RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list.

Machine for Drying Grain.—This invention consists in the arrangement of ledges or lugs projecting from the sides of the cast-iron beams which support cast-iron tiles to operate in combination with said tiles, in such a manner that they form a support of the same, leaving the upper surfaces of the beams flush with the upper surface of the tiles, and that by the action of the tiles the beams are prevented from springing, and a cheap and durable platform is produced; it consists also in the arrangement of semi-circular scoops, either rigid or adjustable and moving with their concave side toward that end of the platform over which the grain is to be discharged, in combination with a reciprocating carriage, in such a manner that said scoops, in going forward, stir and move the grain along toward the discharging end of the platform and in going back, the convex sides of said scoops in passing through the grain divert the same laterally and stir it without producing a backward motion of the same. Thos. C. Vice, of New Haven, Conn., is the inventor of this improvement.

Construction of War Vessels.—The prominent object in this invention is to protect a vessel from fatal injury by completely surrounding her vital parts with water. This may be effected either by introducing water into suitable chambers extending over the hull, or by settling the vessel in the water below the sailing draught, when she is to go into action. In practice it is preferred to embrace both methods, the deck being protected by completely covering it with water placed in covered tanks, and the sides by lowering the ship in the water. The lowering of the vessel is effected by the introduction of water into suitable tanks from which it is again expelled when it is desired to elevate the vessel to her sailing draught. The invention further consists in means for imparting steadiness to a submerged or partially submerged vessel, an improved construction of armor for partially submerged vessels, and a device for relieving water chambers of the expansive force caused by the entrance of a projectile. The inventor of this device is E. A. Stevens, of Hoboken, N. J., and the patent bears date January 13, 1863.

Beer-cooler.—This invention consists in the arrangement of a series of semicircular metallic troughs placed at certain distances apart, so as to leave spaces for the air to circulate in, and connected at their ends by similar transverse troughs, in combination with pipes passing through the center of said troughs and leaving a clear channel all around, in such a manner that if beer or other liquid is made to pass through the semicircular troughs and cold water through the pipes, the beer or other liquid is brought in contact with the cold sides of said water pipes in thin strata; and furthermore, the cold air is in contact all around the troughs and passes through between them, and thereby the cooling process is completed rapidly and with an apparatus of comparatively small dimensions. Valentine Haeffner is the inventor of this beer-cooler, and his address is Newburgh, N. Y.

Mode of Cleaning Boilers.—This invention consists in the employment, in combination with a mud well or receptacle below the fire surface of the boiler, of a brush worked by a rod passing through a stuffing-box, for the purpose of sweeping the deposit from over the fire into the well and thereby preventing the burning of the boiler. G. B. McDonald, of Louisville, Ky., is the inventor of this device.

Fulton and Napoleon.

In 1803, when Napoleon was in camp at Boulogne, Fulton wrote to him, offering his invention of the steamboat as a certain means of transporting troops to any part of the English coast without regard to the direction of the wind—an offer which that potentate was disposed to accept, but which, too diffident of his own judgment in so novel a matter, he referred to the Academy of Sciences, by which body it was ridiculed, although Fulton had conducted tolerably successful experiments at Havre and Brest in the previous year. Napoleon therefore gave no more attention to the subject. Fulton also constructed the first submarine boat, and made some experiments with it at Havre. In this he remained under water one hour with three companions, without any communication with the surface, and caused it to move through the water at the rate of a mile and a-half an hour. Such a vessel he also proposed to the French Emperor for destroying English war ships, but, like the steamboat, it was disregarded by Napoleon.

VALUABLE RECEIPTS.

DAMMARA VARNISH.—"Gum Dammara," as it is called, is a resin not a gum. It is employed for making varnish by dissolving it in turpentine. The resin should be first well dried, for if it contains any moisture it will tend to make the varnish opaque. A common way to prepare it is to boil the resin in the turpentine in an open vessel; but if the resin is thoroughly dried, it will dissolve slowly in cold turpentine and form a clear varnish. A good way to prepare it on a large scale, is to use an enameled cast-iron vessel capable of containing about fifty pounds for making twenty-five pounds of the varnish. The dammara resin is put into the vessel in a solid state, the proper quantity of turpentine (five parts to four parts of resin) is then poured in, and the whole put upon the fire. As soon as the boiling begins, the water originally included in the resin is dissipated in the form of vapor, and the resin acquires a softer consistence. When all the water is expelled and the varnish boils quietly, the solution is completed, and the vessel may be removed from the fire. As long as traces of water exist in the varnish, its boiling is attended with a bubbling movement; but as soon as all the water is got rid of, the varnish boils quite quietly. When the varnish is prepared, it is poured through a fine wire sieve, and then allowed to settle sufficiently. If it be desired to give the varnish a tougher consistence, 2 or 3 per cent of good bleached linseed oil (not boiled with oxide of lead) must be added to it before boiling. This communicates great toughness to it.

ALLOY FOR JOURNAL BOXES.—Take seven and a-half pounds of pure copper and melt it in a crucible; then gradually add, in small pieces, ninety-two and a-half pounds of zinc; when this is melted and the two metals thoroughly mixed, the alloy is to be run into molds for journal boxes. A patent was granted May 1, 1855, for this alloy, to Thomas Forth, of Cincinnati, Ohio.

