

FOREIGN NEWS AND MARKETS.

**The Steam Plow.**—Mr. J. C. Williams, of Baydon, Wiltshire (England), recently lectured before the Hungerford Farmers' Club, and spoke in glowing terms of "Fawkes' American Steam Plow." He blamed British farmers for being so dilatory in adopting steam plows, when it had been so satisfactorily demonstrated that they were far more economical than horses. In all England only one hundred farmers have as yet adopted them, whereas all who cultivate 400 acres of land should now be using them.

**An Independent Mechanic.**—The Dundee (Scotland), *Advertiser* states that, at a recent meeting in Forres, to devise means for relieving the distress of the laboring population of the district, Mr. Stuart, cabinet-maker, recommended, in an emphatic manner, that money should only be given in exchange for labor. "I know the class," he said; "they are a proud-spirited, although at present a suffering class, and will do anything rather than be made beggars of. I'm as poor a man's among them, but dash my skin if can stand beggary." (Applause and laughter). This hint seems to have been acted upon. That's the talk!

**Railroad Reform.**—English locomotives, until quite recently were built without a house or cover for the engineer, but a reform in this line has commenced. Two new engines with houses like those on American locomotives have just been placed on the Stockton and Darlington line.

**Lime Lights.**—Two great Drummond lights have been put up at the ferry landings in Liverpool; they are said to illumine a large space with a brilliancy equal to the light of day.

**Sheffield Steel.**—There is a very good business doing in steel, for American orders, at Sheffield.

WEEKLY SUMMARY OF INVENTIONS.  
STEREOSCOPIC CASES.

This invention relates to several valuable improvements in those neat and entertaining cases, whereby the arrangement of a number of pictures in the same case and the proper exhibition of the same is greatly simplified, and the cost of the whole case considerably reduced. The picture-holders consist simply of wooden bars and springclaps in which one or two pictures can be inserted as desired. The pictures can be changed and adjusted quite readily, and the picture-holders are fastened to one or more bands, the ends of which are screwed to a rotary shaft in such a manner that one of the picture-holders after the other is brought before the eye-glasses. Glass pictures can be exhibited as well as paper pictures, and the pictures are always in good order, and can easily be changed. The inventors Messrs. Sealey & Lea, of 127 Elm-street, this city, keep constantly on hand a supply of these improved cases. They obtained a patent for this improvement last week, through the Scientific American Patent Agency.

GAS RETORT.

This invention consists in the combination with a horizontal cylindrical retort, having near one end an opening in the top for the introduction of coal or other solid material from which gas is to be obtained, and an opening in the bottom for the discharge of the coke or other residuum, of a screw fitted to the interior of the retort with a stem or head projecting through one end of the retort to enable it to be turned for the purpose of moving the charge towards the opposite end of the retort to where it is introduced and of drawing out the residuum. The credit of this contrivance is due to R. E. Harrington, of Newark, N. J.

HAY AND COTTON PRESS.

This invention consists in combining with an open head press box of a suitable size and strength, to resist lateral pressure, two movable followers, having a simultaneous movement to or from each other, which is to be imparted to them by an arrangement of ropes or chains, that are wound up in opposite directions on a shaft which is operated by a worm screw and wheel and suitable cranks or levers connected therewith; the worm screw is to be arranged in such a manner with relation to its wheel that it can be disengaged from the wheel for drawing apart the followers after each operation of the press; the whole, when combined, forms a light, simple, cheap, and efficient power press, requiring to be braced only against lateral thrust. The inventor of this improvement is David L. Miller, of Madison, N. J.

FIRE-PROOF SAFE.

This invention and improvement in the construction

of fire-proof safes, consists in interposing between the inner and outer metallic walls of the safe, a sheet or sheets of metallic plaster-holding plates, which are swaged into alternating dove-tail elevations and depressions, so that when the filling of any antiphlogistic compound is put in, on both sides of this central wall, and allowed to set or dry, it will be attached firmly to the wall and will not detach itself from it by shrinking or settling as is the case with fire-proof safes of the present construction. This improvement was designed by John B. Cornell, of 143 Center-street, this city.

GRINDING MILL.

This invention relates to certain new and useful improvements in that class of grinding mills in which metal grinders are employed. The object of the invention is to obviate the difficulty hitherto attending the proper adjustment of the stationary grinder as well as to compensate for any inequality of surface attending an unequal shrinkage of the grinders in casting, also the obviating of injury to the grinding surfaces by casual contact when the mill is empty, and the feeding of the substances to be ground to the grinders with a speed proportional to the velocity of the running grinder, so that the feed will always be commensurate with the grinding capacity, whether the same be great or small. This device has been patented to William Stewart, of Philadelphia, Pa.

FURNACE.

The object of this invention is to employ gas or vapor of some volatile and combustible substance for the purpose of heating crucibles in a small portable furnace. The blaze of the combustible gas or vapor together with the necessary amount of oxygen is forced into the furnace and made to pass around the crucible, heating the same very effectually and with little expense. This furnace is particularly applicable to melt small quantities of gold or silver, and in places where gas is used, it will be found of great convenience. The inventor of the furnace, J. B. Marvin, of No. 91 Elizabeth-street, this city, obtained a patent for the same through the Scientific American Patent Agency. He manufactures these furnaces, and will be happy to give further information on the subject on being addressed as above.

CONTRIVANCE FOR LIFTING LADIES' DRESSES.

This invention consists in a novel system of cords, weights, stops and guides, combined with a waist-band, or its equivalent, to be worn inside of ladies' outer garment, for the purpose of enabling her to lift the skirts thereof all round, or in front or behind only, just as high as and no higher than she may desire, and to hold it up for the purpose of keeping it out of the dirt. William E. Stein, of this city, is the inventor.

AIR-HEATING FURNACE.

This invention relates to an improved air-heating furnace in which steam is employed as a heating medium. The invention consists in a novel arrangement of a fire-chamber, boiler, steam pipes and steam-chamber, placed within an air-heating chamber, and used in connection with a draught regulator and safety attachment, whereby a very simple, economical and safe steam air-heating furnace is obtained. The credit of this contrivance is due to Richard T. Crane, of Chicago, Ill.

GAS STOVE.

This invention consists in a certain novel construction and arrangement of the burner or grate, the heating surfaces, and the air passages of a gas stove for heating air for warming apartments or buildings, whereby a very copious supply of heated air, pure and uncontaminated by the products of combustion, is obtained with great economy of gas. The inventor of this improvement is E. A. Leland, of Jacksonville, Ill.

SAW.

This invention consists in having the saw provided with adjustable teeth, and portions of the under sides of the same and edge of the saw provided with a flanch of a width nearly equal to the cutting edges of the teeth, whereby the sawdust is discharged from the kerf and the choking of the saw and consequent heating of the same is avoided. This improvement was designed by James E. Emerson, of San Francisco, Cal.

FURNACE.

The object of this invention is to obtain a very simple furnace, that will be capable of being used as a boiler and evaporator in the manufacture of sugar and for other purposes. One that may be adapted to operations on a large scale and well arranged for the controlling of the heat, and the ready manipulation of the parts for that end. This device has been patented to B. D. Evans, of Mount Vernon, Ohio.



ISSUED FROM THE UNITED STATES PATENT OFFICE  
FOR THE WEEK ENDING MARCH 24, 1866.

[Reported Officially for the SCIENTIFIC AMERICAN.]

\* \* Pamphlets giving full particulars of the mode of applying for patents, 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.

27,507.—Stephen M. Allen, of Niagara Falls, N. Y., for an Improvement in the Treatment of Fibrous Plants:

I claim my new mode of treating fibrous materials, such as flax, hemp, jute, manilla, grass, sugar cane, &c.; the same consisting in subjecting them to the action of air charged or saturated with moisture or vapor, substantially as set forth.

27,508.—John Ashcroft, of Lynn, Mass., for an Improvement in Low Water Safety Apparatus for Steam Boilers:

I claim a fusible tube, D, or its equivalent, arranged in a pipe communicating with the boiler, as set forth for the purpose described.

26,509.—N. L. Babcock, of New Haven, Conn., for an Improvement in Breech-loading Fire arms:

I claim the combination and arrangement of the spring catch and hammer, whereby the detent, E, is securely held in place and forced home by the hammer, C, when constructed substantially in the manner and for the purposes specified.

27,510.—Geo. Bailey, of Buffalo, N. Y., for an Improvement in Printing Railroad Tickets:

I claim the printing of coupon tickets for railroads and other lines of travel, and numbering said tickets with their coupons in successive order or series, by one operation of the press, by means of an arrangement of a chase to hold the types for the ticket and its coupons and sets of numbering wheels corresponding to the ticket and coupons upon one press, operating so as to imprint the ticket upon a fillet of paper, properly fed along to receive said printing, as set forth.

