her trial under these circumstances, instead of seventy-seven revolutions, which ought at least to have been got out of the engines as we have seen, the journals of the *Franklin's* machinery heated so much even at twenty revolutions, that that speed could not be maintained; and the engines were run for the greater part of the trial at but from fifteen to eighteen revolutions per minute. As to the condenser, constructed under Sewell's patent, it is enough to say that the vacuum never exceeded 24 inches; while the superheater acted so efficiently that the temperature of the entering steam being 270 degrees, that of the issuing steam on its way to the cylinders was 272 degrees. It is not easy to imagine a more miserable fiasco from begining to end; and yet the *Franklin* is by no means an isolated example of the defects proper to the system under which American men-of-war are engined. There appears to be a total lack of that open competition and of those fair public trials which have done so much to foster British talent and enterprise. In their stead we have a Government department not free from the imputation of corruption, and certainly ruled by the demon of red tape; and a system of trial which, assuming it to be founded on the true principles of scientific inquiry is really open to every species of abuse; while, more astounding than all, we find what should be a great naval nation entrusting the construction of its machinery on which it must like every other nation be mainly dependent for the maintenance of its power at sea, to an individual who blatantly denies the truth of principles which not only bear the test of the most searching scientific investigation, but are here verified daily in actual practice. Mr. Isherwood may, perhaps, think that we write harshly of him. Possibly he has reason to complain. He may perhaps find some consolation in knowing that in the old country little or no sympathy is felt with those who would wish to see his post taken by another. On the contrary, we believe him to be the right man in the right place. Indeed we could wish to see his principles and his practice adopted by every naval power in existence—except Britain. —*The Engineer.*

Simple Device for Printing Pictures.

Professor Towler, in *Humphrey's Journal*, suggests the following simple and excellent method:—

"We will premise that the piece of opal or porcelain plate is of the same size as the negative, is quite flat, has already been sensitized by the collodio-chloride process, and is now ready to be placed on the negative. With a diamond cut off two corners from one end of the porcelain plate: these corners are about the same size as the glass corners of an ordinary printing frame. Be careful not to interchange these corner pieces, so as to put the right corner piece on the left side and *vice versa*, and do not turn them wrong side up, but place each in its place from which it was broken off exactly as it was before the diamond was used. Now take a small fragment of shell-lac, or a little piece of shoemaker's wax or of pitch, and melt it upon the lower side of these dissevered corner pieces, and place it upon that corner of the negative on which the prepared porcelain will rest when in position. Apply heat to the corner of the negative until the piece of opal is accurately cemented in its place. The other corner piece is now cemented in its place on the opposite side, and in such a manner that the sensitized porcelain plate, when placed in the negative, shall be in accurate apposition with the triangle pieces that were cut off.

"By holding this combination so that the lower end rests on the table whilst the plate itself is inclined at an angle of about forty-five degrees, it is evident the porcelain plate will slide down until it is stopped by the two corner pieces, which originally belonged to it. You may remove the porcelain plate as often as you like, it will always regain the same position when restored to the negative under the conditions mentioned. It remains only, therefore, to clamp the two plates together with four clothes pins, one in the middle of each side: more may be used when the plate is large, as for instance, a plate twenty-two inches long and seventeen wide.

"During exposure the cdmbination is reared against a blackboard, or a board covered with a piece of black velvet or cloth to exclude all light from the back."

To Light a Dark Room.

The London *Builder* recommends a plan for lighting a dark room in which the darkness is caused by its being situated on a narrow street or lane. The *Builder* says if the glass of a window in such a room is placed several inches within the outer face of the wall, as is the general custom in building houses, it will admit very little light, that which it gets being only the reflection from the walls of the opposite houses. If, however, for the window be substituted another in which all the panes of glass are roughly ground on the outside, and flush with the outer wall, the light from the whole of the visible sky and from the remotest parts of the opposite wall will be introduced into the apartment, reflected from the innumerable faces or facets which the rough grinding of the glass has produced. The whole window will appear as if the sky were beyond it, and from every point of this luminous surface light will radiate into all parts of the room.

WELDING WITHOUT HEAT.—It is a curious fact that iron, and even steel, can be welded by pressure, or by pressure combined with friction or rubbing. This may be seen in the action of the nail machine where two or three nails or tacks come together between the header and the dies. In this case we may saw across the sections of the connected tacks without discovering any evidence of separation. So sometimes the steel point of an upright shaft turning under a great pressure will weld itself to the step if this is of a metal similar to the steel.

ISSUED FROM THE U. S. PATENT OFFICE

FOR THE WEEK ENDING JAN. 8, 1866.

Reported Officially for the Scientific American.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

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 Reissue	$50
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

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay $500 on application.

☞ Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, 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.

60,987.—BOOTS AND SHOES.—David M. Ayer, Lewiston, Me.

First, I claim forming air cells or spaces between the outer and inner soles of boots and shoes by means of corrugated or fluted sole leather, substantially as described.

Second, in combination with air cells or spaces between the outer and inner soles of boots and shoes, formed by corrugated or fluted sole leather, as described, I claim air ducts or passages communicating with the outer air, substantially as described.

60,988.—PADDLE WHEEL.—Eli Banks, Millport, N. Y.

I claim the combination of the spoke, A, and paddle, B, when made as described and used for the purpose set forth.

60,989.—COMPOSITION FOR LUBRICATING JOURNALS.—Bernard Battle, Pittsburg, Pa., assignor to Daniel Coyle, Soho, Pa.

I claim the preparation of a lubricating compound composed of the above-named ingredients, viz.: animal grease or residuum plumbago, sulphur, steatite, carbonate of magnesia, glue, resin, and hydrate of lime, with or without molasses, substantially as above set forth, and in the proportions and for the purposes above designated.

60,990.—FURNACE FOR STEAM BOILERS.—John Best, Lancaster, Pa.

I claim the prolongation of the outer cylinder, B, of the boiler beyond the flues, when closed with a partial head, N O, and doors, D D, so as to form a chamber, C, directly over the front part of the furnace or fire box, F, constructed in the manner and for the purpose specified.

I also claim the vertical partitions, P, in boilers, in combination with a partition or chamber, I M, for conveying the heat first under, then through a series of flues, E', on one side of the water level, and returning it on the same place on the other side of partition, P, through the flues, E' E'', to the rear of the boiler, substantially in the manner specified.

60,991.—STEAM GENERATOR.—William Branagan, Burlington, Iowa.

I claim applying a jacket, D, to a boiler, which is constructed substantially as described, so that this jacket can revolve around the boiler, substantially as specified.

60,992.—CIDER MILL.—E. W. Branch, East Henrietta, N. Y.

First, I claim the windlass wheel, K, having three separate functions of operation, composed first of the side pin, h, and rod, M, for rapidly turning up the screw wheel, H.

Second, The hand pieces, f, for imparting the initial pressure.

Third, The ratchets, g, and lever, L, for producing the final pressure, arranged and operating conjointly with the screw wheels, H H, and follower, D, substantially as set forth.

Fourth, I also claim the employment of a series of inverted troughs or tiles, V V, closed on their upper sides, but provided with apertures, k k, on a level with the face of the bed, to receive and conduct away the expressed juice, substantially as set forth.

60,993.—HARVESTER RAKE.—Franklin Brua, Gordonville, Pa.

I claim the peculiar construction of the horizontal wheel, o, with its stops or lugs, P, centrally-elevated radiating arms, M, with slots, m, in combination with the elbowed heel, K L, of the rake shaft, T, the whole being arranged and operated in the manner and for the purpose herein set forth.

I also claim the arrangement of the double head, B, center pin or shaft, I, bracket, D, pinion, F, and slotted cog wheel, O, when constructed and operated in the manner and for the purpose set forth.

60,994.—MACHINE FOR MAKING TIN CANS.—Walter S. Buck, Philadelphia, Pa.

First, I claim the cast iron base plate, A, with its recesses, B and G, in combination with the steady pin, L, for the purpose substantially as described.

Second, The expanding metallic cylinder, S, when constructed and adjusted substantially as described.

Third, The combination of the slotted blade, H, with the slotted and vibrating arm, C, and set screws, O, arranged and operating as described.

Fourth, I claim the sliding guides, y, in combination with the cylinder, S, substantially as described.

Fifth, I claim the combination of the pressure arm, C, baseplate, A, and expanding cylinder, S, when arranged and operating for the purpose substantially as described.

60,995.—ROTARY PUMP.—W. Butterfield, Madison, Wis.

First, I claim a rotary pump, having a circular cylinder and the chamber, E, in the casing, so arranged that the valves in passing under the chamber shall force the water out in the opposite direction, as described.

Second, I claim constructing the end plates, H, with the concentric rings, n, forming a bearing for the springs, a, substantially as set forth.

Third, The combination of the cylinder, C, provided with the buckets or valves, D, and set eccentrically in the case, A, in combination with the chamber, E, and the side plates, H, provided with the rings, n, when arranged and operating as set forth.

60,996.—EXTENSION TABLE.—Nelson Carl, Cincinnati, Ohio.

I claim the combination of the central-boxed slide, F, and legs, G, with the ends, A B, of the table, forming the outer slides, the whole constructed and arranged to operate as and for the purposes described.

