

60,969.—HOOP SKIRT.—Hunneville Vincent, New York City, assignor to Hugh B. Brown, Brooklyn, N. Y.

I claim the arranging of the wires or hoops in such a manner that each hoop crosses or intersects itself once or more in its passage around the skirt, substantially as and for the purposes herein set forth.

60,970.—DOOR LOCK.—Rudolph Vollschwitz (assignor to himself and J. J. Schlaepfer), New York City.

I claim the mortice, g, in the tumblers, D, to operate in combination with the notched bit of the key, nts, E, and bolts, C, substantially as and for the purpose described.

60,971.—GRANARY.—James Walsh, Valley Town, Ill.

I claim the granary and measurer, constructed of removable parts, substantially as described and represented.

60,972.—HOLLOW AUGER.—Joseph Ward, New York City.

I claim, First, The arrangement within the case, A, of the cutter stocks, B, constructed with discharge throats, C, and adapted for adjustment by means of the cam, E, and guides, a, as and for the purposes specified.

Second, I claim the within-described tool, adapted for cutting tenons and boring holes simultaneously, constructed and operating in the manner and for the purpose specified.

60,973.—MECHANISM FOR OPERATING DIES.—Hervey Waters, Northbridge, Mass.

I claim the combination with an eccentric hammer, crank press, or other similarly operating machine or machines of a means or system of mechanism by which the action of the machine or machines may be controlled substantially as set forth when such system of mechanism is so connected with the machine or machines as not to enter into the active operating structure thereof.

60,974.—LOCK AND KEY.—H. B. Weaver, Hartford, Conn.

I claim, First, The combination of the two spindles, D and D', the bolt, B, plate, C, and the tumblers, F, or their equivalents, the whole being constructed, arranged for joint operation, and applied to a lock case, substantially as and for the purpose herein set forth.

Second, The combination of the above and the fence, k', the whole being constructed, arranged, and operating as described.

Third, The bell crank, tumbler levers, F, hung to the spindle, D', and arranged in respect to the recess, k, of the plate, C, substantially as described.

Fourth, The tumblers, F, arranged in respect to the slot, l, in the stem of the handle, E', as described.

Fifth, The slot in the tubular stem of the handle, E' in combination with notches, p, in the edges of the key.

60,975.—RECTIFIER FOR STILLS.—A. Werne, New York City.

First, I claim the spiral channels formed in the covering plate, c, and in the box, B, by the spiral flanges, d and g, respectively, substantially as and for the purpose herein shown and described.

Second, I claim the angular plate, b, made substantially as and for the purpose herein shown and described.

Third, I claim the combination of the plate, b, box, B, and cooling cover, c, with the rectifier, A, substantially as and for the purpose herein shown and described.

60,976.—CULTIVATING HOPS.—E. A. Wightman and W. C. Williams, Livingstonville, N. Y.

We claim the sliding rod, B, arranged with the poles, A, as shown, adapted to be drawn therefrom when desired, substantially as represented and described.

60,977.—CORN HUSKER.—J. F. Winchell, Springfield, Ohio, assignor to himself and George C. Steele.

I claim the corn husker, consisting of the metal plate, A, and the strap, B, made adjustable in size, when constructed and arranged as herein shown and described.

60,978.—CHAIR.—G. C. Winchester and M. V. B. Howe (assignors to C. and G. C. Winchester), Ashburnham, Mass.

We claim combining the seat, a, with the stationary stool or base, b, by means of ball and socket joints, arranged not only to act as hinges but otherwise, substantially as described.

Also combining with such arrangement or construction, the spring, i, fixed to the bar and bearing against the rear part of the seat, substantially as shown and described.

Also the combining of the ratchet bar, pawl plate, shaft, and cam, when arranged to lock the seat in horizontal or inclined position, substantially as set forth.

Also, forming each side rail, f, and its leg, p, from a single strip of wood bent into shape, substantially as shown and described.

60,979.—CONSTRUCTION OF ORDNANCE.—W. E. Woodbridge, Little Falls, N. Y.

I claim, First, The employment, in the structure of cannon, of helices of wire of reversed obliquity, applied one over another, and brought into union by the intervention of a more fusible metal, employed as a solder.

Second, I claim, in general terms, the construction of cannon, substantially as herein described, modifying the selection and use of materials as herein set forth.

Third, I also claim the application of the mode of construction herein described, to tubes other than cannon, when the mechanical requirements are similar.

60,980.—BRIDLE BIT.—L. D. Woodmansee, Dayton, Ohio.

I claim the combination of the rigid bars, A and B, joined directly to the mouth piece of a bridle bit, and operating in the manner substantially as and for the purpose described.

60,981.—GRATES.—Charles J. Woolson, Cleveland, Ohio.

I claim the tipping frame, A, provided with journals and bearings, B, in combination with the shackle or grate bar, D, arms, E, and link, O, and duplicate bearings, S.

60,982.—CULTIVATOR PLOW.—S. A. Wray, Greenfield, Ind.

I claim the combination of the beam, B and B', elastic plate, D, and hinge joint, C, in a vice for retaining the beam in position, substantially in the manner set forth.

60,983.—WATER WHEEL.—Anthony Wreash and William Burns, Springfield, Ohio.

We claim, First, The buckets, D, when constructed with two or more faces, d and d', upon different radial planes, substantially as set forth.

Second, Constructing the inner set of concentric buckets or faces of the same bucket, d and d', shorter than the outer set, substantially as and for the purpose set forth.

Third, The combination of the guide wheels, E, intermediate plate, F, and gate ring, H, when constructed and arranged substantially as set forth.

Fourth, The raised crown of the intermediate plate, F, as arranged in relation to and serving as a bearing for the guide ring, H, substantially as set forth.

Fifth, The plate, F, when constructed and arranged between the guide wheel, E, and gate, H, substantially as and for the purpose set forth.

Sixth, The elevated bush, G, supported upon braces, resting upon the crown of the intermediate plate, F, and H, with the guide ring, H, substantially as and for the purpose set forth.

60,984.—COMPOSITION OF GLUE OR GELATINE AND OTHER MATERIALS CALLED DUROGEL.—Henry Wurtz, New York City.

I claim the combination of bichromate of potash with ordinary glue or gelatine, in the manner and for the purpose substantially as described in the foregoing specification.

60,985.—HOLLOW AUGER.—Emanuel Young, Amanda, Ohio.

I claim, as an article of manufacture, the hereinbefore described tool, formed with the knives, C and E, attached to the hollow tapering body, B, formed with the shank, A, for attaching the tool to a brace, substantially as described.

60,986.—IMPONDERABLE FLUID AND MODE OF GENERATING THE SAME.—Martin Ziegler, Mulhouse, France.

I claim, First, Producing a new imponderable fluid in the manner and by the means herein set forth and described.

Second, The combination of two substances, the one containing azote, and the other containing carbon, in the manner substantially as herein described, so as to generate an imponderable fluid, and to excite or produce a current of the same, as and for the purposes set forth.

RE-ISSUES.

2,430.—PROCESS FOR PURIFYING METALLIC OXIDES.—Alfred Monnier, Philadelphia, Pa. Patented March 21, 1865.

I claim the treatment of metallic oxides for their purification, substantially as herein set forth.

2,431.—REFINING HYDRO-CARBON OILS AND UTILIZING WASTE PRODUCTS THEREFROM.—Henry Pemberton, Alleghany City, Pa. Patented Aug. 2, 1859.

I claim, First, Receiving the sulphuric acid contained in the residuum of the process of refining coal oil, petroleum and other hydro-carburets, by exposing the residuum, which is a compound of acid and tarry matters, to the combined action of water and heat, whereby, under the influence of the high temperature, the attraction of the tarry matters for the acid is overcome by the superior affinity of the acid for the water, so that the acid separates itself from the tarry matter, and dissolves in the water, from which it may be obtained, in a concentrated state, and purified by various means, substantially as hereinbefore described.

Second, Purifying the dilute sulphuric acid recovered from the residuum which results from the refining of coal oils, petroleum and other hydro-carburets, by repeated processes of concentration and dilution with water, whereby the coloring matter is separated, and may be removed, substantially as hereinbefore described.

Third, The use of the sulphuric acid recovered from the residuum resulting from the refining of coal oil, petroleum and other hydro-carburets, for the decomposition of salt, in the production of sulphate of soda, as a step in the manufacture of soda ash.

2,432.—DRYING APPARATUS.—Edward Y. Robbins, Cincinnati, Ohio, assignor by mesne assignments of himself. Patented July 19, 1864.

I claim, First, So arranging the drying chamber, and drum or flue, B, and the furnace or stove for heating the wash water, that the drying chamber shall be heated by the surplus heat passing from the furnace or stove through a drum or flue, R, placed in the drying chamber, substantially as set forth.

Second, The application of a condenser to a drying chamber as above described, or any equivalent arrangement for producing the same effect, substantially in the same manner.

Third, I claim the netting when placed over the drum or flue to catch the clothes in case of falling, and thus prevent their being burned, the same being arranged substantially as set forth.

2,433.—LAP JOINT.—Henry Underwood, New York City. Patented Feb. 9, 1858.

I claim the union of the plates or straps, b, with the rive's, a, which pass through outer and inner ends, A, B, of the belt, substantially as and for the purposes described.

2,434.—MACHINE FOR MAKING NUTS.—William E. Ward, Port Chester, N. Y. Patented Oct. 7, 1856.

I claim as a new and as my invention, the two punches arranged side by side, and operated substantially as described for punching the central hole, cutting off the blanks from the bar, and discharging the same, substantially as described, in combination with the two holes or two dies, so that a hole is punched in the bar or another nut during the continued motion of the punch to discharge the nut which was cut off during the previous part of the same motion.

I also claim in combination with the punching and cutting mechanism either without or with the mandrel, or its equivalent, for entering the central hole of the nut blank, the employment of the spring jaws, or the equivalents thereof for transferring the nut blank from the die to the mandrel and there holding it until the mandrel enters the hole, substantially as described.

I also claim the mandrel for holding the nut blank in combination with the swaging surfaces by which the face of the nut are formed, substantially as described.

I also claim in combination with the mandrel for holding the nut blank substantially as described, the hammers for hammering or swaging the edges of the nut, substantially as described.

I also claim the combination of the swaging surfaces for forming the face of the nut with the hammers for forging the edges of the nut, substantially as specified, and for the purpose set forth.

2,435.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. Patented June 3, 1862.