I also claim the mechanism for feeding the paper under the types, in such manner as to perform likewise the operation of perforating or partially separating the coupons from each other and from the ticket, so as to be readily torn apart at the place of such perforations—consisting of two rollers or cylinders, one of which is plain and the other armed with a series of rings having teeth upon them which press upon or pass into the other or plain roller, so that the points of the rings will cut through or perforate the paper and thus, by the act of perforation, secure the necessary grip to feed the paper, as described.

27,511.—E. Ball and M. L. Ballard (assignors to E. Ball), of Canton, Ohio, for an Improvement in Harvesters:

We claim the combination and arrangement of an adjustable steel spring cap plate with the heel of the cutter bar and the shoe which supports the heel of the finger bar, substantially as described and as shown in Figs. 1 and 2, of the drawings.

27,512.—James H. Banta, of Piermont, N. Y., for an Improvement in Joint Chairs for Railroads:

I claim the block, c, formed with the projection, d, taking beneath the key, j, and the flange, k, setting over the part, g, of the chain, b, the whole constructed and acting substantially as set forth.

27,513.—A. C. Barstow, of Providence, R. I., for an Improvement in Cooking Stoves:

I claim the double plate extending from the bottom to the top plate and throughout the width of the stove, forming a partition chamber so arranged as to separate the fire-chamber from the flues, when said plate or chamber is provided at the top or thereabouts, with apertures or openings respectively for the admission to, and evacuation from, said chamber of external air, whereby a continuous and rapid circulation of fresh air is necessarily created and maintained through and by the heat of the chamber, for the purposes herein specified, in combination with the flue passages near the top and at either end of said partition chamber, by which three or more boiler apertures can be used on the front of a stove and over a comparatively small fire, and the heat be applied equally to each, and by which also when the heat has passed from the fire-chamber it is first applied to the ends of the oven where it is most needed.

27,514.—E. Bates, Jacob Weist, and Michael Weist, of York, Pa., for an Improvement in Shoemakers' Floats:

We claim the combination of the curved dog, D, with the float or rasp, E, springs, G C, and rod, A, when arranged and constructed as and for the purpose shown and described.

This invention relates to an improvement in the tool used by shoemakers for rasping off the ends of projecting pegs inside of boots and shoes, and which tool is technically termed a float. The invention consists in a peculiar means employed for admitting of the self-adjustment of the float and handle, and, at the same time, holding the float sufficiently firm in any position relatively with the handle that may be required in using the tool.

27,515.—Robert Beans, of Johnsville, Pa., for an Improvement in Guard Fingers for Harvesters:

I claim forming the guard with curved wings, D, extending on each side to serve as braces, and forming a catch in their rear above the body or depressed portion of the finger, leaving a space between the rear of the wings and the front of the cutter bar and the open spaces, d', on each side of the finger; the whole arranged to operate as described for the purpose set forth.

27,516.—John Bestwick, Jr., and Abner Alden, of Dedham, Mass., for an Improvement in Car Couplings:

We claim the combination of the rotating rubber cylinders, C and C', for directing and controlling link, D, substantially as described.

27,517.—A. J. Bell, of Greensburgh, Ky., for an Improvement in the Arms of Carriage Axles:

I claim, in the construction of an ordinary compound brass axle, A B C, making each of the arms thereof in two parts, a, b, and with an oil space, i, one of said parts being placed edgewise, vertically, and the other flatwise, horizontally, and both united together by a collar, h, and screw nut, j, substantially as and for the purposes set forth.

27,518.—Wm. H. Bell, of Washington, D. C., for an Improvement in Revolving Fire-arms:

I claim, first, The use of a hollow axial stem, D, furnished with a discharging device, E, in combination with a revolving fire-arm, substantially as and for the purposes set forth.

Second, The employment of a spring device, J', in combination with a guide box, K, for holding the primer securely in line with the nipples after it is elevated by the slide, and guarding it until the hammer explodes it, substantially as and for the purposes set forth.

Third, The combination of the barrel stop or dog, l, with the cock,

I, by means of a spring hook-shaped extension, G, of the primer-lifting slide, G, substantially as and for the purposes set forth.

Fourth, The combination of a sliding pin, L, with the series of primers and with the cock, I, substantially as and for the purposes set forth.

Fifth, The combination of a cam, N, with the sliding pin, L, substantially as and for the purposes set forth.

**27,519.—Dixon Brown, of Norfolk, Va., for an Improved Pin Fastening:**

I claim the pin, B, attached directly to the plate, A, and coiled at its junction therewith, to form a spring, a, in connection with the claw, C, substantially as and for the purpose set forth.

[This invention consists in attaching the pin directly to the plate, and having the pin coiled at its junction with the plate to form a spring which will have a tendency to keep the point of the pin towards the plate, and using in connection with the pin thus coiled, a claw or pointed prongs which are attached to the plate and placed in such relation with the pin that the same cannot be casually detached from the article to which it is applied.]

**27,520.—J. D. Burdick, of Newbern, N. C., for an Improvement in Operating the Slats of Window Blinds:**

I claim the lever, D, constructed as described and represented, spring, G, and vibrating connecting rod, F; all arranged and combined, forming a new article of manufacture.

[This invention consists of a lever or pivoted handle provided with a pressure spring, acting against a square or polygonal surface on the end of the lever, so that when the two parts are suitably connected to the slat bar, the slats will be locked in their two extreme positions, and at any intermediate point to which they may be set they will remain in a fixed state.]

**27,521.—Sarah D. Carman, of Middletown, N. Y., for an Improved Reclining Chair:**

I claim attaching the back of a chair, sofa, or other seat, to its seat by means of a hinge or joint, C, one or more, formed of two curved concentric bars, a, b, attached respectively to the seat and back, and with each other, substantially as and for the purpose set forth.

[This invention consists in a peculiar manner of attaching the back to the seat, whereby the back is rendered susceptible of two different adjustments relatively with the seat; and the back thereby rendered capable of being secured in a more or less inclined position, and also further forward or backward on the seat so as to increase or diminish the depth of the same, as the convenience of the occupant may require.]

**27,522.—Wm. S. Carr, of New York City, for an Improvement in Valves for Water-closets:**

I claim, first, The independent cup leather valve, i, controlled in its motion by a cylinder having a water leakage and closing against the end of a cylindrical passage between the supply and discharge pipe, substantially as set forth.

Second, I claim a slot, x, in a cylinder containing a cup leather or plunger, for the purpose of allowing water to pass gradually from one side of said cup leather or plunger to the other, to regulate the gradual closing of a valve in water closets, as specified.

Third, I claim closing the water passage in the valve before opening the induction valve so that there is no leakage or waste of water consequent upon the use of two valves acting successively in opposite directions, and neither of which may be upon their respective seats, as set forth.

Fourth, I claim a cylindrical passage or water-way, f, between the supply and discharge pipes combined with an elastic washer or plunger, g, that is forced into said water-way, and acts on the valve, i, substantially as specified.

**27,523.—Vosco M. Chafee, of Xenia, Ohio, for an Improvement in Mowing and Reaping Machines:**

I claim arranging the platform on the frame in the manner I have described, and having it upon the center or axis of the driving wheel, J, and a corresponding center, m, in the frame, by means of the arms, T, and m, and in making the arm, T, a part of the center piece, F, wherein one end of the shaft, h, has its journal, so that the arm, T, the shaft, h, and the platform, H, shall all vibrate together about the same center, and these I claim only when the whole is arranged substantially as described.

**27,524.—James Clark, of Baltimore, Md., for an Improvement in Sealing Locks for Railroad Cars:**

I claim, as a new article of manufacture, the perforated stud, c, rising from the lock plate, as described, when employed with a swing latch and wire, for sealing the lock; the whole constructed as specified.

**27,525.—Lucius H. Colby, of Groton, N. Y., for an Improvement in Wagon Jacks:**

I claim, first, The described hook and slide for the purpose of holding the lever in its place at any desirable position or altitude, when raising the wagon wheel off the ground.

Second, I claim the so making the hook shaped prawl that it shall clamp the rod by its leverage on the rod or slide and further its turning on the said rod, for the purpose of suiting the lever when in either series of holes in the plate, as described.

Third, I claim the combination as a whole, when composed of the standard, the plate with double series of holes, the lever, the slide or rod, the hooked prawl, clamping by its leverage at any point on the rod or slide by the action of the said lever, when the said combination is made and operated as described.

**27,526.—J. Maslin Cooper, of Pittsburgh, Pa., for an Improvement in Revolving Fire-arms:**

I claim, first, So constructing and arranging the lock and revolving cylinders of revolving breech fire-arms substantially in the manner hereinbefore set forth, as that the same fire-arm may be equally well used either with a cylinder open at both ends and carrying fixed ammunition charged at the rear, or with a cylinder constructed so as to load from the front, and carry loose ammunition, or ordinary powder and ball.

