stone pavements amounts to from 30 to 50 per cent, enough, if only half true, to pay for laying new pavements of wood every three or four years. He sees no reason why our streets could not be made as easy for horses and vehicles as the Park avenues, if paved on the Nicolson plan.

Another praises the pavements of Buffalo which are of the "Medina Rattlesnake stone" which has been well tested there and in Chicago.

We do not know the peculiar advantages of the Buffalo pavements, although we have visited the city several times, but there can be no doubt but improvements can be made on the pavements of New York. It would probably cost much to transport the Medina stone to this city, while the material for the Nicolson pavement can be obtained at every lumber yard.

AMERICAN EXHIBITORS AT THE PARIS EXPOSITION.

The following list of the articles of American Manufacture contained in the sixth group of the American Department of the Exposition in Paris, embraces instruments and processes of common arts:

G. J. Wardwell, Poultney, Vt.—Stone channeling and quarrying machine.
R. C. E. Ganjot, Tamaqua, Penn.—A model of apparatus for breaking up coal; a model of machinery for lifting from mines.
J. R. Harrington, Brooklyn, N. Y.—Self-rarifying tweer for manufacturing iron in blacksmith forges, or in any fire where a blast is used.
Herman Haupt, Philadelphia, Pa.—A gang of three steam drills designed for tunneling.
Philip S. Justice, Philadelphia, Pa.—Power hammer.
Walker & Platt, New York.—Power hammer.
E. E. Myers, Springfield, Ill.—Design for a model American farmhouse.
C. H. McCormick, Chicago, Ill.—Corn-reaping machine and grass-mowing machine.
R. H. Allen & Co., New York.—One combined clipper mowing and reaping machine.
Walker A. Wood, Hoosick Falls, N. Y.—One self-delivering combined reaping machine.
Joel A. Hall, Columbus, Ohio.—Cotton chopper, garden cultivator, and drill.
A. H. Wellington, Woodstock, Vt.—Root cutter.
Oscar F. Burton, New York.—One plow made in the style of the Moline plow now in use.
John G. Perry, Kingston, R. I.—One mowing machine.
D. C. Colby, New York.—Flour sieve, coffee mill.
Joel Nourse, Boston, Mass.—Plows with changeable furrow boards for plowing sod and stubble lands; swivel plows, adapted to level lands and hillsides; expanding horse hoes with changeable teeth; Brown's hay tedder; horse hay rake; Harrington's patent seed sower and cultivator combined; Howe's patent seed sower and cultivator combined; Adams' patent farming mill and grain separator; hand hoe.
Emery & Co., Chicago, Ill.—One American hog tamer.
H. H. Munroe & Co., Rockland, Me.—Rotary harrow.
Deere & Co., Moline, Ill.—One steel plow.
A. J. Fullam, Springfield, Vt.—Machine for shearing sheep and clipping horses.
Morris, Tasker & Co., Philadelphia, Penn.—Hay-band machine.
Hall & Spear, Pittsburgh, Pa.—Iron center plow.
Silas C. Herring, New York.—Bullard's patent hay tedder.
Collins & Co., New York.—Steel plow.
J. C. Bidwell, Pittsburgh, Pa.—Comstock rotary spader, also plows.
Jacob Brinkerhoff, Auburn, N. Y.—A hand Indian-corn sheller, separator, and cleaner.
M. Alden & Son, Auburn, N. Y.—A horse hoe, for cultivating all kinds of hoed crops.
Wheeler, Melick & Co., Albany, N. Y.—Palmer's excelsior horse pitchfork.
Partridge Fork Works, New York.—Manure, spading, and hay fork, rakes, and potato diggers.
L. L. Langstroth & Sons, Oxford, Ohio.—Two improved movable comb beehives.
Williams, Wallace & Co., Syracuse, N. Y.—Johnson's Great Western self-raking reaper.
Samuel J. Wallace, Carthage, Ill.—Grain binder, self-binding and raking harvester.
John W. Free, Richmond, Ind.—Fanning mill and grain seed separator; improved shoe for grain and seed separator; improved straw cutter; grain and seed sower.
Frank Fuller, New York.—Machine for husking Indian corn.
John B. Seymour, Pittsburgh, Pa.—Cotton planter.
S. T. Bacon, Boston, Mass.—Nourse's universal plow.
Silas H. Wooldridge, Venisee, Ill.—International shovel plow.
James A. Saxton, Canton, Ohio.—Ohio reaper and mower.
Glidden & Williams, Wood's Hole, Mass.—Samples of guano.
John H. Noyes, Oneida, N. Y.—Specimens of animal traps, from the rat trap to the grizzly bear trap.
George R. Baker, St. Louis, Mo.—Dough-kneeding machine, for family use.
D. H. Goodel, Antrim, N. H.—Lightning apple-parer.
S. W. Palmer, Auburn, N. Y.—Combined clothe wringers, manglers, and ironers.
Metropolitan Washing-Machine Company, New York.—Washing and wringing machine.
D. M. Somers, Washington, D. C.—Self-acting tumbler washer.
Howard Tilden, Boston, Mass.—Bon-ton flour and sauce sifter; self-feeding tobacco cutter.
Chas. A. Harper, Rahway, N. J.—Hand flour mill.
