the purpose specified.

Third, We claim also the combination of the knife, C, with a grooved projection, M, substantially as set forth.

41,417.—Fruit Can.—Joseph B. Wilson (assignor to David W. Moore), Fislerville, N. J.:

I claim the stopper, D, composed of the guiding portion, f, flange, e, and projection, d, when combined with and arranged in respect to the mouth of a vessel having two shoulders, a and b, in the manner set forth.

REISSUES.

1,609.—Machine for enameling Picture Frames.—O. L. Gardner (assignee of John Sperry & C. W. Sherwood), New York City. Patented April 2, 1861 :

I claim, first, The employment for the purpose specified, of a basin or enamel receiver, D', either fixed or stationary, used in connection with a rotating shaft, C, or an equivalent means, for rotating the frame, I, to be enamelled, and either with or without a lamp, E, or other heating medium, substantially as described.

Second, The scraper, J, formed of two plates, g, h, connected together by a bolt, i, and arranged to operate as and for the purpose herein set forth.

Third, The lever, H, in combination with the pin, e, of shaft, C, and the pin, f, of the sliding or adjustable basin or receiver, D', or other suitable clutch, arranged to operate substantially as and for the purpose specified.

1,610.—Machine for cutting-out Boot and Shoe Soles.—David Knox & Walter D. Richards (assignees by mesne-assignments of C. H. Griffin), Lynn, Mass. Patented June 12, 1855 :

I claim, first, The combination of the depresser bar with the reciprocating knife frame, its two movable knives and their elevating springs or equivalent machinery, such being arranged and made to operate together substantially as specified.

Second, I claim to constructing a machine with two knives, each connected to a separate cutter-head, and with their edges toward and the surface to be cut that by the mechanism employed said knives shall be brought alternately to the cutting point, the one ascending as the other descends, the one cutting the right and the other the left side of the sole, and so on alternately in the manner described and for the purposes set forth.

DESIGNS.

1,888.—Hand Engine.—Wm. R. Bush, Fall River, Mass.:

1,889.—Trade-mark.—Samuel B. Newell, Cincinnati, Ohio :

1,890.—Oil-cloth Pattern.—Joseph Robley, Brooklyn, N. Y.:

1,891 and 1,892.—Valves.—W. Barnett Le Van, Philadelphia, Pa. (2 cases):

1,893.—Stove Plate.—Nicholas S. Vedder & Benjamin F. Johnson (assignors to Wager & Fales), Troy, N. Y.:

EXTENSIONS.

Steam Boiler Furnace.—Benjamin Crawford, Allegheny, Pa. Patented Jan. 29, 1850. Re-issued Dec. 2, 1862:

I claim, first, The injection of whirling jets of steam among the gases evolved by the fuel on the grates, for the purpose set forth.

Second, Self-whirling adjustages or their equivalents on the pipes leading from the boiler or steam blower to proper positions for increasing the draught or promoting combustion, substantially as set forth.

Third, Whirling live steam for the purpose of increasing or maintaining the draught of a steam boiler furnace, substantially as set forth or the equivalent thereto.

Fourth, A combined stream of mingled steam and hot air introduced and forced into the ash-pit and up through the fire of a steam boiler furnace by means of the steam boiler, and hot air and steam pipes which intersect one another and terminate in a discharging nozzle within the ash-pit, substantially as set forth or the equivalent thereto.

Fifth, Live steam blowers arranged in the flues of a steam boiler for the purpose of aiding the draught and blowing out the foul matter which accumulates in the flues.

Sixth, The combination of means as set forth for performing unitedly the several functions specified.

Spark-arrester.—James Radley & Margaret Hunter (administratrix of John W. Hunter, deceased), New York City. Patented Jan. 22, 1850. Re-issued Jan. 16, 1855 :

We claim, first, The arranging of a series of chambers and channels between conically-shaped plates, the channels being so formed as to cause the products of combustion to impinge against that side of each of the dirt chambers, which has the springs and caps, and thereby force the sparks, dirt, &c., into them in the manner described herein.

Second, We claim the piece, p, suspended in the central aperture at the top of the spark-arrester, arranged and operating in the manner and for the purpose substantially as herein before described.

Third, We claim the double cover or top for the formation of a second series of dirt passages, arranged and operating in the manner and for the purpose substantially as herein before described.

Loom for Piled Fabrics.—John Turnbull, Baltimore, Md., and James Turnbull, Simsbury, Conn. Patented Jan. 29, 1850 :

We claim, first, Dividing the heddles into two or more divisions to be worked in succession, substantially as herein described, that the entire opening of the shed may be effected in succession, and thus avoid the evil effects consequent on the opening of the shed, at one operation as heretofore described.

Second, Operating the two picker levers or treadles by means of a shifting tappet operated or shifted alternately for each pick by means of an eccentric or its equivalent, that the shaft which carries the tappet or tappets may make one entire rotation for each throw of the shuttle, substantially as herein described, and thus operating the shuttle with a greater velocity, than by any means heretofore known, as described.

Binding the "Scientific American."

It is important that all works of reference should be well bound. The SCIENTIFIC AMERICAN being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, i. e., heavy board sides covered with marble paper, and morocco backs and corners.

Believing that the latter style of binding will better please a large portion of our readers, we commenced on the expiration of Volume VII., to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners.

The price of binding in the above style is 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, No. 37 Park Row, New York.



PATENTS

GRANTED

FOR SEVENTEEN YEARS!

