

tached to the bars, A A', and arranged in relation with the jaws, to operate as and for the purpose specified.

Second, The key, H, when used in connection with the bars, A A', jaws, D D, cams, f, f', stock, C, and cam, F, as and for the purpose set forth.

[This invention consists in the employment or use of a stationary and movable jaw fitted to a segment stock and used in connection with a cam and lever, key and bearing plate, whereby tires for wheels may be readily shrunk or upset and contracted to suit the wheels without being cut and rewelded.]

35,098.—Ross Johnson, of Frederick, Md., for Improvement in Plows :

First, I claim a solid or unbroken-faced moldboard, having a friction roller, e, or rollers, e and e', of continuous unbroken working face, and so secured centrally and longitudinally in the working face of the moldboard, that said roller or rollers shall present a flush bearing to the furrow slice as it rises upon, passes over and falls away from the moldboard, in the manner and for the purpose specified.

Second, I claim the auxiliary-turning roller, e'', in combination with the friction rollers, e and e', and moldboard, b, in the manner and for the purpose set forth.

Third, I claim the rotary cutter, h, in combination with the plow point, F, extension, g, thereof, and moldboard, b, in the manner and for the purpose specified.

Fourth, I claim the steady roller, G, in combination with the land side, a, moldboard, b, plow point, F, and cutter, h, in the manner and for the purpose set forth.

35,099.—G. W. Lemley, of Pavilion, N. Y., for Improvement in Machines for Boring Seats of Buggies :

I claim a machine for boring the corner holes in buggy seats, and articles of a like nature, consisting of a combination of proper means for regulating and determining the point where and the angle at which the said holes are to be bored, substantially as described.

I also claim a machine which possesses the capacity of regulating and determining the place and angle of the corner holes, as well as proper means for determining the bevel of the posts in their cross section for that angle, substantially as set forth.

I further claim a machine which possesses the capacity of regulating and determining the place and angle of the corner holes, as well as proper means for determining the bevel or mitre of the shoulders of the tenons on the posts for that angle, as described.

I also claim a machine comprising proper means for laying out or determining all the bevels of the posts of carriage seats, &c., to fit them to any desired angle of corner or post hole, as set forth.

And, finally, I claim a machine consisting of a combination of proper means to bore the corner or post holes of a carriage seat, &c., at any desired angle, and to determine or indicate the bevel of the posts in their cross-section, and the bevel or mitre of the shoulders of the tenons thereon, for that particular angle or corner or post hole, as specified.

35,100.—R. O. Lowrey, of Saratoga Springs, N. Y., for Improvement in Wind Mills :

I claim, first, The arms, H, with termini of the construction described, in combination with the hinging brackets, J, of the wings or blades, I, substantially as set forth.

Second, In combination with the arms, H, and brackets, J, I claim the levers, K, rollers, h, stops, l, cords, L, and ring weight, C, substantially in the manner and for the purpose described.

Third, The arrangement of a sliding ring weight, constructed as described, in combination with the vertical shaft, A, blades, I, and clutch lever, D, substantially as and for the purposes set forth.

35,101.—J. Luccock and J. M. L. Gowdy, of Peoria, Ill., for Improvement in Churns :

We claim the combination of the rotary dashers, C C', of unequal lengths with the racks or breakers, D, when constructed, arranged and operated as described for the purpose set forth.

35,102.—W. J. Lyman, of East Hampton, and A. E. Lyman, of Williamsburg, Mass., for Improvement in Coffins :

We claim the improved coffin, substantially as described, as a new article of manufacture.

35,103.—William Mansfield, Jedediah Morse and H. H. Mansfield, of Canton, Mass., for Improvement in Projectiles for Ordnance, &c. :

We claim, first, The spiral air passages, c, c, formed between two cones, B, b, and combining with a central air passage, a, substantially as and for the purpose specified.

Second, The combination of the external conical surface, f, forming the exterior of a hollow cone and the shoulder, g, substantially as and for the purpose specified.

One object of this invention is to obtain a rotary motion of an elongated projectile about its axis, by the action of the atmosphere upon it, when discharged from a smooth-bore gun, and to this end a part of the invention consists in providing in the rear of the projectile two or more spiral air passages formed between the cones, and communicating with a central passage in the front part of the projectile. Another object is to insure the projectile striking on its point, and to this end another part of the invention consists in making the rear portion of the exterior of the projectile of conical form, externally as well as internally, the exterior surface of such conical portion being in the rear of a shoulder, over which, in the flight of the projectile, the air rushes against the said surface on all sides thereof.]