I claim the base, A, composed of top and bottom plates only so formed and united as to inclose a hollow or space, under the whole body of the stove, and occupied throughout by the products of combustion in passing from the descending flue or flues, substantially as and for the purposes herein specified.

I also claim the combination and arrangement of the projecting base, A, composed of top and bottom plates inclosing a space, the projecting top, C, similarly composed of top and bottom plates, and the pipes or flues, E, E, and F, outside of and distinct from, the body of the stove, substantially as and for the purposes herein specified.

In combination with the above, I also claim the dividing plates, a, a, substantially as and for the purpose herein described.

2,436.—HEATING STOVE.—William A. Barlow, Elkhorn, Wis. Patented June 3, 1862.

I claim a heating stove having a double projecting top and an opening therein of the full or nearly full size of the interior of the stovebody, and closed by a removable cover, substantially as and for the purposes herein specified.

In combination therewith I also claim a top, C, made of top and bottom plates with a heat-circulating space between them and projecting beyond the body of the stove sufficiently to admit flues or pipes extending from the top to the base of the stove, outside of the stove body, substantially as and for the purpose herein set forth.

2,437.—CAPSTAN FOR STEAM BOATS.—John Schaffer, St. Louis, Mo. Patented Oct. 21, 1856.

I claim the arrangement of the capstan barrel, A, with the wheels, e, f, g, h, i, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z, and the shafts, which are used for connecting and rotating a capstan barrel by an auxiliary engine, said capstan and auxiliary engine being placed forward of the steam boilers on the bow of the boat, substantially as herein described and for the purpose set forth.

2,438.—RAKE FOR HARVESTER.—C. Aultman, Canton, Ohio, assignor by mesne assignments of S. A. Lindsay. Patented Dec. 11, 1860.

First, I claim a support for the revolving rake and reel shaft attached to and moving with the platform of a hinged rake and reel machine.

Second, A support for the revolving rake and reel shaft, attached to and moving with the platform, in combination with a hinged platform suspended to the main frame.

Third, A support for the revolving rake and reel shaft, attached to and moving with the hinged platform in combination with the universal joint for drawing said shaft, and conforming the rake and reel to the movement of the platform.

Fourth, An automatic revolving rake, wit a universal joint for driving it.

Fifth, The combination of a revolving rake and reel, a hinged platform, and a jointed tumbling driving shaft.

Sixth, A support for the revolving rake and reel shaft attached to and moving with the hinged platform in combination with a driving mechanism, which adapts itself to the rising and falling of the platform in passing over uneven ground.

Seventh, The combination of a revolving rake and reel, with a mechanism for adjusting the rake and reel together, with the cutting apparatus and platform so arranged that the driver can operate it without stopping the machine.

Eighth, The combination of a floating finger beam machine, a revolving rake and reel, so constructed and arranged that the rake and platform shall rise and fall together while reaping, and that the rake and platform may be readily removed for converting it into a mower.

Ninth, The combination of a hinged platform and a continuously revolving rake shaft, support located on said platform, between the center of the draft frame and the outer divider.

Tenth, A stand or support, which sustains the sweep rake above the draft frame or driving wheels thereof, said stand or support being mounted on the hinged platform.

Eleventh, In a harvesting machine, which has its cutting apparatus hinged or jointed to the main frame, in such manner as allows it to conform to both ends to the undulations of the ground, and has a rake support mounted on the hinged platform, I claim so constructing and arranging the several parts that the support of the rake can occupy a position outside of inner drive wheel, or a position which is between the point of suspension of the platform and the outer divider, and so that said platform can also be hung or suspended below the draft frame.

Twelfth, An inclined rake shaft, which passes above the main frame by the mere inclination of the axle, and shall be guided in passing across the platform by the sliding of the rake teeth on the platform, thereby dispensing with the use of a cam for elevating or guiding the rake.

Thirteenth, A continuously revolving rake, in combination with a shaft inclined toward the platform for forcing the rake down to the platform, and then elevating it up and out of the way of the wheels and main frame, in its revolution.

2,439.—HARVESTER.—C. Aultman, Canton, Ohio, assignor by mesne assignments of S. A. Lindsay. Patented Aug. 2, 1859.

First, I claim an automatic rake, delivering the grain in the arc of a circle in combination with a hinged platform.

Second, The combination of a revolving rake and reel, and a hinged platform suspended from the main frame.

Third, The combination of a revolving rake and reel, with a hinged platform suspended from the main frame, having a revolving rake and reel, I claim suspending the hinged platform to the main frame at one or more points between the driving wheels.

Fifth, The combination of a revolving rake and reel, with a hinged cutting apparatus, in such a manner that the said cutting apparatus can be raised and lowered without changing the relative position of the rake and reel to the platform.

Sixth, The employment of radial reel and rake arms attached to the central head or axis, by independent hinges or pivots for each radial arm.

Seventh, Attaching the beaters and rake heads at such an angle with a radial line, that the rake heads and beaters shall approach to and pass over the cutter in a line nearly parallel to the cutter when the axis of the rake and reel is located in the rear of the cutter bar.

Eighth, The boxes or bearings, K, K, for carrying the pivoted radial arms in combination with the central revolving hub.

Ninth, The combination of a revolving rake and reel, a vibrating frame or its equivalent, and a hinged platform.

Tenth, Arranging the revolving rake and reel supported to vibrate about a center, so that the rising or lowering of the cutter does not interfere with the operation of the driving mechanism.

Eleventh, The combination of a revolving rake and reel apparatus which is supported between the driving wheels and a hinged platform by means of an intermediate connecting piece for the purpose of conforming the movements of the rake to the platform in passing over uneven ground.

Twelfth, The combination of a quadrant platform, a hinged finger beam, and a frame supported on two wheels.

Thirteenth, The combination of a quadrant platform and a hinged finger beam suspended from a frame supported on two wheels.

Fourteenth, The combination of a quadrant platform, a hinged finger beam, a two-wheeled frame, and a rake moving in the arc of a circle.

2,440.—CORN HARVESTER.—George Geer, Douglas, Ill. Patented June 2, 1863.

First, I claim the endless chain, M, provided with pivoted teeth, n, substantially as and for the purpose set forth.

Second, The serrated wheels, f, f', arranged and applied to operate as and for the purpose specified.

Third, The cutter, U, operated by the treadle, n', and arranged and applied as and for the purpose set forth.

Fourth, The bar or guard, L, arranged and applied underneath the cylinder, H, substantially as and for the purpose set forth.

Fifth, The plate or guard, N, attached to the plate, J, as and for the purpose specified.

2,441.—FRUIT BOX.—Nicholas Hallock, Flushing, N. Y. Patented Sept. 7, 1858.

I claim, First, A fruit box constructed of thin sheets or strips of material which form the body and bottom of the box, and secured together, substantially as and for the purpose specified.

Second, also claim in combination with a box constructed of thin sheets or strips of material, substantially as described, so arranging the handle as that it may be attached to and folded closely within the box substantially as described and specified.

Third, I also claim defining the outline or shape of the box by means of grooves in the material forming the box, substantially as described and specified.

Fourth, I also claim in fruit boxes constructed substantially as described, making the bottom so that boxes may be placed one above the other without injury to the fruit in the one below it and for better ventilation of the fruit, substantially as described and specified.

2,442.—SPRING HOLDER FOR WIPING CLOTHS.—Henry Johnson, Chicago, Ill., assignor by mesne assignments of W. J. Johnson. Patented Feb. 21, 1860.

I claim the spring holder for cloths consisting of two or more curved spring fingers, arranged substantially as and for the purposes described.

2,443.—NICKING SCREW HEADS.—George L. Morris, Taunton, Mass. Patented June 12, 1866.

I claim the improved nicked screws made either by casting or cutting, having the said nicks flaring at their outer ends and with the separating part between strengthening the head, the two nicks being made on the line of one and the same diameter of the screw head, all as and for the purposes specified.

2,444.—MACHINE FOR MAKING CLINCH RINGS.—G. M. Pat-ten, Bath, Me. Patented May 2, 1854.

I claim the combination of the retainer and clearer or part, g, and its springs, or the equivalent thereof, and the elastic seat, H, with the dies, E and F, the upper die being provided with mechanism for operating it, as described.

I also claim the combination as well as the arrangement of the retainer or part, G, and its springs, or their equivalent, with a pinch and die or dies, E, F, the said part, G, being to operate therewith, substantially as described.

2,445.—BREACH-LOADING FIRE-ARMS.—William Mont Storm, New York City. Patented July 8th, 1856.

First, I claim a breech piece, hinged at its front end, and swinging upward and outward, substantially as described, in combination with a stationary or fixed recoil-bearing at its rear end, having the characteristic features of being firmly connected with the barrel, and being extended above the line of the bore of the barrel, substantially as and for the purpose set forth.

Second, I claim cutting away the recoil-bearing surface, substantially as described for the purpose set forth.

Third, I claim the internal bolt, e, operated by a positive motion to lock in place the movable breech piece of a breech-loading fire-arm during the fall of the hammer, or its equivalent, substantially in the manner described.

Fourth, I claim forming a space or recess between the lower side of the breech piece and the seat into which it shuts, for the accommodation of dirt which would otherwise prevent the descent of the breech piece, as hereinbefore fully explained.

2,446.—BREACH-LOADING FIRE-ARMS.—William Mont Storm, New York City. Patented July 8, 1856.

First, I claim a chambered breech piece, when such breech piece is hinged at its forward end to the barrel, and arranged to swing over, substantially as described for the purpose set forth.

Second, I claim, in combination with the barrel and movable breech, a packing ring or ring, arranged to slide within the breech piece, and formed at the front end to enter the barrel, so that by the force of the discharge the said tube will be forced forward and into the barrel, and made to pack the joint between the barrel and breech piece to prevent the escape of the explosive gases.

Third, I claim the manner, substantially as shown and described, of coupling the bolt, e, with the breech piece, so that although said bolt is operated by a positive motion, as described, the lock can be removed regardless of the barrel and bolt, as hereinbefore set forth.

DESIGNS.

2,533.—TRADE MARK.—Charles C. Buckley and Louis Dovell, New York City.

2,534.—COACH LAMP.—E. R. P. Cowles (assignor to C. Cowles & Co.), New Haven, Conn.

2,535.—STOVE.—Harrison Eaton, Amherst, N. H.

2,536.—MEDALLION.—Orion Frazee, New York City.

2,537 and 2,538.—ROUND COMB.—W. S. Minges, New York City. Two Cases.