Morris Tasker & Co., Philadelphia, Pa.—Wringing machine.
Windle & Co., New York.—Mechanical brush for sweeping carpets.
E. K. Sargeant, Boonton, N. J.—Alarm coffee boiler.
J. Ward & Co., New York.—Union washing machine; Union clothes wringer.
Joseph Sedgebeer, Painsville, Ohio.—Farm corn meal and feed grinding mill; crank hand cottage or army mill; house coffee and spice mill.
Louis Elsberg, M. D., New York.—Peat-steaming and pressing machine.
Howard Tilden, Boston, Mass.—Champion egg beater.
John Ross, Stapleton, N. Y., Conical Burr-stone mills with flour-dressing machines and mill apparatus.
Elting Bolt and Duster Company, Cincinnati, Ohio.—Bolt and duster machine.
Geo. Purrington, Jr., New York.—Carpet sweeper.
Chas. H. Hudson, New York.—Clothes washer and rinser.
Schultz & Warker, New York.—Glass fountains for mineral waters.
Joseph Dixon & Co., Jersey City, N. J.—Plumbago or melting pots, stove-polish, and other articles of plumbago.
E. A. Pond, Rutland, Vt.—One-spring-power portable gas machine.
Hicks Engine Company, New York.—Steam engines of 5, 15, and 60 horse-power.
W. D. Andrews & Bro., New York.—Oscillating steam engines.
Corliss Steam-engine Company, Providence, R. I.—One Corliss steam engine.
T. R. Pickering, New York.—One stationary and one machine engine regulator.
Joseph P. Pirson, New York.—Seamless copper and brass tubes.
L. H. Olmsted, Stamford, Ct.—Friction clutch pulley,
Geo. Dwight, Jr., & Co., Springfield, Mass.—Steam pump.
P. H. & F. M. Roots, Connorsville, Ind.—Rotary blower.
Joseph Sheldon, New Haven, Conn.—Wate -pressure regulator.
Francis S. Pease, Buffalo, N. Y.—Atmospheric and hydraulic pump for mines, oil wells, and other purposes.
Joseph Firmenich, Buffalo, N. Y.—A variety of faucets made of hard rubber and wood.
Philander Shaw, Boston, Mass.—Shaw's Union double-action air engine.
James A. Robinson, New York.—Ericsson caloric pumping engine, 15-inch cylinder.
Joel Bryant, Brooklyn, N. Y.—Bushing for ships' blocks; hand grinding mill.
E. & T. Fairbanks & Co., New York.—Scales or weighing machines of various patterns; also weights of all standards.
Junius Judson. Rochester, N. Y.—Graduating governor for steam engine.
Crosby, Butterfield & Haven, New York.—Hot-air engine one horse-power.
Thos. J. Jones, New York.—Spring for steam-piston packing.
Warren E. Hill, Brooklyn, N. Y.—Hill's patent grate-bars.
Dr. J. H. Beidler, Lincoln, Ill.—Beidler's hydro-caloric light or steam lamp.
Nathaniel Jenkins, Boston, Mass.—Valves and cocks,
Howe Scale Company, Brandon, Vt.—An assortment of scales.
Steam Syphon Company, New York.—Steam syphon pump; model of railroad water-station pump.
John B. Root, New York.—Root's trunk engine, five horse-power.
L. B. Tupper, New York.—Furnace grate bars.
H. C. Dart & Co., New York.—Twelve horse-power rotary steam engine steam pump.
Lyon & Isaacs. New York.—Self-feeding hand and power drill for drilling holes in metals, etc.
Hardy, Foulds, & Tappan, Boston, Mass.—Steam fire engine.
C. H. Harrison, San Francisco, Cal.—Steam pump.
James Cochrane, New York—Model of a method of lubricating.
Wm. Sellers & Co., Philadelphia, Pa.—Planing machines, lathes, drills, slotter, boring mills, bolt-cutters, stocks (dies, taps, and tap wrenches); Giffard injectors, with self-adjusting water supply; shafting, to drive above machinery; assorted lot of finished hangers, couplings, pullies, pillow-blocks and wall plates; also, assorted lot of pulley castings.
L. H. Olmsted, Stamford, Ct.—Self-feeding ratchet drill; spring-top oiler.
Webster & Co., New York.—Webster's patent ordinary wrench.
D. L. Harris & Co., Springfield, Mass.—One engine lathe, with improved cross feed, and Vanhorn's patent tool elevator, back gears and screw-cutting mechanism attached.
Bement & Daugherty, Philadelphia, Pa.—Screw, bolt thread, and nut-tapping machine; bolt and nut-threading machine.
American Tool and Machine Co., Boston, Mass.—Fox's screw-cutting lathe, with Nason's screw attachment.
J. R. Brown & Sharpe, Providence, R. I.—Revolving head-screw machine for manufacturers of fire-arms, sewing machines, and other light machine work; also, a universal milling machine.
A. H. Brainard, Agent, Boston, Mass.—Various sizes and styles of cast-iron vises.
Bates, Hyde & Co., Bridgewater, Mass.—Power cotton gin; hand cotton gin;
Southern Cotton-Gin Co., Bridgewater, Mass.—Saw cotton gin of 60 saws; roller cotton gin, 6-inch rolls.
H. L. Emery & Son, Albany, N. Y.—American universal cotton-gin, H. L. Emery's patent; condensers, with cleaner and delivery attachment; 1 one-horse endless railway horse-power, with speed-governor attachment.
Chas. A. Shaw, Biddeford, Me.—Six spindle steps, with spindles; card-grinding machine.