35,104.—Enoch Osgood, of Boston, Mass., for Improved Regulator Valve for Air, Gas, &c. :

I claim the combination of a valve and a diaphragm enough larger than the valve to give it any desired power over it, wanted to close it, to hold and balance any pressure that may come in between them to be weighed out by weights on the diaphragm, to give the desired pressure wanted in the chamber below the valve for use, constructed and connected together to operate against each other, substantially as and for the purposes described.

35,105.—Gordon McKay, of Boston, Mass., for Improvement in Boots and Shoes :

I claim the formation of a quilting seam or seams within those used for holding the vamp, said quilting being formed of chain or tambour stitches passing through the whole thickness of the sole, substantially as and for the purposes set forth.

35,106.—S. H. Noble, of Vernon Springs, Iowa, for Improvement in Sled and Sleigh Runners :

I claim, as a new article of manufacture, a sled or sleigh runner formed of a cast-iron crook, E, with or without the shoe, C, and a straight wooden portion, A, combined or put together, substantially as shown and described.

[This invention consists in constructing a sled or sleigh runner of cast metal and wood combined, in such a manner that a straight piece of wood may be used for the main portion of the runner, and the cast metal for the crook or curve, and also the shoe of the wood portion.]

35,107.—J. P. Marshal, of Millbury, Mass., for Improvement in Breech-Loading Firearms :

I claim, first, The combination of the generally-constructed stationary breech, C, with the movable breech, D, E, arranged for conjoint operation in the manner and for the purpose specified.

Second, The combination of the operating lever, H, and movable breech, with the lock bolt, J, and trigger, P, substantially as and for the purpose described.

Third, The combination of the breech pin, X, constructed as described, with the screw, G, plate, E, and cylinder, D, arranged and operating as and for the purpose set forth.

Fourth, Forming the cone seat and its shield of the same piece with the lock plate, in the manner and for the purpose set forth.

Fifth, Forming a circular flange around the vent of the stationary breech piece to fit into a cavity, or recess, of corresponding size, in the rear side of the cone shield, in the manner and for the purpose described.

35,108.—H. H. Palmer, of Rockford, Ill., for Improvement in Pumps :

I claim the combination of the water chamber, H, with the suspension rod, E, when arranged and operating as described for the purpose set forth.

I also claim suspending the water chamber from the platform, A, by means of the rods, J and K, and guide rings, I, as and for the purpose described.

I also claim the combination of the flanged standard, B, air vessel, C, piston tube, F, piston, G, and water chamber, H, when the whole

are arranged for joint operation, substantially in the manner described.

35,109.—John Percy, of Albany, N. Y., for Improvement in Machinery for Ginning Cotton :

I claim the construction of a picker for a cotton gin consisting of a hollow revolving cylinder, D, having through its outer periphery slots or openings for the passage through them of teeth, J, affixed to rods which oscillate in bearings placed near the outer periphery of a pair of disks, E, located within the cylinder; these disks being arranged to revolve simultaneously with the cylinder, D, on an axis eccentric to its axis, so as to cause the said teeth to vibrate back and forth through the slots, substantially in the manner and for the purpose set forth.

35,110.—H. C. Pierce, of Homer, N. Y., Improvement in Churns :

I claim, first, The arrangement of the eccentric lever, L, spring catch, M, and ratchet plate, N, in combination with the wheel, K, pulleys, C and F, disk, D, and dasher shaft, B, substantially as and for the purpose described.

Second, I also claim the employment of the wings, G, in combination with the disk, D, and holes, H, H, substantially as and for the purpose described.

Third, I also claim the employment of the plate, I, or its equivalent, in combination with the disk, D, wings, G, and holes, H, for the purpose of controlling the admission of air, to the interior of the churn, substantially as set forth.

35,111.—L. B. Prindle, of Litchfield, Conn., for Improvement in Cops for Elevators of Flouring Mills :

I claim, as a new article of manufacture and sale, making elevating cups of malleable cast iron, for the purposes set forth.

35,112.—Gelston Sanford, of New York City, for Improvement in Head Rests for Car Seats :

I claim an adjustable portable rest for the head, to be attached to the back of a car seat, and so arranged that it can be folded together so as to occupy less space when not in use, substantially as specified.