BABBITT METAL.—Take twenty-four pounds of copper and melt it first in a crucible, then add gradually twenty-four parts of pure tin and eight of antimony. Great care must be exercised in adding the tin to the copper. This composition is rendered softer by the use of a greater quantity of tin. It is first run into ingots, then melted and cast to form the journal boxes, &c.

FINE POLISHING POWDER.—Professor Vogel, of England, states that the finest powder for polishing optical glasses and fine metals, is made by calcining the oxalate of iron. It is superior to the common polishing powder for glass made of llxivated colcothar.

CONSOLIDATING CAST-STEEL.—Mr. J. M. Rowan, of Glasgow, proposes to consolidate cast-steel, or metal produced by the pneumatic process, by compressing it whilst still liquid or nearly so, whereby it is rendered much better adapted for subsequent processes.

A HARMLESS green for coloring confectionary may be made as follows:—Take thirty-two parts of saffron and infuse it in seven parts of water, to which add twenty-six parts of the carmine of indigo in fifteen parts of water. The yellow saffron and blue indigo when mixed form a beautiful green color, which will combine with sugar solutions.

A MOST excellent furniture paste is made by dissolving one part resin and one part beeswax in two parts of benzine.

REFINED glycerine is a very suitable lubricator for clockwork. It does not freeze in cold weather.

WITH respect to the impact of projectiles, Sir Howard Douglas has said: "No additional weight of projectile will increase the effect of its impact, the charge of powder remaining unchanged. The ignited powder is the primary force—not the shot."

ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING JANUARY 20, 1863.

Reported Officially for the Scientific American.

*** Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

37,427.—Oil Barrel.—R. N. Allen, Cleveland, Ohio:

I claim the herein-described oil barrel or cask in which the parts are constructed, combined and arranged in the manner and for the purpose set forth, the same being a new article of manufacture.

37,428.—Skate.—G. W. Ansley, Cleveland, Ohio:

I claim the arrangement of the spring, C, stem, E, pivoted or jointed to the runner, adjustable plate, H, and socket, D, substantially as and for the purpose set forth.

37,429.—Hay Rake.—Daniel Armel, Somerset, Pa.:

I claim the combination of the tread-lever, C, with the platform, A, seat, b, and arms, f' f'', substantially as and for the purpose described.

37,430.—Grain-sowing Machine.—J. Bergstresser, Berrysburg, Pa.:

I claim the shape and construction of the spiral scourer, B, with its projections, J, for scouring grain, substantially as described.

37,431.—Paper Shirt Collars.—C. K. Brown, Troy, N. Y.:

I claim a paper shirt collar having the parts at or around the button holes, d, therein, made thicker and stronger than the main portion thereof, by means of a piece or pieces, c, of thin muslin or other suitable strengthening material, pasted or otherwise cemented in or to the layer or united layers of paper constituting the main portion or body of the collar, substantially as here described.

37,432.—Machine for Printing the Addresses on Newspapers.—J. A. Campbell, Milton, Canada West, formerly of Buffalo, N. Y.:

I claim, first, The combination of the levers, E K, bar, L, wheels, I J, sleeve, n, rack, M, sills, A, and a sliding bed-piece, B, whereby the machine is automatically advanced after each depression of the platten by devices independent of the chase.

Second, The combination with an addressing machine, substantially such as described, of the sills or ways, A A, and cross-pieces, a a, adapting the machine to fit over a common chase placed upon a common table and to be moved in a right line from end to end or from side to side of the said chase.

[The distinguishing characteristic of this machine is that it is adapted for use with a chase of common construction and of any size, the machine moving automatically over the type from name to name and being shifted from column to column as required.]

37,433.—Drilling and Screw-cutting Machine.—C. W. Coe, Corunna, Mich.:

I claim the combination of the gearing, D E H, with the screw, K, ratchet, M, adjustable pawl, N, shaft, I, cam, Q, and the moving or rising and falling jaws, S S', all arranged for joint operation, as and for the purpose herein set forth.

[This invention relates to a novel and improved arrangement of parts whereby a very simple and compact machine is obtained for the purpose of drilling and cutting screws, and one by which it is believed several advantages are obtained over those now in use.]

37,434.—Fence.—F. K. Cosgrove and Rudolph Westerman, Fort Wayne, Ind.:

We claim the arrangement of the bill-shaped ends, c, of the braces, B, in combination with chamfered edges of the mortises, d, in the battens, b b', and with gibs, e, keys, f, and anchor stakes, g, all constructed and applied in the manner and for the purpose herein shown and described.

[The object of this invention is to produce a fence that will suit nearly all kinds of localities and soils, one that can be conveniently and cheaply built by a person of ordinary mechanical skill, a portable or permanent fence which does not require the use of posts in its construction, which cannot be easily displaced by frosts or thaws, storms or floods, winds or animals running at large, and which is adapted, by its peculiar structure, alike for prairie as well as timber lands. An engraving and full description of this fence were published on page 80, present volume of the SCIENTIFIC AMERICAN.]