60,997.—BUTTON.—Hector Carlos (assignor to himself and Henry C. Watson), New York City.

I claim, as a new article of manufacture, the novel button herein described, composed of the body, A, shank, B, confining pivot, C, and pointed hinged part, D D', combined and arranged so as to be applied to the garment and secured thereon, substantially in the manner and for the purpose set forth.

60,998.—BREECH-LOADING FIRE-ARM.—M. J. and H. M. Chamberlin, Springfield, Mass.

First, We claim using the trigger as a brace to support the recoil block, substantially in the manner herein set forth.

Second, So combining and arranging recoil block, hammer, and trigger, that when the recoil block is raised up against the rear end of the barrel and the trigger pulled for the purpose of firing, the recoil block is supported by the trigger, acting as a brace and kept in place by the hammer, and when the recoil block is down and the trigger in the notch of the hammer, it (the trigger) is kept from being pulled out from under the hammer by the recoil block, substantially as herein set forth.

Third, The projection, M, when constructed and arranged in the manner and for the purpose set forth.

60,999.—STAVE MACHINE.—W. S. Colwell and F. Veazie, Pittsburg, Pa.

First, We claim the arrangement of the saws, A and B, arms, 1 and 2, shaft, 3, connecting rod, 5 and 6, and crank, 4, when said arrangement is used for sawing out the concave and convex sides of a stave at one operation as herein described.

Second, The arrangement of the guides, D and D', clamps, e f g and h, provided with arms, J K, rack, m, lever, l, endless screw, i, and wheels 12 and 13, when said parts are arranged and operating as herein described and for the purpose set forth.

Third, The arrangement of the rack, w, wheels, 30, shaft, P, lever, u, provided with pawl, t, when said parts are used in connection with the clamps, e f g and h, as herein described and for the purpose set forth.

61,000.—FEATHERED CLOTH.—Alice A. Condit, Muncie, Ind.

I claim an article of manufacture formed by trimming, folding back, and sewing upon cloth or other material, the feathers of geese, birds, or fowls, as herein shown and described.

61,001.—BED BOTTOM AND SEAT.—Edward S. Cross, Lime Rock, Conn.

First, I claim the spiral spring, E, attached to the end of the slat, B, or of the bedstead, A, by means of an attachment inserted into the end of the spring and having one or more spurs standing in the helical spaces in the spring, so as to allow of being turned, substantially as and for the purpose herein specified.

Second, I claim, in combination with the above, the within-described arrangement of the castings, C and D, and axis, c and d, adapted to turn in the vertical plane, substantially as and for the purpose herein specified.

61,002.—DEVICE FOR HANGING PAINT POTS TO SIDES OF BUILDINGS.—James H. Flagg, Perkinsville, Vt. Antedated Dec. 23, 1866.

I claim the lever, A, and forked brace, B, in combination with each other, in such manner as to provide a device substantially such as and for the purpose herein shown and described.

61,003.—CAR COUPLING.—A. M. Freeman and A. M. Stoner, Springfield, Ohio.

We claim the combination of the shaft, C, bolt, O, and latch, m, when said parts are arranged to operate in connection with each other, substantially as and for the purpose herein set forth.

61,004.—APPARATUS FOR CARBURETTING AIR.—Charles N. Gilbert, John F. Barker, and E. N. Ives (assignors to New England Portable Gas Works Company), Springfield Mass.

First, We claim in a gas apparatus, constructed on the principle beforementioned, arranging the generator in a fire-proof and gas-tight chamber, substantially as set forth.

Second, Arranging a tank for holding the fluid in a separate and detached building, and connecting the same with the generator by means of a force pump and pipes, substantially as set forth.

Third, Arranging the pipes connecting the generator with the tank and pump, in such a manner that the syphons can be filled and the generator emptied from the tank house.

Fourth, The arrangement of the gas-pipe in such a manner that the condensed vapor together with the gas in the generator and pipes can be withdrawn from without the building substantially as described.

Fifth, Heating the generator by means of the radiating box or pipe passing through the chamber outside of the generator, substantially as described.

Sixth, The use of gages for the purpose of indicating the presence of fluid in the generator or pipes, instead of petit cocks.

Seventh, The use of metalic flanges for the purpose of securing the pipes to the generator and tank, constructed substantially as described.

Eighth, The improved form of generator, in which the reservoir, h, is added to the evaporating pans, o, o, o, both enclosed in one case, substantially as described.

Ninth, The attachment of the metallic box B, arranged substantially as and for the purpose shown.

Tenth, The improved can for filling with the union and hose attachment arranged substantially as shown.

Eleventh, The arrangement of the pipes g and v, with the cock p, and the cocks s, communicating with the syphon tubes and the gage P, in such a manner that the syphons may be operated and fluid withdrawn from the pans by the naphtha let down from the reservoir, h, in the manner substantially as described and shown.

Twelfth, The syphon cups, E, E, E, arranged substantially in the manner and for the purpose specified.

Thirteenth, We claim the general arrangement of the gas-tight chamber, with the enclosed closet, having the glass front and metallic door, into which closet the various pipes enter together with the damper-rod, arranged in such a manner that the generator can be inspected and operated without necessitating an entrance to its chamber, substantially as described.

Fourteenth, The general arrangement of the air-tight chamber, with pipes for venting the generator and chamber having the damper, u, and man-hole, w, substantially as described.

61,005.—BEARING FOR SHAFTS FOR STEAMSHIPS.—George K. Gluyas, San Francisco, Cal.

I claim the arrangement of the frame, A, enclosing the adjustable blocks, B, guided by the slides, C, and the blocks, D, and combined with the rubber springs, E, and adjustable screws, F, substantially as set forth for the purpose specified.

61,006.—ARTIFICIAL FUEL.—George Gray, Temperanceville, Pa.

I claim the artificial fuel composed of the ingredients, prepared in the manner and proportions, substantially as set forth.

61,007.—BACK SIGHTS FOR FIRE-ARMS.—Henry Hammond, Hartford, Conn.

First, I claim the combined action of the oscillating disk, i, with the clasp, f, relative to the standard, d, substantially as and for the purpose described.

Second, I claim the oscillating disk, i, with its fastening screw, k, and sight, n, with the standard, d, substantially as described.

Third, I claim the employment of the screw, h, with the oscillating disk, i, and standard, d, substantially as and for the purpose described.

61,008.—INHALERS.—Ira Holmes, Moscow, N. Y.

I claim the cap, C, with its chamber, E, valves, c, i, and tubes, D, F, when arranged in the manner and for the purpose set forth.

61,009.—STONE DRESSER.—B. S. Hunt, Philadelphia, Pa.

I claim the hammer, H, R, and its cutter, c, c, constructed and combined with lever, M, O, lifter, L, F, and springs, S, P, and S' P', regulating nut, M, A, so as to obtain the intended and herein described effect.

Second, The lever, L, pinions, P and P', with gearing and ungearing movement plate, N, S, with notches and lug, N, S—N, S, when combined and constructed in the manner and for the purpose above described and set forth.

Third, Wheels, R, A, and R', A', provided with a rim made of india rubber, gutta percha, leather or any equivalent substance, when combined and constructed in the manner and for the purpose above described and set forth.

61,010.—SELF-LUBRICATING BOLSTER AND STEP FOR SPINNING FRAMES.—Barton H. Jenks, Bridesburg, Pa.

I claim the hard-metal bolster, a, with oil chamber, e, and separated removable bearings, c, c', substantially in the manner and for the purpose described.

Second, The spindle step, g, h, m, constructed in the manner and for the purpose described.

Third, The combination of the bolster, a, c, c', e, step, g, h, m, and spindle, B, substantially in the manner and for the purpose described.

61,011.—SKIRT-SUPPORTER.—John L. Kendall, New York City, assignor to Ellen A. Vail, Southold. Antedated Sept. 23, 1866.

I claim a skirt-supporter composed of a tape or strip of fabric furnished with a hook and eyelets and adapted for attachment to the skirt as and for the purpose described.

61,012.—WRINGING MACHINE.—J. W. Latcher, Albany, N. Y., and John Young, Amsterdam, N. Y., assignors to John Young, Amsterdam.

First, We claim the employment or use of conically-bored wheels, F, F, applied to shafts of clothes wringers, for the purpose shown and described.

Second, We claim in combination with the gears, F', F, the variable bearing-plate, E, all constructed and arranged to operate substantially as set forth.

Third, We claim in combination with the wheels, F, F, and bearing-plate E, the elastic cushion, k, for the purposes set forth.

Fourth, We claim in combination with the conically-bored gear wheels, F, F, and cushion, k, the relay spring, l, for the purpose described.

61,013.—TORCH AND MATCH-SAFE.—William J. Ludlow, Chardon, Ohio.

The described invention is a new article of manufacture.

61,014.—SAWS.—A. C. Martin and J. Woodrough, Hamilton, Ohio.

Inserting the saw tooth in its seat by moving it toward the periphery or edge of the saw and securing it in place by the means, substantially as specified.

61,015.—BARRELING COCKS.—Alexander, John and Thomas McKenna, Pittsburg, Pa.