Second, The mode hereinbefore described of rendering revolving breech fire-arms susceptible of firing either fixed ammunition loaded from the rear, or powder and ball charged into the front end of the breech, by the use with a single fire-arm of two or more cylinders of different constructions to suit the different kinds of charge, so arranged in combination with the lock barrel of the fire-arm as that either may be used at pleasure.

**27,527.—John B. Cornell, of New York City, for an Improvement in Safes:**

I claim forming the interior fire-proof wall of safes by interposing between the two layers of plaster the continuous metallic plate, A, or any other suitable plate possessing the retaining shape for the purposes and essentially as described.

**27,528.—J. B. Cornell, of New York City, for an Improved Double Cylinder Fire-proof Column:**

I claim constructing an architectural column of two concentrically arranged cast iron tubes and an intermediate solid mass of fire-proof composition when the said parts are combined with each other in such a manner as to form but a single article of manufacture which shall possess the characteristics set forth.

**27,529.—John Q. Cowell, of Vernon, Ind., for an Improvement in Apparatus for Tanning:**

I claim the arrangement of the vats and troughs to each other as set forth when said vats are provided with an angular space separated from the basin of said vats by partitions, as set forth.

**27,530.—Richard T. Crane, of Chicago, Ill., for an Improvement in Air-heating Furnaces:**

I claim, first, The combination with an air-chamber, A, and fire-chamber, B, of the boiler, C, tubes, F, and steam chamber, G, substantially in the manner and for the purposes described.

Second, The combination with the fire-chamber, B, steam boiler, C, tubes, F, and steam chamber, G, of the draft-regulating and fire-extinguishing devices described, substantially as and for the purposes set forth.

**27,531.—S. Daggett, of Charleston, S. C., for an Improvement in Car Couplings:**

I claim the arrangement of the hinged hollow chamber, D, with the rolling weight, F, and buffer arm, E, in combination with the pin, B, and shell, A, constructed and operating substantially as and for the purpose specified.

[This coupling is self-locking, as the action of the shackle causes the rolling weight to change its position from the rear to the front end of the chamber in which it is enclosed, and by the motion of the chamber the working pin is pushed up and made to pass through the shackle. The weight in the front end of the chamber prevents said pin changing its position spontaneously, and by raising the front end of the chamber the shackle can be released at any moment.]

**27,532.—Florimond Datchy, of Paris, France, for an Improved Apparatus for Re-working the Waste Steam of Steam Engines:**

I claim, first, The method herein described of utilizing or re-working the exhaust steam or other escaping gas or vapor of an engine by subjecting it, first, to a partial condensation and afterwards applying heat to evaporate its liquid products, and then injecting it, after its temperature and elasticity have been increased, in the form of steam or vapor, into the boiler for use over again, as specified.

Second, The employment of separate reservoirs maintained at different temperatures, to receive successively the exhaust steam, gas, or vapor of the engine, and operating, first, to partially condense the steam and afterwards to evaporate its liquid products and to increase its temperature and elasticity, prior to its return to the boiler, there to be re-worked, essentially as set forth.

Third, The employment, in combination with the exhaust steam receiving reservoir or reservoirs above named, of a worm or coil of pipes or other suitable heater, arranged in close proximity to the boiler furnace, for increasing the tension of the exhaust steam prior to its return in a vaporous form to the boiler substantially as specified.

Fourth, Passing the exhaust steam in a vaporous form from its receiving chamber or reservoir to the worm or heater, by means of pumps or their equivalents, essentially as described.

Fifth, Causing a jet of steam from the boiler, or of working pressure to be injected into the worm or heater, to raise the tension of the exhaust steam and to drive it into the boiler and control the suction of the pumps employed in supplying the heater and with exhaust steam.

**27,533.—Alexander Dean, of Richmond, Ind., for an Improved Washing Machine:**

I claim, first, The combination of the vibrating disk or brush, C, with the vibrating tub, B, and brush, or the equivalents to D, herein described; the whole being arranged in a manner substantially as described.

Second, The combination of the lever, E, and links, F G, with the brush, C, tub, B, and disk, D, substantially as shown.

**27,534.—Caleb W. Dyer and D. M. Cummings, of Enfield, N. H., for an Improved Shingle Machine:**

We claim, first, bringing one corner of a block of wood in contact with the teeth of a circular saw, and then imparting such a character of feeding movement to the said block as will enable the saw to cut its way through to the diagonal corner of the same, and in such a manner that the kerf lines on the main portion of one side of each shingle thus formed will be nearly parallel with the grain of the wood, all substantially as set forth.

Second, We also claim the combination of the carriage, F, and the block-holder, F', with each other and with the laterally movable plate, G, the longitudinally movable plate, O, the bearers, N N', and the stop plates, a, substantially in the manner and for the purpose set forth.

Third, We also claim the undogging of the shingle block at the proper moment of time, and then dogging it again in a different position within the block-holder, in the manner set forth.

Fourth, We also claim the method of imparting the forward and rearward movements to the carriage, F, viz., by means of the cams, j, k, on the face of the cam wheel, U, which operate through the med of the reciprocating sliding plate, W, the vibrating lever, V, and the auxiliary devices which are combined with the said parts, substantially in the manner set forth.

Fifth, We also claim the peculiar arrangement of the parts for transmitting different degrees of motion from the saw shaft, I, to the horizontal shaft, S, viz., the broad bevel-faced friction wheel, K, on the saw shaft, being secured thereto in such a manner that it is compelled to rotate therewith at the same time that it can be moved up and down the same, whilst the narrower bevel-faced friction wheel, S', is rigidly secured to the inner end of the shaft, S, and the journals of said shaft are of such a length that it can be moved lengthwise to any desired extent by means of the hand lever, K, or the equivalent thereof, substantially in the manner set forth.

**27,535.—John Ebner, of Lancaster, Pa., for an Improved Shutter Operator:**

I claim the push and pull bolt, with its joints, A B C, and sliding box, D, pivot, Y, on the plate, Z, attached to the shutter; the weighted bolt, K, operated on a pivot by a rod, with its hook, M; and the double beaked tilter, G and H, on the rod, P, the stay plates, F, when combined substantially as set forth for the purpose specified.

**27,536.—Pearson Embree, of West Chester, Pa., for an Improved Churn:**

I claim the employment, in a churn, of a series of slats or projections attached to the inner surface, and so arranged that each row shall point obliquely in the line of motion of the churn, and the slats in each successive row point in opposite directions, substantially as described.

**27,537.—James E. Emerson, of San Francisco, Cal., for an Improvement in Saws:**

I claim the adjustable teeth, B, in combination with the flanches, C, formed on the inner sides of the teeth, and on the edge of the saw plate, substantially as and for the purpose set forth.

**27,538.—Wm. Emmett, of Galveston, Texas, for an Improvement in Machines for Polishing Marble:**

I claim, first, The arrangement of the rubbing surface, F K or L, in combination with the sand-box, E, water-box, C, and shifting box, A, or their equivalents, substantially as and for the purpose described.

Second, The employment of the rollers, F F', or their equivalents, arranged for operation substantially as described, for the purpose of rubbing fluted columns.

[The object of this invention is to facilitate the operation of smoothing, rubbing and polishing the surface of articles of stone, marble, &c. A perforated or slatted rubbing or polishing surface to correspond to the surface to be polished is connected with a shifting box and with a water reservoir in such a manner that a continuous supply of sand and water, in the required quantities, to the surface to be rubbed or polished is effected. Different rubbing or polishing surfaces can be attached to the same shifting box and water reservoir. The rubbing surface used for polishing fluted columns is so arranged that it adjusts itself to columns of different diameter.]

**27,539.—James Henry Burton, of Jefferson county, Va., for an Improvement in the Manufacture of Gun Barrels. Patented in England Sept. 29, 1859:**

I claim the making of gun barrels by drawing them down from a cylinder between grooved rolls and over graduated mandrels, so that they shall not only be reduced in diameter and in the size of the bore at each successive pass, but also tapered externally, substantially as set forth.

**27,540.—Geo. A. Engelhard, of New York City, for an Improvement in Varnishes:**

I claim the use and application of the solution in question as a varnish suitable for wood, plaster-of-paris, paper, photo-graphs, ambro-type, and as a varnish upon new metallic substances.

**27,541.—Benj. D. Evans, of Mount Vernon, Ohio, for an Improvement in Furnaces:**

I claim, first, The combination of the furnace, A, and its attachment, D, provided with the cold air-chambers, b g, and arranged to operate as and for the purpose set forth.