37,435.—Screw Nut.—Lyman Derby, New York City:

I claim the construction of a screw nut, substantially as hereinbefore described, and operating in the manner and for the purposes set forth.

37,436.—Apparatus for Burning Coal Oil for Heating Purposes.—H. W. Dopp, Buffalo, N. Y.:

I claim the distributing plate, A, with solid center, a, and generator, B, or their equivalent, so arranged that the vapor shall escape from one or more small orifices into the unconfined atmosphere, and be arrested by means of the solid part of plate A, or its equivalent, for the purpose of causing its combustion after it is thus arrested, sufficient heat being obtained thereby to keep up continuous vaporization, substantially as described.

I also claim the combination of the crank pin and the cam groove to obtain an up-and-down motion of the graduating valve, C, substantially as and for the purpose herein described.

37,437.—Churn.—J. B. Edgell, E. A. Alexander and H. C. Kellogg, Quasqueton, Iowa:

First, We claim suspending the dasher, F, from the top end of a vertical shaft, C, substantially in the manner and for the purpose herein shown and described.

Second, The arrangement of the central tube, b, fastened to the bottom of the tub, A, in combination with the vertical shaft, C, constructed and operating as and for the purpose herein specified.

[This invention consists in the arrangement of a tube of metal or other suitable material surrounding the vertical shaft, which is firmly fastened to the bottom of the tub and extending up above the surface of the cream in such a manner that the tub is entirely independent of said vertical central shaft, and it can be taken off or replaced whenever desired, without permitting any portion of the cream to escape.]

37,438.—Mode of Raising Sunken Vessels.—P. E. Falcon, Cohasset, Mass.:

I claim my improved process of raising sunken vessels by means of casks or contrivances of like character, the same consisting in arranging the said casks filled with water, on or within a vessel, and with their bungholes downward, as set forth, introducing an air conduit into the bungholes of the casks successively, and forcing air through such pipe and into each cask, and expelling the water of such cask out of the bunghole and with respect to the said air pipe substantially as specified.

37,439.—Combined Washing, Wringing and Mangling Machine.—Thomas Farnsworth, Cleveland, Ohio:

I claim the sections, A B, the beater, Fig. 5, the rollers, J K, wheel, M, and pinion, N, in combination with the table, S, and endless apron, T, when all these parts are arranged and operated as and for the purpose specified.

37,440.—Grain Separator.—John Faulkner, Dansville, N. Y.:

I claim, first, a sheet-metal sieve, A, with apertures, a, arranged in the manner and for the purpose described.

Second, A sheet-metal sieve with apertures, a, in line with the flow of the grain over it, and at right tangles to the movement of the shoe, D, of the fanning mill, in the manner and for the purpose described.

37,441.—Railroad Baggage Check.—F. H. Furniss and F. R. Myers, Cleveland, Ohio:

We claim placing the number or names of stations on baggage checks, in consecutive order, with intermediate or corresponding openings or slots for the insertion of the strap, as and for the purpose specified.

37,442.—Lamp.—Benjamin Garvey, New York City:

First, I claim incombustible wicks for lamps, formed of the materials and in the manner substantially as described in the accompanying specification.

Second, I claim the application to lamps of tubes of glass, glazed pottery, or other such material, which is a bad conductor of heat, and is, at the same time, impervious to the fuel, for the purpose of protecting the wick from the cooling effects of external air, and of confining the heat of the flame, as far as possible, to the wick, in the manner set forth substantially in the accompanying specification.

Third, I claim wick tubes of any suitable materials in imitation of candles or tapers of wax, spermaceti, paraffine, &c., in the manner described in the accompanying specification.

37,443.—Beer-cooler.—Valentine Haeffner, Dobb's Ferry, N. Y.:

I claim the arrangement of the air spaces, a, between the troughs, A, when the latter are used in combination with cold-water pipes, C, substantially in the manner and for the purpose herein shown and described.

37,444.—Surface Condensers.—Peter Hammond, Castleton, N. Y.:

I claim combining the plates, A A, or their equivalents, which constitute the cooling surfaces of the condenser or cooler by means of strips, C C, applied and clamped in their places, substantially as herein set forth.

[This invention consists in combining the plates, or their equivalents, which constitute the condensing or cooling surfaces of the condenser or cooler, by means of wooden or other strips, whereby is obtained, at very small cost, a very effective condenser or cooler which is not liable to leakage.]

37,445.—Drop Press.—Wm. C. Hicks, New York City:

I claim the method of unwinding the hammer belt immediately upon its reaching the requisite elevation by the employment, in combination with the ordinary winding drum, shipping clutch and appurtenances, of auxiliary friction rolls or drums, the whole being arranged to operate substantially in the manner and for the purposes set forth.

I also claim preventing the hammer from rebounding by the means and in the manner hereinbefore described, or in any other manner substantially the same.