35,113.—Isaac Sherwood, of Wadilla, N. Y., for Improvement in Water Elevators :

I claim, first, A water elevator, having, in combination, the wheels, D and D2 and E, constructed and operating substantially as described.

Second, In combination therewith the double-acting lever, G and G2 H K K2, constructed and operating substantially as described.

35,114.—Isaac Stead, of Philadelphia, Pa., for Improvement in Condensing Carding Engines :

I claim, first, The revolving-toothed cylinder, I, in combination with the doffing cylinder, B, of a condensing carding engine, as forming a fiber separator, as described.

Second, I claim the stripper, S, in combination with the revolving-toothed cylinder, I, for the purpose of removing the fibers which may collect on and carrying them back to the main cylinder, as described in specification.

35,115.—E. M. Stevens, of Boston, Mass., for Improved Clothes Wringer :

I claim, first, The jointed levers, F F, provided with thumb screws, h, h, substantially as set forth and for the objects specified.

Second, Making the core, W, of the rolls fluted, and fitting into the flutes, cylinders of rubber, r, surrounded by a rubber tubing, R, substantially as and for the objects specified.

Third, The combination and arrangement of the lever, K, self-adjusting foot, N, and thumb screw, M, substantially as described and for the objects specified.

35,116.—A. Steward, of Plano, Ill., for Improvement in Stationary Counter Scissors :

I claim stationary scissors, hung and operated substantially as described.

I claim, also, in combination therewith, a measure so arranged that the cutting blades shall operate at one extremity thereof, as described.

35,117.—N. W. Taylor and J. W. Brightman, of Cleveland, Ohio, for Improvement in Machines for Drying Sized Paper :

We claim, first, The described construction of a drier, consisting of an inclosed chamber, provided with suitable openings, for the purposes specified, and which can be closed at pleasure, and having within said chamber the bearing rollers placed in horizontal rows, and the successive sets so arranged in relation to each other and the points of introduction for the paper and the heated air, that the paper will pass continually from a moist to a dry and heated atmosphere, as and for the purpose specified.

Second, We claim moving the rollers, S M N O P, at decreasing velocities, for the purpose set forth.

Third, We claim the plates, R, and openings, a' b', arranged as and for the purpose described.

35,118.—Thomas Tripp, of Amsterdam, N. Y., for Improved Water Wheels :

I claim, first, The conic form or shape of the center of this wheel, as applied to water wheels.

Second, The extension of the lower middle point of the main buckets, C, C, Fig. 1, at the point 1, so as to receive the inclined auxiliary buckets, as represented.

Third, The curvature of the inner bottom edges of the main buckets, as represented in Fig. 1 by the red dotted lines.

Fourth, The curved and V-like shape of the inclined auxiliary buckets to water wheels, as represented by b b b, Fig. 2.

Fifth, The scallop or concave of the lower edges of the bottom of the inclined auxiliary buckets, as applied to water wheels—the different curves of the parts of the wheel being arcs of the same circle as the circumference of the entire wheel.

Sixth, Inclined-curved auxiliary buckets, attached to curved or concavo-convex main buckets, conforming to the curvature of said main buckets.

35,119.—George Turner, of Cambridge, Ohio, for Improvement in Corn Shellers :

I claim the tapering cylinder, D, with teeth further apart on the large end, and closer together as they approach the small end, so arranged and operated that the ear of corn shall first be received at the large end of said cylinder, and pass toward the small end in process of being shelled, the shaft is turned in such a direction as to make the diagonal plane, G, in the manner and for the purposes set forth.

35,120.—Amos Westcott, of Syracuse, N. Y., for Improvement in Churns :

I claim the combination of the plano-diagonal dasher paddles, Fig. 7, A and B, with the box, Fig. 4, and with the shaft, A A, Fig. 5, when these paddles are set in such a manner about the shaft, Figs. 5 and 6, that when the shaft is turned in such a direction as to make the diagonal faces of the paddles strike the cream or milk, their effect will be to force the particles of butter, whether large or small, which may be floating in the fluid, toward a vertical plane in the box of the churn, parallel to its ends.

I also claim the employment of the fan wheel, Figs. 3 and 4, constructed essentially as and for the purposes set forth, in combination with the other parts of the churn, as described.