C. L. Goddard, New York.—One mestizo burring picker.
George Crompton, Worcester, Mass.—Loom for weaving woolen fancy cassimeres.
J. E. Palmer, Middletown, Ct.—Circular loom for weaving plain and twilled coverings for cords and other tubular fabrics; circular loom to weave a double twill, with two shuttle or weft threads for hose; machine for tentering and drying wide and thin fabrics.
Morris Opper, New York.—Power loom for weaving fabric with gores or irregular surfaces, such as corsets.
A. B. Prouty, Worcester, Mass.—Card-setting machine for the manufacture of card clothing for cotton and woolen machinery.
Hall Manufacturing Company, Boston, Mass.—Bazon's improved twisting machine for laying up lines, cords, etc.
N. B. Hooper, Newark, N. J.—Hat-finishing machine, worked by power.
Bruen Manufacturing Company, New York.—An attachment for making the double loop stitch; an attachment for making the thin thread stitch for embroidery.
Lathrop Sewing-machine Company, New York.—Sewing machines in different styles, embracing the entirely new principle of working direct from two ordinary spools.
Wheeler & Wilson, New York.—Sewing and button-hole machines of various styles, with samples of work.
A. B. Howe, New York.—Sewing machines, with samples of work.
Weed Sewing-machine Company, New York.—Sewing machines adapted for family and manufacturing purposes.
Charles A. Shaw, Biddeford Me.—Foot and hand knitting machines of various styles and specimens of their work.
Howe Machine Company, New York.—Sewing machines; four styles.
Thomas L. Wood, Boston, Mass.—Buttonhole and embroidery machines.
Eiskemeyer Hat-blocking Machine Company, New York.—Hat stretching and blocking machine.
Halligan & Shapter, New York.—Leather-sewing machines, with specimens of harness, boots, shoes, belting, etc.
Continental Manufacturing Company, New York.—Crank-motion shuttle sewing machine.
Joseph W. Bartlett, New York.—Sewing machines, double lock-stitch and single thread.
Henry H. Reed, Philadelphia, Pa.—American buttonhole, cording, and combined sewing machines.
Bartram & Fanton Manufacturing Company, Danbury, Conn.—Sewing and buttonhole machine.
Florence Sewing-machine Company, New York.—Reversible feed, lock stich sewing machine, with self-adjusting tension, making four distinct stitches.
Isaac W. Lamb, Rochester, N. Y.—Family knitting machines.
John J. Folsom, Winchendon, Mass.—Globe sewing machine.
Thos. J. McArthur, New York.—Sewing machine.
J. M. Sterling, Paris—Sewing and embroidery machines, and specimens of their work.
Elliptic Hook Sewing-machine Company, New York.—Sewing machines, two styles.
Chas. Houghton, Boston, Mass.—McKay sole-sewing machine.
Emile Nougarit. Newark, N. J.—Hat-pouncing machine.
Mumford, Foster & Co., Detroit, Mich.—Specimens of boot trees and lasts.
John B. Winslow, New York.—Double serpentine moulding machine.
Wright & Smith, Newark, N. J.—Scroll-sawing machine.
H. S. Jacobs, Portland, Oregon.—Wheel-dressing machine.
C. B. Rogers & Co., Norwich, Conn.—Molding machine for planing, matching, and sticking molding; iron-frame pencil machine for making lead pencils, also adapted for sash and moldings; medium tenoning machine with double copes; small power mortising machine; large foot mortising machine; patent self-oiling saw arbor; Brodeworth planing and matching machine.
Fenn & Felber, St. Louis, Mo.—Zimmerman's mortising and slotting machine.
Baxter D. Whitney, Winchenden, Mass.—Cylinder planing machine, two horse-power; gauge lathe, two horse-power; smoothing machine, one horse-power; Wardwell's patent saw bench, one fourth horse-power.
American Saw Company, New York.—Circular saw, with Emerson's patent movable teeth.
Warren P. Miller, San Francisco, Cal.—Adjustable teeth for saws.
Cook, Sherman & Co., Glens' Falls, N. Y.—One barrel machine.
Gegener & Weiler, New York.—Patent liberty quarto medium job presses.
John E. Sweet, Syracuse, N. Y.—Composing machine.
Patrick Welch, New York.—Compositor's type case; also, a machine for dressing printers' types.
Geo. B. Buell, New York.—Patent writing printing machine.
Dustin F. Mellen, New York.—Screw making machines, consisting of one heading, one threading, one shaving, and one nicking machine.
Chas. A. Warland, Pawtucket, R. I.—Potter's fluting machines.
Henry Winser, Philadelphia, Pa.—Shot and shell polishing machine.
Wickersham Nail Company, Boston, Mass.—Wickersham nail machine.
Henry Smith, Salem, Mass.—A method of equalizing the power of coiled springs.
John Prentice, New York.—Cigar machine in operation.
New York Quartz Company, New York.—Emery wheels.
Hoylen & Gratling, Dayton, Ohio.—Self-feeding tobacco cutter.
