

## DECISIONS OF THE COURTS.

## United States Circuit Court—Southern District of New York.

PATENT MAGIC RUFFLE—ELM CITY COMPANY vs. GEO. H. WOOSTER.

WOODRUFF, Circuit Judge.

The testimony in this case is very greatly conflicting or very much of it is not entitled to credit, either because, in my opinion, the witnesses exaggerate their asserted achievements, erroneously state the time, or describe inventions which did not in fact embrace the patented invention, or refer to crude or imperfect endeavors to imitate the "Magic Ruffle", which appears to have been popular at the time when, according to the evidence, many were seeking to compete with those engaged in its manufacture.

After a laborious examination of the evidence my conclusions are: First, the patentees were the first inventors of the plaiting attachment mentioned in the patent described in the bill of complaint, and in which the suit is founded.

Second, the defendant has infringed the rights of the complainant, as assignees of the said patent, as alleged in the bill of complaint, by the use of a plaiting attachment embracing the said patent invention.

Third, the said patent is not void on the ground that there was any fraudulent misrepresentation in the specification annexed to the patent. No such fraudulent misrepresentation is proved. Nor is the patent void upon the ground that the invention was not the joint invention of the patentees. The testimony proves such joint invention most clearly and distinctly.

There was no such sale of the patented machine or apparatus two years before the application for a patent as renders the patent void. An agreement for the transfer of the invention for the joint benefit of the inventors and those who will advance money for the manufacture or use of the machines invented, not carried into execution, and unaccompanied by any public use of the machine, but being prospective in its character, not consummated until within the said two years, does not in my opinion affect the validity of the patent.

Fourth, I find no ground upon which to hold that a corporation, created by the law of a State without the limits of this federal judicial district may not maintain a suit here for an infringement of their rights committed here.

These conclusions necessarily require a decree in favor of the complainant, according to the prayer of the bill.

It is obvious that the defendant has introduced testimony which was not admissible as a defence, relating to the knowledge and use of the invention by persons not named in the answer, to some or all of which objection was made by the complainant on the taking of testimony. I have not, however, regarded the objection in my consideration, because the briefs submitted do not involve a motion to strike out such testimony, and my conclusions are therefore founded on all the proofs.

Let a decree be entered for the complainant awarding the relief prayed for.

## Inventions Patented in England by Americans.

[Compiled from the Commissioners of Patents' Journal.]

From July 19 to July 21, 1873, inclusive.

DISTRIBUTING FLUIDS, ET.—C. G. Wheeler (of Chicago, Ill.), London, Eng.

LIFE PRESERVER.—E. R. Coyswell, New York city.

SPINNING WOOL.—J. G. Avery, New York city.

## NEW BOOKS AND PUBLICATIONS.

CHIMNEYS FOR FURNACES, FIRE PLACES, AND STEAM BOILERS. By R. Armstrong, C. E. No. 1 of "Van Nostrand's Science Series." Price 50 cents. New York: D. Van Nostrand, 23 Murray and 27 Warren Street.

We are pleased to see an issue of handbooks on practical subjects commenced with so excellent a specimen as the work before us. The chimney has always been the builder's puzzle and the occupier's torment; and some practical, well digested reasoning on the subject, by a thoroughly capable writer, will be found in this neat little volume. The reputation of the publisher will guarantee the continuance of the series with similarly excellent treatises.

THE CANADIAN ORNITHOLOGIST, a Monthly Record of Information relating to Canadian Ornithology. Edited by Dr. A. M. Ross. Price 15 cents per month. Toronto: Willing and Williamson.

An excellent little magazine, entertaining to many who live beyond the borders of the British Provinces. It appears to be written by contributors well versed in the most interesting branch of natural history.

THE ART OF SHOOTING ON THE WING, with Hints and Recipes for the Use of Sportsmen. By An Old Game-keeper. Price 75 cents. New York: The Handicraft Publication Company, 37 Park Row.

A practical and well written handbook, especially adapted for the use of young sportsmen, as it gives sensible advice on the manipulation of fire arms and the rules and etiquette of the field.

## Recent American and Foreign Patents.

## Improved Metallic Clasp.

Charles Marshall, Lockport, N. Y.—The object of this device is to furnish ready and convenient means for holding or supporting drawers or overalls when a button fails, for hanging up hats and other articles of clothing, or for supporting ladies' dresses, etc. The clasp is attached to the article by putting the teeth against the cloth to be fastened, when the slide is turned one side, and then back over the teeth. There is a slight spring to the slide, which holds it in place and makes the attachment secure. As manufactured for use, the clasp does not exceed the weight of an ordinary metal button.