35,121.—D. H. Whittemore, of Worcester, Mass., for Improvement in Straw Cutters :

I claim, first, So arranging two cylinders together that the periphery of one shall move faster than that of the other, and at some point between them the knife or knives upon one shall move past the knife or knives, or projections upon the other cylinder, in such a manner that both a shear cut and self-feeding operation shall be produced thereby.

Second, I claim arranging two cylinders together, in such a manner that their relative position with the feed in the hopper can be placed for the purpose of varying the length of the feed cut, or so placing them upon the frame that the line of center of the two cylinders will not be at right angles with the bottom of the hopper, as represented in the drawings, for the purpose of producing a short cut, substantially as set forth.

Third, I claim combining with said share-cutting cylinders the movable mouth piece, L, substantially in the manner and for the purpose set forth.

35,122.—I. A. Williams, of Utica, N. Y., for Improvement in Locomotive Lamps :

I claim the perforated cylinders, E F, one or more, in combination with the cap or deflector, G, and hollow wick tube, C, arranged substantially as and for the purpose specified.

I further claim the perforated cylinders, E F, one or more, cap or deflector, G, perforated hollow base, K, provided with the perforated cap, L, in combination with the hollow cylindrical wick tube, C, all arranged for joint operation, substantially as and for the purpose set forth.

35,123.—Lorenzo Winslow, of Rochester, New York, for Improved Wrench :

I claim the arrangement within the jaw, B, of the dog, d, and

spring, S, in relation to the notched shank, A, the whole operating in the manner and for the purpose, substantially as set forth.

35,124.—D. T. Yeakel, of Lafayette, Ind., for Improvement in Mode of Constructing Ordnance :

I claim the use of plate or sheet iron or steel, in the manufacture or construction of large iron or steel cylinders, by winding the plate or sheet iron or steel (the plate or sheet being in width equal to the desired length of the cylinder) around a central mandrel, until by repeated continuous layers the intended size is produced, and after the first layer around the central mandrel (which may or may not be welded to the mandrel) each part of the plate, or sheet of iron or steel so wound to be welded to the part immediately under it.

[An engraving of this invention will appear in our next number.]

35,125.—D. C. Lawrence, of Cedar Falls, Iowa, for Improvement in Spring Balances :

I claim a spring balance, made of a single piece of wire, substantially in the manner and for the purpose set forth.

35,126.—E. L. Pratt, of Philadelphia, Pa., assignor to J. B. Collin, of Boston, Mass., for Improvement in the Thread Tension of Sewing Machines :

I claim so combining and arranging the tension devices which operate upon the threads used in a sewing machine which makes the double chain or Grever & Baker stitch that a relative, or any desired relative proportion of the whole tension upon the threads is made to be automatically operative upon each thread, and so maintained when the total tension on the threads is increased or diminished, said arrangement and combination being such that charges in the amount of the tension may be made with facility, substantially as described.

35,127.—Coleman Sellers (assignor to William Sellers & Co.), of Philadelphia, Pa., for Improvement in Wheel Press :

I claim the use of an adjustable upright, H, or its equivalent, substantially in the manner and for the purpose specified.

The hinged attachment of the blocking piece, N, or its equivalent, to the forcing-up plunger, substantially in the manner and for the purpose specified.

35,128.—Thomas Shaw, of Philadelphia, Pa., assignor to himself and Philip S. Justice, for Improvement in Laying Telegraphic Cables.

I claim the partial supporting of the telegraphic cable, while paying out, by means of an additional cable, when connected with friction clutches, as described.

35,129.—H. D. Stover of New York City, and W. W. Wood, of Philadelphia, Pa., assignor to said H. D. Stover, for Improved Shutters for the Portholes of Vessels, &c. :

We claim, first, The construction and arrangement of shields or armor to the portholes of war vessels or floating batteries, substantially as shown and described, by forming two or more plane or curved plates, impenetrable to shot, and arranged at such angles in relation to each other, and to the side walls of said vessel or battery, as to insure the glancing off of the projectiles thrown upon or against them, as set forth.

Second, In combination with movable shields, operating as described, we claim the convex-shaped or angular blocks, arranged to close the top opening between the shields and side walls, and to hold the said shields, when closed, at their requisite angles, substantially as shown and described.