37,446.—Machine for Cutting Caoutchouc, &c., into Strips and Threads.—Liveras Hull, Charlestown, Mass.:

I claim my improved caoutchouc-cutting machine, having its several parts constructed and arranged in manner and so as to operate, substantially as described, such machine not only having a single drum or cylinder to support, and a revolving knife to cut a sheet of caoutchouc, as explained, but having machinery for traversing the rotary knife with reference to the drum, and also having machinery for moving such knife toward and away from the drum, as specified,

37,447.—Skate.—Benjamin Irving, New York City:

I claim, first, Actuating the clamp, k i, by means of the system of levers, m n, thereby engaging it and the adjustable clamp, d e, to the boot or shoe, when the whole are combined, arranged and operated substantially as described.

Second, The combination of the especially-adjustable heel clamp, k, with the toggle levers, when arranged and operating substantially as described.

Third, The combination of the toe, side and heel clamps, when adjustable severally and in relation to each other, substantially as described.

37,448.—Bumper and Draw-head Spring for Railroad Cars.—J. C. Jackson, Rochester, N. Y.:

I claim the draw bar, c, and disk, e, in combination with the springs, f and g, and draw box, b, for the purposes and as specified.

37,449.—Watch Case.—Adolph Lange, Glashütte (near Dresden), Saxony:

I claim attaching the bezel for the glass in a hunting-case watch directly to the movement, in the manner and for the purpose substantially as set forth herein.

37,450.—Roof.—Valentine Lasserre, Paris, France:

I claim the combination of the raised portion or boss, made upon the upper or both plates, the screw or bolt, C, the washer, B, the opening in the side washer being closed at the top by a cap, D, or by other means which shall answer the purpose.

37,451.—Carriage Hub.—Charles Leavitt, Cleveland, Ohio:

I claim the cap, I, shoulder, I′, chamber, J, and hole, L, when combined with the pipe box, B, all the parts being arranged and operating as and for the purpose herein set forth.

37,452.—Washing and Wringing Machine.—Joel Lee, Galesburg, Ill.:

I claim the combination of oscillating arms, E, with the rubber, B, the rollers, L, the link, I, and weighted levers, C, all arranged substantially as and for the purposes specified.

37,453.—Belt Fastener.—C. Liebrich and L. Uitting, Philadelphia, Pa.:

We claim the plates, C and C′, and eccentric rollers, B and B′, each roller having a portion of its surface grooved or serrated, and the whole being arranged for application to the two ends of a belt, as and for the purpose herein set forth.

37,454.—Sink.—S. N. Maxam, Shelburne Falls, Mass.:

I claim the combination and arrangement of the top slide grate, A, with the transverse wooden bars, F, and the lower slide grate, B, and the basin, C, and the movable wash-bowl, D, resting in and upon the yoke, E, and sliding upon the rod, G, for the purpose of a sink, and as above set forth.

37,455.—Steam Boiler.—G. B. McDonald, Louisville, Ky.:

I claim the employment, conjointly with the mud well, B, of the boiler, of a brush, C, having an attached rod working through a stuffing box in one end of the boiler, and operating substantially as herein specified for the purpose set forth.

37,456.—Camp Kettle.—J. C. Milligan, Elizabeth City, N. J.:

I claim the peculiar construction of the dished cover or tureen, B, and its arrangement with the kettle, A, and together with the coffee pot, H, sauce-pan, J, frying pan, M, gridiron, h, plates, g, and ration boxes, D E F, in the manner and for the purpose specified.

37,457.—Valve Gearing for Steam Hammers.—Robert Morrison, Newcastle-upon-Tyne, England. Patented in England, Dec. 16, 1859:

I claim, first, The use of a slot link or its equivalent, to operate the valves of steam hammers for the purpose of maintaining the reciprocating motion of the hammer and valve in the same relative direction during any number of strokes if so desired, or when less than the full motion of the valve is required, causing the parts, approaching contact to produce this motion, to move at a less velocity than the hammer, substantially as and for the purpose described.

Second, Connecting the valve or valves of steam hammers to the slot link as described or its equivalent, in such a manner that the whole or any portion of the motion due to the link or its equivalent, may be imparted to the valve or valves, substantially as described and for the purpose specified.

Third, The use of a valve or valves in steam hammers, so connected with the hammer as to be capable of maintaining with it a continuous movement when the hammer and valve are at full stroke, whilst at the same time, the relative positions of the valves and ports may be varied, substantially as and for the purpose specified.

37,458—Making Steel Horse-shoes.—Isaac Peacock, Shortsville, N. Y.:

I claim the combination of the forming die, A A1, having detachable punches and a shifting axis, and the pivoted jaws, D D, having incline planes and shoulders on their outer edges, and the compressor and expander, E E, having the wedge hooks, h h, and holding-down flanches or ledges on the front portions, substantially as described or the equivalent thereof for the purpose set forth.

Second, Making steel horse-shoes of the construction represented by a combination of machine and hand work, substantially as described.

37,459.—Wrench.—Norton Porter, Youngstown, N. Y.:

I claim the slide, E, fitted in the socket, D, of the jaw, C, and provided with a serrated inner surface, h, and an eccentric, c, with a thumb piece, e, attached, in combination with the serrated surface, i, of the shank, A, all arranged as and for the purpose herein set forth.

[This invention relates to an improved wrench of that class in which a sliding jaw is used in connection with a stationary one attached to a shank on which the sliding jaw works. The object of the invention is to obtain a wrench of the class specified, which will be simple in construction, and which will admit of the sliding jaw being readily adjusted in order to apply the wrench to the nut, and to detach it therefrom.]