Wood Brothers, New York.—One phaeton, one buggy.
Brevet Major Gen. D. H. Rucker, Chief Quartermaster's Department of Washington, D. C.—United States Government army wagon and six sets of mule harness.
A. V. Blanchard & Co., Palmer, Mass.—Plough and shovel handles of bent wood. Photographs of machinery on which the articles were made.
John Scott, Ocalo, Fla.—One carriage wheel.
James Hall & Son, Boston, Mass.—One top buggy.
Augustus Harrington, Warsaw, N. Y.—Elastic sursingle attachment.
Chas. Stallman, Natchez, Miss.—Fine lady's saddle.
Chas. Wellman, New York.—Ladies' and gentlemen's saddles.
W. G. Creamer, New York.—Model of an English railway carriage with Creamer's safety brake attached; model or samples of automatic ventilators; samples of perforated ventilator.
B. J. La Mothe, New York.—Model of a portable house.
G. Easton, United States Consul, Bristol, England.—Model and plan of a street railway and carriage.
Andrew Foster, New York.—Graham's locomotive spring balance, designed to regulate and control the safety valves of the boilers of locomotive steam engines.
Grant's Locomotive and Machine Company, Paterson, N. J.—Passenger locomotive engine and tender complete.
Henry W. Warner, Greenfield, Mass.—Cast-iron chairs with two pieces of railroad iron.
J. L. Booth, Rochester, N. Y.—Steel-capped rail for railroads.
Star Metal Company, New York.—Star metal railway journal bearing.
Thos. S. Hall, Stamford, Ct.—Electric railroad switch alarm.
John Stephenson, New York.—First-class street railway car, constructed with top seats, adapted to the European mode.
S. E. & C. L. Morse, Harrison, N. J.—A new mode of laying and raising telegraphic cables.
A. F. Ward, Philadelphia, Pa.—A chart and pamphlet representing combinations of colors arranged in geometrical order, by which the various combinations, amounting to tens of thousands, may be readily found; designed as a universal code of signals.
Moses G. Farmer, Boston, Mass.—A thermo-electric battery.
Paul Schultze, New York.—Model of a church.
Board of Public Works, Chicago, Ill.—A drawing of the tunnel being constructed two miles under Lake Michigan.
John Johnson, Saco. Me.—Model of a steam dredging machine.
Isaac Gregg, Philadelphia, Pa.—A brick machine and specimens of brick.
Horace H. Day, New York.—Model of a new system of canals without locks, adapted for the passage of ships of any size.
Stephen Ustick, Philadelphia, Pa.—Model improved street lamp.
Broughton & Moore, New York.—Instruments and apparatus for plumbers' use.
B. S. Huntington, New York.—Lever blind fastener for windows.
Arthur Huston, Bristol, Me.—Miter box, with scale for sawing miters.
Johnson Rotary Lock Company, New York.—Locks, padlocks, door-locks, etc.
Morris, Tasker & Co., Philadelphia, Pa.—Boiler flues, tubes, valves, cocks, fire plugs, heating coils, etc.
Yale & Wirm Manufacturing Company, Shelburne Falls, Mass.—Various kinds of bank, safe-door, and other locks.
New York Quartz Company, New York.—Specimens of building stones.
Samuel Nicholson, Boston, Mass.—Model of an improvement in wooden pavement.
Wm. Webster, Rochester, N. Y.—Plans for a first-class public park; plans for the grounds of a private mansion; plans for a rural cemetery etc.
James Dana, Boston, Mass.—Faced or pressed brick.
S. T. Bacon, Boston, Mass.—Bacon's challenge lock.
S. W. Palmer, Auburn, N. Y.—An improved adjustable iron bench plane.
Gonges Ventilating Company, New York.—Atmospheric Ventilator.
Louisville Cement Co., Louisville, Ky.—Specimens of cement.
Dodds, Macneale & Urban, Cincinnati, Ohio.—Bank locks.
Henry J. Newman, Andover, Mass.—Imitation of American woods, painted in oil and distemper colors on whitewood plank.
Chapin & Wells, Chicago, Ill.—Model of a swing bridge.
Hon. D. J. Pratt, Washington, D. C.—Working model of propelling apparatus.
Joseph Duffy, Paterson, N. J.—Miniature sectional model of iron-clad ships.
Capt. J. M. Hudson, Brooklyn, N. Y.—Specimen of rigging for ships, having for its object the raising of the topsail yard.
J. B. Van Deusen, New York.—Model of a yacht, called Fleetwing.
Elisha P. Beckwith, New London, Ct.—Miniature fishing smack.
Fred. E. Sickles, Oak Dale, Pa.—Working model to illustrate the effect of controlling the rudders of steam vessels by power instead of by hand.
E. L. Perry, New York.—Life-saving raft for saving human life at sea.
C. L. Daboll, New London, Ct.—Daboll's fog whistle or trumpet.
Brown & Level, New York.—Life-saving tackle.
E. W. Page, New York.—Eight pairs of oars of different styles.
William Oscar Reim, M.D., Springfield, Ohio.—Hydrostatic scale for ascertaining the tonnage of freight of vessels.