## Improved Sewing Machine.

John Albert Smith, Columbus, Ohio.—This improvement consists in a new combination of machinery, by which rotary motion is imparted to the shuttle. A rotary disk for carrying the shuttle carrier is mounted on the end of the pulley shaft and is arranged with its face, to which the carrier is pivoted, in the plane of the needle, so that the carrier will pass the needle close to its side, suitably for passing the shuttle through the loop. The carrier is connected to it by a pin which is fitted into the disk so as to turn therein, and is connected by a universal joint with a rod, which is similarly jointed to the frame so that it can swing with the pin around the axis of the shaft, but not turn itself, and thus prevent the carrier from turning as it swings around with the disk.

## Improved Harvester.

Elgin M. Awrey, Calstar, Canada.—This invention has for its object to furnish an improved device by means of which the table or finger bar may be raised, when desired, by the advance of the machine, thus dispensing with the ordinary levers and keeping the machine free for the operation of the self rake.

## Improved Hog Trap.

Aaron B. De Vore, Talkington Township, Ill.—This invention is an improvement in a crib or stocks for holding or confining hogs. The bottom inclines downwardly toward the headlock and falls considerably below the front beam, so as not to afford a foot rest by which the hogs can push back and pull out of the lock. For small hogs a secondary pen or crib is arranged in the large one to contract the space suitably for them.

## Improved Washing Machine.

John W. Conroy, Terry, Miss.—By suitable construction, by adjusting a nut, a jointed rubbing board may be held up against a corrugated cylinder with any desired pressure, so that the said cylinder may carry the clothes along the rubbing board, and at the same time rub them, thus washing the clothes quickly and thoroughly.

## Improved Rotary Hog Scraper.

Robert Fyfe, New York city.—This invention consists of a rotary scraper with blades adapted for scraping off the hair, bristles, etc., of scalded hogs, with handles by which to hold it when it is revolving, and a jointed driving shaft worked by a pulley or other driving gear. It is very simple in construction and said to be useful and convenient in action.

## Improved Self Closing Faucet.

Alexander Brinckmann, New York city.—This invention relates to improvements on faucets of the kind having swivel discharge tubes, which tubes, when in one position, are closed and stop the outflow of water, while in the other position they communicate with the water supply, are open, and allow the water to flow out. Whenever it is desired to have the water flow out, the horizontal tube is turned by hand to open the aperture, and is held so as long as necessary; but as soon as this tube is let go, the pressure of water against another piston immediately causes the vertical tube to swing closed.

## Improved Manufacture of Wadding.

Andrew Chambers, Providence, R. I.—It is proposed to manufacture waddings of old delaines, and other part cotton and part wool goods, by picking the stock into sufficiently fine and soft particles to form a soft fine lap, and then passing it directly from the machine in which it is made through a bath composed of a solution of resin, caustic soda, and also coloring matter. The solution saturates the lap throughout and secures the fiber so as to make as good and strong an article as the ordinary long fiber and yet does not injure the fiber in respect to the light, crispy nature which it is necessary for all good waddings to possess. It is also proposed to apply a dressing of plaster of Paris to the surfaces of the wadding as it passes out of the bath, to glaze it and prevent it from sticking, by passing it between a couple of boxes containing the plaster, and brushes for throwing it on the wadding as it passes along. The claims cover both the manufactured article and the mechanism by which the wadding is made.

## Improved Clothes Dryer.

Almeron Graves, Roscoe, Ill.—The central vertical standard upon which the device for drying clothes revolves has feet pivoted to a sliding socket collar and braces. The braces are also at their upper ends pivoted to a similar socket collar, which moves loosely upon the vertical standard. The lower ends of the feet are made fast to the ground by suitable pins driven through loops. The number of braces is equal to the number of feet employed. A series of semi-vertical brace arms, which at their base are pivoted to a socket collar similar to those above described, forms a base for the drying apparatus. These brace arms are also at their upper ends pivoted to an equal number of radial arms which also are at their inner ends pivoted to another similar socket collar. The whole series of arms are provided with a network of clothes lines. Cords pass over pulleys, having their outer ends attached to one of the radial arms at opposite sides of the dryer, and are used to fold up the dryer like an umbrella.

## Improved Device for Manufacturing Jewelry Bases.

Shubael Cottle, New York city.—This invention consists in a peculiarly constructed former combined with a die bannisher and mandrel. A blank has a bottom and barrel at a sharp angle to each other. The former is made in sections. The female die is made with a detachable bottom for convenience in removing the blank, and with a shoulder in its cavity, leaving a space around the barrel of the blank, when said blank is inserted in said die. A plunger is made with a square edge, and a recess having a rounded angle. The former is placed in the blank and the blank is inserted within the shoulder of the die. The plunger is then brought down upon the edge of the barrel of the blank, turning the said edge inward over the former, producing the blank. The blank is now placed in a hollow mandrel, and while the mandrel is being rotated in a lathe, a burnisher is held against the turned over edge, which is thus pressed down upon the former until it has a sharp angle. The blank is now taken out of the mandrel, and the middle section of the former is removed, and subsequently the others, after which the bottom is cut out so as to produce a blank which consists of three curved strips, two being horizontal, and the other, which connects them, vertical.