We claim combining with a barreling cock, a whistle or other contrivance, that will indicate by sound the flow of liquid while filling, and so constructed as that when the liquid reaches the nozzle, the sound will cease, whereby the person in charge may know that the barrel is full.

61,016.—DEVICE FOR PROTECTING HORSES' NECKS.—Jacob P. Meyer, Waukesha, Wis.

I claim the pad composed of the slats, A, flexibly united and having a middle space which spans the sore and ends which rest upon the neck or withers, with or without the cushions, substantially as described and represented.

61,017.—METHOD OF SEPARATING HARD RUBBER FROM PORCELAIN TEETH.—Alexander G. Nye, Weymouth, Mass.

I claim the employment of a bath of heated or boiling fat or oil, in connection with one or more teeth and a mass of vulcanite, in manner and for the purpose as specified.

61,018.—MANGLE.—S. U. J. Foreman and N. Palmer, Auburn, N. Y., assignors to selves and David Lyman, Middlefield, Conn.

First, We claim the application to the rollers of mangles of hard rubber or vulcanite, substantially in the manner and for the purposes described.

Second, Combining and connecting the lever frames in which the stationary and movable rollers are hung by a system of links and levers, arranged substantially as described so that the same may be actuated by hand weight or otherwise, substantially as and for the purposes herein shown and described.

Third, In combination with the movable roller, when hung in the short arms of angular levers for the purpose of adjustment with reference to the stationary roller, we claim the internal and external gear wheels and intermediate pinion under the arrangement shown and described so that the said gear wheels, while at variable distances from each other, shall bear fixed and invariable relations to the said pinion, substantially as and for the purpose set forth.

Fourth, We claim the method of gearing the rolls of mangles, or other like machines, when arranged so as to move with equal or different velocities, but at variable distances from each other by mounting upon the said rolls, respectively, internal and external gear wheels which mesh with an intermediate pinion, stationary with relation to said rolls, substantially as shown and set forth.

Fifth, In a mangling machine, we claim marking and ornamenting the material passing between the mangle rolls, by means of letters or other devices or designs cut or formed in intaglio in one or both of said rolls, substantially as herein shown and described.

61,019.—ORE CRUSHERS.—William P. Parrott and John J. Bordman, Boston, Mass.

We claim the mode herein before described of making either or each of such crushing rollers of a series of peripheral segments or sections, e', a

body, d', d', d', d', and clamp rings, f', f', formed and applied together, substantially as specified.

We also claim the mechanism as described, for imparting reciprocating endwise movements to the rollers of either or each pair of crushing rollers, as described.

We also claim the combination of a movable hopper, a pair of crushing rollers and mechanism for moving the hopper laterally in reference to such rollers, in manner as set forth, while they may be in revolution, as specified.

We also claim the construction of each hopper, viz: with two or more receiving and discharging apartments arranged in it, substantially as and for the purpose specified.

61,020.—PROPELLER FOR VESSELS.—Charles M. Raynale, Birmingham, Mich.

I claim a vessel, constructed with pipes, B B, opening directly astern, and bent at right angles upward, in combination with reciprocating plungers, C, open above, and working vertically in each, said plungers being constructed with outwardly-opening valves, C', and arranged to operate substantially as and for the purpose set forth.

61,021.—HORSE-RAILWAY CAR.—Daniel T. Robinson, Boston, Mass.

I claim so applying the pole of a horse car to its connection or draw bar as to be enabled to disconnect it therefrom instantaneously by itself, or without the whiffletree, essentially in manner and to operate as hereinbefore described.

61,022.—COFFEE POT.—Daniel T. Robinson (assignor to Pane P. Todd), Boston, Mass.

I claim, in combination with the pan, B, and foraminous cup, C, the shield or tube, D, essentially in manner and for the purpose as described.

61,023.—HORSE RAKE.—Andrew V. Ryder, Germano, Ohio.

I claim the above described construction and arrangement of the levers, A and F, in combination with the links, D, for operating the rake by treadle action, substantially as set forth.

61,024.—WATER ELEVATOR.—T. Scholze, Steuben, Ind., and J. B. Bickel, Elkhart County, Ind.

We claim the crank, C, as constructed with an arm and hook, d, in combination with the pawl catch, g, and perforated plate, A, substantially in the manner and for the purpose as herein set forth.

61,025.—SPRING LOCK.—Anthony M. Smith, Brooklyn, N. Y.

I claim the combination of the extension tube, A, and nut, s, the elongated catch, d, and arm, e, operating in recess, o, by means of the set screw, u, substantially as described.

61,026. — FLOUR SIFTER. — Harlow C. Smith, Champaign City, Ill.

I claim the combination of wire, E E, pivot, N, aperture, H, rod, L, rod, I, and hooks, O, as described and for the purpose specified.

61,027.—WRINGING MACHINE.—S. Squires, Boston, Mass.

I claim pivoting the portions, H, to the frame, so that their position can be reversed, for the purpose described.

I also claim, in combination with the above, projecting one end of both shafts, C D, of a wringing machine beyond its frame so that when the portions, H, are reversed, and the position of the rolls thereby changed, the crank may be applied to the lower shaft, as and for the purpose set forth.

61,028.—PAPER BOX.—R. N. Stewart, Philadelphia, Pa. Antedated Dec. 30, 1866.

I claim securing the edges of the pasteboard, of which the said paper boxes are made, permanently together by means of the double clamps, A, of tin sheet metal, constructed and applied substantially as and for the purposes as described.

I also claim the combination with the said double clamps, A, the small metallic loops, a3, substantially as and for the purpose described.

61,029.—ATTACHMENT FOR CENTER BOARDS OF VESSELS.—George Storer, New Britain, and George W. Storer, Portland, Conn.

We claim the screw socket, c, receiving the center pin, d, of the center board, and forming a water-tight connection with the trunk, a, substantially as specified,

61,030.—DECOCTING APPARATUS FOR TEA AND COFFEE.—Eli Thayer, New York City.

I claim a decocting apparatus wherein the main body of water is separated from that portion which saturates the material from which the decoction is made, by some non-conducting material which partially intercepts the heat and circulation, whereby ebullition may be produced in the latter portion of water, and its vapor condensed by the former and cooler portion, substantially as is herein set forth.

61,031.—STEAM GENERATOR.—Eli Thayer, New York City.

First, The discharge chamber, e, in combination with a tubular steam generator, substantially as set forth.

Second, The arrangement of the several doors, n n ww, for feeding the fuel among the pipes constituting the upper grate, and for clearing them of cinders or other obstructions, substantially as set forth.

Third, The feeding chamber, m m substantially as set forth.

Fourth, The upper grate, substantially as set forth.

61,032.—PLIERS.—Sylvanus Walker, New York City.

I claim pliers constructed and arranged substantially as and for the purposes herein set forth.

61,033.—METHOD OF CARBURETING GAS. — C. M. Williams (assignor to Henri L. Stuart), New York City.

I claim carbureting illuminating gas by mixing or combining with it the vapors of volatile hydro-carbons before it is introduced into the service mains for distribution, substantially as described.

Second, I also claim the devices, herein shown and described, for carbureting gas in the holder before its distribution to the service mains.

61,034.—PROCESS OF TREATING CLEANED OR SCALED IRON.—W. Dewees Wood, McKeesport, Pa.

The process, hereinbefore described, of subjecting the iron, immediately after it has been washed in water to remove the remains of acid or alkali, to a hot-air bath in a suitable oven or chamber, heated to a low temperature, sufficient to evaporate all fluids from the pores of the metal, and then, while the iron is yet hot, impregnating it in or coating it with a mixture of oil and turpentine, or other similar fatty or mixture, which will leave a very slight film or coating on its surface, for the purpose hereinbefore described.

61,035.—SASH AND BLIND FASTENER.—Max Adler and Louis Knell, Buffalo, N. Y.

We claim, in a sash and blind fastener combined, the points or beaks, d d, beveled concave, e, bent lever, f, knob, g, and the part, a, of the hinge, in combination with the ratchet wheel, h, and dog, k, substantially as set forth.

61,036.—COMPOSITION FOR ROOFING.—Chilion B. Allen, Chicago, Ill.

I claim the use of pulverized plaster (land or boiled), in combination with slate flour and other ingredients, for roofing, covering the sides of buildings, boat decks, etc., substantially as herein described and set forth.

61,037.—NUTMEG GRATER.—L. V. Badger, Chicago, Ill.

I claim the sector-shaped case, B, having hollow cylinder, H, hung in and between its side plates, D, in combination with the plunger, I, of said cylinder, substantially as and for the purpose described.

61,038.—DUMPING CAR.—J. W. Bancroft, Philadelphia, Pa.

I claim a mining car, supported by large wheels, B, behind, and small wheels, B', in front, in combination with a swinging door, C, latch, b, and yoke, D, all constructed and operating as and for the purpose set forth.

61,039.—CULTIVATOR AND SULKY PLOW.—John H. Barringer, Hillsboro, Ill.

First, I claim the arrangements, herein described, of a combined cultivator and sulky plow connected, and operating separately when the parts are shifted, substantially as herein described.

Second, I claim the arrangement of a shifting plow, E, connected with the beam, a, by the adjustable plates, u u, and suspended in the front by the joint, b, and the bar, c, and in the rear by the hook, e, to the arm, f, and the vibrating bar, g, substantially as and for the purposes herein described.