EXTENSION NOTICES.

Isaac Brown, Cecilton, Md., having petitioned for the extension of a patent granted to him the 19th day of July 1853, for an improvement in Mode of Driving Saws, for seven years from the expiration of said patent, which takes place on the 19th day of July, 1867, it is ordered that the said petition be heard at the Patent Office on Monday the first day of July next.

Enoch Hidden, New York, N. Y., having petitioned for the extension of a patent granted to him the 21st day of June, 1858, reissued Sept. 8th, 1863, and again reissued March 15th, 1864, for an improvement in Side Light for Ships, for seven years from the expiration of said patent, which takes place on the 21st day of June, 1867, it is ordered that the said petition be heard at the Patent Office on Monday the 17th day of June next.

ISSUED FROM THE U. S. PATENT OFFICE
FOR THE WEEK ENDING APRIL 16, 1867.
Reported Officially for the Scientific American

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

On filing each Caveat	$1
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	$30
On application for Extension of Patent	$50
On granting the Extension	$50
On filing a Disclaimer	$10
On filing application for Design (three and a half years)	$10
On filing application for Design (seven years)	$15
On filing application for Design (fourteen years)	$30

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.

63,779.—MODE OF UNITING INDIA RUBBER WITH LEATHER.—Aaron C. Andrews, New Haven, Conn.

I claim uniting india rubber to leather or other material by forming grooves or creases in such material into which the rubber is pressed previous to vulcanizing, as and for the purpose specified.

63,780.—SAW MILL.—Asa Bee, White Oak, West Va.

First, I claim the application of the guide rollers N, or their equivalents to the stirups J, substantially as and for the purpose specified.

Second, I claim the V-shaped adjustable and reversible guide bars O, when constructed and applied substantially as and for the purposes set forth.

Third, I claim the clearers P, when constructed and applied in the manner and for the purpose explained.

Fourth, I claim the combination of the springs T T3 T5, and lever T', when constructed and operating as described to communicate motion from the saw sash to the grip iron.

Fifth, I claim the spring T3, when constructed and made adjustable in the slotted lever T1, in the manner specified for the purpose of changing the feed, as described.

Sixth, I claim a grip iron when constructed with adjustable gripping blocks V1 V2 substantially as and for the purpose specified.

Seventh, I claim the adjustment of the blocks W1 W2 by means of the arm X, and clamp Y, as and for the purpose described.

63,781.—MOLD FOR PIPE CASTING.—Henry M. Bird, Cambridgeport, Mass.

I claim the combination as well as the arrangement of two or any other suitable number of the flange finishing and core supporting flasks D, provided with masses E, of molding sand, or its equivalent with a pipe mold, A B, and its core C, the whole being substantially as and for the purpose described.

63,782.—HARNESS BUCKLE.—George S. Caldwell, Syracuse, N. Y.

I claim the combination and arrangement of the buckle as herein set forth, viz., with the toothed jaws B B, reating in the edges of the frame, and bearing upon the edges of the tug or strap by means of the pins and inclined slots I k, or equivalent as specified.

63,783.—AXLE BOX.—Neil Campbell, (assignor to himself and William Frazier,) Brooklyn, New York.

First, I claim the flanges a a' on the exterior of the pedestal in combination with the grooved and shouldered removable base plate C, substantially in the manner and for the purpose described.

Second, The removable base plate constructed so as to be applied as described and also with sockets to receive a tie rod and end braces D D, substantially in the manner shown and described.

Third, The combination of the brackets E', studs d d', and solid springs F, F, substantially in the manner and for the purpose described.

Fourth, The combination of the enlarged sleeves K, with a grooved face bearing block H having flanges l l, substantially as described.

Fifth, The lugs h h, collar I, and pin j, in combination, as a means for securing a removable sleeve K, to the arm of a railroad car axle, substantially as herein described.

Sixth, The box E, with brackets E', on its sides and the pedestal with semi-cylindric chambers and with a cap A, so that solid springs F F, may be employed and confined in place by means of the removable base plate C, all substantially in the manner described.

63,784.—MACHINE FOR MAKING DRAIN WATER PIPES.—Chas. Collier, Charlestown, Mass.

I claim a clay cylinder or receiver B, in combination with an hydraulic cylinder operating a piston or plunger D, for ejecting the clay from the receiver in the required form for a pipe or tile substantially as described.

I also claim connecting the head or plunger D, with the piston E, of the hydraulic apparatus by means of a screw e, so that it may be moved toward and from the clay-cylinder by hand for the purpose specified.

63,785.—PAPER FILE.—Germond Crandell, Washington. D. C.

I claim a bill and paper file made as herein described or its substantial equivalent.

63,786.—MILLSTONE FEED.—Michael DeCamp, South Bend, Ind.

First, I claim the separator constructed and operating substantially in the manner herein described and applied in the relation substantially as shown and described to the millstone feeder and the eye of mill stones for the purpose set forth.

Second, The construction of the mouth of the separator in the manner substantially as shown and described, so that the separator is adapted to be applied to a mill and to operate substantially as described, for the purpose set forth.

Third, The arrangement of a millstone feeder and a separator in the relation to one another substantially as shown and described and for the purpose set forth.

Fourth, The raised step e e i, arranged on an inclined support and in relation to the inclined partition b, and the passage d, substantially as and for the purpose described.

63,787.—SASH SUPPORTER.—Herman Ehle, Utica, N. Y.

I claim the employment and use of one or more rods or bars C, attached to the sash and operated substantially as described.

I also claim in combination with said roads or bars C, and sash B, the nuts or disks D, and thumb screws E, the whole being attached and operated substantially in manner described, for the purpose mentioned.

63,788.—THRESHING MACHINE.—George Eichenseer, Waterloo, Ill.

I claim the combination of the screw bolts, a and a', substantially as and for the purpose set forth.

Second, The combination of the shaft, e, its bearing block, e2, and sliding bar, e3, the ways, e4, with the screw bar, e5, and handle nut, e6, all acting substantially as and for the purpose set forth.

Third, The combination of the pulleys, e11 and e12, for packing the driving band, D, substantially as and for the purpose set forth.

Fourth, The cutter teeth, h9, for cleansing the crevices between the flanges, h8, and the feed plate, h4, as set forth.

Fifth, The application of the drop guide plate, k5, as set forth.

Sixth, The combination of the conduit, o3, and o4, with the door, o5, substantially as and for the purposes set forth.