## Improved Tobacco Transplanter.

Clement E. Bates, South Deerfield, Mass.—This invention has for its object to furnish an improved machine for transplanting tobacco plants. In using the machine, one of the pans, a number of which have been previously supplied with plants, is placed upon the upper platform, the handle is grasped by the left hand, and a lever pushed forward so that a plant is dropped through a tube to rest in a cup formed by plates. The instrument is then pressed down upon the ground and the lever drawn to the rearward. This forces the plates outward and edgewise through the soil, and at the same time moves the paddles inward and sidewise through the soil, pressing said soil around the roots of the plant. The instrument is then raised from the ground, the lever pushed forward, another plant inserted in the tube, and so on.

## Improved Vise.

Daniel S. Coe, New Hartford, Conn., assignor to Chapin Machine Company, of same place.—This invention has for its object to furnish an improved bench vise. Upon the inner ends of screws are secured small gear wheels, the teeth of which mesh into each other, so that by turning the left screw the left screw will be turned in the opposite direction, and the two screws will work together to carry the movable jaw back and forth, exactly parallel with the stationary jaw.

## Improved Dress Protector.

Adolph Herrmann, New York city.—This invention is designed to furnish an improved dress protector which shall be so constructed that when an edge becomes worn it may be reversed, and thus made to do double service. The invention consists in folding the material longitudinally so that its edges may meet or overlap each other along the central line, plaiting it transversely, and securing the plaits by two rows of stitching about equally distant from the edges of the protector and from each other.

## Improved Iron Railway Tie.

Charles W. Gulick, New Brunswick, N. J.—This invention furnishes an improved cross tie and fastening for railroad rails, which shall support and firmly secure the rails in place. The invention consists in wrought iron ties for railroad tracks, having transverse flanges formed solid upon them to form grooves to receive the rails, and having holes formed through them to receive the clamps.

## Improved Dies for Plain Finger Rings.

George Kremetz, Newark, N. J.—This invention is an improved device for enlarging and finishing plain finger rings. The lower or stationary die, which has a hole formed through it of such a size as to allow a plunger to pass through it freely. In the upper end of the hole is formed a rounded recess to receive the ring. The plunger is made tapering or conical, and with its upper part of exactly the size required for the ring. Upon the upper end of the plunger is formed a tenon to enter a hole in the lower end of the holder, by which the said plunger is forced through the ring. In using the device the ring is placed in the recess of the die, and the plunger is forced through it by the holder, bringing the ring to exactly the required size, and leaving it perfectly true. The same inventor has also patented an improved mode of making plain finger rings without a joint. The invention consists in two sets of dies for forming a jointless ring from a solid ring plate. The half round ring plate is laid, rounded side downward, in the flaring upper end of the cavity of a die, and the plunger brought down upon it, which forces it into the lower part of the cavity of the die, giving it a somewhat conical form, and producing the conical ring. The latter is placed, larger edge downward, in the cavity of the die, and the tapering part of the plunger forced into it, which forces the smaller edge of the ring outward, while the taper of the cavity of the die forces its longer edge inward, and produces a ring convex upon its inner surface and half round upon its outer surface. The ring may then be finished, enlarged, and sized in the ordinary manner.

## Improved Pencil Case.

Samuel S. Rembert, Memphis, Tenn.—This invention is an improvement in calendar pencil cases; and consists in providing the case with a perforated cap and a scale of lineal measurement, whereby the same is adapted to be applied to pencils of any length and to be used as a rule or measure in determining the length or other dimension of any object.

## Improved Machine for Sawing Laths.

Alexander Rodgers, Muskegon, Mich.—This invention consists of a gang of circular saws on a horizontal arbor, in different sizes, with an inclined table and feed rollers so arranged that lath and other like stuff may be sawn obliquely to the sides, to produce bevel edged strips by saws on a horizontal arbor. The invention also consists of one or more feed rollers made slightly conical, and provided with spiral ribs arranged to force the piece to be sawn to the guide and keep it there, as well as to feed it to the saws.

## Improved Glove Fastening.

Horace P. Carver, Binghamton, N. Y.—This invention is intended to produce a new fastening for kid and other gloves, and it consists of a pin supported firmly by the projecting parts of a plate attached to one side of the glove, which catches between coiled parallel springs of a plate attached to the other side of the glove, so that they, in combination with the action of the supporting side plate of the pin on the ends of the springs, firmly hold the parts together.