Third, I claim, also, the arrangement of the shifting cultivators, n n, attached out of line with each other to the bent iron beams, p, and suspended in front by the jointed connections, r, and behind by the hooks, t, to the arms, f1 f2, on the vibrating bar, g, substantially as and for the purposes herein described.

Fourth, I claim, also, the arrangement of a guide rod or lever, k, connected with the draft pole, D, substantially as and for the purpose herein specified.

61,040.—CULTIVATOR.—Henry Barsalow, Saint Anne, Ill.

First, I claim the beams, G, attached to the front of the frame, A, by an adjustable universal joint connection, and suspended by chains near their rear ends to traveling rollers, i, on the raised crossbar, b, of frame, A, substantially as and for the purpose set forth.

Second, The combination of the mounted frame, A, plow or share beams, G G, and detachable seat, E, stirrups and foot piece, E', all arranged substantially as and for the purpose specified.

61,041.—SEEDING MACHINE.—H. Barsalow, Saint Anne, Ill.

First, I claim the curved extension of the hounds, E E, beyond the rear of the bar, C, of the front part of the machine, in combination with the lever, J, provided with the cross bar, L, for the rear parts of the hounds to rest upon, and the segment rack, K, and catch, L', or their equivalents, all arranged substantially as and for the purpose set forth.

Second, The operating of the seed slide, M, automatically from the wheel, I', by means of the gear, l, adjustable gears, i k, rod, Q, and the bent lever, P', all arranged substantially as and for the purpose specified.

Third, The combination of the hinged or pointed rear part or frame, G, of the machine, with the extended hounds, E E, lever, J, with cross bar, L, attached, substantially as and for the purpose set forth.

61,042.—SAW MILL.—J. L. Beers, McAllisterville, Pa.

I claim controlling the feed motion by means of the lever, L, rod, K, pitman, F, pin, b, notched plate, M, T-shaped slotted arm, G, and pawls, H H, arranged and operating substantially as described for the purpose specified.

61,043.—HOT-AIR FURNACE.—Virgil W. Blanchard, Bridport, Vt.

First, I claim the air heater, N, fitted within the fire chamber, A, and arranged or provided with one or more tubes, k k, communicating with the tubular axis, j, and having partitions, l, for the purpose of conveying or transmitting a current of fresh heated air to the combustion chamber, E, and directly in contact with the products of combustion from the fire chamber so that the inflammable gases contained in said products may be consumed within the combustion chamber, substantially as set forth.

Second, The tubes, n o, placed at the inner end of the air heater and arranged as shown, or in an equivalent way for the purpose of ensuring a proper mingling of the fresh heated air with the products of combustion from the fire chamber, within the combustion chamber as described.

Third, The perforations, r, at the end of the space, g, between the tubes, n o, in combination with the perforated disk or valve, s, the apertures, t, of which are inclined or beveled at their ends to deflect the products of combustion from the fire chamber, through the current of fresh heated air issuing from tube, u, as set forth.

Fourth, The tubes, c', d', applied to the inner end of the air heater in combination with the tubes, n o u, the perforated rotary disk or valve, s, and the perforations, r, in the end of the space, q, all arranged substantially as and for the purpose specified.

Fifth, The combustion chamber, E, in combination with the air heater, N, fire chamber, A, and the tube, M, the latter forming a communication between the combustion chamber and a reservoir of oil, water or other substance which may be decomposed and consumed within the combustion chamber, all arranged substantially as and for the purpose set forth.

Sixth, The arrangement of the disk or damper, s, with the tube, u, and rod, v, attached, the latter extending through the tube, j, of the air heater, N, whereby the disk or damper may be turned at will, and the passage of the products of combustion into the combustion chamber, regulated as desired.

Seventh, The slide, a', in the outer end of the tube, j, of the air heater in combination with the disk or valve, s, and draft passage, q, at the inner end of the tube, j, of the air heater for the purpose of regulating the proportion of fresh heated air, and the products of combustion passing into the combustion chamber as set forth.

Eighth, The sliding damper, F, at the rear of the fire chamber, in combination with the air heater, N, and combustion chamber, E, substantially as and for the purpose specified.

Ninth, The ratchet, O, and pawl, P, or their equivalents for the purpose of regulating the position of the air heater within the fire chamber, as set forth.

Tenth, The arrangement of the pipes, K, in the compartment, G, in the case, D, above the fire chamber, in combination with the tubes, L fitted within the pipes, K, and the compartments, H I, cold air spaces, d d, and tubes, M, provided with necessary valves, all arranged to operate in connection with the fire chamber of the furnace, substantially as and for the purpose specified.

61,044.—HAY STACKER.—Joseph T. Breneman, Springfield, Ohio.

I claim the construction and arrangement of the rollers, D, sheaves, E, block, C, catch, F, arm, H, links, I, and rope, L, substantially as and for the purpose set forth.

61,045. —MEDICATED PLASTER.— W. S. Bright and J. G. Morey, New Orleans, La.

We claim a medicated plaster made and coated with a medicated compound formed of the ingredients mixed together in and about the proportions named, substantially as and for the purpose described.

61,046.—HEAD BLOCK FOR SAW MILLS.—Albert Buell, West Leyden, N. Y.

I claim placing the log in a position to be sawed in levels by means of movable cleats, b, screws, f, and adjusting screw, e, held by the holding screw, a, arranged and operating substantially as described for the purpose specified.

61,047.—CAR COUPLING.—C. C. Cady, West Union, Iowa.

I claim the fixed hooks, B, in combination with the link raisers, D, connected to levers, E, the springs, F, and the link, C, all arranged and applied to draw heads, A A, to operate in the manner substantially as and for the purpose set forth.

61,048.—BRICK MACHINE.—J. F. Carman (assignor to himself, John W. and Lee W. Fulton), Springfield, Ill.

First, I claim the sliding box, A', provided with the plate, C', in combination with the fixed molds, D', and the plungers, E, all arranged to operate in the manner substantially as and for the purpos set forth.

Second, The sliding bottom, K, operated substantially as shown in combination with the fixed molds, D', plungers, E, and the plate, C', on the sliding box, A', substantially as and for the purpose specified.

Third, The adjusting of the bottom, K, to regulate the supply of clay to the molds through the medium of the rod, m, pinions, l k, screw rod, L, and nut, j, substantially as set forth.

Fourth, The pulverizing or reducing of the clay by means of the oscillating screen, C, and the teeth, c, on the rotary shaft, F, substantially as shown and described.

61,049.—CENTER BOARD FOR VESSELS.—Robert Chambers, Detroit, Mich.

First, I claim the keel box, A, having fixed keel, a', and piece, a, forming passages for the center boards, B b, pivoted thereto, having ratchet edges, t, in combination with the striking device, g, of the belt, D, substantially as and for the purpose specified.

Second, The center boards, B b, operating in combination with the alarm bell, D, for the purpose described substantially as specified.

61,050.—ROLLER TEMPLE FOR LOOMS.—Nathan Chapman, Hopedale, Mass.

I claim the use of two ribbed or grooved rollers, or one ribbed or grooved roller and one plain roller, arranged in separate frames and pressed toward each other or the cloth by a spring, and allowed to turn freely as the cloth is drawn through between them.

61,051.—BUTTER TONGS.—J. S. Clark, Auburn, Mass.

I claim the combination of the blades or plates, A A, with the wire coiled and bent, substantially in the manner and for the purposes herein shown and described.

61,052.—STEERING APPARATUS.—Eben S. Coffin, Boston, Mass.

First, I claim the combination and arrangement of the screw shaft, E, barrel, G, ropes, F, quarter blocks, H, tiller, C, and rudder post, B, in the manner as and for the purpose specified.

Second, Giving a longitudinal movement to the barrel, C, and shaft, E, so that the said barrel may move forward or aft at each turn of the wheel, D, a distance equal to the diameter of the wheel rope, F, substantially as herein shown and described and for the purpose set forth.

61,053.—PAINT BRUSH.—W. Cover, Jenners X-Roads, Pa.

First, I claim a brush provided with a tubular handle, B, and having the reservoir, C, attached thereto, substantially as shown and described.

Second, The combination of the brush, A, tubular handle, B, reservoir, C, and the compressing device, E b, arranged to operate substantially as set forth.

61,054.—COAL SCUTTLE.—B. F. Cowan (assignor to himself, J. D. Shewell and John Sumner), New York City.

I claim making the bottoms of coal scuttles of plates having slots or openings and solid parts intermediate, and so arranged that the slots are opened and closed by the oscillation of one of the plates, substantially as above described.

61,055.—LOCK.—Lewis P. Decker, Williamsburg, N. Y.

First, I claim the combination of the pivoted bolt, D, male screw, E, and female screw, F, with each other and with the body, A, of the lock, substantially as herein shown and described.

Second, The combination of the rubber packing, C, with the beveled or hollowed shoulders, b,' of the link, B, substantially as shown and described.

61,056.—CEMENT COMPOSITION FOR PAVEMENTS, FLOORS, ETC.—Bernard Doud (assignor to himself and A. Holmer,) Cortland, N. Y.