37,460.—Meat-broiler.—G. B. Ransom, Chester, Conn.:

I claim a meat-broiler constructed substantially as above described, so as to inclose the meat or other article, and broil the same without close contact with the bottom or top of the broiler, substantially as set forth.

37,461.—Car for Carrying Petroleum, &c.—John Scott, Lawrenceville, Pa.:

I claim the employment of a railroad car, A, lined with sheet metal, substantially as herein described for the purpose of carrying on a railroad petroleum or other liquid in the bulk.

And I also claim the arrangement of the partitions, e f, perforated near the bottom with holes, h, in the interior of the car, A, as and for the purpose specified.

[The object of this invention is to arrange a railroad car in such a manner that the same is capable of carrying petroleum or other liquid in the bulk, thereby saving the necessity of carrying the load of the barrels with the liquid, and avoiding the loss occasioned by the leakage of the barrels during the passage.]

37,462.—Machine for Bending Corrugated Sheet Metal.—S. J. Seely, Brooklyn, N. Y.:

I claim, first, The combination of four rollers, corrugated around their circumferences, in a machine for bending corrugated sheet metal into corrugated cylinders, substantially as described.

Second, The arrangement of four corrugated rollers, so that the corrugations of one mesh into the corrugations of another, and all are driven by a positive motion and from a central shaft, substantially as and for the purposes set forth.

Third, The arrangement of the machine, so that the corrugated rollers may be adjusted with respect to one another, and so that the corrugated cylinders may be removed endwise from the rollers, substantially as described.

Fourth, The construction, arrangement and combination of the adjustable parts, B B1 B2 B3, stationary parts, A A1 A2 A3, rollers, C C1 C2 C, rock-shafts, I I′, worms, J J, and segments, K K, substantially as and for the purpose set forth.

Fifth, The combination of one or more movable sections, b c, with the permanent corrugated portions of the rollers surface, the said sections being adapted for finishing large or small casks with a plain flange or chine being invented, substantially as and for the purpose set forth.

37,463.—Raking Attachment for Harvesters.—Isaac B. Snyder, Clay township, Pa.:

I claim the specific arrangement of the inclined planes, O P, for giving the necessary elevation to the sweep rake at each end of its stroke, in combination with the means of holding the rake during its interval of rest, and operating it in the manner specified.

37,464.—Stove for Boiling Sap.—S. B. Spaulding, Brandon, Vt.:

I claim the peculiar air-chamber C, in combination with the stove, A, and boiler, D, the bottom of the latter being embraced by the fire space, E, and flues, whilst its upper part is embraced by the top of the hot-air chamber, substantially in the manner and for the purposes set forth.

37,465.—Seeding Machine.—C. E. Steller, Genesee, Wis.:

I claim, first, The arrangement of one or more transversely adjustable slides, G G1 G*, with two or more sets of holes or apertures, b′ c′ a′ a*, in combination with the seed-distributing roller, E, rotating close under said slide or slides, and provided with adjustable seed-cells, a b c, all constructed and operating in the manner and for the purpose described.

Second, The arrangement of the secondary hoppers, H*, in combination with the main hopper, H, slide, G*, and seed distributing roller, F, constructed and operating as and for the purpose specified.

[This invention, which is covered by three different patents, has been illustrated on page 209, Vol. VII. (new series), Scientific American.]

37,466.—Hydrant.—Richard Stileman, Philadelphia, Pa.:

I claim the sluice valve, D, with its casing, C C′, when combined with and arranged in respect to the stem, A, of a fire-plug as and for the purpose set forth.

37,467.—Apparatus for Stirring and Drying Grain.—Thomas C. Vice, New Haven, Conn.:

I claim, First, The arrangement of the cast-iron tiles, C, forming the platform of a machine for drying grain, &c., in combination with ledges or lugs, a, projecting from the beams, B, as and for the purpose shown and described.

Second, The arrangement of several rows of semi-circular scoops, H, either rigid or adjustable in combination with the reciprocating carriage, E, and tiles, C, all constructed and operating substantially as and for the purpose specified.

37,468.—Brake Mechanism for Carriages.—Lowell Wilber, Putney, Vt.:

I claim the application or arrrangement of the slide bar, G, its spring, H, chain, b, and pulleys, c d, relatively to the perch, E E′, and the rocker bar, C, the front axle, A, and the tongue, J, provided with a draft rod, I, operated by the chain, t, connected with the yoke or bar, L, and going around a pulley, e, as described.

37,469.—Machine for Stirring Lard.—William J. Wilcox, New York City:

I claim the employment or use, for the purpose of stirring lard, of flat perforated dashers, E E′, attached by hinge joints to staves, F F′, which are secured to reciprocating rods, C C′, moving in opposite directions, all constructed and operating substantially in the manner and for the purpose herein shown and described.

[The object of this invention is to execute the operation of stirring lard by steam or other competent power, in place of hand-power usually employed for this purpose.]

37,470.—Extension Ladder.—Frederick Willis, Marathon, N. Y.:

I claim making a hinge joint in the upper section of the ladder so that the part above the joint may be laid on the roof of a house substantially as described.