## Improved Adjustable Scaffold.

John S. Tilley, West Troy, N. Y.—For adjusting the scaffolds of wall plasterers and ceiling decorators, high or low, according to the height of the room, it is proposed to have short trestle heads mounted on three legs, with a vertically adjusting standard in each head having a fastening to hold it at any height, and having a couple of plates clamped to it at each side near the top, so that they can be readily adjusted to form, with the standard, a T head whereon the scaffold boards may rest flatwise, when, as in the case of decorating ceilings, it is desirable to build broad scaffolds by laying the scaffold boards or planks, extending from one trestle head to another, and arranged edgewise to support the scaffold boards. In order to pack the benches the legs are jointed to them so as to fold over on the sides. When in use the ends of the legs bear against the walls or shoulders of the notches, and so transmit the force directly from one to the other without injury to the joints.

## Improved Box Scraper.

Abraham Tester, Brooklyn, N. Y., assignor to himself and John Cunningham, of same place.—This invention has for its object to construct a scraper which is used on packing boxes, ships, etc., with a movable blade, so that the same may be sharpened when worn, and adjusted to a suitable angle for use in any desired position. The invention consists in pivoting the blade to the bifurcated handle of the instrument and in connecting it therewith by means of a pivoted brace, so that it can be swung into suitable position and rigidly held therein.

## Improved Invalid Bedstead.

John Robinson, Madison Station, Miss.—This invention consists of an improved bedstead, which is so constructed that the head part of the bed bottom may be raised and lowered gently and gradually to any desired extent, so as to change the position of the person lying upon the bed. To the head parts of the slats is secured a cross bar, to the lower side of the ends of which are attached sockets to receive the upper end of rods, the lower ends of which are pivoted to nuts, through which pass the end parts of another rod, upon one half of which is cut a right screw thread, and upon the other half a left screw thread, so that when the latter rod is turned in one direction the nuts may move toward each other; and when the said rod is turned in the other direction, the said nuts may move from each other, thus lowering and raising the head part of the bed bottom as may be desired.

## Improved Metal Window Sash.

John D. Moran, New York city.—This invention consists in making the oval headed T shaped moldings for show windows by first forming an oval or semi-elliptical bar of lead with a groove in the flat side for the base of the head of the molding, by forcing the lead through a die of suitable form in the manner of forming lead tubes. Second, in drawing the silver plated cover of sheet metal upon the said lead bar, by forcing a flat strip of the covering metal and the lead bar through a die plate together. Third, in soldering the lead bar which constitutes the vertical portion of the T to the lead bar by heating one edge of the iron bar in a bath of solder and tinning it at the same time, and then laying the tinned and heated edge in the groove of the lead bar, whereby they become united. The iron bar heating the lead bar sufficiently to cause the union of the lead with the tinned surface of the iron when they become cool. Fourth, in making a cheap bar or molder for inferior work, where the plated molding will be too expensive, by uniting the lead and metal bars, as above described, without the plated metal covering for the lead bar.

## Improved Mirror Holder.

William Simpson, Berlin, Canada.—The object of this invention is to supply a neat and simple device by which a mirror may be suspended at any desirable inclination toward the wall. The invention consists of a V shaped holder, of strong wire, bent forward and attached to the sides of the frame of the mirror in such a manner that the same may be inclined at pleasure.

## Improved Apparatus for Scraping Hogs.

Orison McNeill and Peter W. Dalton, Jersey City, N. J.—This invention consists in an arrangement of carrying rollers with scraping blades and a chain, the last being used for drawing the hogs over the rollers and between the blades.

## Improved Heating Stove.

Jacob L. Ring, Mt. Pleasant, Ill.—This invention consists in a novel mode of combining the main parts of a heating stove. A central upright tube extends from beneath the stove hearth into the hot air chamber, which is surrounded by the drum, leaving a space between the two, from which the smoke and gaseous products escape to the chimney. On top of the air chamber is a perforated cylinder covered by a cap, surrounded by a perforated ring. A lug is on this ring, by means of which it is turned to allow the discharge of air from the chamber. The air tube may extend up from the hot air chamber and conduct a current of heated air to any part of the dwelling. It is surrounded by the fuel in the fire box, and an active current, through it and through the chamber, is produced by the intense heat to which it is exposed.

## Improved Paper File.

John F. Winter, Brooklyn, N. Y.—The object of this invention is to furnish an improved paper file for binding letters, bills, newspapers, pamphlets, sheet music, etc., in a simple, elegant, and quick manner, without tearing, defacing, or otherwise injuring the papers or documents. This invention consists of a square, round, or polygonal piece over which strings are longitudinally stretched in suitable manner, which, in connection with lateral binding strings placed over a grooved or recessed part of the main piece and a thread and needle, bind the sheets in a manner similar to that of binding books.

## Improved Cotton Gin Knife Roller.

Thomas H. Rushton and William Dobson, Bolton, England.—This invention consists in a cotton gin knife roller provided with blades having two or more angles arranged in line with each other in the direction of the shaft, their inclined parts being parallel to each other.

## Improved Sap Protector.

Henry C. Cole and Edgar D. Sabin, Wallingford, Vt.—The object of this invention is to provide means for protecting maple sap, as it is caught in buckets from the tree, from snow, rain, leaves, etc., and it consists in a screen or cover attached to the tree and to the sap bucket, and covering the latter.