I claim the composition cement for the construction of cellar and stable floors, vaults, walks, drives and pavements, and roofing for buildings, etc., composed and applied in the manner substantially as set forth in the foregoing specification.

61,057.—PORTABLE FENCE.—Philip S. Dusenbury, Boscobel, Wis.

I claim the arrangement and combination of the foot block, D, yoke, B, stake, C, and notched and interlocking rails, A, as and for the purposes specified.

61,058.—POTATO DIGGER.—W. H. Elliot, New York City.

First, I claim the support, h, in combination with shaft, a, and tines, f, substantially as and for the purpose described.

Second, Handle, l, with one or more auxiliary handles in combination with a support, h, or their equivalents, for the purpose set forth.

Third, Joint, i, in combination with two or more handles, substantially as herein shown.

Fourth, A joint, i, in combination with an elongated foot, k, substantially as and for the purpose specified.

61,059.—WATER WHEEL.—W. H. Elmer, Fair Water, Wis.

I claim a horizontal water wheel provided with buckets, G, composed of radial and segmental portions, b c, as shown, in combination with a central case, E, and chutes, F, all arranged to operate substantially in the manner as set forth.

61,060.—STEAM GENERATOR.—Robert Faries, Marsa, Ill.

I claim the combination of the parallel pipes, C C, perforated cross pipes, D, elbow pipes, G, secured as described and plate, H, substantially as and for the purpose specified.

61,061.—BURGLAR ALARM FOR SAFES, ETC.—B. G. Fitzhugh, Baltimore, Md.

I claim, in combination with a fire-arm block on the inside of such safe, or other apartment or receptacle, a lever or arm connected with the door thereof and controlled by suitable guides so that the act of closing the door from the outside shall connect the lever or arm with the dog or sere lever of the lock, and the opening of said door trip the hammer and fet it fly upon the cap or fire a charge of powder, substantially as described.

61,062.—STEAM-ENGINE LUBRICATING CUP.—Thomas Fleetwood, Carleton, N. B.

I claim a self-rendering tallow cup for lubricating steam engines, constructed and operated substantially in the manner herein described,

61,063.—MEDICAL COMPOUND.—John Gregory, Marion, Ohio.

First, I claim the application of petroleum oil produced directly from the pipes of the well with its natural gases, as and for the purposes specified.

Second, The use of the above-described chemicals, in the manner substantially as and for the purposes set forth.

61,064.—COMPOSITION FOR COATING SHIPS' BOTTOMS.—W. J. Hay, Lymington Lodge, Southsea, England.

First, I claim protecting iron and wooden ships, caissons, dams, and other wooden or iron structures from decay and from fouling, by coating or covering the same with the materials, and in the manner hereinbefore described; and

Second, Preparing the materials for the purposes aforesaid in the manner hereinbefore described.

61,065.—PASSENGER REGISTER.—William Helffricht, Philadelphia, Pa.

First, I claim a box capable of being opened at pleasure and containing a roll of paper on which is printed a continuous series of tickets, the paper passing through a slit or opening against the edge of which it can be torn off, all substantially as and for the purpose set forth.

Second, The combination of the pulley, B, containing the roll of paper and the rollers, D and E, in combination with the casing or box, A A', having a slit or opening in front for the passage of the paper, the whole being constructed and arranged substantially as described.

61,066. — WATER WHEEL. — Jason Hemenway, Durfield, Mich.

I claim the pivoted buckets, C C', connected with the ring, E, on the wheel shaft, F, by rods, D, in combination with the bent lever, G, rod, H, and screw, J, all arranged to operate in the manner substantially as and for the purpose herein set forth.

61,067.—WASHING MACHINE.—J. S. Hittell, San Francisco, Cal.

I claim the combination of the wheel (made of the axle, C, the paddles, E E E E, and handle, D), with the cross board, A, and a pivot or socket at the base of the axle to keep it in place.

61,068.—APPARATUS FOR FORMING BOILERS.—W. W. Hornberger, Chicago, Ill.

First, I claim the springs, A, arranged to operate in connection with the arms, C, pivoted to the bar, B, in combination with the bars, D, operated by the bolt, E, and nuts, c, substantially as described.

Second, I claim the frames, F F', united by the screw bolt, E, when arranged to operate as and for the purpose set forth.

61,069.—PUNCH.—Richard Hughes, Virginia City, Nevada.

I claim the holder, A, having spring arms, or jaws, C C, socket, E, to receive needles, b, and separating plates, c, substantially as and for the purpose described.

61,070.—WHIP STOCK.—Liveras Hull, Charlestown, Mass.

I claim the improved whip stock made substantially as described, viz., with each of its rattan strips, b, having its joint with the next strip arranged in the plane of that face of the heart piece to which the former strip may be applied, the strips and heart piece being glued together and subsequently turned into shape, as set forth.

60,071.—COMBINED CORN PLANTER AND CULTIVATOR.—Marshall J. Hunt, Rising Sun, Md.

I claim hinging the rear of the cultivator frame to the axle and to a lever in close proximity to the driver's seat and supporting its front by a tongue and the necks of the team so that it may be self raising to pass over any obstruction, and be raised by the driver when desirable to do so and held up by a catch, substantially as herein described.

I also claim, in combination with the standards or down hangers, b, a cast or other iron socket or stock, L, with wings, o o, for holding the cultivators and allowing them to be adjusted, removed or replaced, substantially as described.

I also claim a removable and replaceable bed or frame, M, for carrying a seeding mechanism substantially such as described, so that the machine may be used for laying off the ground, planting corn, and cultivating it in rows, as herein described and represented.

60,072.—ATTACHMENT FOR STILLS TO TEST THE PROOF OF SPIRITS.—William James, Richmond, Va.

I claim the combination of the indicator tube with the bend or depression in the pipe through which the spirits is conveyed, whereby I am enabled continuously to test the strength or proof of the spirits passing through said pipe, substantially in the manner and for the purpose described.

I also claim the arrangement of the valves or vent pipes in combination with the still or worm pipe and the indicator tube for preventing the formation of a vacuum and equalizing the pressure, substantially as described.

I also claim the employment of the vent or discharge pipe at or near the base of the indicator tube, substantially as described.

61,073.—EYE GLASS.—E. H. Josselyn, Cambridge, Mass.

I claim the extensions, c c, either as part of the frames, a a', or fastened to the same by any suitable fastening, substantially as described and for the purpose set forth.

61,074.—ELECTROTYPE DIE FOR MAKING IMITATION STRAW GOODS.—John L. Kendal (assignor to himself and R. H. Trested), New York City.

I claim the within-described process of preparing a die and counter die for pressing textile and other fabrics in imitation of straw, as set forth.

61,075.—PLOW.—John W. Lewis, Fetterman, West Va.

I claim the combination with the casting, A B C, forming the sheath, mold board, and landside, of the separate reversible share and the wrought portion, E G F, forming the cutter point and sole, the whole substantially as described and represented.

61,076.—HAND CORN PLANTER.—W. C. Lewman, Kansas, Ohio.

I claim a hand corn planter which is composed of the blades, A B and C, of the flexible partition or walls, F G and H, and the four seed slides, b b and c c, which slide in the seed boxes, D and E, all made and operating substantially as and for the purpose herein shown and described.

61,077.—WIND MILL.—Robert O. Lowrey, Taber, Iowa, assignor to himself and E. N. Kellogg.

First, I claim the application of the stops, h, to hinged arms, e e', which are connected together in pairs, and acted upon by a loaded sliding ring, G, upon the shaft, B, substantially as described.

Second, The combination of the stops, h, arms, e e', and wings, D, in such a manner that the stops, when tripped, will again assume vertical positions, substantially as described.

Third, Providing adjustable stops, h, on each side of the radial arms to which the wings, D, are pivoted, for supporting the latter in the two positions which they assume in each revolution, substantially as described.

Fourth, Providing for allowing the stop arms, e e', of the upper and lower series to separate vertically when forced outward, employing the curved rods, f' f', for effecting this object substantially as described.

61,078.—MACHINE FOR CLEANING AND GINNING COTTON.—George Macdonald, Aston, England.

I claim making the acting surfaces of cylindrical buffs to be substituted for the rollers ordinarily employed in machinery or apparatus for cleaning or ginning cotton, and other fibrous substances of compressed fiber, substantially as hereinbefore described and illustrated in the accompanying drawing.

61,079.—SAWING MACHINE.—J. M. Marston, and H. R. Huling, Roxbury, Mass.

We claim the slotted curved support, K, attached to the lower feed roller, M, and screw, E, for the purpose of allowing different-sized gear wheels to be placed upon the spindle, A, of the support, K, so as to regulate the speed of the machine, when all are constructed and arranged as herein shown and described.

61,080.—CORK SCREW.—Wm. C. McGill, Cincinnati, Ohio.

First, As a new article of Manufacture, I claim the parts, A B C D E, and G, constituting an instrument for drawing corks, cutting wire, and opening cans.

Second, The arrangement of parts, A B and G, constituting a combined cork screw and can opener.

Third, The can opening instrument, consisting of the handle, A, blade, B, shearing bar, C, and foot, D, arranged and operating as set forth.

Fourth, The arrangement of parts, A B, and C D E, constituting a combined can opener and wire cutter.