Seventh, The combination of a feed plate, h4, arranged for vertical adjustments, with the thresher cylinder, h2, arranged for lateral horizontal adjustment, substantially as set forth.

Eighth, The combination of the separators, k k1 k2, with the return feed plate, k3, chaff discharge plate, k4, and guide drop plate, k5, all with the air currents adjusted and directed by the vane, p4, substantially as set forth.

63,789.—APPARATUS FOR REFINING AND DISTILLING PETROLEUM, ETC.—John Ellis, New York City, and Edward C. Hattell, Binghamton, N. Y.

First, we claim the using of steam and superheated steam for the purpose of separating and removing the more volatile from the less volatile portions of petroleum, kerosene, benzine, naphtha and turpentine, while these fluids are in a state of spray or drops, as specified.

Second, The oil pipes, E, and K, and condensing tubes, D and I, when constructed and arranged in relation to each other, and a retort, as and for the purpose specified.

Third, The separating tank tub, or tube, in combination with an upper and under retort, for the purpose of separating the water and earthy impurities from the oil before the latter flows into the lower retort.

Fourth, The using in a retort scraps of metal wire, wire sieves, nails, turnings, or other metallic or earthen materials, or even vegetable substances, which will either form a screen or a porous mass through which oil can trickle down so as to expose a large surface of it to the action of heat.

Fifth, The using in a retort or retorts of a series of nearly or quite horizontal plates, shallow pans or shelves, which may lie concave or with edges turned up, plain or convex, perforated with from one to numerous openings, or without any openings, over which oil can flow or drop, or run from point to point, in combination with the pipe, I, and coil, K, so as to expose a very large surface to the action of steam, and to form a very large evaporating surface.

Sixth, The using an agitator in a circular or nearly circular retort, for the purpose of throwing the oil into a spray or drops, so as to expose every drop as far as possible to the direct action of heat, and allowing the oil or fluid being distilled to flow through the retort in a steady stream, but not to accumulate in any considerable quantity in the retort, substantially as represented in the drawings.

Seventh, The condensers, A M and Q, containing internally, plates, discs, turnings, or an agitator into which the vapor of oil and cold water are allowed to flow for the purpose of condensing the vapor, substantially as represented in the drawings and described in the specification.

Eighth, The blowing the inflowing oil into a state of spray, by a current of steam, by allowing the steam to strike the stream of oil substantially as is represented by the oil pipe, u, and the dotted steam pipe, t, in the drawings of retort, L.

63,790.—BED BOTTOM.—Daniel Fitzgerald, New York City.

I claim the bar, B, provided with holes or openings, cut directly through it from side to side, when used in combination with an elastic or other band or cord passed through said openings in the manner represented for the purpose of forming a reversible bed bar which will support the slats when either side is down, substantially as herein set forth.

63,791.—CHURN.—J. C. Gaston, Cincinnati, Ohio.

First, I claim in the dasher the inverted cup-shaped hub, E, the cavity, b, being cylindrical, and two or more series of radial arms, F, secured to the exterior of the hub, E, all constructed substantially as above described, and for the purpose specified.

Second, In combination with the lid, B, which has the enlarged central perforation, a, the guard plate, c, pendants, b, and blocks, c, arranged substantially as and for the purpose above described and set forth.

63,792.—JOINT FOR CARRIAGE TOP BRACES.—G. Gregory and F. B. Morse (assignors to themselves and W. H. Cooper), New Haven, Conn.

We claim the herein described stump joint, as an improved article of manufacture, consisting of the two parts, A and B, upon the ear of one of which is formed a stud, a, and in the other a corresponding recess, so that the said stud forms the bearing or pivot for the joint, substantially as herein set forth.

63,793.—MACHINE FOR FORMING TUBES OF SHEET METAL.—William Hall, Dubuque, Iowa.

First, I claim the grooved plates, A a, hinged together and operated as and for the purpose set forth.

Second, The slotted mandrel, F, in combination with gear wheels, C C, arranged and operating as described.

Third, In combination with the grooved plates, A a, the sliding straight-edged bar, H H, with its elevated projecting flange as operated and described.

Fourth, The sliding frame, G G, with its clamping device, b b, and wheels, d d, in combination with the inclined plane, m m, operating substantially as described and for the purpose set forth.

Fifth, The combination and arrangement of the plates, A a, mandrel, F, gear wheels, C, sliking frame, G, with its parts, b b, inclined plane, m, and sliding bar, H, with projecting flange, substantially as and for the purpose set forth.

63,794.—RAILWAY SWITCH.—John A. Heyl, Boston, Mass.

I claim the arrangement of the bars, I I', the cranked shaft, G, the connecting rods, H H', the lever, E, the toggles, F F", the connection bar, D, the whole being applied to the switch, and so as to aid in operating it in manner and under circumstances substantially as hereinbefore explained.

63,795.—TABLE CUTLERY.—Walter Hubbard, Meriden, Conn.

I claim the solid handled cast metal knife herein described, the same being a new article of manufacture.

63,796.—OX BOW PIN.—Orange D. Hunter, Terrysville, Conn.

I claim securing the bolt, e, on the plate, b, by means of the prongs, c, in combination with the drop latch, h, substantially as and for the purpose described.

63,797.—UNITING STOVE PIPES, ETC.—A. B. Hurd, Watkins, N. Y.

First, I claim uniting joints of stove pipe, by means of the projections made by the indentations, a, on one piece, being shoved longitudinally in the groove, b, of the opposite piece, and then turned into the circumferential groove, c, as shown and described.