2,539.—HANDLE OF A FORK OR SPOON.—John Polhamus, New York City.

2,540.—HANDLE OF A CASTER.—Horace C. Wilcox (assignor to the Meriden Britannia Co.), West Meriden, Conn.

2,541.—CASTER FRAME.—Horace C. Wilcox (assignor to the Meriden Britannia Co.), West Meriden, Conn.

EXTENSIONS.

MACHINE FOR DRILLING STONES.—Joseph J. Couch, Brooklyn, N. Y. Letters Patent No. 9,415, dated November 23, 1852.

I claim the improvement of making the drill rod to slide through the piston rod, substantially in the manner above set forth.

And I also claim the combination of the rocker lever, K, the wedge, M, the bolt, P, within the lever, the two cam plates, N, O, the spring catch, Q, the spring and the two projections, c, d, as applied to the drill shaft, the carriage or block, I, and the slide ways thereof, and made to operate together, and to actuate the drill, substantially in the manner as hereinbefore set forth.

KNITTING MACHINE.—Daniel Tainter, Worcester, Mass. Letters Patent No. 9,435, dated November 30, 1852.

I claim to so combine a draft and take-up roller and mechanism for revolving it, with a rotary series or set of needles and other mechanism of the above-mentioned peculiar kind for knitting, that such draft roller shall rotate simultaneously, or with the same velocity with such series of needles, so as to prevent the longitudinal rows of stitches from being produced in helical lines, and the evil consequences resulting to the fabric therefrom.

I also claim the arrangement of the draft and take-up mechanism, in connection with the knitting mechanism supported by two separate frames, A, T, and also their connection with the mechanism for producing an equal and simultaneous rotation of these frames, A, T, all substantially as described, whereby there shall not only be no connection between the frames, A, T, to extend through the fabric, but no projection from the frame, A, to come in contact with the presser, stitch wheels, and cam bar, or their respective supports, during the simultaneous and equal rotations of both or either of the said frames, A, T.

GRAIN SEPARATOR.—John R. Moffitt, Chelsea, Mass. Letters Patent No. 9,432, dated November 30, 1852. Reissue No. 540, dated March 23, 1858. Again reissued No. 716, B. 1, May 17, 1859.

I claim, in combination with a receptacle in which the tailings are deposited by the winnowing apparatus, the arrangement of the screw elevator, O, in relation to the thrashing cylinder, for the purpose of returning the tailings to be thrashed, as set forth.

MORTISING MACHINE.—Joseph Guild, Buffalo, N. Y. Letters Patent No. 9,431, dated November 30, 1852. Reissue No. 333, dated December 11, 1855.

I claim, First, The sliding wrist, o, connected with the chisel, and also with the driving power, in the manner described, in combination with the mechanism described, or its equivalent, for sliding said wrist, so that the operator can, during the motion of the machine, vary the depth of cut of the chisel, or cause it to be suspended without disconnecting the driving power.

Second, The combination in a mortising machine, substantially as described, of the treadle and opposing spring or weight connected to a toggle, one end of which being pivoted to the frame, the other is pivoted to a sliding wrist upon a vibrating arm, actuated by the power, the said wrist being slid out upon the treadle, and with varying power, as speeded by the action of said toggle and its attached weight or spring and treadle, as explained, or their equivalents.

MACHINERY FOR MAKING PILLS.—Erasmus A. Pond, Rutland, Vt. Letters Patent No. 9,455, dated Dec. 7, 1852.

I claim, First, Molding or forming pills by means of two cylinders, B, B, having each a number of recesses, a, in its periphery, the recesses in one cylinder matching with those in the other, and each matching pair forming a mold of the required form of the pill, the said cylinders revolving in opposite directions, and the pill mass being conducted between them, substantially as herein described.

Second, The bands, I, I, of india-rubber, or any sufficiently elastic material passing around or partly around the mold cylinders, for the purpose of expelling the pills from the recesses, a, after the molds are open, substantially as herein set forth.

NEW PUBLICATIONS.

THE NEW GOSPEL OF PEACE ACCORDING TO ST. BENJAMIN. The American News Co., 119 Nassau street, have issued the above famous political tracts in a large book of 340 pages, beautifully printed on tinted paper.

These writings are full of the most pungent political satire, adapted to modern times, and have been very widely read. In book form they will be sought after.

GUY HAMILTON; a Story of our civil war. By Miss Mathews. 50 cents.

Foreign Patents.

American Inventors should bear in mind that, as a general rule, an invention which is valuable to the patentee in this country is worth equally as much in England and some other foreign countries.

PATENT CLAIMS.—Persons desiring the claim of any invention, patented within thirty years, can obtain a copy by addressing a note to this office, giving name of patentee and date of patent, when known, and inclosing \$1 as a fee for copying.

CITY SUBSCRIBERS.—The SCIENTIFIC AMERICAN will be delivered in every part of the city at \$4 a year. Single copies for sale at all the News Stands in this city, Brooklyn, Jersey City, and Williamsburg, and by most of the News Dealers in the United States.

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

Interferences.—When each of two or more persons claims to be the first inventor of the same thing, an "interference" is declared between them, and a trial is had before the Commissioner.

When an application is found to conflict with a caveat, the caveat is allowed a period of three months within which to present an application, when an interference may be declared.

Upon the declaration of an interference, a day will be fixed for closing the testimony, and a further day fixed for the hearing of the cause.

If either party wishes a postponement, either of the day for closing the testimony, or of the day of hearing, he must, before the day he thus seeks to postpone is past show by affidavit, a sufficient reason for such postponement.

The management of Interferences is one of the most important duties in connection with Patent Office business. Our terms for attention to Interferences are moderate, and dependent upon the time required. Address all letters to MUNN & CO., No. 37 Park Row, New York.

Our Book of Instructions, containing the Patent Law, Official Rules, 150 engravings, valuable tables for calculations, and full instructions concerning the cost of patents, method of preparing forms for assignments, etc., is sent gratis on application. Address all letters (post-paid) to MUNN & CO., No. 37 Park Row, New York.

Advertisements.

The value of the SCIENTIFIC AMERICAN as an advertising medium cannot be over-estimated. Its circulation is ten times greater than that of any similar journal now published. It goes into all the States and Territories, and is read in all the principal libraries and reading rooms of the world.

RATES OF ADVERTISING.

Back Page.....75 cents a line. Back Page (with engraving).....\$1.00 a line. Inside Page.....40 cents a line. Inside Page (with engraving).....60 cents a line.

LAWYERS SHOULD READ THE Phrenological Journal, that they may read the characters of clients and culprits.

1866.—TOPLIFF'S PATENT PERPETUAL LAMP WICK, received First Premium at N. Y. State Fair, and special premium, Book of Transactions. Needs no trimming. Rare inducements to Agents. Sample sent for 20 cents; two for 30 cents. MURPHY & COLE, 81 Newark Ave., Jersey City. 3 1/2 f

FIRST-CLASS MACHINISTS' TOOLS. PRATT, WHITNEY & CO., Flower street, Hartford, Conn. Manufacturers of Engine Lathes, (15) fifteen inches to (8) eight feet swing; Power Planes, (16) sixteen inches to (5) five feet wide, and of any length desired, and special machinery. Also only makers of Engine Lathes with Slate's Patent Taper Attachment, conceded by all who have used it to be most perfect and simple in its construction and almost indispensable for good workmanship. For a circular and price list address as above. 3 2/2 f

WHY EVERYBODY IS CHARMED WITH OUR YOUNG FOLKS

Because it always contains so many admirable stories, full of interest and good sense; such musical poems; such a large variety of excellent reading of all kinds suitable for young folks, and of Riddles, Charades, Puzzles, etc., for evening entertainment. Besides, the illustrations are numerous and always attractive. Terms: \$2 00 a year. Single or Specimen Number, 20 cents. TICKNOR & FIELDS, Publishers, Boston.

EVERY SATURDAY

Is constantly attractive with its rich variety of Sketches and Short Stories by the finest writers of Europe, its choice Poems, its Serial Tales by some of the most popular story tellers now living, and its items of Literary and Scientific Intelligence. Terms: Single Number, 10 cents; \$5 00 a year. TICKNOR & FIELDS, Publishers, Boston.

MERCHANTS SHOULD READ THE Phrenological Journal to learn how to select trustworthy clerks. \$2 a year. 3 3

WATER WHEELS.—The Helical Jonval Turbine is manufactured by J. E. STEVENSON, 40 Dey street, New York. 3 5*

LABORATORY OF INDUSTRIAL CHEMISTRY. Directed by Prof. H. DUSSAUCE, Chemist, U. S. Commissioner to the Paris Exposition. [1*]

WANTED—NEW OR SECOND-HAND Gear Cutter. Address, with description of machine, price, etc., to TURNER, PARKS & CO., Cuyahoga Falls, Ohio. [1*]

CASTINGS.—THE UNDERSIGNED are now prepared to do every variety of Brass and Composition Castings. HAYDEN, GERE & CO., 84 Beekman street. 3 12

FOR SALE—A VERY HEAVY SHAPING Machine, or Compound Planer, but little used and in good order. HULLARD & PARSONS, 3 1/2 f Hartford, Conn.

YOUR DAUGHTER WOULD THANK you for the Phrenological Journal—with its instructions on health and beauty. FOWLER & WELLS, N. Y. 3 3

FOR SALE—THE UNDIVIDED HALF of the whole of Black's Patents on Gang Plows—the most successful gang plow in use. For particulars address J. F. BLACK, Lancaster, Cass Co., Ill. 3 3*

TO CURE BOILERS WHICH LEAK so badly as to even put out the fires (at a cost of less than \$1 for compound), send \$5 to Box 91, Ripley, Ohio, and the DEVIL'S RECIPE will be sent, which never fails. [1*]

WANTED—MACHINERY FOR A Barrel Manufactory, especially petroleum barrels. Inventors and makers please communicate description, illustration and specification, to K. S. WOOD, Oakville, Canada West. [1]

FOR SALE—ONE UNDIVIDED HALF right of F. H. Pennington's Patent Lock for money drawers—the only reliable lock extant. Address S. C. DAVIS, 3 1/2 f Willimantic, Conn.

SPECIAL NOTICE.—THE "INTERNATIONAL PATENT AGENCY," in London, is removed to No. 8 Southampton Buildings, Chancery Lane, which premises we have purchased for its permanent location. [3 4*] HASELTINE, LAKE & CO.