Fifth, The described arrangement and combination of the right and left hand screw on one stem, F G, with the rest or foot, I, and handle, A, as and for the purposes set forth.

61,081.—EVAPORATOR.—J. A. McKinney, Griggsville, Ill.

First, I claim the skimmer, T, and carriage, W, constructed and arranged as herein described in combination with each other with the pan, M, and with the supporting frame, X, substantially as herein described, and for the purpose set forth.

Second, Operating the slide gates, J, with levers, K, constructed and arranged substantially as herein described, and for the purpose set forth.

61,082.— BREECH-LOADING FIRE-ARMS.— Isaac M. Milbank, Greenfield Hill, Conn.

I claim the spirally grooved locking bolt, D, operating in combination with the fixed screw, h, and pivoted breech block, C, on the rear of the breech receiver, substantially as and for the purpose set forth.

61,083.—PLOW.—J. and E. P. Miles, Bloomingdale, Ind.

We claim the arrangement of the curved sliding plate, e, connected with the elbow lever arm, m, by the rod, n, and operated by the arm, m', in combination with the spring p, or its equivalent, for cleaning a plow of grass and weeds, substantially as herein described.

61,084.—DRINKING CUP.—Alexander Millar (assignor to himself and E. A. G. Roulstone), Roxbury, Mass.

I claim the construction or formation of the cup, with a base composed of a stepped flange on the bottom piece, substantially as described.

61,085.—STEAM GENERATOR.—Joseph A. Miller, New York City.

I claim the sectional boiler, constructed substantially as shown and described, and made up of the pipes, A', with their diaphragms, S', constituting steam generating spaces, d', and return water passages, e', arranged in relation to the steam space and fire grate of the boiler in combination with cross pipes situated below the latter, the whole being bolted or united together, essentially as specified.

61,086.—STEAM GENERATOR.—Joseph A. Miller, New York City.

I claim the sediment collector, constructed substantially as herein represented and described for use in connection with vertical water tubes of a steam boiler, essentially as herein set forth.

61,087.—RETURN GRACE HOOP.—Francis Munson, Cincinnati, Ohio, assignor to himself and J. W. Layman.

I claim the combination of the grace hoop, A, with the elastic thongs, B C, for the purpose herein described and set forth.

61,088.—HOOP SKIRT.—Cæsar Neumann, New York City.

First, I claim a hoop skirt with its upper wires closed by means of a spring clasp substantially as described and represented.

Second, A hoop skirt, with its upper opening wires arranged in sections and provided with spring catches for the purpose described.

61,089.—MAGNETIC BRAKE FOR CARS.—Joseph Olmsted, Knoxville, Ill.

First, I claim the arrangement of the magnet, D, armature, E, lever, F, with the shaft, G, clutches, H J, and gear wheel, I, operating substantially as and for the purposes described.

Second, I claim the combination and arrangement of the shaft, G, clutches, H J, gear wheel, I, and spur wheel, K, with the axle substantially as shown and described.

61,090.—CONSTRUCTING LATCH BOLT.—Solomon Oppenheimer, Peru, Ind.

I claim the peculiar manner and means by which the two several parts are connected and held together, namely, the additional prongs, A A, and the raised flanges, c c, on the same forming clamps for holding the shank firm and steady. I also claim affixing side flanges, a' a', and beads or projections, b b, to the shank for the purpose as stated, also the grooves in the clamps for the said beds or projections to fit into.

61,091.—CULTIVATOR.—R. B. Parks and J. R. Parks, Neponset, Ill.

First, We claim the angular bars, H, pivoted to bar, I, and connected with the treadles, J, by link, e, in combination with the beams, D, and operating substantially as described for the purpose specified.

Second, The pivoted bars, L, in combination with the plows, K, and standard, E E', and set screw, g, substantially as described for the purpose specified.

61,092.—LAMP CHIMNEY CLEANER.—Richard Pattin, Marietta, Ohio.

First, I claim forming the rings or eyes by which the two wires are connected out of the body of the wires, instead of additional pieces, in the manner set forth.

Second, The wires, H and K, arranged to move freely one upon the other, in combination with the elastic metallic strips, G, substantially as described.

61,093.—DAMPER.—W. W. Paxson, Point Pleasant, Pa.

I claim the new article of manufacture herein described being a section of stove pipe with snaged deflector, a, cleats, b, and slide, B, as and for the purpose set forth.

61,094.—ARTIFICIAL TRIPOLI FOR POLISHING.—Thomas J. Platt, Newark, N. J.

I claim a polishing material composed of the substances herein named and described, substantially as and for the purposes set forth.

61,095.—GRAIN BIN.—Orin J. Porter, Hudson, Ohio.

I claim the rib, C, groove, D, rollers, E, and bin, B, in combination with the counter or its equivalent, for the purpose and in the manner as set forth.

61,096.—FLY TRAP.—Henry H. Potter, Carthage, N. Y.

First, I claim the vessel, C, in combination with the two pans, A A, for receiving the remains of the entrapped flies, when the pans are opened, substantially as herein shown and described.

Second, The bent wires, a a their upper arms supporting the pans, A A, and their lower end interlocking and holding the pans open until released by the detent, f, as and for the purpose specified.

61,097.—WRENCH.—Thomas Pratt, Valparaiso, Ind.

I claim a wrench in which the jaw, A, is formed by a solid extension of the handle, and the movable jaw, B, is connected therewith by the stem, C, passing through a mortice at the base of the jaw, A, being retained in place by the pressure of the spring, D, upon the side thereof, substantially as set forth.

61,098.—DISTILLING APPARATUS.—Lyman Pray, Charlestown, Mass.

I claim the arrangement of one or more shelves, d e, in the fire chamber, B, of a still to operate in combination with the still A, flues, f g h, and dampers, f' g' h', substantially as and for the purpose set forth.

61,099.—EYE GLASS.—James Prentice, New York City.

I claim the nose pieces, a a, on the eye glasses, A A, extending from a point below the center of the glass to a point above said center, with gradually increasing width, in order to conform to anatomy of the nose, as herein shown and described, and for the purpose specified.

61,100.—PAPER COLLAR.—Geo. W. Ray (assignor to Ray & Taylor), Springfield, Mass.

I claim paper, whether plain or enameled, embossed, either before or after its conversion into articles of wearing apparel, by means of a woven fabric applied under pressure, substantially as herein described and for the purpose set forth.

61,101.—(A.)—SEWING MACHINE.—Geo. Rehfuss, Philadelphia, Pa., assignor to the American Button-hole, Cording, Braiding and Machine Co., New York City.

I claim the combination of a stationary sewing machine and two inclined rails which are traversed by a truck or carrier adapted for the reception and retention of a fabric to be sewed, when the required traversing motion is imparted to the said truck by the operation of the feed device of the machine, substantially as described.

61,102.—(B.)—SEWING MACHINE.—Geo. Rehfuss, Philadelphia, Pa., assignor to American Buttonhole, Cording, Braiding and Machine Co., New York City.

I claim, First, A hook, y, in combination with a reciprocating eye-pointed needle bent near its lower end and with the within-described operating devices or their equivalents, the whole being constructed and arranged for joint operation substantially as set forth.

Second, The lever, I, constructed for the retention, removal and replacement of the loop-carrying bars, J or J', substantially as described.

Third, The said lever, I, and its loop-carrying bar, J or J', in combination with the within-described devices or their equivalent, whereby the said bar can be readily adjusted to act in conjunction with the needle for forming the edge binding or for making the ordinary loop stitch.

61,103.—(C.)—SEWING MACHINE.—G. Rehfuss (assignor to the American Buttonhole Sewing Machine Co.), Philadelphia, Pa.

I claim, First, The adjustable jaws, k, k', with their ribs or flanges, s t, constructed and adapted for attachment to a sewing machine, substantially as and for the purpose described.

Second, The pins, i i, applied to a feeding device and combined with a slotted presser foot in to the slot in which the pins project, when above the work plate, substantially as and for the purpose described.

Third, The adjustable plate, K, with its inclined projection, r, constructed and adapted for attachment to a sewing machine, substantially as and for the purpose set forth.

61,104.—SPINNING MACHINE.—John Rich, Worcester, Mass., assignor to himself, D. Ruggles, J. E. Bacon, Worcester, Mass., and A. Daniels, Franklin.

I claim opening and closing the fingers on the twisting tubes by the motion of the bar or the equivalent thereof, substantially as and for the purpose specified.

And I also claim delivering the roving by the rolling of the periphery of the roll of roving on the spool against the surface of the delivery plate, operated substantially as and for the purpose described.

61,105.—STEAM-ENGINE SLIDE VALVE.—W. B. Robinson, Detroit, Mich.

I claim, First, Making packing rings or packing strips of differential surfaces and with the recess, o, substantially as described.

Second, I claim the holes, p, through the flange, g, in combination with the packing rings or strips, substantially as set forth.

61,106.—CURTAIN FIXTURE.—Chas. Rose, Allentown, Pa.

I claim the arrangement of the toothed nut, H, the lever, I, and spring, L, with the disk, F, shaft, D, and roller, A, the several parts being constructed and used as and for the purpose specified.