## Improved Toy.

Laurance Bryan, New York city.—This invention is a toy for children, which will furnish not only amusement but exercise; and it consists in what is known as the "child's wheel runner" combined with a whistle, the wheel being made to operate and blow the whistle as the child propels it.

## Improved Apparatus for Moistening the Atmosphere.

James G. Garland, Biddeford, Me.—For moistening the atmosphere in weaving and other rooms, it is proposed to employ an atomizer, air chamber, and condensing pump, a water cistern, reservoir, and an automatic apparatus for supplying the cistern and the atomizer from the reservoir regularly and uniformly, to be expelled to the atmosphere by the air from the air pressure chamber, in which it is condensed by the pump. In combination with the reservoir and cistern is a filter to separate from the water any solid particles that might obstruct the pipes of the atomizer also to purify it. The pump will, in practice, be run by power, and as many atomizers will be applied to one air chamber and cistern as may be demanded by the capacity of the room to be charged.

## Improved Machine for Cutting Tobacco.

Francis S. Kinney, New York city.—This invention has for its object to furnish an improved machine for cutting tobacco, the same being constructed with a single knife working upon inclined bearings, and operating with a sliding shear cut upon the tobacco, which is placed in a box with sides at right angles and bottom parallel with said knife.

## Improved Die for Making Watch Case Caps and Backs.

Silas C. Lewis, Brooklyn, N. Y.—This invention consists of a die of the usual form and material, but having, instead of a flat surface, an elevation, which gradually increases from the circumference toward the center adjusted to the elasticity of the gold and the thickness of the covers, producing a perfectly flat even plane, more accurate than if spun out. It is an important improvement in the manufacture of gold caps and backs to watches.

**Improved Double Acting Force Pump.**

John P. Flanders, Vergennes, assignor to himself, Eli B. Hayes, of same place, and H. M. Mitchell, Burlington, Vt.—The cylinders are arranged on each side of a wide bed frame, and between them suction pipes are arranged, rising vertically from the well and connected to the cylinders by horizontal branches at the upper ends above the check valves. Four discharge pipes rise vertically a short distance above the cylinders, and there continue by curves above the check valves into a discharge box at the bottom, where the check valves are arranged to prevent the back flow. These pipes support the discharge box and the air chamber. For packing the pistons, the barrels in which they work are divided in longitudinal parts with lap joints at the edges, so that they can contract and expand a little without opening seams for the escape of water. A small annular channel surrounds the barrel, in which is maintained a high degree of pressure by water admitted through a pipe connection. To hold the barrel in position and allow them to be free to expand and contract, notches are formed in the shell in the cylinder, and lugs in the barrels, which project into the notches and hold the barrels against the end motion.

**Improved Table Dish Stand.**

Florian Grosjean, New York city.—The essential feature of the invention is a stand or tray for dishes, of which the top or plate is composed of metal with a porcelain cover or enamel, the enamel being to conceal the iron or give it a fine finish, and form the ground work for fine picture ornamentation by the decalcomanic or other process.

**Improved Stop Valve.**

George W. Eddy, Waterford, N. Y.—This invention relates to that class of stop valves in which two disks are arranged to move forward and backward at right angles to the water channel in a chamber through which the channel passes at openings on opposite sides where the seats are formed for the disks, and on which they are caused to press tightly when moved upon them.

**Improved Egg Carrier.**

John A. Beam, California, Mo.—This invention consists of a strong wood box in ten compartments, or tiers of paper cells, adapted to hold an egg upright, on the large end, the cells being formed of a paper cylinder and pasted or otherwise fastened together at the sides. Between each tier of the cells, also between the upper and lower tiers and the box sides, are cushions to soften the shocks. The rows of cells along the sides of each tier are protected from the shocks against the side walls by springs. The sides of the box are provided with projections, which prevent the box from resting on them, so that the eggs are secured against lying on the sides while in transit. Some of the end projections of the case constitute handles for handling it.

**Improved Horse Power.**

William Gillilan, Speier, Minn.—The object of this invention is to furnish a horse power for thrashing grain and other purposes. The cogs of a bed wheel are on the upper side and engage with vertical internal and external gear wheels, which are on a horizontal cross shaft. The power is applied, to a revolving frame attached to the cross shaft by stands, by means of levers. Arms connect the rim of the frame with the central cap. Traverse wheels attached to the frame revolve through slots in the rim of the frame and rest upon the top of the bed wheel, and thus prevent friction. The internal part of the vertical wheels engage with other wheels. The exterior cogs of the vertical wheels engage with the cogs of the bed wheel, and thus impart motion to the central vertical shaft.