CLERGYMEN WILL FIND MUCH INTERESTING matter in the Phrenological Journal to be found nowhere else. 3 3

NATIONAL INVENTORS' EXCHANGE, 208 Broadway, New York City. Branch offices throughout the United States. Patented Inventions introduced, and Patent Rights bought and sold on Commission. Send stamp for Circular. [1*] JAMES B. COIT & CO., Directors.

WANTED—DRAIN TILE MACHINE.—Manufacturers of machines will please state price, where machines are in use, capacity, and power required; do they work vertical or horizontal; must be capable of making 15-inch pipe. Address H., Post-office drawer 31, Berlin, Green Lake Co., Wis. [3 2]

PATENTEE'S TAKE NOTICE. Having made large additions to our works, we can add one or two machines to our list of manufactures. The machines must be strictly first class, and well protected. BLYMER, DAY & CO., Manufacturers of Agricultural Machinery, Mansfield, Ohio. 3 1/2 f

FOR SALE—STATE AND COUNTY Rights for Baringer's Patent Smoke Furnace for smoking meat, fish, etc., in an ordinary smoke house, hoghead or barrel, without danger from fire or heat. One fire will last from four to eight hours. The price is within the reach of all. For terms address EDWIN SNYDER, Germantown, Col. Co., N. Y. [1]

YOUR SON WOULD BE GREATLY benefited by reading the Phrenological Journal. He would learn how to make the most of himself. \$2 a Year. Address FOWLER & WELLS, N. Y. 3 3

HAYDEN, GERE & CO., 84 BEEKMAN street, New York, manufacture every variety of Brass Work for steam, water and gas. Globe Valves, Steam, Gate and Air Cocks, Whistles, Oil Cups, Water Gages, Plain Bibbs, Stops, Hose Pipes, Couplings, etc. Address as above for pricelists. Illustrated catalogue furnished to customers. 3 12

FABRICATION OF VINEGAR. Prof. H. DUSSAUCE, Chemist, is ready to furnish the most recent European methods of manufacturing vinegar by the slow and quick processes, with and without alcohol, directly from grains, potatoes, cider, etc. Also, process to manufacture vinegar from wood, acetic acid, and methods of assaying vinegars. Address, New Lebanon, N. Y. [1*]

CARD. Prof. H. DUSSAUCE, Chemist, U. S. Commissioner to the Paris Exposition, wishes to communicate with exhibitors, as he desires, in connection with his position, to obtain authentic information concerning the Exposition any may contemplate to make. These informations are to be used in the report he will make upon the subject of American Industry. Address, New Lebanon, N. Y. [1*]

GODDARD'S BURNING MACHINE WORKS, Second avenue, cor. Twenty-second street. Office, No. 3 Bowling Green, New York. Manufacture the Patent Mestizo Wool BURNING PICKERS.

for opening, picking, dusting and burring Mestizo and all other medium to fine foreign and domestic wools, and cleaning wools. Patent Wooled Wool Burring Pickers, for opening, picking, dusting and burring Worsted, Carpet, Delaine, and other coarse foreign and domestic wools. Offers to attach to pickers, for oiling or watering, in the form of spray, the wool issuing therefrom. The only Patent Steel Ring BURNING MACHINES, single and double, for first breakers of wool-carding machines; Fine Steel Ring Burring Machines, for second breakers and finishers of wool cards; Steel Ring Feed Rolls, with patent adjustable spring boxes; Shake Wilows, with blowers for opening and dusting wool and waste and mixing wools; Wool and Waste Dusters, without blowers; Kayser's Patent Gasser Gigs. Prompt attention given to all inquiries and orders addressed to C. L. GODDARD, No. 3 Bowling Green, N. Y. 3 1/2 f

PLATINA PLATE AND WIRE OF ALL sizes, imported and for sale by SAMUEL S. WHITE, No. 638 Broadway. 1 2*

NITRO-GLYCERIN.—UNITED STATES BLASTING OIL CO.—We are now prepared to fill all orders for Nitro-Glycerin, and respectfully invite the attention of Contractors, Miners and Quarrymen to the immense economy in the use of the same. Address orders to JAMES DEVEREAUX, Sec., 32 Pine street, New York 2 5/2]

\$22.50 PER DAY—ENTIRELY new business for Agents and Men out of Employment. The greatest inducements ever offered. Agents are coming money! Make no engagements until you send 25 cents for sample and Catalogue. DOANE & MASSEY, 314 Olive street, St. Louis, Mo. 10s 2 1/2]

STATIONARY ENGINES Built under the BARCOCK & WILCOX PATENTS.

An entirely novel arrangement of valve gear, guaranteed to give a more regular speed, and to consume less fuel per horse-power than any engine in use. Call or send for a circular. HOWARD ROGERS, 50 Vesey street, New York. 1 20*

YOUR "SWEETHEART" WOULD thank you for the Phrenological Journal. In it she would find the means by which to judge character correctly. 3 3

HARRISON STEAM BOILER. NO MORE DESTRUCTION OF LIFE AND PROPERTY BY STEAM BOILER EXPLOSIONS. GREAT REDUCTION IN PRICE.

From the rapid manner in which the HARRISON STEAM BOILER is coming into use, but little need be said of its conceded merits. They may be summed up briefly as follows:—Absolute safety from explosion, as it cannot be burst under any practicable steam pressure. Less first cost. Economy in fuel equal to the best in use. Facility of transportation. It occupies but about one third the ground area of ordinary boilers, with no increase in height.

In consequence of recent improvements in its manufacture, this Boiler can be furnished to the public AT LESS COST than heretofore, and is now much the cheapest article in the market. For Price and Circular apply to JOSEPH HARRISON, JR., Harrison Boiler Works, Gray's Ferry Road, Philadelphia. WORCESTER, Mass., 9th mo., 6th, 1866. 2 12]

JOSEPH HARRISON, Dear Sir: We received your letter, and in answer will say we are highly gratified with the Boilers. The one we are using at the Earle Stove Company has been in operation since the first of the year in perfect order. We have just got to order the last sent, at our Card Factory, and are running it beside a tubular of about the same capacity; so far we find a saving of about one half by actual measurement. Truly yours, T. K. EARLE & CO. WORCESTER, 12th mo., 18th, 1866. JOSEPH HARRISON, JR., Dear Sir: Your Boilers continue increasing in favor. What we feared their weakest point has proved their strongest. We anticipated trouble from leaking in the many joints, which is the impression of all who see them. On the contrary we find them here superior to anything we have ever used. We put them to a test, a few weeks since, which has thoroughly established them in our estimation. Our watchman, I red up without water, heating to an intense degree, then injecting cold water, which so contracted the globes that every joint was open; but much to our surprise and gratification we found, when the equilibrium was restored, all was right, and they have never leaked a drop since. If it had been the tubular boiler our mill might have been blown to atoms. This quality alone is sufficient to guarantee and enforce its adoption every where, to say nothing of its economy. In this direction we are making two tests which will be interesting to you; when complete we will give you the result. Truly yours, T. K. EARLE & CO. 2 3]

MECHANICS SHOULD READ THE Phrenological Journal, and learn how to select boys to learn trades. 8 8

MACHINERY FOR SALE—VERY LOW—One 100 horse-power horizontal high-pressure steam engine, second-hand. One 25 horse-power portable steam engine and boiler, new. One Cary Saw-mill, 14 and 1/2 feet, new. Two Engine Lathes, Swing, 24 inches; bed, 15 feet, new. Six do. do. do. 14 do. do. 15 do. Two do. do. do. 14 do. do. do. Three Iron Planers—will plane 8 feet by 30 inches square. Two Car-wheels Boring Machines. One Power Machine for pressing on Car wheels. One West Point Slotter, large size. Address WASHINGTON IRON WORKS, Newburgh, N. Y. Or call at their Office, 55 and 57 Liberty st., New York. 2 4.

RICHARDSON, MERIAM & CO., Manufacturers and Dealers in DANIELS' AND WOODWORTH PLANERS, Boring, Matching, Molding, Mortising and Tenoning Machines, Scroll, Cut-off, and Sighting Saws, Saw Mills, Saw Arbors, Spoke and Wood-turning Lathes, and other wood-working Machinery. Warehouse, 107 Liberty street, New York. Manufactory, Worcester, Mass. 2 f

EDITORS SHOULD READ THE PHRENOLOGICAL Journal and learn how to make perfect newspapers. NEW WORKS, JUST PUBLISHED BY ATCHLEY & CO., ENGINEERING AND ARCHITECTURAL PUBLISHERS, 10 Great Russell street, London. BLAST ENGINES, Illustrated with large folding copper plate engravings, giving working drawings, to scale and letter-press description. By H. C. Coulthard, C.E., and M.E., 10 lb., half morocco..... 23 3s. THE OFFICE AND POCKET COMPANION, for the Engineer, Architect, Building Surveyor, Builder, Clerk of Works, etc. By W. Davis Haskoll, C.E., G. Rennie, C.E., and M.E., and F. Rogers, Architect. Cloth, 1/6. SKELETON STRUCTURES on a new principle, especially adapted to STEEL AND IRON BRIDGES. By Olaus Henrice, Engineer. Cloth, lettered, 8vo..... 10s. IRON ROOFS, A Theoretical and Practical Work on the Construction of. By F. Campin, C.E., with plates by J. Hawkshaw, C.E., W. Baker, C.E., and J. Norton, Architect, being a Supplementary Vol. to Mr. Dempsey's large work on Iron Roofs. 4to..... 15s. 2 4

THE IRIDIOSCOPE.—A NEW DISCOVERY IN OPTICS. This simple instrument enables a person to see the inside of his eye, detects foreign substances, shows Cataracts forming, and other diseases, if any. Invaluable to Physicians and Students. Mailed for 25 cents. Address F. SYLVESTER, No. 101 East Broadway, New York. 2 1

THE AMERICAN CONFORMATEUR AND CONFORMER. Invented and Manufactured by the undersigned, is the only article manufactured that can be relied upon to fit a hat properly, and have it preserve its proper form. They have been adopted and used for years by the best and principal hatters in this city and country. SAMUEL CLARK, 20 West 13th street. 1 3*

HYDRAULIC JACKS and HYDRAULIC PUNCHES manufactured by E. LYON, 470 Grand street. Send for a Circular. 1 13* eow

FOR WHEEL, FELY AND SPOKE Machinery, Spoke Lathes, Hub Mortising and Boring Machinery, Etc., address J. A. FAY & CO., Cincinnati, Ohio. 3 1/2 f

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

YOUR WIFE WILL THANK YOU FOR the Phrenological Journal—with its suggestions for training children. Only \$2 a year by post. Address FOWLER & WELLS, N. Y. 8 3]

IMPORTANT TO COACH PAINTERS! The Tenth edition, with important additions, just ready. PAINTER, GILDER AND VARNISHER'S COMPANION.