Second, The combination of the register, B, furnace, A, attachment, D, cold air-chambers, b g, dampers, j F, and boiler, B', which arranged as shown, so that the above-named parts may be used jointly, and also admit of the furnace, A, being readily detached and used separately.

**27,542.—H. P. Gengembre, of Allegheny, Pa., for an Improvement in Apparatuses for the Distillation of Coal:**

I claim, first, A cylindrical or polygonal retort, having, at the center of both ends, a hollow journal or tube, and being susceptible of receiving a continual or occasional movement of rotation or oscillation around its own axis, for the purpose specified.

Second, The construction and arrangement of the pillow blocks or of the friction seats, as described, when used for the purpose of causing the motion of the retort itself, to make the substance under treatment travel from one end to the other of the retort, and said retort to charge and discharge itself automatically.

Third, The charging box, constructed and operated as described, in combination with the retort, and for the purpose specified.

Fourth, The discharging tube, when used in combination with the hollow journal of a movable retort, as described, for the purpose specified.

Fifth, The gas pump fan or exhauster, the pipe, V, the tube, H, and the pipe, I, as described, when forming part of a close circuitous conduit for returning over and over the permanent gases in the retort, substantially as specified.

**27,543.—Richard E. Harrington, of Newark, N. J., for an Improvement in Gas Retorts:**

I claim the employment of a screw, R, fitted to the cylindrical retort, substantially as described, in combination with openings, C D, provided at the top and bottom of the retort, near the same end thereof, as described, for the purpose of arranging or distributing the charge and withdrawing the residuum.

**27,544.—Mark Howland, of Waterbury, Conn., for an Improvement in Adjustable Stops for Window Frames:**

I claim the nuts, d, fitted in the stiles, c, of the window casing, the screws, F, the slotted plates, a, in the stops, D, and the washers, E, to form fastenings for securing stops to window casings, substantially as described.

[The strips or "stops," as they are technically termed, which are secured to the inner ribs of the stiles or jambs of a window casing for the purpose of retaining the lower sash in proper position, are, as is well known, attached to the stiles or jambs by small nails in order that they may be readily detached from the casing to permit of the removal of the sashes for the purpose of glazing, cleaning, painting, &c. This mode of attaching the "stops" to the casing does not admit of any adjustment whereby the stop may be snugly fitted against the sash to compensate for shrinkage, and also to form a tight fit for winter or cold weather; and, in consequence of frequent withdrawing and driving in of the nails, the paint is disfigured and the stops often broken. The object of this invention is to obviate these difficulties, and to this end screws are employed which pass through washers, slotted plates in the stops, and into female screws or nuts which are screwed into the stiles or jambs of the casing.]

**27,545.—James Ingram, of New York City, for an Improvement in Fitting Sinks:**

I claim a plate, a, attached directly to the wall, or other support, when the pipe or pipes, air vessel or air vessels, are cast in such plate, and the water pipes connected to the tumbles, l, l, or their equivalents, as specified, and for the purposes set forth.

I also claim the arrangement of the flanges, 4 and 5, for sustaining the sink and bedding off any water that may splash up on to the plate, a, when such flanges are formed on the said plate as specified.

**27,546.—Abram H. Jones, of Fallsington, Pa., for an Improvement in Sewing Machines:**

I claim the reciprocating slide, L, its permanent projection, n, and the movable bent arm, p, in combination with and arranged in respect to the double-pointed shuttle, as and for the purpose set forth.

**27,547.—John H. Kaufman, of Lisburn, Pa., for an Improvement in Railroad Cars:**

I claim the combination with the car body, D, and platforms, A, of the racks, F, pinions and shafts, G H, and springs, I, substantially as and for the purpose shown and described.

[This invention consists in having the bodies of the cars fitted between ways or guides on the platforms of the trucks, and having racks on the under surfaces of the bottom of the cars, the racks gearing in pinions attached to shafts on the platforms of the trucks, rim shafts being connected to springs, or their equivalents, on the platforms, as is shown.]

**27,548.—Levi S. Lapham, of Providence, R. I., for an Improvement in Lubricators:**

I claim the combination with the cylinder, A, pump cylinder, D, and piston, F, of the annular oil passage, K, and annular valve, J, perforated in the center, as shown, so that, when the piston is withdrawn, the valve, j, will rise and the oil will enter the cylinder, D; and when the piston is pushed down, the valve, j, will close the passage, K, and the oil will pass through the center of the valve, j, to the machine to be lubricated, all as set forth.

[The object of this invention is to combine an oil chamber and pump in such a manner that the same may be applied to a steam cylinder and oil injected into the cylinder, or into parts connected therewith, by the simple action of the plunger only, thereby avoiding the manipulation hitherto required to supply the pump cylinder with oil previous to the injection of the same into the cylinder.]

**27,549.—Phineas Leach, of Lewiston, Maine, for an Improvement in Weather Strips for Doors, &c.:**

I claim a door strip made of rubber, or other elastic material, having a semi-circular part, a, with a flange, b, upon either side, as shown and described.

[This invention constitutes an improved and highly useful article of manufacture, which is intended to be produced and sold by the yard measure. The strip being provided with flanges, is readily fastened to the tops, bottoms and sides of doors or windows, and it can be used without the employment of grooves or cleats.]

**27,550.—Wm. T. Leach, of East Wareham, Mass., for an Improved Forging Machine:**

I claim the combination of the arm, d, of the hammer hub, the mortised stud, G, and the mortised arm, I, of the hammer rock-shaft, the whole applied and operating together substantially as set forth.

[This invention relates more particularly to the machinery which constitutes the subject matter of Letters Patent granted to Samuel J. Seely, dated Aug. 4, 1857, and consists in an improved mode of applying the hammers, in combination with their rockshafts, for the purpose of preventing the breakage of the hammer arms, or other connection of the rockshafts.]

**27,551.—C. V. Littlepage, of Austin, Texas, for an Improvement in Millstone Dress:**

I claim the millstone dress shown and described, when made and laid out in the manner set forth, for the purpose specified.

[The object of this invention is to obtain a millstone dress that will cause the grain to be rapidly ground without heating the same. The

invention consists in the employment for use of curved furrows laid out or draughted on the face of the stave in a peculiar way, whereby the grain will be cut or reduced to a pulverulent state by a cutting action, instead of the excessive grinding action as hitherto, and the desired end thereby attained.]

27,552.—John B. Marvin, of New York City, for an Improved Portable Furnace:

I claim the combination with a furnace, A, of a blaze pipe, D, and a wind pipe, E, constructed and operating substantially in the manner and for the purpose specified.

27,553.—Thos. J. Mayall, of Roxbury, Mass., for an Improvement in Hose Tubing:

I claim a hose or tubing formed of two or more concentric, woven seamless tubes, composed of flax, cotton, or other fibrous materials, one over the other, the innermost one having a lining formed either wholly or in part of india-rubber or gutta-percha, as set forth.

27,554.—Edward Maynard, of Brooklyn, N. Y., for an Improved Tassel for Window Curtains, &c.:

I claim, as a new article of manufacture, the tassel mold, covered in the manner specified.

27,555.—Geo. McKown, of Altona, Ill., for an Improvement in Upsetting Tires:

I claim the stationary plate, H, provided with an eccentric toothed jaw, h, and a tip, f, in connection with a movable or sliding plate, D, provided with a cap plate, a, having an eccentric jaw, e, and tip, f, and operated by the cogwheels, B, E, and screw rod, F, substantially as and for the purpose set forth.

I further claim, in connection with the stationary and the sliding plate, and operating mechanism above-named, the punch, J, and bolster, K, applied to the plates, as and for the purpose set forth.

[The object of this invention is to obtain a simple device for upsetting, contracting and punching tires for wheels, so that the former may be readily made to fit and be secured to the latter without being cut and re-welded.]

27,556.—David L. Miller, of Madison, N. J., for an Improvement in Huly and Cotton Presses:

I claim the combination with the press box, A, of the two followers, E, E', with their stripping bars, G, G', rollers, b, b', and hooks, c, c', pulleys, d, d', working loose on their shafts, L, shaft, K, and worm wheel and worm shaft, N, F, the latter being hung in a pivoted bracket and operated as set forth, when these several parts are all arranged as and for the purposes described and represented.

27,557.—John Miller, of Saltpeter, Ohio, for an Improvement in Water Wheels:

I claim the pivoted valves, B, in connection with the conductors, E, E, in the manner and for the purpose described.

27,558.—Geo. W. Morgan, of Prattsburgh, N. Y., for an Improved Self-acting Wagon Brake:

I claim the arrangement of the clasp, c, and brake bar, A, substantially as described, for the purpose of operating the brake levers, as set forth.