Second, Uniting joints of pipe by means of the circumferential beads, e and n, and the narrow slits, h, when arranged for joint operation as herein described.

63,798.—MACHINE FOR FELTING OR FULLING YARN, ETC.—Moses A. Johnson, Lowell, Mass.

I claim, in combination with a cork surface, aprons, cylinders and steam rolls, and the presence of heat and moisture for felting or fulling yarns, composed of wool, fur, hair, in whole or in part, substantially as described.

63,799.—SAW-MILL DOG.—Cyrus G. Jones, Orono, Me.

First, I claim the short carriage, A, constructed substantially as shown and described, for use in front or rear of the saw, and having the two independently-moving jaws, H and I, mounted thereon in such a manner as to dog the log from above and below, substantially as herein set forth.

Second, The jaw, I, mounted on the guide rods, R, and arranged to be operated by the wheel, D, and cord, U, substantially as described.

63,800.—WINDLASS FOR WELLS.—F. H. Jones, Attica, N. Y.

I claim the loose drum, C, and windlass shaft, B, in combination with the disks, j and E, springs, Z, sleeves, D, clutch, f, winch, G, and adjusting screw, n, arranged and operating substantially in the manner and for the purpose set forth.

63,801.—PORTABLE FENCE.—James Lefeber, Wayne, Ind.

I claim the double triangle, consisting of the posts, A A, bars, E E, and cross pieces, e e, and rails, 1 2 3 4 5 6 and 7, in combination with the cross pieces, c c c c and D D, all arranged and constructed substantially as and for the purposes set forth and described.

63,802.—GAS BURNER.—R. B. Locke, New Orleans, La., and Wm. B. Ulrich, Concordia Parish, La.

First, I claim providing a gas burner, with a small secondary gas taper or burner, which is so arranged as to serve as a means for lighting the gas when admitted to the principal burner, substantially as described.

Second, In combination with a gas burner, which is provided with a smaller gas burner or taper for lighting it, we claim a cock, D, which is constructed so that it shall cut off the gas from the smaller burner when gas is admitted to the main burner, substantially as described.

Third, The divisional piece, d, or its equivalent, applied to the orifice, a, of the grooved cock, D, and constructed with gas escapes, e e, in combination with a self-lighting burner, substantially as described.

Fourth, The hood or shell, G, in combination with a self-lighting gas burner which is constructed substantially as described.

63,803.—CEMENT ROOFING.—Robert O. Lowrey, Saratoga Springs, N. Y.

I claim a plastic foundation for roofs to receive, hold, and absorb more or less of the roofing cement, constructed and applied substantially as set forth.

63,804.—FARE BOX.—William H. McLellan (assignor to St. Charles street Railroad Co.), New Orleans, La.

I claim the combination of the push arm, A, tilt door and shelf, B, tilt, C and sliding shelf, D, when these several parts are constructed and arranged for conjoint operation as described for the purpose set forth.

63,805.—MANUFACTURE OF SHEET-IRON.—Joseph Miller, Cuba, N. Y.

I claim the improved mode of manufacturing sheet-iron, as herein shown, by raising it to a welding heat just as it is about passing between the finishing rollers, substantially as and for the purpose described.

63,806.—HAY LOADER.—Joseph Morgan, West Springfield, Mass.

I claim the attachment of a wooden grooved drum, to the inside of a wheel of a hay cart or wagon revolving upon the hub, in combination with the crane and machinery by which said drum is connected to and disconnected from the wheel automatically, the whole constructed and operating substantially in the manner as herein described.

63,807.—PENDULUM LEVELS AND SIGHTS COMBINED.—Chas. Morrill, New York City.

First, I claim the combination of a swinging frame, C, with a suitable stock, A, substantially as herein specified.

Second, The combination of the swinging frame, C, stock, A, and arms, B, substantially as herein specified.

Third, The combination of the set screw, H, with one of the arms, B, and swinging frame, C, substantially as herein specified.

Fourth, The combination of the globe-sight, E G, with the stock, A, and swinging frame, C, substantially as and for the purpose herein specified.

Fifth, The bob or pendulum, D, with the graduated swinging frame, C, when such bob is pivoted at its upper end to the upper part of said swinging frame, substantially as shown and described.

Sixth, Providing the inner surface of the swinging frame, C, with a rib, d, and constructing the lower end of the bob or pendulum conformably thereto for the purpose of allowing the bob or pendulum none but the required motion.

63,808.—COMPRESS FOR COTTON, ETC.—E. L. Morse, St. Louis, Mo.

I claim the combination of the endless screws, E', on the power shaft, E, with the screw guard sectors or wheels, C, the lifting rods, C4, and platen, D, when acting substantially as and for the purpose set forth.

63,809.—VEGETABLE SLICER.—A. M. Olds, New York City.

I claim the combination of the adjustable inclined plane, B, with the grater A, slots, D, and triangular apertures, F, when constructed and arranged substantially in the manner and for the purposes set forth.

63,810.—METHOD OF SECURING HEADS IN SEAMLESS CASKS.—Dewey Phillips, Shaftesbury, Vt., and William Reid, West Arlington, Vt.

We claim the method herein described, of putting the heads or bottoms in seamless casks or other vessels, by making the heads or bottoms of a less diameter than the inner diameter of the shells at the croze, and then compressing the ends of the shell into close contact therewith preparatory to putting on the hoops, substantially as described.