Containing Rules and Regulations in every thing relating to the colors of Painting, Gilding, Varnishing, and Glass Staining; with numerous useful and valuable Receipts; Tests for the detection of Adulterations in Oils and Colors, and a statement of the Diseases and Accidents to which Painters, Gilders and Varnishers are particularly liable, with the simplest methods of Prevention and Remedy. With directions for Graining, Marbling, Sign Writing, and Gilding on Glass. To which are added complete INSTRUCTIONS FOR COACH PAINTING AND VARNISHING. 12mo., Cloth. \$1 50. CONTENTS.

TOOLS AND APPARATUS.—Taylor's indigo grinding mill; Rawlinson's indigo grinding mill.

WHITES.—White lead, ceruse and flake white; Spanish, or bougival white; gypsum, or plaster of Paris; white of Troves, or white chalk.

BLACKS.—Ivory black; lamp black; charcoal blacks. REDS.—Venetian; minium, or red lead; carmine lake; Spanish brown; other reds.

YELLOWS.—Yellow ochre; massicot; chrome yellow; Turner's or patent yellow; orpiment; Naples yellow; yellow of ammonia; yellow pink.

BLUES.—Prussian blue; indigo; ultramarine; smalt, zaffre, azurite; Saxon blue, or enamel blue; blue verditer.

GREENS.—Verdigris; Italian or Verona green; Saxon or Hungary green; Scheele's green; Schweinfurt green; Brunswick green; green verditer; green lake, or Venetian green.

BROWNS.—Umber; new brown, discovered by Mr. Hachet.

COMPOUND COLORS, OR COLORS ARISING FROM MIXTURE.—Light gray, buff, silver or pearl gray, flaxen gray, brick color, oak-wood color, walnut-tree color, jonquil, lemon yellow, orange color, violet color, purple, carnation, gold color, olive color, lead color, chestnut color, light timber color, fawn color, green color, grass green, stone color, dark lead color, fawn color, chocolate color, Portland stone color, to imitate mahogany, to imitate wainscot, to imitate satin wood.

OILS.—Oil of spike, oil of lavender, oil of poppies, nut oil or linseed oil, oil of turpentine, fat oils, drying oils, pitch and resin.

VARNISHES.—Shell-lac varnish, turpentine varnish, linseed oil varnish, copal varnish, gold-colored copal varnish, camphorated copal varnish, copal varnish in imitation of tortoise shell, amber varnish, caoutchouc, or gum elastic varnish, mastic varnish, varnish for violins, etc., white hard varnish, varnishes for painting and coarse work, varnish for colored drawings, varnish for glass, black varnish for old straw or chip hats, varnish for drawings and card work, changing varnishes, mordant varnishes.

GENERAL OBSERVATIONS ON VARNISHES. POLISHES.—Varnish polish, polish for dark-colored woods, polish for Turnbridge wax, gold color, carvers' polish, French polish, water-proof polish, finishing polish.

GILDING MATERIALS.—Fine gold powder, color-highlighting compositions, mosaic gold, Dutch or German metal, ethereal solution of gold, gold of color or size, gold water size, preparatory size, white coating, coloring yellow, vermilion.

MISCELLANEOUS MATERIALS.—Painter's cream, rotten stone, glue and isinglass, common size.

GRINDING AND WASHING COLORS. CLEANLINESS IN WORKING. PRACTICE OF PAINTING.—Painting in distemper, painting in oil.

PRACTICE OF VARNISHING AND POLISHING.—French polish, waxing.

PRACTICE OF GILDING.—Gilding carved wood with water size; gilding plaster or marble with water size; gilding wood in oil; to gild steel; to gild copper, brass, etc.; gilding glass and porcelain; gilding leather; gilding writings, drawings, etc., on paper or parchment; gilding the edges of paper.

ON LAQUERING.—Lacquer for brass; lacquer for philosophical instruments; gold-colored lacquer for brass watch cases, watch keys, etc.; to make lacker of various tints; to clean old brass work for lacquering.

BRONZING.—Colors required in japanning; to prepare a tortoise shell japan ground by means of heat.

FISH-OIL COLORS.—To prepare the oil; gain by the above process; preparation and use of various colors; subdued green, lead color, bright green, stone color, brown red, chocolate color, yellow, black.

GLASS STAINING.—No. 1, flux; No. 2, gray flux; No. 3, flux for carmines and greens; the various colors.

BLUES.—Indigo blue, turquoise blue, azure blue, deep azure blue, blue for the use of painters, violet blue for ground color, lavender blue for ground tint.

GREENS.—Emerald green, bluish green, grass green, dragon, pistache and olive green.

YELLOWS.—Sulphur yellow, fixed yellow for touches, yellow for browns and greens, deep yellow to mix with the chromium greens, jonquil, French yellow, chrome yellow, fixed wax yellow, Nankin yellow for grounds, deep Nankin yellow, pale yellow ochre, deep yellow ochre, called yellow brown, brown yellow ochre, Isabella yellow for grounds, orange yellow for grounds, brick red, deep blood red.

COLORS OF GOLD.—Hard carmine, pure purple, deep violet.

COLORS OF IRON.—Flesh red, clove brown, wood brown, hair brown, liver brown, sepia brown, white, yellowish gray for browns and reds, bluish gray for mixtures, grayish black for mixtures, deep black, application of the colors to fire and paintings, furnace and muffle.

HARMONY OF COLORS. MISCELLANEOUS SUBJECTS AND USEFUL RECEIPTS:—To increase the strength of common rectified spirits of wine; to silver by heat; to tin copper and brass; to tin iron and copper vessels; to paint salt cloth so as to make it pliable, durable, and water proof; to make colors; to prepare varnished silk; to paint cloth, cambric, saracenet, etc., so as to render them transparent; to thicken nen cloths or screens; printer's ink; sticking, or court plaster; to imitate tortoise shell with horn; a varnish to preserve glass from the rays of the sun; to imitate rosewood; to imitate black rosewood; a fine black varnish for coaches and iron work; a varnish to imitate the Chinese; to clean silver furniture; to color the backs of chimneys with lead ore; to clean marble, sienna, jasper, porphyry, etc.; a white for inside painting; to take ink spots out of mahogany; to make paste for furniture; to make oil for furniture; to clean brass; method; varnish for clock faces, etc.; varnish for balloons.

DISEASES AND ACCIDENTS TO WHICH PAINTERS AND VARNISHERS ARE PARTICULARLY LIABLE.—Painters' colic; weakness of the wrists; effects of poisonous substances used in painting and varnishing; nausea; burns and scalds.

GENERAL OBSERVATIONS. DIRECTIONS FOR GRAINING AND IMITATING WOODS AND MARBLES.—Oak, combs, brushes, colors, etc., graining color, spirit color, pollard oak, root of oak; to grain pollard and root of oak in distemper; walnut, birdseye maple in distemper; to grain maple in oil; to grain mahogany in distemper, mahogany in oil, rosewood, marble, sienna, black and gold marble, Saint Ann's, verd antique, or ancient green, Egyptian green, rouge roy, or royal red, Italian jasper, dove marble, black barbles, Derbyshire spar, granites; to polish imitation marbles.

INSTRUMENTS FOR SETTING OUT, OR ARRANGING LETTERS, to raise or make letters appear to stand out from the board, and to shadow them; to gild letters; to write, gild, and ornament on glass.

COMPLETE INSTRUCTIONS FOR COACH PAINTING AND VARNISHING.—A suitable place to work in, preparing the oil, boiled oil, raw oil, priming coat for a carriage gear and body, smoothing with sandpaper, use of pumice stone in smoothing after priming, use of grained sole leather in smoothing after priming, rough stuffing, finishing up to receive the color, putting on the color, rubbing down after the second coat varnishing, ornamenting a d stripping, ornaments on panels, shading, striping, varnishing after striping.

The author of the chapter on Coach Painting being a thoroughly practical and intelligent man, has made it very full and complete; and it is believed that the want long felt by this large class of our mechanics, is now successfully and completely filled. So far as known, this is the only book in the English language in which the important subject of COACH PAINTING and VARNISHING is treated.

The above, or any of my Books sent by mail, free of postage, at the publication price.

My new Catalogue of Practical and Scientific Books, complete to Oct. 1, 1866, will be sent free of postage to any one who will favor me with his address.

HENRY CATLEY BAIRD, Industrial Publisher, 400 Walnut street, Philadelphia.

CHOOI TEACHERS SHOULD READ the Phrenological Journal, and learn to classify their pupils as to talents and capacity. Also to govern wisely, &c. &c. &c.

SHEET AND ROLL BRASS.

German Silver, Brass, and Copper Wire, etc. Especial attention to particular sizes and widths for Machinists and Type Founders.

TO SPRING MANUFACTURERS.

Address JOHN EVANS, 31 Wooster st., New Haven, Conn. for his Patent Improved Machinery for HEADS OF CARRIAGE SPRINGS.

JOSEPH HIRSH, Ph. Dr. ANALYTICAL AND CONSULTING CHEMIST, PURE CHEMICALS.

THE BEST POWER HAMMER MADE is the Dead Stroke Hammer of Shaw & Justice. Sizes suited for manufacturing awl blades or engine shafts; consume but little space, and require but little power.

SHAW & JUSTICE'S POWER HAMMER is Moderate in Price, is driven with one-tenth the power used by other Hammers, and will not cost the one-hundredth part of what is usually spent in repairs.

STEAM BOILER EXPLOSIONS PREVENTED by use of Ashcroft's Low Water Detector. Over 5,000 in use.

BOILER REGULATOR - THE U. S. Patent of M. ACHARD, of France, September 5, 1865 - a useful improvement - is offered for sale on reasonable terms.

MASON'S PATENT FRICTION CLUT HES, for starting Machinery, especially Heavy Machinery, without sudden shock or jar, are manufactured by VOLNEY W. MASON.

MODELS, PATTERNS, EXPERIMENTAL and other Machinery, Models for the Patent Office, built to order by HOLSKER MACHINE CO.

FOR WOODWORTH PATENT PLANING AND MATCHING MACHINES, Patent Siding and Resawing Machine, address J. A. FAY & CO., Cincinnati, O.