61,107.—FRUIT AND ICE HOUSE COMBINED.—J. S. Ross, Hiram, Ohio.

I claim, First, The special arrangement of the fruit and ice rooms, when constructed and combined with a suitable building, as and for the purpose described.

Second, The mold or frame, E, with adjustable tapering sides or ends, in combination with the pan or vat, H', substantially as and for the purpose described.

61,108.—BRICK MACHINE.—Wm. A. Shepard (assignor to himself and John M. Morehead, New York City.

First, I claim the combination of the hopper, F, rollers, G and H, and screw, E, with each other and with the revolving horizontal wheel, V, substantially as herein shown and described.

Second, The combination of the pitman, R, arm, S, hub, T, pawl, I', with each other and with the ratchet wheel, H, of the wheel, V, for the purpose of revolving the said wheel intermittently, substantially as herein shown and described.

Third, Operating the plungers for the double purpose of pressing the brick and delivering them from the molds by toggle bars, when constructed as herein shown and described.

Fourth, The combination of one or more sets of toggle bars, Z, and sliding blocks, X, with each other and with the plungers, W, and wheel, V, substantially as herein shown and described.

Fifth, The combination of the pitman, A', and arm, B', with the toggle bars, Z and Z', and with the hub, T, substantially as herein shown and described.

Sixth, The combination of the plate, L', and arm, K', with the pitman, R, arm, S, and wheel, V, substantially as here shown and described and for the purpose set forth.

Seventh, The sliding bar, D', in combination with the toggle bar acting upon the follower.

60,109.—LUBRICATING JOURNALS.—Nelson S. Snedeker, Philadelphia, Pa.

I claim a lubricator composed of woolen plush interwoven with a wire warp and united to metallic back with rivets or their equivalents.

61,110.—STUMP EXCAVATOR.—David Stauffer, Spring Hills, Ohio.

I claim the inverted frame B B and C C, set upon runners, A A, combined with the levers, D D, working in C C, and operated by moving the fulcrum bolts, b b, in the holes, a a', and alternately lifting and depressing the levers, for the gradual extraction of stumps, constructed and arranged to work substantially as herein described.

61,111.—WOOD LATHE FOR TURNING KNOBS.—J. Stevens and J. A. Way (assignors to John H. Session), Bristol, Conn.

First, We claim the cylinder, C, in combination with the notch wheel, Q, ratchet bar, R, lock bar, R2, bolt, S, and actuating pin can, T, for the purpose of giving periodical movement to said cylinder, C, substantially as described.

Second, We claim the tool stocks, 1 2 3 4 5 6 7, in combination with the cams J, arranged upon the plate, K, lever, U3, with its connecting arms actuated by the cam, T4, substantially as and for the purpose described.

Third, We claim the clearer clutch, M, in combination with the lever, O, and cam, P, vibrating spindle, N, substantially as and for the purpose described.

Fourth, We claim organizing in one machine the above enumerated successive operations for turning, finishing, and clearing the knobs from the machine, as described, when arranged substantially as set forth.

61,112.—EVAPORATOR.—Joseph J. Stout, Greensburg, Ind.

First, I claim constructing the pan of an evaporator with inclined longitudinal partitions forming compartments arranged one higher than the other, and with alternately disposed openings, so that the juice shall flow from the central and highest part through the length of all the partitions, substantially as and for the purpose set forth.

Second, I claim the rod, F, and bars, E E, in combination with the set screw, I, and valve, D, substantially as and for the purpose set forth.

Third, Constructing the bottoms of evaporators with corrugations or other irregularities of surface, substantially as and for the purpose set forth.

Fourth, I claim the arrangement of the grate bars, B, and grated guards, B', substantially as and for the purpose set forth.

61,113.—BIT STOCK.—A. W. Streeter, Shelburne Falls, Mass.

I claim the combination of two griping jaws, an undivided socket to control the end of the shank of a tool and a locking ring turning concentrically around the socket to close and unclose the griping jaws upon the tool all being and acting in combination, substantially as specified.

61,114.—DITCHING MACHINE.—Geo. Sullivan, West Liberty, Ohio.

I claim a ditching machine constructed, arranged and operating as herein shown and described.

I claim the windlass and crane in combination with the inclined guide frames, substantially as described.

61,115.—GATE.—W. W. Sutliff, Town Line, Pa.

I claim the lever, C, the weight, D, and the rod, d, constructed and arranged substantially as herein shown and described, in combination with a gate or door, as and for the purposes set forth.

61,116.—TARIFF INDICATOR FOR TELEGRAPHS.—Edward De Loss Sweet, Chicago, Ill.

I claim in combination with a map, M, the arrangement of a tape or its equivalent, divided into spaces or divisions numbered as shown, said spaces being so proportioned as to indicate upon said map the variable tariffs adapted for varying distances, substantially as herein described and shown.

61,117.—ALLOY FOR SABOTS OF PROJECTILES.—Thomas Taylor, Washington, D. C.

I claim an alloy for a composition for metallic sabots of projectiles, within the limits or proportions described, and for the purpose set forth.

61,118.—BELT COUPLING.—Eli Thayer, New York.

I claim the key as shown in Fig. 2, in combination with the clasp and belt, as shown in Figs. 1 and 3.

61,119.—BOOTS AND SHOES.—Eli Thayer, New York.

I claim the making the tap-soles of boots and shoes in several transverse sections of leather, substantially as set forth.

61,120.—DISTILLING PETROLEUM.—Alexis Thirault, New York.

First, I claim the apparatus constructed as above described, the object of which is, to secure a continuous distillation by one single operation, being a combination of boilers, A B C, and the tar-cock, F, with the hot-air chamber, U, and all the pipes and other parts composing the said apparatus.

Second, I claim separately as my invention, the still composed of boilers, A B C, as to their form and combination, for the use and purpose above described.

Third, I claim separately as my invention, the tar-cock, F, as to its construction, the object being to clear the still of all residuum without retarding the distillation.

61,121.—BORING TOOLS.—Nathan Thompson, St. John Wood, England.

First, I claim the construction of a tool of a thin cylinder and axis, for cutting a hollow cylinder out of wood, substantially as herein shown and described, and

Second, I claim the employment of thin steel cylinders, a, and short tubes or cylinders, c, for cutting a series of hollow cylinders out of wood, in the manner and for the purpose substantially as herein shown and described.

61,122.—COFFEE POT.—Howard Tilden, Boston, Mass.

I claim the use of the strainer, E, in form as shown when provided with the rim, F, and the air chamber, D, in combination with the cylinder, C, the tube, g, and the body of the pot, A and B, the whole constructed substantially as described and for the purpose set forth.

61,123.—PORTABLE FENCE.—Daniel Unthank, Spiceland, Ind.

I claim a portable fence having its posts formed of two upright bars or posts, A A, connected by pins, B B', in combination with the braces, C F, either or both, and the notched bars, D D', fitted on the pins, B B', substantially as and for the purpose set forth.

I also claim the bars, D', in connection with the blocks or supports, F, between the bars, D', and the bars, D, below them, substantially as and for the purpose set forth.

I further claim the supplemental vertical strips, a*, attached to the bars, D, of the end panel at the angle of the fence, in combination with the notched bars, D*, of the panel which forms the other side of the angle, substantially as and for the purpose set forth.

61,124.—APPARATUS FOR WASHING ORES.—Richard Uren, Houghton, Mich.

I claim washing ores or minerals by causing the same to flow across a revolving belt, substantially as and for the purposes described.

61,125.—REFINING PETROLEUM AND LUBRICATING OILS.—P. H. Vander Weyde, M. D., Philadelphia, Pa.

First, I claim the heating of the heavy petroleum in a steam coil in the manner described, there preparing it for the filter, and in the same time saving and condensing the vapors arising, namely, gasoline, naphtha and benzine.

Second, The combination of this continuous heating apparatus with a percolator or filter, substantially as described.

Third, The rapid draining, cleaning and partial drying of the exhausted filtering or percolated material, by placing it in the elongated boxes described, and submitting it to the action of a centrifugal machine.

Fourth, The manner of reviving, by distillation in a retort, the filtering material, producing in the same time a quantity of kerosene for illuminating purposes.

61,126.—INVALID CHAIR.—James B. Wallace (assignor to himself, R. Walling, and Joseph Crook), Franklin, Ohio.

First, I claim the leg-support, E, hinged to the arm-rests, F, and pivoted to the bottom, C, below its juncture with the arm-rests, by the plate, H, in the manner described and for the purpose specified.

Second, The bottom, C, in combination with the standard, B, cyma reversed springs, a a a, and legs, A, substantially as herein set forth, and for the purpose specified.

61,127.—WATCH CASES.—Benjamin J. Warner, Brooklyn, N. Y.

I claim the hinged ring, e, applied between the lid, c, and body, a, and fitted for the reception of pictures, and provided with catches, substantially as and for the purposes set forth.

I also claim the ring, e, snapping outside of the flange of the opening, receiving the glass or crystal, and securing the same in place as shown.

61,128.—BLACKING-BOX HOLDER.—Amos Wilder, Calais, Me.

I claim as a new article of manufacture the holder, consisting of the bent wire, A B, formed of one piece as herein described, and having a ferule, D, as herein set forth and for the purpose specified.