**Improved Washing Machine.**

Moses L. Hawks, Kinderhook, Mich.—This invention has for its object to furnish an improved washing machine of that class in which the washing is done by passing the clothes back and forth between rollers, and which shall wash the clothes quickly and thoroughly and without injuring them, and without becoming clogged. A large upper roller is corrugated longitudinally, and to it is attached the crank by which the machine is operated. Four small rollers are placed beneath the large roller. By suitable construction, as the clothes pass in, the upper roller and outer small rollers yield so as to accommodate themselves to the thickness of the clothes. As the latter pass out, the outer small rollers upon that side yield, thus preventing clogging. By proper devices the machine is held in the tub in which it is desired to operate.

**Improved Washing Machine.**

Jacob Sheffer, Deselm, Ill.—In using the machine, the clothes are placed upon a false bottom around a rotating vertical cylinder. The handle is grasped in the left hand to apply pressure, and a vertical roller, held between pivoted bars, to which the handle is attached is revolved with the right hand by means of the crank. The cylinder holds the clothes out so that they will be in proper position to be operated upon by the roller, the flange of the said cylinder pushing the lower part of the clothes in beneath the mass, so that they will be continuously turning over. The outer part of the bottom, as it is rotated by the roller, moves faster than the inner part, so that the clothes will be rubbed as well as pressed.

**Improved Last Block Fastener.**

David Huard, Asnland, Wis.—This invention consists of a clasp-like fastener, pivoted to the main block of the last, which closes over the other block in connection with pin fastenings of the same.

**Improved Water Elevator.**

Sylvester Bennett, New Orleans, La.—This invention consists of a stationary case in the form of a hollow inverted truncated cone, inside of which is a revolving inverted cone with one or more spiral flanges extending from bottom to top, and apparatus for revolving the inner cone for raising water short distances in large quantities, for draining purposes and the like.

**Improved Seed Planter.**

William J. Saffery, Bremen, Ohio.—This invention consists in combining a furrow opener, a seed dropper, a rolling coverer, and a guano or manure dropper, so that, between the seed and the guano, there will always be a small layer of fine dirt to prevent the destruction of the vitality of the seed.

**Improved Pump.**

Charlie D. Rathbone, Belpre, Ohio.—This invention consists of a novel construction and mode of applying a bush or lining of glass or other hard and durable wearing substance in the pump cylinder or stock to sustain the wear of the sucker or pump barrel.

**Improved Bed Bottom.**

Jonathan V. Taylor, La Cygne, Kansas.—This invention consists of two pairs of bars about half as long as the bed, fixed at one end on a transverse pivot at the middle of the bed, one pair extending to the head and the other to the foot, and connecting with cross bars thereat. One cross bar at the head and one at the foot are each connected by several tension straps of strong flexible material arranged above the pivot, and sufficiently short to support the arms and cross bars, and any weight that may be placed on them above the horizontal plane of the pivot. At each end there is a stop bolt which limits the height to which the end may be raised, and thus prevents the other end from falling too low. In connection with the above are the arms provided with springs at the pivot to increase the range of the springing action of the bottom.

**Improved Floor.**

Levi S. Wood, Marion, Iowa.—The object of this invention is to provide means for strengthening floors, roofs, etc., and it consists in truss rods passed through the joists of the floor or rafters of a roof in combination with bridge blocks fitted between the joists on one or both sides of each rod. Nuts on the rod are turned up, giving the rod any required degree of tension, and binding the blocks and joists firmly together.

**Improved Sharpening Machine.**

James P. Kealy and Joseph Bigney, Bridgeport, Conn.—This invention is a machine for dressing lathe centers, and consists of a traversing grinder actuated by an automatic feed screw and placed in a frame adapted for being supported in the tool post of a lathe.

**Improved Equalizing Attachment or Plows.**

David H. King and William M. Hulse, Palmyra, Ill.—This invention consists in an improved metallic loop attachment for holding the equalizing apparatus of a plow, and also in applying a guard bar to the chains used in equalizers.

**Improved Fireproof Shutter.**

Isaac S. Mettler, Jersey City, N. J.—The object of this invention is to protect buildings from fire, and it consists in a metallic shield composed of sliding sections formed of an inner and an outer sheet of metal secured together at top and bottom by plates. The sections are confined in grooves on the inner sides of the casings, each section having grooves of its own. Across the top of the shield, beneath the cap of the cornice, is a shaft having a pulley near each end, over which are cords attached at one end to the lower section and at the other end to a weight. An inwardly projecting flange extends from each section into the groove of the adjacent section, so that, when the lower section is raised, its top strikes the flange of the next above and raises that, and so on, each section being raised by the section below, so that all may be securely packed beneath the cornice and back of the frieze plate. The weights are intended to balance the sections in that position. At night, or whenever there is danger from fire from the burning of adjacent buildings, the shield is drawn down, thus forming a fire protector to the window or door.