J. A. FAY & CO., CINCINNATI, OHIO. Patentees and Manufacturers of all kinds of PATENT WOOD-WORKING MACHINERY of the latest and most approved description.

WAREN'S AMERICAN TURBINE is acknowledged the best finished, the simplest constructed, and the greatest water-saving wheel in the market.

R. BAILL & CO., SCHOOL STREET WORCESTER, MASS. Manufacturers of Woodworth's, Daniel's, and Gray & Wood's Planers, Sash Moulding, etc.

THE DAVIS BOLT-HEADER - THIS simple and durable Bolt-Header has the unqualified approval of over thirty of the first mechanics of our railroad shops.

COMPLETE SETS OF DRAWING INSTRUMENTS, fine finish, from \$2.25 per set to \$10 per set for sale by JAMES W. DEWEY & CO.

TAYLOR, BROTHERS & CO.'S BEST YORKSHIRE IRON - This Iron is of a Superior Quality or locomotive and gun parts, cotton and other machinery.

PATENT SHINGLE, STAVE, AND BARREL MACHINERY, comprising Shingle Mills, Heading Mills, Stave Cutters, Stave Jointers, Shingle and Heading Jointers, Heading Rounders and Planers, Equalizing and Cut-off Saws.

ANDREWS'S PATENT PUMPS, ENGINES, etc. CENTRIFUGAL PUMPS, from 90 Gal. to 40,000 Gals. per minute capacity.

SHIELD & SONS BARRE MASS. Builders of Improved Patent Lever and Screw setting Portable Circular Saw Mills. Prices low. Send for Circular.

WANTED - AGENTS, \$150 PER month, everywhere, male and female, to sell the Genuine Common Sense Family Sewing Machine, the greatest invention of the age.

MALT EXTRACT - The Undersigned either wishes a Partner, or will sell his Patent Right for the manufacture of Malt Extract.

WANTED - MEN TO SELL BY SAMPLE, ANDREWS'S GAS GENERATOR. Price \$1. Can be attached to any lamp, makes the best gas light in use from Caron Oil, convenient as a candle.

IRON PLANERS, ENGINE LATHES, Drills, and other Machinists' Tools, of Superior Quality, on hand and finishing.

OXY-HYDROGEN STEREOTYPONS, OXY-CALCIUM STEREOTYPONS, DISSOLVING LANTERNS, MAGIC LANTERNS, Etc., Etc.

10,000 AGENTS WANTED, IN every TOWN, COUNTY, and STATE, to sell Toplit's Patent Perpetual Lamp Wick.

IMPORTANT TO MANUFACTURERS and Inventors - SMITH & GARVIN, No. 3 Hague street, New York, Machinists and Model Makers, are now ready to make proposals for building all kinds of Light Machinery, Manufacturers' Tools, Models, etc.

BULLARD & PARSONS, HARTFORD, Conn., are prepared to furnish Shafting of any size and length, in large or small quantities.

PORTABLE STEAM ENGINES, COMBINING the maximum of efficiency, durability, and economy with the minimum of weight and price.

FREDERIC H. BETTS, ATTORNEY AND COUNSELOR, ADVOCATE IN PATENT AND COPYRIGHT CASES.

ANDROO JOHNSON - His Western Trip and Comic Life. By Naaby. 40 large Engravings. It is rich, rare, and easy.

IMPORTANT TO IRONMASTERS. FLYER'S PATENT HEATING STOVES for Blast Furnaces are recommended as the best and most efficient that have hitherto been used.

NITRO-GLYCERIN - Parties requiring the above article in quantity - say 100 lbs. per day - are invited to correspond with the subscriber.

FOR CUTS AND PRICES OF WOOD-WORKING MACHINERY AND MACHINISTS' TOOLS, send to us and be particular and say for what purpose tools are wanted.

H. VAN DE WATER'S CELEBRATED TURBINE WATER WHEEL - This celebrated wheel has been thoroughly tested by the side of the best wheels - claimed to be - in the country.

CUTLERY MACHINERY made by THOMAS & CO., Worcester, Mass.

GRINDSTONES OF ALL SIZES MANUFACTURED BY STEARNS, HALETT & PEEBLES, herea, Cuyahoga Co., Ohio.

LEE'S PATENT MOLDING MACHINES The Subscriber is building three different styles and sizes of his celebrated four-sided machines.

STEAM BOILERS - One or Two Wagon-top Boilers, return flues, and vertical tubes, suitable for a large Distillery, Brewery, Steamboat, etc.

PATENT RIGHT FOR SALE - HENDERSON'S AUTOMATIC HINGE FOR WINDOW SHUTTERS.

STEAM ENGINE FOR SALE - AT ROchester, N. Y. A second-hand steam engine, good as new, in perfect running order.

MESSRS. STEPTOE, McFARLAN & CO., GENTLEMEN - Inclosed you will please find check for One Thousand Dollars (\$1000), which is in full for the two Engine Lathes last shipped to us.

MOSES G. WILDER, West Meriden, Conn. Draftsman, Machinist, and Manufacturer of all kinds of fine Machinery.

TURBINE WATER WHEELS! REYNOLDS'S PATENT SWEEPS THE FIELD! New Improvements - Low Prices - Does not Clog; Has no Complications of Gates or Costly Flume Works.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE HARRISON BOILER - A SAFE STEAM BOILER - This new Steam Generator combines essential advantages in Absolute Safety from explosion and in cost and cost of repairs.

FRICSSON CALORIC ENGINES OF GREATLY IMPROVED CONSTRUCTION - Ten years of practical working by the best of these engines in use, have demonstrated beyond cavil their superiority.

JUDSON'S GOVERNORS, MALLEABLE CASTINGS, SAW GUMMERS, CARRIAGE AND MACHINE BOLT, BARK MILLS.

IMPORTANT. MOST VALUABLE MACHINE for all kinds of irregular and straight work in wood, called the Variety Moulder and Planing Machine.

JUST PUBLISHED - THE INVENTOR'S and MECHANIC'S GUIDE - A new book upon Mechanics, Patents, and New Inventions.

OLIVERS - Olmsted's Improved Spring Top The spring cannot be set or injured by pressing upon it to expel the oil.

JENKINS'S PATENT COMPRESSION GLOBE VALVE For Steam, Oil, Water, etc. The bottom of the Valve is provided with an improved, durable, slightly elastic, rubber disk.

CAN I OBTAIN A PATENT? - For Advice and instructions address MUNN & CO., 37 Park Row, New York.

PLATINUM LABORATORY - H. M. RAYNOR - Office, 745 Broadway, New York.

GOULD MACHINE COMPANY, Of Newark, N. J., and 102 Liberty street, New York.

PORTABLE AND STATIONARY Steam Engines and Rollers, Circular Saw Mills Mill Work, Cotton Gins and Cotton Gin Materials.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

CHARLES A. SEELY, CONSULTING and Analytical Chemist, No. 26 Pine street, New York. Assays and Analyses of all kinds.

SETS, VOLUMES AND NUMBERS. Entire sets, volumes and numbers of Scientific American (Old and New Series) can be supplied by addressing A. B. C., Box No. 773, care of MUNN & CO., New York.

BUERK'S WATCHMAN'S TIME DETECTOR - Important for all large Corporations and Manufacturing concerns - capable of controlling with the utmost accuracy the motion of a watchman or patrolman.

GROVER & BAKER'S HIGHEST PREMIUM ELASTIC Stitch Sewing Machines, 436 Broadway, N. Y.

\$200 A MONTH IS BEING MADE by Ladies and Gentlemen. Send for our free Catalogue containing Samples and Prices.

THOMAS BARRACLOUGH & CO., MANCHESTER, ENGLAND, HECKLING, SPINNING, LAYING, and other Machinery for the Manufacture of ROPE LINES, CORD, TWINE, FISHING LINES, etc.

TWENTY-FIVE PER CENT OF THE cost of Fuel saved annually by the use of Hair and Wool Fat, as applied and for sale by JOHN ASHCROFT, 50 John street, New York.

FOR DANIEL'S PLANING MACHINES, Car Mortising, Boring Machines, Car Turning Machines, Car Planing and Beading Machines, etc., address (117) J. A. FAY & CO., Cincinnati, Ohio.

WOOD & MANN STEAM ENGINE CO.'S CELEBRATED PORTABLE STEAM ENGINES, from 4 to 35 horse-power. Also, PORTABLE SAW MILLS.

FOR ENGINE BUILDERS' AND STEAM Fitters' Brass Work, address F. LUNKENHEIMER, Cincinnati Brass Works.

WHEELER & WILSON, 625 BROADWAY, N. Y. - Lock-stitch Sewing Machine and Buttonhole do.

PATENT POWER AND FOOT-PUNCHING PRESSES, the best in market, manufactured by N. C. STILES & CO., West Meriden, Conn.

WROUGHT-IRON WELDED TUBE of all sizes, for Steam, Gas, or Water purposes. Brass work, etc.

MICROSCOPES, MICROSCOPIC OBJECTS, Spy-Glasses, Opera-Glasses, Marine and Field-Glasses, Stereoscopic Views, and Lenses of all sizes and focal. Made and for sale by JAMES W. QUEEN & CO., 921 Chestnut street, Philadelphia, Penn.

FOR LAW'S PATENT SHINGLE AND Heading Machine, the simplest and best in use; Stave Cutters, Jointers, and Equalizers; and GREENWOOD'S Heading Machine, etc.

LABORATORY OF INDUSTRIAL CHEMISTRY, Directed by Prof. H. D. SEARCE, Chemist, United States Commissioner to the Exposition at Philadelphia.

WOOD, LIGHT & CO. - MANUFACTURERS of Machinists' Tools and Machinery, Hammers, Lathes, etc.

PRESSURE BLOWERS. PRESSURE BLOWERS - FOR CUPOLA. Furnaces, Forges, and all kinds of Iron Works.

OIL! OIL! OIL!!! For Railroads, Steamers, and for machinery and turning, FRASE'S Improved Engine Oil and Car Oil, is endorsed and recommended by the highest authority in the United States and Europe.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

THE CELEBRATED "SCHENCK" WITH NEW AND IMPORTANT IMPROVEMENTS, Manufactured by the SCHENCK MACHINE CO., MATTAWAN, N. Y.

CHEMICAL LABORATORY AND CONSULTING BUREAU, Washington, D. C., under the direction of Prof. J. H. COMPTON, Chief Chemist to the Department of Agriculture.