Third, In combination with such movable shields, closing automatically or otherwise, in the manner described, we claim so forming corresponding recesses to the inner edges of the shields, as that the shields, by closing against the gun, shall leave a vertical space, sufficiently narrow to prevent projectiles from penetrating, yet wide enough to allow of the gun being sighted through it.

35,130.—Samuel Vanstone, of Providence, R. I., assignor to Wm. P. Pierce, of Boston, Mass., for Improvement in Machines for Cutting Files :

I claim the two disk cylinders, operating simultaneously upon the two sides of the blank, in combination with the peculiar construction of the disk cylinders, substantially as described, for the purpose specified.

35,131.—J. H. and A. E. Redstone (assignor to themselves and James M. Ray), of Indianapolis, Ind., for Improvement for Changing a Rotary into a Reciprocating Motion :

We claim the combination, in the manner described, of the groove, C, slot, D, and slide, A, when operated, substantially as set forth.

RE-ISSUES.

1,304.—J. E. Emerson, of Trenton, N. J., for Improvement in Mode of Fastening Tools to their Handles. Patented March 29, 1859.

I claim, first, The use of picks, axes, or other analogous tools without eyes therein, when the same are fastened to a handle by means of a stirrup, an iron heading, a gib and key or wedge.

Second, I claim the iron heading of a handle, in combination with the transverse key or wedge, and the eyesless pick, ax, or other analogous tool.

Third, I claim the key or wedge, when the same is used transversely to the tool for attaching picks, axes, or other analogous tools to handles.

1,305.—S. S. White, of Philadelphia, Pa., for Improvement in the Manufacture of Artificial Teeth. Patented January 1, 1862.

I claim the manufacture of mineral teeth, with pins having heads, d, at their outer ends, substantially as specified.

DESIGNS.

1,568.—C. H. Frost, of Peekskill, N. Y., for Design for a Cook's Stove.

1,569.—W. H. Green and P. J. Clark (assignor to S. S. Clark) of Meriden, Conn., for Design for a Chandelier.

1,570.—N. P. Maker, of Pawtucket, R. I., for Design for a Crucifix.

1,571.—J. B. Sargent, of New Britain, Conn., for Design for a Coffin Handle.

TO OUR READERS.

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 petition, specification and oath, except the government fee.

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 stopping the paper when the time for which it was pre-paid has expired.

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 inclosing \$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.

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 in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park-row, New York.

PATENTS FOR SEVENTEEN YEARS.



The new Patent Laws enacted by Congress on the 2d 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 duration of patents granted under the new act is prolonged to **seventeen years**, and the government fee required on filing an application for a patent is reduced from \$30 down to \$15. Other changes in the fees are also made as follows:—

On filing each caveat.....	\$10
On filing each application for a Patent, except for a design.....	\$15
On issuing each original Patent.....	\$30
On appeal to Commissioner of Patents.....	\$30
On application for Re-issuance.....	\$30
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing 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 law abolishes discrimination in fees required of foreigners, excepting reference to such countries as discriminate against citizens of the United States—thus allowing English, French, Belgian, Austrian, 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.

During the last sixteen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the Inventors throughout the country, we would state that we have acted as agents for more than **FIFTEEN 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 we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secured through this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

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 reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

Preliminary Examinations at the Patent Office.
The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a Patent &c., made up and mailed to the Inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh-streets, Washington, by experienced and competent persons. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

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 prepaid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & Co. No. 37 Park-row, New York.

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, under the new law, is \$10. A pamphlet of advice regarding applications for Patents and Caveats, in English 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 Abchurch-lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through our Agency.

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

Circulars of information concerning the proper course to be pursued obtaining Patents in foreign countries through our Agency, the requirements of different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York; or either Branch Office.

Rejected Applications.

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

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

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 office. 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.



F. G. & B. P., of N. B.—Messrs. Sellers, of Philadelphia, are agents for and manufacturers of Giffard's boiler injectors. For the information you desire respecting T. Hunt's modification of the injector, illustrated on page 124, Vol. V. (new series) SCIENTIFIC AMERICAN, you must address the inventor, at Crewe, England.

H. S. S., of Mass.—The metal magnesium is costly because the processes for obtaining it from its natural salts are tedious and expensive. Perennial cotton is not considered equal to the annual. Percussion shells are now cast with a portion of each heavier than the rest so as to insure its striking on the heavy side, otherwise there can be no certainty respecting their explosion.