And in combination with the jointed section I claim the other sections provided with the devices described for raising or pushing them up in succession substantially as described.

37,471.—Manufacture of Soap.—Dudley B. Chapman (assignor to himself and Ebenezer D. Draper), Milford, Mass.:

I claim as an improved manufacture, a soap made in the improved manner herein-before described, viz: of a hot fatty matter or matters and a solution of alkaline silicate combined at one operation without the process of being boiled after the addition of the solution of silicate to the hot fat.

37,472.—Clothes-wringer.—Daniel B. Clement, Milton, Mass., assignor to himself and Daniel A. Schermerhorn, Boston, Mass.:

I claim, first, Raising or lowering the journals of the lower roll, B, for the purpose of applying or releasing the pressure, in the manner substantially as set forth.

Second, I claim moving the bearings, d, by the same power which opens or closes the clamps, D, substantially as described.

37,473.—Pitman.—Freeman Graham (assignor to Ralph Emerson, Jr.), Rockford, Ill.:

I claim a pitman composed of a cast-iron head to sustain friction, and a wrought iron arm to resist strains, when constructed and combined substantially in the manner described.

37,474.—Cultivator.—Charles W. S. Heaton (assignor to Jabez I. Piggott and H. Rentchler), Belleville, Ill.:

I claim, first, A cultivator frame, folding and expanding vertically on the plan of a parallel rule, substantially as and for the purpose described.

Second, The combination of the slotted beams, B B, slotted links, O O, and vertically folding and expanding parallel rule frame substantially as and for the purposes described.

Third, The combination of the elevated cultivator frame, A A1 A2 A3, clutch pulley, H, or its equivalent, propelling wheels, E, cross shaft, F, and pendent cultivator beams, Q′, substantially as and for the purposes set forth.

Fourth, The combination of the ratchet wheel, lever pawl and brake with the pendent cultivator beams substantially as and for the purpose set forth.

Fifth, The combination of the lever, M, with the pawl, brake, ratchet wheel, and pendent cultivator beams substantially as and for the purpose set forth.

Sixth, The combination of the swinging lever, P, and pendent cultivator beams in a machine operated substantially as herein described.

Seventh, Guards or poles, 6, in combination with a back yoke, 8, as set forth or the equivalent thereof.

Eighth, The poles, 6, when applied and used for the purpose set forth.

Ninth, The back yoke, 8, when applied and used as and for the purpose set forth.

Tenth, In a cultivator for cultivating growing crops and which employs pendent beams, Q′, and a verucally expanding and folding parallel rule frame, I claim the combination therewith of the adjustable standard, 3, and adjustable brace, 4, made in two pieces and with a loose joint, substantially in the manner and for the purpose described.

Eleventh, The arrangement together on the same machine of the ratchet wheel, K, the brake, N, and foot and hand levers, M L I, and P, all combined as shown and described.

37,475.—Press.—John Kuebler (assignor to J. I. Piggott and Henry Rentchler), Belleville, Ill.:

I claim the construction of a press or other similar mechanical power in such manner that the screw and nut may be alternately revolved, and when thus revolved, the connection between the follower and the screw will automatically adapt itself thereto, substantially as and for the purposes set forth.

37,476.—Jib and Stay Connection.—John E. Seavey (assignor to himself and George E. Torrey), Kennebunkport, Maine:

I claim my improved jib and stay connector, the same consisting of the hinged annulus, B, and the shackle, A, constructed, arranged and combined together in manner and so as to operate as specified.

37,477.—Casks and Barrels for Oil.—Abel Thompson, Brooklyn, N. Y., assignor to himself and Daniel Richards, New York City:

I claim lining a barrel or cask for petroleum or coal oils with sheet metal, said lining setting against the interior of the barrel or cask for the purposes and as specified.

I claim the metal screw bung hole, c, attached to the cylinder, a, and passing through the staves for the purposes specified.

And I claim the wings, e e, attached to the cylinder, a, and running between the staves for the purposes specified.

I also claim the staves formed as segments of a cylinder, tapering on the outside, and receiving the wooden heads and the hoops to form a barrel or cask as set forth, in combination with an interior lining, whereby said barrel or cask is adapted to contain coal oil, as specified

37,478.—Wash-basin Faucet.—Darius Wellington (assignor to Cornelius Wellington), Boston, Mass.:

I claim the improved basin faucet, as constructed with the leakage intercepting chamber, a, and its conduit, b, arranged within the standard, A, and with respect to the joint of the movable nozzle, B, and the plug, c, substantially as specified.

And in combination with the leakage intercepting chamber, a, and its outlet, b, arranged on the stand, A, of the faucet as specified, I claim the auxiliary intercepting chamber, e, or its equivalent, and the conduit, g, or its equivalent in the turning nozzle, B, the whole being arranged to operate together, substantially as and for the purpose or objects as herein before set forth.

37,479.—Axle.—Harmon G. Weibling, Denver City, Colorado:

I claim the peculiar construction of my axle boxes or thimbles with the flanges, H R, oil chamber, F, and aperture, l, when connected with a spiral groove, terminating in a canal in which are placed friction rollers, e, the whole combined and operating as described.