AMERICAN CHEMICAL LABORATORY, New York. Practical advice given and success guaranteed to chemical technologists, manufacturers, agriculturists, dyers, printers, brewers, etc.

Improved Meat and Vegetable Chopper.

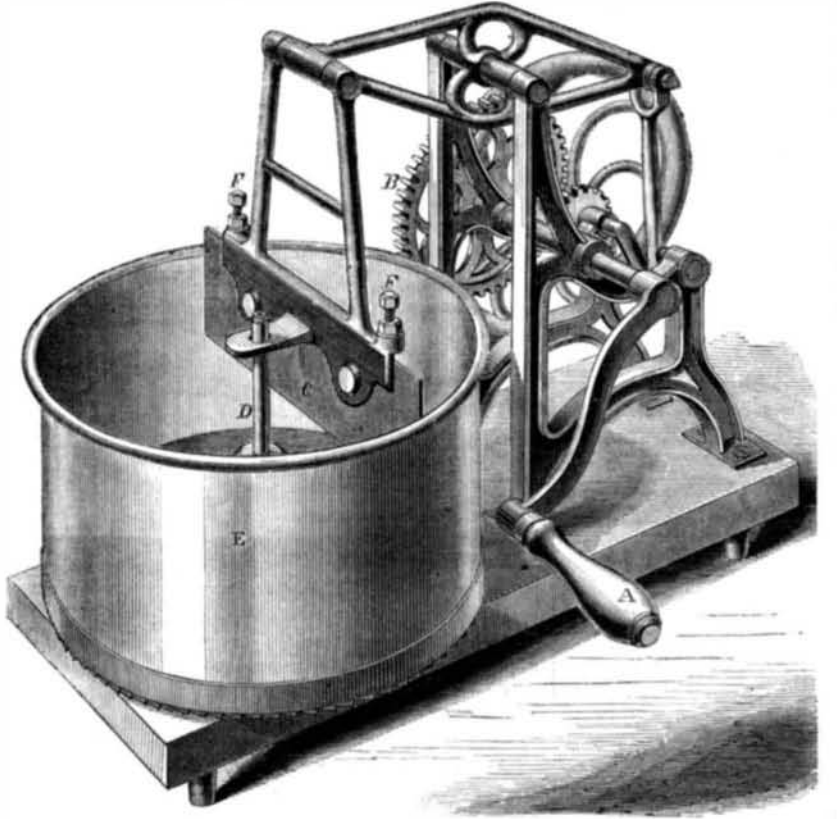
Not at the holidays alone, but at many other times, the business of mincing meat and vegetables is one which must engage the attention of the cook. Many object to the machines which grind instead of cutting, believing the process detrimental to the material to be eaten, and the use of the hand chopping-knife is wearisome and exhausting. The engraving represents one of those machines intended to obviate this labor and to insure a thorough and even chopping of the food.

As will be seen by the engraving, the contrivance is a simple machine secured to a wooden platform, which can be moved about or fastened permanently to a table. By turning the crank, A, the large gear, B is revolved, giving motion, by a pinion, to another crank on a shaft carrying a balance wheel.

To this crank is attached a connecting rod jointed to one end of a walking beam, to the other end of which is secured the knife, C, which has a reciprocating vertical movement guided by the fixed stud, D. The receptacle, E, is of tin or any convenient material, with a wooden bottom, and turns on the stud, D. The under outside edge of this vessel is a ratchet, by which it is rotated one tooth at every upward stroke of the knife, by a long pawl connected with a short crank on the shaft carrying the balance wheel. The difference between the large gear, B, and the pinion, gives four complete strokes to the knife, C, at every revolution of the handle, A. The knife may be adjusted, as it is shortened by grinding, by

means of bolts passing through holes in the iron knife-frame and slots in the knife, C, and also by adjustable set screws, F.

The operation of the machine may be easily understood by a reference to the engraving. It appears to be well adapted to the purpose intended. The machines are built of different



STARRETT'S MEAT AND VEGETABLE CHOPPER.

sizes, for families, restaurants, hotels, butchers, and bakers. It was patented May 23d, 1865, by L. S. Starrett, of Newburyport, Mass., at which place they are manufactured by L. S.

Starrett & Co., to whom, or to Maxwell & Payson, 257 Front street, New York city, apply for rights to vend and manufacture.

Whitworth Ordnance.

Some time ago we described and illustrated Mr. Whitworth's plan for compressing steel immediately after its being run into molds for the manufacture of cannon, hollow projectiles, and various other articles. Another patent has since been added to those previously taken out by Mr. Whitworth, and experiments are now being made at the Charlton street Works for perfecting this improved treatment of steel in making ordnance. A hydraulic press, capable of exerting a pressure of 2,000 tons, has been laid out for this manufacture. The steel manufactured at the Charlton street Works is all made in pots, and melted in coke furnaces; but the introduction of Siemens' gas furnaces is now under consideration, and will in all probability be effected at an early date. The results of experiments hitherto made of casting steel under great pressure, or rather of compressing steel in its liquid state, have been most satisfactory. The entire absence of air bubbles and spongy parts in the metal, and the strength of the steel so produced, give to these castings the same nature and character which steel acquires by the process of hammering or rolling. The precise method of this manufacture and the plan by which it is carried out is being kept secret as yet, until the first stages of experiment and study shall have been passed through.—Engineering.

In connection with the explanations and illustrations of the philosophy of waterspouts, lately given in the SCIENTIFIC AMERICAN, our readers will be interested in notices of three of these phenomena, from the Great Basin between the Rocky Mountains and the Sierra Nevada. Two of them are very recent. A waterspout burst on the city of Austin, Nevada, flooding the main street to such an extent as to destroy a number of houses. Another in El Dorado Cañon swept away large piles of wood and several wood-choppers with them. About two years ago, a waterspout in Esmeralda county, in the same state, burst upon a travelling carriage containing three persons, killing two of them outright, destroying the carriage, and fatally injuring one of the horses. These occurrences are characteristic of the country, having left their traces every where in the wild work of torrents among the hills.

Advertisements.

A limited number of advertisements will be admitted in this page on the following terms:— Seventy-five cents a line, each insertion, for solid matter; one dollar a line when accompanied with engravings.

FOOT LATHES FOR AMATEURS.— From \$40 upward. Circulars sent free to any address. DANIEL GOODNOW, JR., No. 4 Faneuil Hall Square, Boston, Mass.

EUROPEAN AGENCY for the EXHIBITION AND SALE OF AMERICAN PATENTS AND MANUFACTURES. BLANCHARD & MCKEAN] Will attend personally and promptly to all business relating to the interests of American Inventors and Manufacturers in France and England. For Circular and further information address 82 Boulevard de Sebastopol, Paris, France. Or, Post-office box 365, Washington, D. C. 3 408*

TO PIN MANUFACTURERS.— NO MORE TROUBLE FROM PINS COMING OUT. A New Pin, Patented Dec. 11, 1866. For description and cut see Scientific American, No. 3, page 38. The Letters Patent allow a variety of forms, so that pins can be made to be withdrawn by fingers only, without injury to the fabric. or, if designed for permanent fastenings, can be made so as to be removed only by tearing out. The entire rights for the United States, or rights for districts, will be sold. Being a monopoly for seventeen years, it will pay the purchaser an immense profit. The Patent will be sold to the highest bidder. Offers may be made to, or information obtained from, the attorney of the inventor. WM. D. HARDEN, Attorney-at-Law, Savannah, Georgia. 3 208]

\$30,000 FOR A FORTUNE, AND NO DECEPTION. Address HARRIS BROTHERS, Boston, Mass. 3 4 8*

GLYNN'S ANTI-INCRUSTATION Powder for boilers of Steam Engines. References:— Prof. Chandler, N. Y. School of Mines, Columbia College, New York. For information apply to C. D. FREDERICKS, 587 Broadway. 2 408*

LE VAN'S IMPROVED GOVERNOR, with BALANCE VALVE. The simplicity of design and ease of construction, and small amount of material employed, allows this Governor to be offered at a lower price than any good Regulator now made. Circular and Photographs sent on application, and entire satisfaction guaranteed in all cases. W. BARNET LE VAN, 24th and Wood streets, Philadelphia. 1 8* os]

DRAWING INSTRUMENTS OF EVERY DESCRIPTION— Swiss, German Silver, and French TRANSITS, LEVELS, SURVEYOR'S COMPASSES, etc., DRAWING PAPER, WATER COLORS, etc., And all supplies for Engineers, Architects, and Machinists. Sets of Instruments furnished for schools, and cases made to order. A Priced and Illustrated Catalogue sent free by mail on application. WILLIAM J. McALLISTER, 728 Chestnut street, Philadelphia, Pa. 14 os]

THE EUROPEAN INVENTOR'S AGENT CO., 96, Newgate street, London, E. C. Mr. T. BROWN, C. E., Manager. This Company undertake the purchase, sale, or licensing of Patents in any part of the World, on Commission only. No business as Agents for procuring Letters Patent undertaken. Information for Inventors or Owners of Patents, or for those desirous of purchasing Patents, will be freely given. The Offices of the Company are at the disposal of Inventors and those interested in Inventions; also, for the convenience of those having no London address, their letters can be addressed to the offices. Further particulars on application. 1 14 os]

HOW TO OBTAIN PATENTS.

The first inquiry that presents itself to one who has made any improvement or discovery is "Can I obtain a patent?" A positive answer can only be had by presenting a complete application for a Patent to the Commissioner of Patents. An application consists of a Model, Drawings, Petition, Oath, and full Specification. Various official rules and formalities must also be observed. The efforts of the inventor to do all this business himself are generally without success. After a season of great perplexity and delay, he is usually glad to seek the aid of persons experienced in patent business, and have all the work done over again. The best plan is to solicit proper advice at the beginning.

If the parties consulted are honorable men, the inventor may safely confide his ideas to them: they will advise whether the improvement is probably patentable, and will give him all the directions needful to protect his rights.

We (MUNN & CO.) have been actively engaged in the business of obtaining patents for over twenty years—nearly a quarter of a century. Many thousands of inventors have had benefit from our counsels. More than one-third of all patents granted are obtained by us.

Those who have made inventions and desire to consult with us, are cordially invited to do so. We shall be happy to see them in person, at our office, or to advise them by letter. In all cases they may expect from us an honest opinion. For such consultations, opinion, and advice, we make no charge. A pen-and-ink sketch, and a description of the invention should be sent, together with stamps for return postage. Write plainly do not use pencil nor pale ink, be brief.