J. M. L., of Mass.—The "Tinman's Manual" is published by I. R. Butts & Co., Boston.

O. P., of N. Y.—The salts of tin, as you suppose, are crystals of the protochloride of tin. Cast iron should be malleabilized before it is galvanized or tinned. We have been informed that it is coated with zinc before a thick coat of tin is put upon it, and vice versa. You will find it too expensive to employ the galvanic process for tinning, or zincing cast iron.

D. C., of C. W.—Electro platers make their own wire brushes with fine brass wire. The high polish of electro-plated goods is given with steel and agate burnishers.

T. B., of Phila.—We have been informed that Capt. Gowan, of your city, is the American contractor who is raising the sunken vessels of Sevastopol. You probably can find some information respecting him personally at the Franklin Institute. We understand he uses the diving bell for submarine operations, stops all the leaks and boards up each vessel to exclude the water from the cradle thus formed, then he pumps out the water from the vessel until she floats.

G. M. G., of N. Y.—The "tuns burthen" of a vessel does not mean, as the term is commonly used, the amount of freight which a vessel can carry, but refers to the measurement of the vessel. A vessel registered for 1,200 tons may be able to carry 2,000 tons.

C. D. L., of N. Y.—Prof. Rankine, has published a manual of the steam engine, in which he gives formulae for calculating the amount of steam which should be condensed when working expansively independent of the surface condensation by conduction of the heat.

O. C. H., of Conn.—All paper becomes yellow in color by long exposure to the atmosphere. This may be caused by the absorption of smoke, dirt and acid from the atmosphere. By scouring iron bright and dipping it into a strong solution of the sulphate of copper a thin skin of pure copper will be deposited, but it soon wears off. You cannot deposit a thick coat without using a battery.

J. H. C., of Mass.—The best way to dissolve isinglass is to allow it to stand all night in a vessel containing cold water, then put it on the fire next morning and stir it until it becomes hot.

R. B. P., of Conn.—A breast wheel of 30 feet diameter supplied with 724 cubic feet of water per second is 164.44 horse power. Are you sure that you have such a great quantity of water flowing into your wheel?

E. J. P., of Pa.—You will find an Engraving of Giffard's Injector in Vol. III. SCIENTIFIC AMERICAN (new series) page 260. You will find mention made of it in Vol. IV. pages 4 and 376.

E. Piper, of Camden, Me., wishes to know where glass cylinders sufficiently perfect for air pumps, of green glass, can be obtained.

A. M. Swain, of North Chelmsford, Mass., desires to correspond with G. W. W., of N. Y., P. H. W., of Me., J. F. C., of Mich., J. K. W., of Kansas, and a reader of the SCIENTIFIC AMERICAN, Pa. These parties will please address as above.

M. J. W., of N. Y.—You have no right to manufacture a patented machine in any county where the "right" is owned by another person, even if you do not offer the manufactured article for sale.

C. E. W., of Ky., J. H. S. and R. W., of Ohio.—Your plans for armor plates for vessels are received. It is said that the Navy Department has received over 1,500 of these plans, and when the best are selected we shall probably give illustrations of them. In the mean time unless something very novel and promising should be presented, we shall fill our pages with other matter.

C. A. W., of Mo.—The power that forces water up the short leg of a siphon is the weight of air resting upon the surface of the reservoir from which the water flows; consequently the water will rise to such height that its vertical column will be equal in weight to a vertical column of the atmosphere of the same size. This at the level of the sea is a little less than 34 feet, but varies with the changes in the atmosphere. It rapidly diminishes as the altitude above the sea increases.

T. M., of N. Y.—The American Pneumatic system for carrying mails, &c. through exhausted tubes is illustrated and described on page 265, Vol. VIII. (old series) SCIENTIFIC AMERICAN. By consulting these illustrated descriptions of the pneumatic post system, you will obtain very full information on the subject.

V. B., of Pa.—The most perfect method of preventing alcohol from evaporating from bottles and glass vessels containing preserved insects, reptiles, &c., is to use ground glass stoppers, and fuse some glass with the blow pipe around the seams. Sealing wax is the best plastic substance known to us for sealing such glass vessels, but it is slightly porous, and alcoholic vapor will slowly escape from vessels coated with it.