37,480.—Carriage Wheel.—Harmon G. Weibling, Denver City, Colorado:

I claim my peculiar method of constructing the axle boxes or thimbles, and attaching them to the axles, by means of the gutta-percha packing, A, and screws, when the boxes or thimbles are made to taper as described, having a canal lined with Babbits metal, in which rollers, e, are placed, the whole used in construction with the strap, d, on the underside of the axle, and the bolt, j, the friction rollers, spiral groove and lubricator, all as described and set forth.

REISSUE.

1,387.—Loom.—Alexander Frey, New York City. Patented May 7, 1861:

I claim, first, The arrangement of the plate, a, carrying the spools or cobs in combination with thread-guides and with the let-off rollers of a loom constructed and operating substantially as and for the purpose herein shown and described.

Second, The combination of the plate, a, with the guide plate, b, applied to a loom substantially in the manner and for the purpose specified.

Third, The arrangement of the rollers, d d, and g g, two or more at the front, and two or more at the rear of a loom, connected together by an endless chain or its equivalent or without such, and causing the warp threads and the fabric to progress regularly through the loom as the weaving is performed, substantially in the manner herein set forth.

Fourth, The arrangement of the drivers, t, and levers, u, acted upon by the cams, 10, substantially in the manner and for the purposes specified.

Binding the "Scientific American."

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

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

The price of binding in the above style will be 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, 37 Park Row New York.

IMPORTANT TO INVENTORS.

PATENTS FOR SEVENTEEN YEARS.

MESSRS. MUNN & CO., PROPRIETORS OF THE SCIENTIFIC AMERICAN, continue to solicit patents in the United States and all foreign countries, on the most reasonable terms. They also attend to various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court. Interferences, Opinions relative to Infringements, &c. The long experience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, has rendered them perfectly conversant with the mode of doing business at the United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.

THE EXAMINATION OF INVENTIONS.

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

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

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

HOW TO MAKE AN APPLICATION FOR A PATENT.

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

The revised Patent Laws, enacted by Congress on the 2d of March, 1861, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to SEVENTEEN years, and the Government fee required on filing an application for a patent is *reduced* from **$30** down to **$15**. Other changes in the fees are also made as follows:—

On filing each Caveat	$10
On filing each application for a Patent, except for a design	$15
On issuing each original Patent	$20
On appeal to Commissioner of Patents	$20
On application for Re-issue	$30
On application for Extension of Patent	$50
On granting the Extension	$50
On filing a Disclaimer	$10
On filing application for Design, three and a half years	$10
On filing application for Design, seven years	$15
On filing application for design, fourteen years	$30

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

During the last seventeen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the inventors throughout the country, we would state that we have acted as agents for at least TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees at home and abroad. Thousands of inventors for whom we have taken out patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the inventors whose patents were secured through this office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive offices, and we are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

CAVEATS.

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

ASSIGNMENTS OF PATENTS.

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

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

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

REJECTED APPLICATIONS.

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

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

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York.

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

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

Notes and Queries

J. H. P., of N. Y.—The hair hygrometer consists of a human or other long hair prepared by immersion in a solution made with soda and slacked lime. One extremity of it is fastened to a hook and the other end is attached to a small weight to keep it stretched. The hair passes over a small brass pulley on the axis of which is a pointer that moves over the face of a dial. When the surrounding atmosphere is moist, the hair is elongated by absorbing an additional quantity of moisture; the counterpoise then descends and turns the pulley which moves the index hand. A solution of common salt and lime is a good hygrometric preparation, and a piece of cotton cord will answer the same purpose as a hair. With respect to the utility of barometers, we have seen several that were of no more use than a piece of wood. Their utility depends upon the accuracy of their construction.

B. and B., of Wis.—Galvanized iron is not a non-conductor of heat. The oxides of zinc and copper are poisonous. Tinned iron pans are better than zinced iron pans for concentrating sorghum sirups. Vacuum copper pans heated with steam are employed in all our large sugar refineries.

L. W. A., of N. Y.—In heating iron wire from the freezing to the boiling point of water—212 Fah—it expands 1-812th of its length. It expands and contracts uniformly. Zinc is the most expansible of all metals; a rod of it expands 1-323rd of its length in being heated 180 degrees. Two distinct inventions cannot be secured under one patent.

J. S. Q., of Mass.—Smiles's "Lives of the Engineers" is an English publication, not republished here so far as we know.

A. R., of N. Y.—G. P. Putnam, No. 532 Broadway, this city, is the publisher of Ruttan's work on the "Ventilation of Buildings."

W. H., of Ill.—Among the very first telegraphs constructed was Alexander's, which had a separate wire, as you propose for each letter of the alphabet. It would be far too expensive to construct and operate lines with such a number of wires.

L. W., of Mass.—We cannot give you much light upon the subject of frictional gearing for the reason that very little is known concerning their practical operation. There is no earthly reason to our thinking why they should not work unless it be that they absorb more power than toothed wheels; this would hardly seem possible. As you can readily understand our time is too much occupied to devote any considerable portion of it to researches bearing exclusively upon one point. The only way in which information can be obtained in regard to the efficacy of these agents is to experiment carefully. This we hope to see done, and we wil gladly publish any information we receive on the subject.