27,559.—Wm. Morgan, of Middlebrook, Va., for an Improved Churn:

I claim the combination of the inclined perforated dashers or beaters, b, and the removable perforated breakers, a, with the sliding frame, D, when arranged for joint operation as described, for the purpose set forth.

27,560.—Solomon Moyer, of Shimersville, Pa., for an Improved Machine for Winding Yarns:

I claim the sliding mold rest, D, when operated as described, in combination with the tightening clamps, O, thumb screw, 2, and lever, V, in connection with the cranks, I, I', for operating the h. nut s 7 7, when constructed as and used for the purpose set forth.

27,561.—John S. Nolen and Charles C. Hinchman, of Paulsboro, N. J., for an Improvement in Boot-crimping Machines:

We claim the follower, G, springs, J, J, with adjustable jaws, B, D, and former, H, when the same are arranged and combined essentially as and for the purpose set forth.

[The nature of this invention consists in giving elasticity to the follower which is interposed between two jaws, for the purpose of facilitating the removal of the finished boot front, and so that it will adapt itself to the convex surface of the former when said former is forcibly brought down upon it with the leather attached thereto, thereby preventing any uneven strain on the leather, and so that the work will be smoothly crimped.]

27,562.—Francis Odell, of New York City, for an Improvement in Attaching Thills to Vehicles:

I claim the key, D, or equivalent, in combination with the head, C, on the end of the thill iron, and jack, E, having a socket formation on its outer end, as described, for the purpose of forming a coupling for attaching thills to axles, substantially as set forth.

27,563.—Clark D. Page, of Rochester, N. Y., for an Improved Composition for Artificial Stone:

I claim the manufacture of an artificial "Glauconitic Building Stone," in the above-stated manner, of glauconitic earth or loam, such as is found in the cretaceous and some other geological formations, with the admixture of either cement or sulphate or hydrate of lime, substantially as described.

27,564.—J. B. Palser and G. Howland, of Fort Edward, N. Y., for an Improvement in the Preparation of Straw for Paper Pulp:

We claim, as an improved article of manufacture, the "staple fiber," substantially as set forth.

27,565.—John G. Perry, of South Kingston, R. I., for an Improved Machine for Filling Sausages:

I claim the combination of the gear wheel or roller, C, and the wheel, D, with the pipe, G, substantially as and for the purposes described.

27,566.—Reuben Rolph, of Coventry, N. Y., for an Improvement in Trace Safety-bars for Vehicles:

I claim, first, The construction and arrangement of the metallic plate and longitudinal rod across the thills, the upright posts and rollers, between which continuous or connected traces are hitched, so as to render, laterally, the arrangement of the lever and sliding bolt to hold the traces in position for draft, and admit of them being detached instantly, all in combination as specified, for the purposes set forth.

Second, I claim, as a modification of the above, the double connected vibrators for hitching traces to vehicles, as described, for the purposes set forth and specified.

27,567.—Wm. Richards, of Barcelona, Spain, for an Improvement in Wet Gas Meters:

I claim the adaptation and combination of means in water gas meters, whereby the more accurate admeasurement of gas may be obtained, substantially as explained.

27,568.—Artemus Rogers, of Painesville, Ohio, for an Improved Machine for Bending Wood:

I claim the employment of a pair of vibrating segments to produce a single bend in a piece of timber, when so arranged and controlled as to commence simultaneously at both ends of the stick to bend it, and by the completion of the process, constitute the mold, having a continuous curvature.

27,569.—Frederick M. Ruschhaupt, of New York City, for an Improvement in Adaptation of Substances as Motive Powers:

I claim the application of vapor from the liquid set forth, as a motor or propelling agent in engines, as specified.

27,570.—James Sangster, of Buffalo, N. Y., for an Improved Churn:

I claim the combination of the paddles, Z and C and G, with the partition, E, when said partition is provided with openings, H, J, I, K, near its center, and with openings, L, M, N, O, near its periphery, which are partially covered by caps, as seen, for the purpose of passing the cream around and around through the openings, from circumference to center, vice versa, substantially as specified.

27,571.—Thos. Schofield, of Grass Valley, Cal., for an Improvement in Floating Bridges:

I claim the arrangement of the cylinders, A, or their equivalents, with arms, C, steadying rods, B, standards, D, and valves, e, substantially as and for the purpose specified.

[The object of this invention is to support bridges, lighthouses or other structures above water in places where the depth of the water does not allow of the application of pillars commonly used for such structures. The hollow globes or cylinders employed for this purpose are steadied by balance weights, and they are secured to the ground by suitable chains and anchors, and they are furnished with arms extending upwards for the purpose of supporting the structure to be erected. Any water that enters said cylinders or globes is removed by suitable valves and pumps.]

27,572.—G. H. Sealey and James Lee, of New York City, for an Improved Case for Exhibiting Stereoscopic Pictures:

We claim, first, The combination of the shaft, D, roller, F, and bands, B, or their equivalents, substantially in the manner and for the purpose specified.

Second, Having the ends of the aprons, or of the bands which carry the picture-holders, firmly secured to a rotary shaft, D, or its equivalent, substantially as specified, so that the whole chain of pictures is subjected to a uniform and positive strain, in whatever direction the shaft is turned.

Third, The arrangement of the spring clasps, d, in combination with the crossbars, c, substantially as and for the purpose set forth.

Fourth, Arranging the picture-holders, G, with wooden crossbars, c, substantially as described, so that the same allow of being attached to the bands or apron in a ready and cheap manner.

27,573.—William Sewell, of New York City, for an Improvement in Surface Condensers for Steam Engines:

I claim, first, The combination and use, in the manner shown and described, with the tubes and tube sheets, and follower or plate, D, of a series of independent elastic rings, for the purpose set forth.

Second, The simultaneous compression of the whole or a portion of said series of elastic rings by means of a plate, D, either whole or divided, substantially in the manner and for the purpose shown and described.

Third, The employment of the flanged tubes in combination with the plate, D, and said rings, as and for the purpose shown and described.

27,574.—A. Sherman, of Poughkeepsie, N. Y., for an Improvement in Attaching Thills to Vehicles:

I claim the slotted semi-cylindrical enlargement, B, on the end of the thill irons, rubber packing, E, pin, J, jaws, G, the clips with their slots and the pins, a, projecting from the sides of the enlarged portions, B, when the same are all combined and arranged in the manner and for the purposes set forth.

27,575.—O. Sherwood, Jr., of Independence, Iowa, for an Improvement in Railroad Cars:

I claim the arrangement of the pulley, D, pinion, d, toothed sector, e, and lever, E, in combination with the hinged rails, G, bar, F, and gate, A, constructed and operating as and for the purpose substantially as described.

[This invention relates to that class of gates which are made to open and close by the action of the approaching and departing train, so that the track is thrown open only to let the train pass. The action of the wheels of the train on two hinged additional rails cause the gate to rise, keeping the same up until the last pair of wheels of the last car in the train have passed off from said hinged rails when the gate descends again by its own gravity.]

27,576.—Wm. N. Slason, of South Reading, Mass., for an Improvement in Pumps:

I claim connecting the rocker piston to the curved rim of its case, and so applying such rim to the remainder of the case as to enable both piston and rim to be moved both together or simultaneously relatively to the said remainder of the case, as specified.

27,577.—John Smalley, of Bound Brook, N. J., for an Improvement in Sewing Machines:

I claim, first, The combination of a hollow stationary "spool case" capable of containing different sized spools of cotton, with a rotating hook or looper, substantially as described, for the purpose set forth.

Second, I claim so arranging the spool case as that the needle shall always descend into the center of the spool placed in it, as described.

Third, I claim the formation of the spool case, S, in the manner specified, with a centralizing and steadying shaft, S', substantially as set forth.

Fourth, Disclaiming the passing of the needle thread around an ordinary spool carrying the lower thread, when said spool changes its position relatively to the other parts of the machine, I claim passing the needle thread around an ordinary spool containing the lower thread, remains always in a fixed position, substantially in the manner described.

Fifth, I claim the rotary hook and vertically fixed spool in combination with a needle carrying its thread into the center of the spool, substantially in the manner and for the purposes described.

27,578.—Wm. E. Stein, of New York City, for an Improved Dress-lifter:

I claim a dress-lifter composed of a waist band, A, fabric, B, guide tubes, a, b, c, d, tapes, e, and weights, I, arranged and constructed as set forth and described.

27,579.—Wm. Stewart, of Philadelphia, Pa., for an Improvement in Grinding Mills:

I claim the arrangement of the runner, C, tubular shaft, F, conical hub, I, key, J, slot, h, spring, K, absorbent, j, and screw, M, as and for the purpose shown and described.