J. D., of Mass.—We saw the report published that the Parrott gun had sent a newly invented shot completely through a target formed of 12 one-inch iron plates and a backing of 24 inches thickness of oak, at a distance of 300 yards. Also that another target at the same distance sloped to an angle of 25° representing the side of the Merrimac, backed by 24 inches of oak and covered with six one-inch iron plates, was completely perforated by every shot. We do not know how far these statements are true as there has not yet appeared any verification of them. This result is possible with a projectile of the right weight and velocity.

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. Patents may be secured by American citizens in all of these countries. 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.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, May 7, 1862:—

W. B., of N. Y., \$40; F. W., of N. J., \$15; S. A. B., of R. I., \$20; J. K., of N. Y., \$45; W. D. A., of N. Y., \$40; H. R., of Ill., \$20; S. E. A., of N. Y., \$45; J. A. A., of Mich., \$20; S. E. S., of N. Y., \$20; W. B., of N. Y., \$10; L. S. A., of Ind., \$10; H. O., of O., \$15; J. E., of N. J., \$30; J. M., of Pa., \$25; J. A. B., of Mass., \$15; S. and F., of Pa., \$25; G. R. R., of Ill., \$15; P. and S., of N. Y., \$15; H. W., of Vt., \$20; M. Y., of N. Y., \$20; W. H. G., of N. Y., \$40; W. L. F., of N. J., \$55; W. H. E., of Va., \$20; P. and B., of Mass., \$20; T. C. B., of Vt., \$45; N. F. E., of Vt., \$20; J. A., of N. Y., \$45; R. B., of N. Y., \$15; G. T., of Conn., \$25; T. H. R., of Mass., \$30; C. and M., of Iowa, \$25; R. D. D., of Iowa, \$25; M. G., of Pa., \$15; J. S., of Mass., \$25; H. M., of N. H., \$75; J. M. W., of Iowa, \$25; E. D. G., of Conn., \$20; R. G., of N. Y., \$20; C. H. W., of Mass., \$20; J. C. C., of Vt., \$20; A. C., of N. Y., \$45; C. C. C., of N. Y., \$20; H. S. and R., of Vt., \$20; G. J., of N. Y., \$45; J. S., of N. Y., \$20; P. and P., of Ill., \$25; G. H., of Ill., \$15; D. and R., of Iowa, \$15; J. M. D., of N. Y., \$15; S. W., of Mass., \$25; H. W. O., of Conn., \$40; B. and E. H., of Ill., \$25; W. H. and L. H. McF., of N. Y., \$15; J. M. D., of Va., \$25; J. D., of Mich., \$15; T. and H., of N. Y., \$250; B. D., of Conn., \$15; J. B. T., of Pa., \$34; R. F., Jr., of Mass., \$15; R. S., of N. Y., \$20; N. A. B., of N. Y., \$25; T. and D., of O., \$25; E. T. C., of Ind., \$15; V. W. B., of Vt., \$10; A. G., of N. Y., \$15; C. and C., of Va., \$15; A. B., of Iowa, \$20; C. B., of N. Y., \$10; W. W. B., of N. Y., \$25; E. M. C., of N. Y., \$25; G. A. T., of Wis., \$25; E. J. C., of Ill., \$15; T. W. C., of N. Y., \$25; P. K., of Conn., \$35; E. W., of N. Y., \$25; W. E. B., of Conn., \$15.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from April 30 to Wednesday, May 7, 1862:—

G. C., of N. Y.; W. H. G., of N. Y.; C. J., of N. Y.; J. M. W., of Iowa; J. M. D., of Va.; G. A. T., of Mass.; J. M., of Conn.; W. E. B., of N. J.; I. S. A., of Ind.; C. and M., of Iowa; R. D. D., of Iowa; W. D. A., of N. Y.; F. W., of N. J.; A. F. T., of N. Y.; E. W., of N. Y.; N. A. B., of N. Y.; H. W. O., of Conn.; S. W., of Mass.; J. F., of N. Y.; J. M., of Pa.; P. and P., of Ill.; J. S., of Mass.; W. L. F., of N. J.; W. B., of N. Y.; J. McN., of Pa.; F. W. C., of N. Y.; W. W. B., of N. Y.; R. S., of N. Y.; E. M. C., of N. Y.; B. and E. H., of Ill.; G. T., of Conn.; T. H. E., of Mass.; G. H. F., of N. Y.

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