**Improved Waste Removing Device for Carding Machines.**

George W. Craner, Darby, Pa.—This invention consists of a brush and an endless carrier for it combined with the burr box of a carding machine, in such manner that it brushes out the burrs, and, by keeping it clear of them, prevents it from filling and the burrs from overflowing upon the main card.

**Improved Insect Destroyer.**

John A. Finney, Nashville, Ohio.—An axle is turned by drive wheels, and by suitable gearing actuates an endless belt which carries the insects forward. From the belt the insects drop into a hopper placed beneath a roller to receive them, and which has a slot or opening in its bottom, through which the insects drop into the angle between the revolving axle and the roller, where they are crushed and drop through an opening in the bottom of the box to the ground. A reel operated by the advance of the machine pushes off the insects. As the reel arms come in contact with the plants, the ends of the hammer handles slip from a stop bar, and the hammer heads are drawn by springs against the reel arms with a sudden blow, knocking the insects from the plants upon the inclined apron whence they pass to the endless belt.

**Improved Dredging and Ditching Machines.**

Hyacinthe Gonnellaz, Vermilionville, La.—In the dredging machine, a bucket wheel and discharging pan similar to those represented in patent of same inventor, No. 130,213, dated August 6, 1872, are arranged so that the wheel mounted at the bow of the boat revolves in a plane at right angles to it, and delivers the earth at one side, and the pan carrying it in the same direction delivers it on the bank of a canal or river. They are by virtue of such arrangement specially adapted for dredging rivers and canals. In this case also the colters used for cutting and loosening up the earth preparatory to the taking of it by the buckets are arranged on the advancing side of the wheel, and so inclined as to draw the boat forward at the same time that they loosen the earth. The ditching machine, the subject of a separate patent, consists of a series of intermittently rotating colters preceding a rotating wheel with spoons or buckets, behind which is a receiving and discharging pan, combined in a portable machine, and provided with operating devices, all so contrived that, as the machine advances along the ground, the cutters loosen and even up the ground, the buckets raise and discharge it into the pan, and the pan discharges it on the bank at one side of the ditch.

**Improved Furniture Spring.**

William T. Doremus, New York city.—This invention has for its object to furnish an improved spring for application to other parts of a chair, spring bed, or other piece of furniture where a yielding connection is required. Upon the lower side of one edge of two plates are formed inwardly projecting flanges, in which are formed a number of holes to receive the screws by which they are secured in place. In the plates are formed holes to receive the bar, which has a pin in a recess formed in the upper side. A rubber block, of any suitable form, is interposed between the plates, through which is a rod which forms the hinge, and which is provided with a nut to regulate the tension of the spring. The same inventor has also patented another form of chair spring which consists in flanged plates, hinged together by a transverse bolt passing through suitable lugs. An india rubber block is placed beneath the axis of the hinge. These are only two patents out of more than one dozen applications, all of which have been granted to Mr. Doremus through the Scientific American Patent Agency within the past five weeks.

# Value of Patents, AND HOW TO OBTAIN THEM. Practical Hints to Inventors.

**P**ROBABLY no investment of a small sum of money brings a greater return than the expense incurred in obtaining a patent even when the invention is but a small one. Larger inventions are found to pay correspondingly well. The names of Blanchard, Morse, Bigelow, Colt, Ericsson, Howe, McCormick, Hoe, and others, who have amassed immense fortunes from their inventions, are well known. And there are thousands of others who have realized large sums from their patents.

More than FIFTY THOUSAND inventors have availed themselves of the services of Munn & Co. during the TWENTY-SIX years acted as solicitors and Publishers of the SCIENTIFIC AMERICAN. They stand at the head in this class of business; and their large corps of assistants, mostly selected from the ranks of the Patent Office: men capable of rendering the best service to the inventor, from the experience practically obtained while examiners in the Patent Office: enables Munn & Co. to do everything appertaining to patents BETTER and CHEAPER than any other reliable agency.

## HOW TO OBTAIN Patents.

This is the closing inquiry in nearly every letter, describing some invention which comes to this office. 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 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.

**How Can I Best Secure My Invention?**

This is an inquiry which one inventor naturally asks another, who has had some experience in obtaining patents. His answer generally is as follows, and correct:

Construct a neat model, not over a foot in any dimension—smaller if possible—and send by express, prepaid, addressed to Munn & Co., 37 Park Row, New York, together with a description of its operation and merits. On receipt thereof, they will examine the invention carefully, and advise you as to its patentability, free of charge. Or, if you have not time, or the means at hand, to construct a model, make as good a pen and ink sketch of the improvement as possible and send by mail. An answer as to the prospect

of a patent will be received, usually, by return of mail. It is sometimes best to have a search made at the Patent Office. Such a measure often saves the cost of an application for a patent.