61,129.—FRUIT STEP-LADDER.—James F. Winchell (assignor to himself and George C. Steele), Springfield, Ohio.

First, I claim the combination of the ladders, A and B, when constructed and arranged to operate substantially as shown and described.

Second, The circular brace, C, when arranged as shown for locking the part, B, in position.

Third, I claim pivoting the ladder, B, by means of the hinge, D, made to embrace the bars, A, as shown and described.

61,130.—FRUIT-DRYING HOUSE.—James F. Winchell, assignor to himself and George C. Steele, Springfield, Ohio.

I claim a dry-house constructed substantially as described, and having the pipe, H, with its valve, m, and the return flue, E, combined and arranged for joint operation, as herein described.

I claim the removable bottoms, p, constructed of wire gauze or its ebuivalent, arranged to be used in connection with the drawers, D, substantially as herein set forth.

I claim providing the drawers, D, with the guide pieces, t, as shown and described.

61,131.—MODE OF BURNING HYDRO-CARBON LIQUIDS AS FUEL.—A. J. Works, Fair Haven, Conn.

First, I claim the combustion of naphtha, crude petroleum, or any other liquid hydrocarbon, on an open surface or receiver, connected or surrounded with air channels in connection with ignited hydrogen gas, the flames of both uniting while in a state of combustion, substantially as and for the purpose set forth.

Second, I also claim the arrangement of a series of receivers, two or more, in combination with each other, and with a suitable supply pipe, constructed and operating substantially as and for the purpose described.

Third, I also claim the secondary receiver, B, in combination with the main receiver, A, substantially as and for the purpose described.

Fourth, I also claim the central air channel, c, and annular air channel, d, in combination with the receiver, A, constructed and operating substantially as and for the purpose described.

Fifth, I also claim the decomposer, F, provided with jet openings, f, near its bottom, in combination with the jacket, E, receiver, A B, and air channels, c d, all constructed and operating substantially as and for the purposes set forth.

Sixth, I also claim the hood, G, in combination with the jacket, E, decomposer, F, receiver, A B, and air channels, c d, all constructed and operating substantially as set forth.

61,132.—MACHINE FOR ROUNDING LEATHER.—Josiah Yeager, Berrysburg, Pa.

I claim the employment of the tubular cutter, arranged and operating substantially as and for the purpose described.

I also claim the arrangement of the guide or perforation in relation to the tubular cutter, substantially as and for the purpose described.

I also claim the employment of a series of cutters and guides, mounted upon the drum, c, or its equivalent, substantially as and for the purpose described.

I also claim making the cutter adjustable upon the drum or cylinder by means of the wedge and set screw, or equivalent devices, substantially as described.

I also claim the drum or cylinder, mounted in the uprights or standards in such manner as to be free to turn in bearings therein, in combination with a means for setting or holding the said drum, together with the cutters, in any desired or convenient working position, substantially as described.

RE-ISSUES.

2,447.—HAND PEGGING MACHINE.—William N. Ely, Stratford, Conn., assignee of E. M. Stevens, Patented Aug. 6, 1861.

I claim, First, Feeding the machine forward upon the work by means of the awl, or a piercing instrument, substantially as described.

Second, Graduating the spaces between the peg holes by regulating the throw of the awl substantially as described.

Third, Making the awl and peg-driver in two pieces, and uniting them in a plunger, so that whilst both rise and descend together, one of them shall have a lateral motion, for the purpose of feeding the machine to the work substantially as described.

Fourth, Feeding forward the peg-wood by means of the action of the plunger in combination with the device, I, or its equivalent, substantialy as described.

2,448.—NECK-TIE HOLDER.—J. Albert Eshleman, Philadelphia, Pa., Patented Jan. 31, 1865.

I claim, First, A plate or holder, A secured in front of a collar, so as to be detachable from the same, and adapted for the reception and retention of a detachable ribbon or tie, substantially as described.

Second, In combination with a plate or holder, I claim the elastic loop, c, composed of wire, parts of which are rendered elastic by being coiled, and the transverse portion of which is plain, so as to readily fit over the stud or button.

2,449.—COTTON-BALE TIE.—John C. Lee, Gonzales, Texas, assignee of Z. W. Lee, Patented Oct. 16, 1866.

I claim the metallic band, B, having the bend, b, at one end, and applied substantially in the manner and for the purpose described.

2,450.—EGG PAN AND CAKE BAKER.—The Russell & Irwin Manufacturing Company, New Britain, Conn., assignees of Nathaniel Waterman, Patented April 5, 1859, Re-issue June 19, 1866.

We claim a baking-pan composed of a series of distinct cups or baking compartments, all connected together, cast in one piece, and forming one utensil, but perforated with intermediate open spaces, C, for the distribution of currents of heated air among the several compartments, the whole article being substantially such as specified.

DESIGNS.

2,542.—PICTURE FRAME.—John H. Bellany, (assignor to himself and D. A. Titcomb), Charleston, Mass.

2,543.—BRACKET.—John H. Bellamy (assignor to himself and D. A. Titcomb), Charleston, Mass.

2,544.—MEDAL.—David K. Hitchcock, Newton, Mass.

2,545.—MEDAL.—David K. Hitchcock, Newton, Mass.

2,546.—FLOOR OIL CLOTH.—Charles T. Meyer, Bergen, N. J., assignor to Edward C. Sampson, New York City.

2,547.—ORNAMENT OF AMERICAN JOCKEY CLUB.—C. L. Tiffany, New York City.

THE MARKETS.

PRINT CLOTHS.—We have received from Mr. T. J. Abbott, print cloth broker, Providence, a circular containing tabulated statements of monthly sales of print cloths, in that market, for the year ending with December. The total sales and re-sales amounted to 2,953,000, against 4,112,700 in 1865. These goods have been almost entirely used for printing purposes, fewer having been sold for gray shirtings or bleaching purposes than for the previous two years. The present stock in the hands of the manufacturers and merchants is very small, but the increased production of the large number of spindles now in process of erection will materially increase the supply during the coming year. The highest price reached in the past twelve months was 20 cents; this was early in the year, then a gradual decline took place, until in May the sales were at 10¾ cents. During the active season the ruling price was 14 cents, but the year closed with dull sales at 12 cents. Less of speculation has been noted than for several years past, sales having been more direct from manufacturers to printers.

For years past the foreign trade of this country has been gradually centering at New York, until now fully two thirds of the imports and exports are made through this port. It is for this reason that the following statements, culled from the annual tables published by the commercial papers of the city, have such significance. We learn from these statistics that the total foreign imports at the port of New York have reached the enormous sum of $306,613,184 in foreign gold value. If the freight and duty is added, and the whole is reckoned in its relative value in paper currency, we have a total but little less than $600,000,000, an amount without precedent in the history of this port. Without enlarging on the degree of national extravagance, shown by this excessive importation, we turn to the statement of shipments from this to foreign ports. The entire exports during the year, reckoned as before in currency value, amounts to $254,886,254. These figures tell their own story, and show how heavily the balance of our foreign trade is against us.

The annual produce statements show a decrease in imports from the receipts of last year, in flour, wheat, oats, cotton, and most articles of provisions; and an increase in corn, barley, naval stores, cheese and petroleum. The exports show a decrease as compared with 1865, in ashes, flour, wheat, tobacco and provisions; and a gain in corn, cotton, naval stores, lard and petroleum. The changes, as compared with other previous years, are still more unfavorable.

The highest point reached by the fluctuations in gold during the past year was 8 167⅞ on January 18: the lowest point was reached April 24, when it stood at 124½. The year closed with a steady decline.

COAL.—The Philadelphia *Ledger* foots up the amount of coal supplied from the Pennsylvania mines at 12,235,963·17 tuns. This is a large increase in the product during the past year as compared with the supply in 1865, which amounted to 9,581.685·03.

COTTON.—The total exports from Jan. 1 to Dec. 31, in 1865, was 249,369 bales: for the past twelve months, 423,981 bales, For the week ending Jan. 8, 9,059 bales were exported, against 8,612 during the corresponding time in 1866.

TIN.—The imports of 1866 at Boston and New York amounted to 15,000 slabs Banca, 70,000 slabs Straits, and 22,560 slabs (750 tuns) English, making a total of 107,500 slabs, against 80,550 in 1865. The market for Spelter remains dull. Imports for the past year were 4,375 tuns, against 2,400 in 1865.

It is difficult to form an estimate of the stock and consumption of Copper for the year. The Lake Superior mines have produced 500 tuns more than in 1865, but the Atlantic smelters have not worked steadily. The Tennessee mines have furnished probably 1,250,000 lbs. of ingot. At this date the market is firm and business small, Baltimore being quoted at 28c., Portage Lake at 28½c., and Detroit at 29c.

The Woolmarket is still unsettled, with perhaps a slightly better tone consequent upon the prospect of a reduction of the manufacturers' tax and the resumption of work by some of the mills that during the past autumn were obliged to suspend operations. The wool growers of Illinois, in a caucus lately held in Springfield, resolved "that the true policy of the government is protection of the producing and manufacturing interests of its own people," and pledged themselves, irrespective of political parties, not to support any person for any public office who is opposed to the protection of American industry.