L., of Pa.—If you were to give your invention to the Government, it would be taken no notice of, unless it were brought to the notice of the War Department by some person of influence, and then it would be unwise to trust to the authorities for remuneration. Your only chance of making anything by your invention is to get some person of capital and influence interested with you by giving him a good share, take a patent and have a gun made for testing before the proper officers, and then if satisfactory be ready to execute such orders as you might obtain.

J. S., of Ohio.—A lense is not suitable to place in the wall of your dark cellar for obtaining light. Use good common window glass.

T. F., of Ind.—There is no first-class work on millwrighting extant. Since the publication of Oliver Evans's work, H. C. Baird, of Philadelphia, has published "Hughes's American Miller," which may answer your purpose.

Lieut. P., of Va.—Your apparatus for disabling guns is altogether too cumbrous and costly. A patched round shot would answer just as well as it, and they are frequently used for the purpose. Something that can be used quickly and carried easily is what is required.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, January 21, to Wednesday January 28, 1863:—

P. B., of N. Y., $26; R. E., of N. Y., $26; W. M., of N. Y., $26; J. F. T., of N. Y., $26; W. L. F., of N. J., $40; J. B., of N. Y., $26; D. J. S., of N. Y., $20; D. L. D. G., of N. J., $45; E. Van H., of Mass., $20; J. G., of N. Y., $20; H. B., of N. J., $20; A. B., of N. J. $30; J. G. H., of N. Y., 20; L. B., of N. Y., $15; J. B.. of N. Y., $41 F. T., of N. Y., $25; E. B, of France, $20; M. B. D., of Pa., $41; E. M., of N. Y., $20; G. A. W., of Vt., 15; J. J., of Mass, $20; G. S., o N. Y., $15; L. K., of Mass., $20, A. C., of Va., $45; H, S. S., of N. Y., $20; C. W. H, of Mass, $66; S. S. W., of Pa., $67; L. R., of N. Y., $22; G. W. A., of Mass, $10; W. B. A., of O., $15; T. J. H., of O., $15; L. B., of Wis., $15; G. H. S., of Iowa, $20; J. & D. S., of Wis., $15; J. H., of N. Y., $22; J. A. A., of Conn., $10; J. E., of Conn., $25; M. D. H., of N. Y., $12; J. R., Jr., of Mass., $10; J. P. E., of Pa., $30; L. H. O., of N. Y., $15; F. D., of R. I., $25; J. C. C., of Pa., $20; J. H., of Ill., $25; W. B., of Conn., $15; G. F. C., of Mass, $15; J. C. P., of N. Y., $25; H. W., of Cal., $25; J. A. W., of Wis., $15; T. & N., of N. Y., $25; J. F. L., of N. Y., $25; G. C. B., of Ill., $10; A. M. H., of Cal., $30; F. W. G., of N. Y., $150; C. H. H., of C. W., $15; A. L., of N. J., $15; G. S. A., of N. Y., $34; E. J. W., of N. Y., $15; I. L., of N. Y., $25; T. H. C., of N. H., $25; W. J. R., of N. S., $15; C. R. S., of N. H., $15; G. M., Jr., of Ill., $25; M. A. D., of Mich., $25; J. R., of Minn., $15; A. P., of N. Y., $15; W. E. E., of N. Y. $26; B. & H., of N. Y., $26; S. A. Co., of N. Y., $392; S. & M., of Ind., $15.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, January 21, to Wednesday, January 28, 1863:—

P. B., of N. Y.; R. E., of N. Y.; W. M., of N. Y.; J. F. T., of N. Y.; W. L. F. of N. J.; J. B., of N. Y.; M. B. D., of Pa.; S. S. W., of Pa.; G. M. Jr. of Ill.; T. H. C., of N. H.; I. L., of N. Y.; J. M. Y., of N. Y.; J. C. P., of N. Y.; J. F. L., of N. Y.; T. and N., of N. Y.; H. W., of Cal.; E. S., of N. Y.; J. H., of N. Y.; W. J. C., of England; J. H., of Ill.; J. A. A., of Conn.; J. E., of Conn.; S. W. B., of N. Y.; H. and B., of Conn.; B. and H., of N. Y.; W. H. H., of Mich.; M. D. H., of N. Y.

Back Numbers and Volumes of the Scientific American

VOLUMES I., II., III., IV., V. AND VII. (NEW SERIES) complete (bound or unbound) may be had at this office and from periodical dealers. Price, bound, $2 25 per volume, by mail, $3—which include postage. Price, in sheets, $1 50. Every mechanic, inventor or artizan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. Nearly all the numbers of VOL. VI. are out of print and cannot be supplied.

TO OUR READERS.

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

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

Models are required to accompany applications for Patents under the new law, the same as formerly, except on design patents when two good drawings are all that is required to accompany the petition, specification and oath, except the Government fee.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and inclosing $1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of $2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of *Instructions to Inventors*, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park-row, New York.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion, payable in advance. To enable all to understand how to compute the amount they must send in when they wish advertisements inserted, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.