**Preliminary Examination.**

In order to have such search, make out a written description of the invention, in your own words, and a pencil, or pen and ink, sketch. Send these with the fee of \$5, by mail, addressed to Munn & Co., 37 Park Row, and in due time you will receive an acknowledgment thereof, followed by a written report in regard to the patentability of your improvement. This special search is made with great care, among the models and patents at Washington, to ascertain whether the improvement presented is patentable.

**Rejected Cases.**

Rejected cases, or defective papers, remodeled for parties who have made applications for themselves, or through other agents. Terms moderate. Address Munn & Co., stating particulars.

**To Make an Application for a Patent.**

The applicant for a patent should furnish a model of his invention if susceptible of one, although sometimes it may be dispensed with; or if the invention be a chemical production, he must furnish samples of the ingredients of which his composition consists. These should be securely packed the inventor's name marked on them, and sent by express, prepaid. Small models, from a distance, can often be sent cheaper by mail. The safest way to remit money is by a draft, or postal order, 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.

**Caveats.**

Persons desiring to file a caveat can have the papers prepared in the shortest time, by sending a sketch and description of the invention. The Government fee for a caveat is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address Munn & Co., 37 Park Row, New York.

**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.

A patentee may, at his option, have in his reissue a separate patent for each distinct part of the invention comprehended 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. Address Munn & Co., 37 Park Row, for full particulars.

**Design Patents.**

Foreign designers and manufacturers, who send goods to this country may secure patents here upon their new patterns, and thus prevent others from fabricating or selling the same goods in this market.

A patent for a design may be granted to any person, whether citizen or alien, for any new and original design for a manufacture, bust, statue, alto relievo, or bas relief; any new and original design for the printing of woolen, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture, to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture.

Design patents are equally as important to citizens as to foreigners. For full particulars send for pamphlet to Munn & Co., 37 Park Row, New York.

**Foreign Patents.**

The population of Great Britain is 31,000,000; of France, 37,000,000; Belgium, 5,000,000; Austria, 36,000,000; Prussia, 40,000,000; and Russia, 70,000,000. 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. A large share of all the patents secured in foreign countries by Americans are obtained through our Agency. Address Munn & Co., 37 Park Row, New York. Circulars with full information on foreign patents, furnished free.

**Value of Extended Patents.**

Did patentees realize the fact that their inventions are likely to be more productive of profit during the seven years of extension than the first full term for which their patents were granted, we think more would avail themselves of the extension privilege. Patents granted prior to 1861 may be extended for seven years, for the benefit of the inventor, or of his heirs in case of the decease of the former, by due application to the Patent Office, ninety days before the termination of the patent. The extended time inures to the benefit of the inventor, the assignees under the first term having no rights under the extension, except by special agreement. The Government fee for an extension is \$100, and it is necessary that good professional service be obtained to conduct the business before the Patent Office. Full information as to extensions may be had by addressing Munn & Co., 37 Park Row.

**Trademarks.**

Any person or firm domiciled in the United States, or any firm or corporation residing in any foreign country where similar privileges are extended to citizens of the United States, may register their designs and obtain protection. This is very important to manufacturers in this country, and equally so to foreigners. For full particulars address Munn & Co., 37 Park Row New York.

**Canadian Patents.**

On the first of September, 1872, the new patent law of Canada went into force, and patents are now granted to citizens of the United States on the same favorable terms as to citizens of the Dominion.

In order to apply for a patent in Canada, the applicant must furnish a model, specification and duplicate drawings, substantially the same as in applying for an American patent.

The patent may be taken out either for five years (government fee \$20) or for ten years (government fee \$40) or for fifteen years (government fee \$60). The five and ten year patents may be extended to the term of fifteen years. The formalities for extension are simple and not expensive.

American inventions, even if already patented in this country, can be patented in Canada provided the American patent is not more than one year old.

All persons who desire to take out patents in Canada are requested to communicate with Munn & Co., 37 Park Row, N. Y., who will give prompt attention to the business and furnish full instruction.

**Copies of Patents.**

Persons desiring any patent issued from 1836 to November 26, 1867, can be supplied with official copies at a reasonable cost, the price depending upon the extent of drawings and length of specification.

Any patent issued since November 27, 1867, at which time the Patent Office commenced printing the drawings and specifications, may be had by remitting to this office \$1.

A copy of the claims of any patent issued since 1836 will be furnished for \$1.

When ordering copies, please to remit for the same as above, and state name of patentee, title of invention, and date of patent. Address Munn & Co., Patent Solicitors, 37 Park Row, New York city.

Munn & Co. will be happy to see inventors in person, at their office, or to advise them by letter. In all cases, they may expect an honest opinion. For such consultations, opinions and advice, no charge is made. Write plainly do not use pencil, nor pale ink; be brief.

All business committed to our care, and all consultations, are kept secret and strictly confidential.

In all matters pertaining to patents, such as conducting interferences, procuring extensions, drawing assignments, examinations into the validity of patents, etc., special care and attention is given. For information, and for pamphlets of instruction and advice

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