27,580.—D. B. Tiffany, of Xenia, Ohio, and S. W. Soule, of Milwaukee, Wis., for a Machine for Printing Addresses on Newspapers, &c.:

We claim the combination of the pressure lever, F, and the "chase," B, containing the "form," the chase being operated from the lever, as shown, or in any other equivalent way, and the pinion, D, which forms the double function specified, substantially as and for the purpose set forth.

Second, We claim raising or separating the particular line of type for returning the type to their proper positions, substantially as specified.

Third, We also claim a traversing partitioned galley or chase, for holding and dividing the addresses, substantially as and for the purpose specified.

27,581.—Philip Umholtz, of Tremont, Pa., for an Improved Coal-breaker:

I claim the combination of the clutch, I, as constructed, with the rollers, B and B', constructed as set forth, operating as described and for the purposes set forth.

27,582.—T. R. Van Gelder, of Damascus, Pa., for an Improvement in Collecting Toll from Grist Mills:

I claim the arrangement and combination of the toll spout, B, vertical wheel, A, open bucket, b', and the spout, F, as and for the purpose shown and described.

[An engraving of this device will probably appear soon.]

27,583.—David Van Kleeck, of Cohocton, N. Y., for an Improvement in Harvesters:

I claim the arrangement of the reversible draft bar, L, connecting the tongue, G, with the frame, A, between the frames, A, D, in such a manner that it may be reversed without turning the machine, substantially as set forth.

I also claim the adjustable reel, K, made to change from side to side by the cutter bar, without unbanding, by means of the shifting links, O, and pullers, g, h, substantially as described.

I also claim the reverse cutting or two-edged sickle, f, in combination with the center guard plate, b, and shifting apron, n, substantially in the manner and for the purposes set forth.

27,584.—George Walker, of Springville, N. Y., for an Improved Washing Machine:

I claim the combination of the radius bar, F, with the tub, A, rod, D, lever, E, and convex rubber, C, as shown, so that said rubber will have a combined rotary and longitudinal motion, as and for the purpose shown and described.

[The object of this invention is to subject the clothes to be washed to a squeezing as well as to a rubbing process; neither the squeezing without the rubbing, nor the rubbing without the squeezing, being sufficient to remove the dirt. The rubber in this machine, therefore, is arranged on an arm or arms connecting with a radius bar in such a manner that, by imparting to the rubber a rolling motion, it assumes at the same time a longitudinal sliding motion over the clothes, subjecting them to the rubbing process, while the weight of the rubber with its attachments, regulated, if necessary, by a downward or upward pressure of the hand, is sufficient to exert the necessary pressure on the clothes.]

27,585.—Sylvanus Walker, of Boston, Mass., for an Improved Bedstead:

I claim the end fastening, D, as constructed and arranged, for the purposes set forth.

27,586.—Reuben Warren, of Jefferson, Ohio, for an Improvement in Boot-crimping Machines:

I claim the flexible jaw bolt and thumbscrew, in combination with the brake pincers and tongues, as stated, for the purpose of crimping leather only.

27,587.—Alex'r T. Watson, of Castleton, N. Y., for an Improvement in Railroad Car Springs:

I claim, first, The manner of arranging and combining the two springs, B, B', in pairs of different lengths and curves, so that when pressure is applied, the one spring gives out its elastic force from compression and the other, as soon as acted on by the first spring, yields an elastic force from tension; the two together affording an increasing strength and elastic power as the pressure increases.

Second, I claim the form of the frame or setting, A, A, by which the springs are held in position and made to act in the manner described.

27,588.—Geo. Westinghouse, of Schenectady, N. Y., for an Improvement in Crank Boxes:

I claim the slide, D, fitted within the dovetail slot, C, of the body, A, of the box, in connection with the screw bolt, E, passing through the body, A, and an oblong slot in the slide, substantially as and for the purpose set forth.

[This invention consists in a novel way of securing the slide in the box, whereby the slide may be readily adjusted and the box properly fitted to the crank wrist, and the crank, at the same time, firmly secured in position without the liability of being thrown out from the wrist during the rotation of the same.]

27,589.—John M. Whitney, of Bolton, Mass., for an Improved Odometer:

I claim so constructing an "odometer" that the revolutions of the wheel of the vehicle are registered equally reliably, in whichever direction the said wheel may be rotated.

I also claim the combination of a series of ratchet wheels on one center, with a series of operating slide bars driven by cams on the ratchet wheels, substantially as described, for the purpose set forth.

I also claim the employment of a rubber, or other equivalent cushion, in combination with the yielding castor-holder, K, as specified, for the purpose set forth.

27,590.—Barnabas Wood, of Nashville, Tenn., for a Metallic Composition for Fusible Alloy and other purposes:

I claim the composition of matter or alloy, consisting of the following proportions of cadmium, lead and tin, or any modification thereof, substantially as indicated, so as to produce a similar result in alloys, to wit, cadmium from one to two parts, lead two parts, tin four parts, possessing the properties and advantages described, and that may be used as a metallic cement and for other purposes, and to which also mercury may be added, as set forth, to modify the result for particular cases.

I also claim, as a further application of the same principle embodied in the production of the aforesaid alloy, the composition of matter or alloy consisting of from one to two parts cadmium, two parts tin, four parts lead, and seven or eight parts bismuth, or any modification thereof, as specified and indicated, so as to produce an alloy, as described, useful as a cement and for other purposes, as set forth, and to which also mercury may be added, as stated.

What I claim as new, in either case, is the specified improvement in alloys produced by using cadmium in the ratio and manner described, in combination with the metals specified, in the proportions thereof, substantially as set forth.

27,591.—Dr. Theodore Burr, of Hastings, Mich., assignor to himself, J. B. Lobdell and A. Pelham, of Hastings aforesaid, and H. Burr, of Allen, N. Y., for an Improved Machine for Cutting Files:

I claim the use of the cylinder, F, constructed as described, in connection with spring hammers, cutters and file blank-carriers; the whole operating in the manner and for the purpose described.

27,592.—Geo. Cooper, of Hartford, Conn., assignor to Albert Burgess, of Windsor Locks, Conn., for an Improved Bench Clamp:

I claim the arranging together of the shank, b, arms, e, pad, f, with a proper fastening screw, i, substantially in the manner and for the purpose described.

27,593.—Joseph J. Couch, of Brooklyn, N. Y., assignor to Josiah S. Swan, of New York City, for an Improvement in Sewing Machines:

I claim, first, Maintaining the needle thread of a sewing machine tight as the point of the needle penetrates the fabric, delivering out the necessary amount of thread for forming the loop and for the distension of the loop by the passage through it of the shuttle, maintaining the thread slack as the needle begins to rise, and finally drawing up the slack thread so as to complete the stitch by means of the lever, G, or its equivalent, in combination with the washers and clamp, or other device for imparting the desired friction to the said lever, the latter being operated by the needle arm or other moving part of the machine, substantially as and for the purposes set forth.

Second, The stationary eye, k, in combination with the lever, G, or its equivalent, when the latter is arranged, applied and operated substantially as set forth, and when the eye is made adjustable in respect to the lever, for the purpose specified.

Third, The combination of the lever, G, applied and operated substantially as set forth, with the shuttle of the sewing machine, so that the said lever may yield slightly on the distension of the loop by the shuttle when more than the usual amount of thread is required for the stitch, as set forth and for the purpose specified.



27,594.—L. W. Langdon (assignor to himself, Hiram Wells and D. G. Littlefield), of Northampton, Mass., for an Improvement in Sewing Machines:

I claim, first, Operating a four-motion feed by means of a loose and a friction joint, substantially in the manner and for the purpose specified.

Second, I claim the revolving take-up, L, operating as set forth, for the purpose of governing the needle thread, as described.

Third, I claim the hook, P, or other equivalent device, for the purpose of keeping the shuttle thread tight, as described, when used in combination with a needle driven by a crank, as set forth.

Fourth, And, in combination with a needle driven by a crank, I claim the rib, H, in the shuttle race, with its notch or shoulder, K, for the purpose of preventing the loop from being carried forward by the shuttle, as set forth.

27,595.—E. A. Leland (assignor to himself and Stephenson & Tompkins), of Jacksonville, Ill., for an Improvement in Gas Stoves:

I claim the combination with the base, B, and cylinder, A, of the gas box, a, b, c, and supply pipe, E, as shown and described, so that the device may be used as a cooking or air-heating stove at pleasure, as set forth.

27,596.—Daniel Minthron (assignor to John A. Green), of Beverly, Mass., for an Improvement in Enema Syringes:

I claim the hollow valve constructed with a hemispherical end, and having apertures or throats formed in its sides for the fluid to pass through, substantially as set forth.

27,597.—Wm. H. Noyes (assignor to Gideon S. Palmer), of Gardiner, Maine, for an Improved Machine for Reducing Wood to Slivers:

I claim the combination, in a sliding stock, O, of the cutter, B, and splitter, C, made up of a series of knives in rows, so arranged that the posterior rows shall score the spaces left by the foremost row, substantially in the manner and for the purpose specified.