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In connection with the publication of the SCIENTIFIC AMERICAN, have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past seventeen years. Statistics show that nearly ONE-THIRD of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that, after seventeen years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office; but they take pleasure in presenting the annexed testimonials from the three last ex-Commissioners of Patents:—

Messrs. MUNN & Co. :—I take pleasure in stating that, while I held 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, a marked degree of promptness, skill, and fidelity to the interests of your employers. Yours very truly,

CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter:

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 honor of holding the office of Commissioner. Your business was very large, and you sustained (and I doubt not justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements. Very respectfully, your obedient servant, J. HOLT.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

Messrs. MUNN & Co. :—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, your obedient servant, Wm. D. BISHOP.

THE EXAMINATION OF INVENTIONS.

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

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands of inventors for whom they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service which Messrs. MUNN & CO. render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there; but is an opinion based upon what knowledge they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a patent, &c., made up and mailed to the inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through the Branch Office of Messrs. MUNN & CO., corner of F. and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

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

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other changes in the fees are also made as follows:—

Table with 2 columns: Fee description and Amount. Includes: On filing each caveat, \$10; On filing each application for a Patent, except for a design, \$15; On issuing each original Patent, \$20; On appeal to Commissioner of Patents, \$20; On application for Re-issue, \$30; On application for extension of Patent, \$40; On granting the Extension, \$20; On filing a Disclaimer, \$10; On filing application for Design (three and a half years), \$10; On filing application for Design (seven years), \$15; On filing application for Design (fourteen years), \$30.

The Patent Laws, enacted by Congress on the 21 of March, 1861, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

CAVEATS.

Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

EXTENSION OF PATENTS.

Many valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are extended patents. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention.

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

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FOREIGN PATENTS.

Messrs. MUNN & CO., are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business they have offices at Nos. 66 Chancery lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. They think they can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through their agency.

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

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through MUNN & CO'S Agency, the requirements of different Government Patent Offices, &c., may be had, gratis, upon application at the principal office, No. 37 Park Row, New York, or any of the branch offices.

SEARCHES OF THE RECORDS.

Having access to all the official records at Washington, pertaining to the sale and transfer of patents, MESSRS. MUNN & CO., are at all times ready to make examinations as to titles, ownership, or assignments of patents. Fees moderate.

INVITATION TO INVENTORS.

Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they devote their whole time and energies to the interests of their clients.

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MESSRS. MUNN & CO., having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, can furnish the claims of any patent granted since that date, for \$1.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Written opinions on the validity of patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is solicited. For further particulars address MUNN & CO., No. 37 Park Row, New York.

ASSIGNMENTS OF PATENTS.

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

It would require many columns to detail all the ways in which the Inventor or Patentee may be served at our offices. We cordially invite all who have anything to do with patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the Rights of Patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid) should be addressed to MUNN & CO. No. 37 Park Row, New York.

TO OUR READERS.

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 patentee and date of patent, when known, and enclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

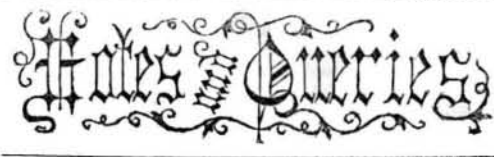
INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

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 are required to accompany the petition, specification and oath, except the Government fee.

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VOLUMES I., III., IV., V., VII. VIII. AND IX., (NEW SERIES) complete (bound) may be had at this office and from periodical dealers. Price, bound, \$2 25 per volume, by mail, \$3—which includes postage. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. **VOL. II.** and **VI.** are out of print and cannot be supplied.



W. P., of Md.—Tallow and grease oils containing poisonous oxides have been applied to the bottom of iron ships to prevent them from rusting and the attacks of barnacles, but such a composition rubs off so easily that it is of very little use.

R. Y. W., of Conn.—Chilled iron turning tools are sometimes used for very hard thin pulleys, but unless the chill is continued down through the surface to some distance, they do not last long.

J. H. R., of Mass.—Packing rings cannot be turned with accuracy after they have been cut off from the main ring. We do not know of any chuck that will hold them. A block of wood, with a groove turned in it, is the best thing you can use if you are obliged to re-turn your packing.

P. McN., of Pa.—Pulleys for belts are made high in the center of the face, so that the belt will run true as it is the tendency of a belt to find the highest point on the pulley. We thought every mechanic knew this.

J. L. P., of C. W.—You say you like our article on a certain subject very well, but see one or two places where it might be made clearer. No doubt! We have seen a great many persons who could edit a newspaper far better (in their own opinion) than the editor himself.

H. R. S., of N. Y.—Cast iron may be brazed to wrought iron very easily. We do not know of any cement as strong as iron itself.

F. R. S., of Wis.—You will find two very good Jonval wheels, suited for your fall of eight feet, illustrated on pages 164 and 273, Vols. III. (new series) of the SCIENTIFIC AMERICAN.

M. B., of N. Y.—From a given weight of hydrogen gas under combustion, a greater quantity of steam can be generated than from an equal weight of any other known combustible. A pound of pure carbon will evaporate 12½ pounds of water and convert it into steam of 15 pounds pressure on the square inch. One pound of good Pennsylvania anthracite is capable of raising 9½ pounds of water at 212° Fal. into steam.

J. B. C., of Conn.—Address H. C. Baird, Philadelphia, Pa., for a work on tinning, &c.

H. T., of Pa.—Superheated or dry steam was applied to the refining of iron twenty-four years ago, a patent for its use having been taken out in 1840, by Guest & Evans, in England.

G. H. M., of N. Y.—Admiral Foote was a naval officer, and as such commanded the gunboats at the attack on Fort Donelson. He co-operated with the military force under Gen. Grant, but reported to the Navy Department.

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