All business committed to our care, and all consultations, are kept by us secret and strictly confidential. Address MUNN & CO., 37 Park Row, New York.

In Order to Apply for a Patent, the law requires that a model shall be furnished, not over a foot in any dimensions, smaller, if possible. Send the model by express, pre-paid, addressed to Munn & Co., 37 Park Row, N. Y., together with a description of its operation and merits; also, remit the first Government and stamp fees, \$16. On receipt thereof we will prepare the patent papers and send them to the inventor for examination, signature, and oath. Our charge for preparing the drawings and all the documents, with attendance to the business before the Patent Office, is \$25 for the simplest cases, up to \$35, and more, according to the labor involved. Our charges are always very moderate. When the patent is allowed, \$30 more, is paid the Government, making a total of \$61 for the simplest case.

The model should be neatly made of any suitable materials, strongly fastened, without glue, varnish or painted. The name of the inventor should be engraved or painted upon it. When the invention consists of an improvement upon some other machine, a full working model of the whole machine will not be necessary. But the model must be sufficiently perfect to show, with clearness, the nature and operation of the improvement.

New medicines or medical compounds, and useful mixtures of all kinds, are patentable.

When the invention consists of a medicine or compound, or a new article of manufacture, or a new composition, samples of the article must be furnished, neatly put up. Also, send us a full statement of the ingredients, proportions, mode of preparation, uses, and merits.

The average time required to procure a patent is six weeks. We frequently get them through in less time; but in other cases, owing to delay on the part of the officials, the period is sometimes extended to two or three months, and even more. We make a special point to forward our cases as RAPIDLY AS POSSIBLE.

Quick Applications.—When, from any reason, parties are desirous of applying for Patents or Caveats, in GREAT HASTE, without a moment's loss of time, they have only to write or telegraph us specially to that effect, and we will make special exertions for them. We can prepare and mail the necessary papers at less than an hour's notice, if required.

Caveats.—A Caveat gives a limited but immediate protection, and is particularly useful where the invention is not fully completed, or the model is not ready, or further time is wanted for experiment or study. After a Caveat has been filed, the Patent Office will not issue a patent for the same invention to any other person, without giving notice to the Caveator, who is then allowed three months time to file an application for a patent. A Caveat, to be of any value, should contain a clear and concise description of the invention, so far as it has been completed, illustrated by drawings when the subject admits. A Caveat consists of the Petition, Oath, Specification, and Drawings. The Government fee for filing a Caveat is \$10, and our ordinary charge for preparing the documents and attend to the whole business from \$10 to \$15. In order to file a Caveat the inventor needs only to send us a letter containing a sketch of the invention, with a description in his own words, and fees, \$25 in full. Address MUNN & CO., 37 Park Row, N. Y.

Preparatory Examination.—This consists of a special search, made at the U. S. Patent Office, Washington, through the medium of our house in that city, to as-

certain whether, among all the thousands of patents and models there stored, any invention can be found which is similar in character to that of the applicant. On the completion of this special search, we send a written report of the result to the party concerned, with suitable advice. Our charge for this service is \$5.

If the device has been patented, the time and expense of constructing models, preparing documents, etc., will, in most cases, be saved by means of this search. If the invention has been in part patented, the applicant will be enabled to modify his claims and expectations accordingly.

Parties desiring the Preliminary Examination are requested to remit the fee (\$5), and furnish us with a sketch or photograph, and a brief description of the invention.

Where examination is wanted upon more than one invention, \$5 for each must be sent, as each device requires a separate, careful search. Address MUNN & CO., 37 Park Row, New York.

Other Information.—If you wish for general information as to the rules and law of Infringements, Reissues, Claims, etc., state your inquiries clearly and remit \$5. Opinions, in special cases of infringement, cost more.

If you wish for advice in regard to assignments, or upon the rights of parties under assignments, joint ownership in patents, contracts, or licenses, state the points clearly upon which information is wanted, and remit \$5. If you desire to know in whose name the title to a Patent is officially recorded, at Washington, or if you wish for an abstract of all the deeds of transfer connected with a Patent, send us the name of the patentee, date of patent, etc., and remit \$5.

If you desire a sketch from the drawings of any Patent, and a description from the specification, give the patentee's name, date of the patent, and remit \$5.

If you desire to have an assignment of a Patent, or any share thereof, or a license, made out in the proper manner, and placed on record, give us the full names of the parties, residences, title of the invention, etc., and remit \$5.

Inventions or shares thereof may be assigned either before or after the grant of a patent. Agreements and contracts in regard to inventions need to be recorded, like assignments, at Washington. For any agreement or contract that you wish prepared, remit \$5.

Remember that we (MUNN & CO.) have branch offices in Washington, and have constant access to all the public records. We can therefore make for you any kind of search, or look up for you any sort of information in regard to Patents, or Inventions, or Applications for Patents, either pending or rejected, that you may desire.

Infringements.—The general rule of law is, that the prior patentee is entitled to a broad interpretation of his claims. The scope of any patent is therefore governed by the inventions of prior date. To determine whether the use of a patent is an infringement of another, generally requires a most careful study of all analogous prior patents, and rejected applications. An opinion based upon such a study requires for its preparation much time and labor.

Having access to all the patents, models, public records, drawings, and other documents pertaining to the Patent Office, we are prepared to make examinations, and give opinions upon all infringement questions, advice as to the scope and ground covered by patents, and direct with vigor any legal proceedings therewith connected. Address MUNN & CO., 37 Park Row, N. Y.

The expense of these examinations, with written opinion, varies from \$25 to \$100 or more, according to the labor involved.

Reissues.—A reissue is granted to the original patentee, his heirs, or the assignees of the entire interest, when, by reason of an insufficient or defective specification, the original patent is invalid, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention.

The general rule is, that whatever is really embraced in the original invention, and so described or shown that it might have been embraced in the original patent, may be the subject of a reissue.

Reissued patents expire at the same time that the original patent would have done. For this reason, applications for reissue will be acted upon immediately after they are completed.

A patentee may, at his option, have in his reissue a separate patent for each distinct part of the invention complete in his original application, by paying the required fee in each case, and complying with the other requirements of the law, as in original applications.

Each division of a reissue constitutes the subject of a separate specification descriptive of the part or parts of the invention claimed in such division; and the drawing may represent only such part or parts.

One or more divisions of a reissue may be granted, though other divisions shall have been postponed or rejected.

In all cases of applications for reissues, the original claim is subject to re-examination, and may be revised and restricted in the same manner as in original applications.

But in all such cases, after the action of the Patent Office has been made known to the applicant, if he prefers the patent originally granted to that which will be allowed by the decision of the Office, he has the privilege of abandoning the latter and retaining the old patent.

The documents required for a Reissue are a Statement, Petition, Oath, Specification, Drawings. The official fee is \$30. Our charge, in simple cases, is \$30 for preparing and attending to the case. Total ordinary expense, \$60. Reissues may be applied for by the owners of the patent.

By means of Reissue, a patent may sometimes be divided into several separate patents. Many of the most valuable patents have been several times reissued and sub-

divided. Where a patent is infringed and the claims are doubtful or defective, it is common to apply for a Reissue with new claims which specially meet the infringement.

On making application for Reissue, the old or original patent must be surrendered to the Patent Office, in order that a new patent may be issued in its place. If the original patent has been lost, a certified copy of the patent must be furnished, with affidavit as to the loss. To enable us to prepare a Reissue, the applicant should send to us the original patent, replete as stated, and give a clear statement of the points which he wishes to have corrected. We can then immediately proceed with the case. Address MUNN & CO., 37 Park Row, New York. We have had great experience in obtaining Reissues.

Disclaimers.—Where, by inadvertence, accident, or mistake, the original patent is too broad, a Disclaimer may be filed either by the original patentee, or by any of his assignees.

Extensions.—The applicant for an extension must file his petition and pay in the requisite fee at least ninety days prior to the expiration of his patent. There is no power in the Patent Office to renew a patent after it has once expired. The preliminary business to extend a patent should be commenced at least six months prior to the expiration.

Many valuable patents are annually expiring which might readily be extended, and, if extended, might prove the source of wealth to their fortunate possessors.

All documents connected with extensions require to be carefully drawn up and attended to, as any failure or discrepancy or untruth in the proceedings or papers is liable to defeat the application.

In case of the decease of the inventor, his administrator may apply for and receive the extension; but no extension can be applied for or granted to an assignee of an inventor. Parties desiring extensions will address MUNN & CO., 37 Park Row, N. Y.

MUNN & CO.,

No. 37 Park Row, New York City. Office in Washington, Cor. F and 7th streets. The SCIENTIFIC AMERICAN, a large and splendid weekly newspaper, profusely illustrated, devoted to Inventions, Science, and the various Arts, is published by MUNN & CO. at \$3 a year. Specimens gratis.

Scientific American.

ENLARGED FOR 1867.

This is the oldest, the largest and most widely circulated Journal of its class now published. It is the constant aim of the Editors to discuss all subjects relating to the industrial arts and sciences, in a plain, practical, and attractive manner.

All the latest and best Inventions of the day are described and illustrated by SPLENDID ENGRAVINGS prepared expressly for its columns by the first Mechanical Engravers in the country.

It would be impossible within the limits of this Prospectus, to enumerate the great variety of subjects discussed and illustrated. A few only can be indicated, such as Steam and Mechanical Engineering, Fire-arms, Mechanics' Tools, Manufacturing Machines, Farm Implements, Hydraulic Engines, Wood-working Machines, Chemical Apparatus, Household Utensils, Curious Inventions, beside all the varied articles designed to lighten the labors of man in the Shop, Factory, Warehouse, and Household.

The SCIENTIFIC AMERICAN has always been the Advocate of the Rights of American Inventors. Each number contains a weekly list of Claims of Patents, furnished expressly for it by the Patent Office, together with notes descriptive of American and European Patented Inventions.

Patent Law Decisions, and questions arising under these laws, are fully and freely discussed by an able writer on Patent Law.

Correspondents frequently write that a single recipe will repay them the whole cost of a year's subscription. With such advantages and facilities, the columns of the SCIENTIFIC AMERICAN are of special value to all who desire to be well informed about the progress of Art, Science, Invention, and Discovery.

Published Weekly, two volumes each year, commencing January and July.

Per annum.....\$3 00 Six month.....1 50 Ten copies for One Year.....25 00 Canada subscriptions, 25 cents extra. Specimen copies sent free. Address

MUNN & CO., Publishers, No. 37 Park Row, New York City