27,598.—Elizabeth Keagg, of Mineral Point, Pa., administratrix of the estate of Samuel Keagg; deceased, late of Mineral Point, aforesaid, for an Improved Centering Chuck for Lathes:

I claim the sliding thimble or sleeve, D, fitted on the mandrel, C, connected with a loaded lever, E, and provided with a flaring or funnel-shaped outer end concentric with the mandrel and its center points, a, to form a centering chuck for a lathe, as set forth.

[The object of this invention is to obtain a simple attachment that may be applied to any ordinary turning lathe, and serve as an efficient centering device therefor to admit of the very ready and proper adjustment of articles in the latter.]

27,599.—Hiram H. Scoville and D. R. Fraser (assignors to themselves and P. W. Gates), of Chicago, Ill., for an Improvement in Quartz-crushers:

We claim crushing quartz by the combined agency of a swinging concave trough, B, and a rising and falling roller, D, substantially as set forth.

27,600.—C. Edward Sneider (assignor to Wm. Poulteney), of Baltimore, Md., for an Improvement in Breech-loading Fire-arms:

I claim, first, The combination with the locking spring, D, of the wedge, e, the spring, f, and the set screw, h; the whole applied and operating substantially as and for the purpose specified.

Second, The lever, F, applied in combination with the trigger guard and with the pin, j, substantially as and for the purpose specified.

[This invention relates to the locking spring that is used to secure the breech and barrel together in condition for firing in some kinds of fire-arms. It consists, first, in a certain contrivance applied to such locking spring for the purpose of constituting a means of adjustment to make the said spring lock the breech joint tightly and compensate for wear of the said spring and the projections on the breech and barrel upon which the said spring acts. It consists, secondly, in certain improved means of raising the locking spring from the projection on the breech to unlock it and permit it to be opened for loading.]

25,601.—John Stowell (assignor to himself and Daniel F. White), of Charlestown, Mass., for an Improved Feed-water Regulator for Steam Boilers:

I claim the combination with the float, B, and steam box, A, of the slotted rod, b, arm, I, valve, C, vessel, G, lever, H, or its equivalent, and a loaded lever, J; the whole applied and operating substantially as described.

[The object of this invention is to control the action of the feed pump, either by shifting a belt which drives it from a loose to a fast pulley, and vice versa, on one of the shafts by which it is driven, or by operating on any other means of starting and stopping the pumps; and it consists in a certain means employed, in combination with a float, whereby this result is produced very promptly and certainly at the instant of the water in the boiler falling or rising to certain levels.]

25,602.—Stephen Ustick, of Philadelphia, Pa., assignor to himself and Julius A. Pease, of New York City, for an Improvement in Clay Pipe Machines:

I claim, first, Constructing the die piece, J, with perforations or openings, t, to be filled with cotton, wool or other equivalent substance, in combination with the band or wrapper Y, substantially as and for the purpose described.

Second, The grooves or channels, u, in the die pieces, G and H, to be filled with cotton or other suitable fibrous substance, or an equivalent, in combination with the sheaths, v and w, for the purpose of lubricating the lips of the dies, as described and shown.

Third, The combination of the springs with the core, M, for the purpose of holding the latter in its place during the formation of the bell end of the pipe, substantially as described.

Fourth, Combining and arranging the ring, c, with the mold, L, and core, M, substantially as and for the purposes set forth.

Fifth, The combination and arrangement of the bevel pieces, h, with the adjustable sliding frame, i, as and for the purposes described.

Sixth, The cut-off ring, O, in combination with the shifting rod, Q, or its equivalent, which arranged and operating in relation to the die, I, substantially in the manner and for the purposes set forth.

Seventh, The safety chamber, T, provided with the valve, U, arranged and operating in relation to the clay cylinder, B, substantially as and for the purpose set forth.

27,603.—C. J. Van Wyck (assignor to J. M. McCauley), of New York City, for an Improvement in Apparatuses for Distilling Oil from Coal:

I claim the construction of a retort, with a grate, c, in the bottom, and an inclined conductor, E, below such grate, as described, such conductor not being the outlet for the gaseous products of combustion of the fire by which the retort is heated.

[This invention consists in a certain construction of an apparatus for distilling coal or other substances with provision for the simultaneous extraction or solution and separation of oils or other products of two different qualities or specific gravities.]

27,604.—A. L. O. Wall, Geo. Roberts, and M. S. Carter, of Decatur, Ill., for an Improvement in Truck for Mole Plows:

We claim the combination of the crank axles, B B', link rods, G, traveling plate, F, and screwed spindle, C, substantially as described for the purposes set forth.

We also claim supporting the front axle in an adjustable bearing, when arranged and operating substantially as described for the purpose set forth.

27,605.—G. W. N. Yost (assignor to G. W. N. Yost & Co.), of Yellow Springs, Ohio, for an Improvement in Manufacture of Soap:

I claim the described new article of manufacture, namely, hard soap, prepared in a state of minute subdivision, instead of bars or cakes, substantially as set forth for the purposes described.

RE-ISSUES.

Louis Lefebvre, of New Orleans, La., for an Improvement in Furnaces for Evaporating Sugar Juices. Patented Nov. 2, 1858; improvement added Jan. 24, 1860:

I claim, first, The hemispherical kettle, with alternate converging flues, as and for the purpose described.

Second, In combination with the said kettle, fluting the surrounding brickwork, as described, so as to form an undulating flue around the kettle.

Third, Passing the connecting pipes of the kettles through the flues whereby they are utilized as evaporators, as set forth.

Fourth, The inclined gutter, in combination with the gutters of the respective kettles, as described.

Fifth, The cylindrical flue enclosing the latter, connected with the exit flue, and communicating with the undulating flue at the top by graduated draft channels, substantially as set forth.

Wm. Maller, of Bridgeport, Conn., for an Improvement in Gas Regulators. Patented Oct. 8, 1858:

I claim arranging the graduated lever, 4, with the adjustable weight 17, in combination with the gasometer, 4, 2, and the valve 10, in such a manner that by raising the gasometer the valve is closed, and the supply of gas is stopped, so that the pressure of the gas in the gasometer can be regulated by adjusting the weight, 17.

And in combination with the lever, gasometer, and reservoir, I claim admitting the gas direct against the gasometer by means of a small tube, 8, which is connected towards its upper end, so that impurities carried up by the gas or any other deposit will fall outside of said tube without being able to interfere with the working part of the gas regulator.

I also claim arranging the stud, 21, in combination with the lever, 4, rod, 9, and valve 10, in such a manner that by depressing the stud, 21, the supply of gas may be ascertained, without raising the cover of the gas regulator.

ADDITIONAL IMPROVEMENT.

Alban Anderson, of Lancaster, Pa., for an Improved Governor for Steam Engines. Patented August 3, 1858:

I claim the change from a disk revolving on an extended arm to a disk revolving over the center of the moving frame, and the consequent change in the mode of generating and applying the resultant force which arises from the combined movements of the disk and frame; which change in the mode of production and application of the power, brings the machine within a smaller compass, gives it more simplicity of construction, renders it safe to increase the velocity of its movements, and thus increases its sensitiveness and power, and especially it renders the attraction of gravitation inoperative, so that it does not act at all as a disturbing power.

DESIGNS.

S. W. Gibbs (assignor to Ratbone & Co.), of Albany, N. Y., for a Design for the Plates of a Cook Stove.

S. W. Gibbs (assignor to Ransom & Co.), of Albany, N. Y., for a Design for the Tops and Bases of Stoves.

Francis Hovey, of New York City, for a Design for a Copying Press.

Samuel H. Ransom, of Albany, N. Y., for a Design for Stove Plates.

## Notes & Queries

A. H., of Ill.—A solution of salt and alum is excellent for preserving the furs and skins of animals, but it will not keep them a sufficient length of time, as stuffed specimens of natural history. Such skins are treated with arsenical soap, which is a powerful antiseptic and preservative against the attacks of insects. We do not know where you can get Audubon's Natural History in monthly parts.

R. W., of Mass.—The whirling motion which water assumes in flowing from a hole in the bottom of a tub is not caused by electrical currents, as you suppose, for such currents do not move in spirals. This motion is caused by the resistance to the flow of water offered by the orifice, and it amounts to 27½ per cent of the power of the falling water. The co-efficient of discharge through an orifice is only 62½ per cent, therefore the resistance by the orifice to the free falling of the water communicates motion to the mass in the tub, and this must affect the motion of the effluent water. Water will fall down in a straight line, in vacuum, where its passage is unobstructed.

N. B. T., of Ohio.—Iron and steel are rendered a deep blue color, by first polishing the metal, then heating it up to 570° Fah., and cooling it at this point. The color of any polished piece of steel indicates its temper. A straw color, which is the temper of lancets, is obtained by heating the polished metal to 430° Fah. 450° Fah. is the heat for razors, and is a dark yellow. A light purple is obtained at 530° Fah., which is the temper for watch springs and swords. 290° Fah. is the temper heat for large saws and 570° Fah. for small ones.

E. C. Van D., of Miss.—Your subscription will expire with No. 10 of our next volume (in September). You ask a recipe for a good solder, and we will give you one. Take 1 lb. of pure Banca tin, and melt it, then add half a pound of clean lead, and when it is melted, stir the mixture gently with a stick or poker, and pour it out into solderstrips. We gave Mr. J. Lathrop, of Middleton, Conn., this solder receipt some years ago, and he has informed us that it has been worth \$50 to him. He has never failed to make good solder with it.

J. W. B., of Ala.—Professor Faraday has certainly declared that the efficiency of a lightning conductor is due to the solid section of the metal. We know it has been generally supposed that most of the electricity in conductors is carried on the surface; but not "wholly" on the surface. It has always been held by us that the electric fluid permeated the whole conductor.

F. A. B., of Wis.—You can make the plate or cylinder of an electric machine with wood, covered with several coats of lac-varnish as a substitute for glass. You may also mount your plate on a metallic axis, and have perfect insulation, if supported on pillars of dry wood. You must insulate your rubbers on glass, if possible. French glass is the best substance which you can use for the generating plate, and we must caution you not to expect much from the lac-covered plate as a substitute.

R. D. O. S., of Conn.—Small drills may be run at the rate of 3,000 revolutions per minutes, if kept cool with plenty of oil or water. A 54-inch circular saw may be driven at the speed of 4,500 feet per minute at the periphery. The proper speed for any saw depends upon the kind of wood that has to be cut. A good alloy for the lining of journal boxes is composed of copper, 24 ounces; tin, 24; antimony, 8. Melt all, and run into an ingot first; after which melt the ingot for the journal box, and pour it into the mold. In making alloys, melt the most fractious metals first, and the others according to their degree of fusibility.

M. F. V., of Vt.—The sketch which you have sent of an electro-magnetic engine represents one that is used as a toy somewhat extensively. It is of no practical value. If you desire to be a good engineer, we advise you to serve a full apprenticeship at the business, and commence first in a rather small country machine shop, where you will have an opportunity to try your skill upon all kinds of work. In large shops you would be too much confined to one specific kind of work, according to present custom.

W. H., of Md.—The recipe to which you refer for flavoring tobacco is to moisten it thoroughly with whiskey in which one pound of honey has been steeped for two days, stirring it frequently during that period. This liquid imparts a pleasant flavor to the tobacco of cigars, and is used with success by some cigar manufacturers. Beeswax steeped in whiskey makes a good flavoring liquor for tobacco, also; and if the odor is desired to be heightened, add a little gum benzoin with the honey.

C. A. S., of Maine.—The conducting power of copper is 1.00; silver, .98; gold, 1.13; iron, 5.63; quicksilver, 50.00; zinc, 3.70. Silver is the best conductor of these metals; copper second, and mercury the worst—50 times. You will therefore perceive how unscientific it would be to employ cups containing mercury in any part of a line of telegraph. Pure rain-water is almost a non-conductor, in comparison with the metals. It is to copper as 40,533,723.00 to 1; salt water is about 14 times superior to fresh as a conductor.

J. G., of Ind.—It is true that there has been great difficulty in distinguishing among the lower organizations, plants from animals. Ehrenberg fell into the error, common to all the early microscopists, of believing many plants, in certain stages of their growth, to be animalcules, and with a strange want of the true philosophical spirit, he obstinately maintains his false position after all the other eminent microscopists of the world have given it up. Many of the continental microscopists, who are now some years behind the English in this department of science, still follow Ehrenberg; and we have now lying on our table a report of some French savans, which says that yeast consists of a plant and an animal. The part, however, of the yeast plant which, from its independent motion, is mistaken for an animal, is so exceedingly minute as to be barely visible under a microscope which represents the plant as large as a grain of wheat. These minute organisms, even if they were animals, would not produce a 1,000th part of the carbonic acid that is given off in fermentation. The first time that we saw them, though we had long been aware of the dispute in regard to their nature, it was almost impossible to believe that they were not animals, so life-like were their motions. But Hassall, Carpenter and Edwards have, we think, pretty fully settled the question; and there is hardly room to doubt that they are simply the plant in one stage of its growth.

### Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, March 24, 1860:—

P. M., of Mass., \$30; W. T., of N. Y., \$30; J. A. McC., of Ky., \$25; W. McA., of Mich., \$30; A. B., of N. J., \$30; W. J. A., of Tenn., \$30; H. E. W., of N. Y., \$25; J. M. F., of N. C., \$55; H. K., of Ill., \$30; N. H. G., of Conn., \$30; H. A. H., of N. J., \$25; C. F. B., of R. I., \$30; H. W. W., of Mass., \$25; R. J. G., of Ind., \$30; N. S. G., of N. Y., \$25; D. C. J., of N. Y., \$30; B. I., of N. Y., \$30; J. D. M., of N. Y., \$30; J. H. D. & Co., of Texas, \$30; C. & B., of Iowa, \$25; P. G. McC., of Pa., \$30; J. S., of N. Y., \$25; J. S., of Ill., \$30; W. S. M., of N. Y., \$30; J. C., of Mass., \$30; M. M., of Mo., \$10; J. E. E., of Pa., \$50; J. P. K., of Wis., \$25; B. W. B., of Wis., \$25; C. P. G., of Ill., \$30; W. T., of Ind., \$25; T. H. W., of Mass., \$30; E. F. R., of N. Y., \$30; R. F. O'B., of Mo., \$25; T. P., of Ind., \$55; W. J. T., of Cal., \$20; E., & D., of Mass., \$10; G. W. B., of Mass., \$25; A. H., of Ky., \$35; W. C., of Iowa, \$30; C. W. B., of Mass., \$55; R. P. A., of N. Y., \$30; D. & S., of N. Y., \$25; J. P. F., of N. Y., \$30; F. B. B., of N. Y., \$250; M. C., of N. Y., \$30; A. H. R., of Pa., \$30; C. W., of Mass., \$35; I. N. W., of Ill., \$25; C. S. L. of Ind., \$25; A. K., of Ill., \$15; G. W. W., of Ind., \$30; H. A. M., of Ill., \$30; P. & H., of Canada, \$465; J. P. H., of La., \$30; A. W. W., of Conn., \$30; W. F., of Mass., \$60; P. J., of N. Y., \$35; J. S. H., of Ky., \$25; J. M. C., of S. C., \$30; J. B., of Mass., \$25; G. & B., of Conn., \$12; P. V. W., of Mich., \$30; B. & B., of Mass., \$55; H. C., of N. Y., \$35; J. H. L., of N. Y., \$25; G. W. T., of N. Y., \$25; J. R. T., of L. I., \$25; D. E., of Ill., \$55; A. H., of Ohio, \$30; W. B., of N. Y., \$275; J. B. J., of L. I., \$30; S. T. McC., of Ga., \$25; L. B., of Ill., \$30; W. H., of Ohio, \$25; J. M., Jr., of N. Y., \$70; T. J. M., of Pa., \$15; C. R. S., of Vt., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, March 24, 1860:—

A. S., of N. Y.; C. W., of Mass.; W. W. H., of N. Y.; H. K., of Ill.; W. I. T., of Texas; N. S. G., of N. Y.; G. & B., of Conn.; C. R. S., of Vt.; J. R. T., of L. I.; G. W. T., of N. Y.; J. S., of N. Y.; R. F. O'B., of Mo.; S. M., of Ill.; I. N. W., of Ill.; T. J. M., of Ind.; G. W. T., of N. Y.; W. H., of Ohio; D. E., of Ill.; A. H., of Ky.; D. & S., of N. Y.; J. B., of Mass.; H. A. H., of N. Y.; H. W. W., of Mass.; B. W. B., of Wis.; J. B. J., of N. Y.; L. K. S., of Conn. (2 cases); H. C., of N. Y.; S. T. S., of Mass.; J. H. L., of N. Y.; G. W. B., of Mass.; W. T., of Mich.

### Literary Notice.

MUSPRATT'S CHEMISTRY OF ARTS AND MANUFACTURES. Published by C. B. Russell & Bro., Boston, and No. 390 Broadway, this city. This, the most full and complete chemical work yet published, has now reached part XLV, which contains a beautiful steel plate of Professor Gregory, the author of one of the best elementary works on chemistry ever published in our country.