63,811.—PORTABLE FURNACE FOR BOILERS.—Daniel R Prindle, East Bethany, N. Y.

First, I claim the construction of a combined furnace and support for boilers, caldrons, or steaming vessels, of an extended horizontal base, D, on outer jacket, E, and a constructed fire box, which is formed of side plates, F F and F', substantially in the manner described.

Second, In a furnace which is adapted for supporting and heating caldrons or steaming vessels, I claim the air spaces, g g g, for protecting the fire box plates formed substantially as described.

Third, The deflectory plate, G, adapted to serve as a cover for the rear air space, g, and also as a means for directing the heated products of combustion forward around the bottom of the caldron, substantially as described.

Fourth, A heating furnace which is also adapted to serve as a firm and safe support for a caldron or steamer, constructed substantially as herein described.

63,812.—HORSE HAY FORK.—Elias Rhodes, Jr., Clyde, Ohio.

First, I claim the tubular rods or links, A B C, provided with the shanks, b, and head, F, constructed and applied as and for the purpose set forth.

Second, The arrangement of the lever arm, G, provided with the lug, h, in combination with the cross head, E, tubular links, A B C, shanks, b, and jaws, D, when the several parts are constructed and arranged as and for the purpose set forth.

63,813.—METALLIC BOBBIN.—William B. Rice, Utica, N. Y., assignor to himself, John Rice, and E. S. Munson.

First, I claim the combination of a hollow metal base, C, with a tubular metal spindle, A, constructed and united substantially as and for the purpose set forth.

Second, I claim the inverted conical shoulders formed at the base of the hollow spindle, when the said spindle is attached to the hollow metallic head, substantially as and for the purpose set forth.

63,814.—APPARATUS FOR MAKING MEDICAL PLASTERS.—Albert D. Richards, Lowell, Mass.

First, I claim the bed piece, B, when made with sunk panel and raised edge, substantially as shown and described and for the purpose set forth.

Second, The pan, C, when made with the opening having chamfered edges, in combination with the bed piece, B.

63,815.—GAS-COOKING STOVE.—George O. Sanderson, Boston, Mass.

First, I claim the combination and arrangement of the pipes, G G, with the oven, L, substantially as described and for the purpose set forth.

Second, The combination of the basins, B B', with the pot holes of the cooking stoves, substantially as described and for the purpose set forth.

Third, The combination of the short cylinders, D D, with the rear pot holes and the top of the oven, substantially as described and for the purpose set forth.

63,816.—STEAM SAFETY VALVE.—John Shaffer (assignor to Samuel Baxter), St. Louis, Mo.

I claim the arrangement of the double-seated safety valve, C, with reference to the case, D and levers, E and F, substantially as and for the purpose set forth.

63,817.—LADY'S FAN.—Francis B. Scott, Lancaster, N. Y.

I claim a lady's fan having a perforated center piece, A, with or without designs printed or formed thereon, as a new article of manufacture, substantially as described.

63,818.—WINDOW SCREW.—Francis B. Scott, Lancaster, N. Y.

I claim a window screw made of perforated card board and supported in a wood or iron frame, as a new article of manufacture, substantially as described.

63,819.—MACHINE FOR CUTTING THE WIND PASSAGES IN THE ROTARY VALVES OF CORNETS.—Lewis W. Spencer (assignor to Schribner Cornet Manufacturing Co.), New York City.

I claim the combination of the mandrel with its burr cutter, the chuck capable of being turned and held in position and provided with gripping jaws, substantially such as described, and the two carriages capable of being moved at right angles, the one with the other, substantially as and for the purpose described.

63,820.—HANDLE FOR SIGNAL LANTERN.—A. N. Towne, Chicago, Ill.

I claim bending a lamp handle at or near the center at a right angle, in combination with a guard handle, or its equivalent, as and for the purpose set forth.

63,821.—PROTECTING PADS FOR INTERFERING HORSES.—A. D. Westbrook (assignor to himself, R. W. Daniels, and John Humphrey), Buffalo, N. Y.

I claim retaining a pad in place on a horse's hoof by means of a hook, J which engages with the clip, e, of the shoe, substantially as set forth.

63,822.—WOOD REAMER.—Peter Meyers, Stoutsville, Ohio, administrator of the estate of Emanuel Young, deceased.

I claim as a new article of manufacture a tapering reamer constructed substantially as set forth.

63,823.—DIE FOR SWAGING CALKS FOR HORSESHOES.—John Allen (assignor to himself and Samuel Ferry), Palmer, Mass.

I claim a toe-calk die constructed of the plates, a b c, with the grooves, d e f g, arranged and constructed substantially as and for the purpose set forth.

63,824.—PERMUTATION LOCK.—George B. Atwood, Philadelphia, Pa.

First, I claim locking the spindle, D, in a position disconnected from the bolt, F, by preventing longitudinal motion without preventing rotary motion in the said spindle by means of the disks, E E1 E2, and block, K, constructed and arranged to operate together substantially in the manner described and set forth.

Second, I claim the loose measuring ring, I, in combination with the knob, C, arranged and operating together substantially as and for the purpose described.

63,825.—PORTABLE FENCE.—John Augspurger, Trenton, Ohio.

I claim the construction of a light and portable fence in lengths or panels with one short and one long post, substantially as shown and described, to be connected in a worm or zigzag shape by means of the hooks, C C', and eyes or staples, D D', in combination with the spring, E, as set forth.

63,826.—PORTABLE FENCE.—J. Augspurger, Trenton, Ohio.

I claim the construction of a light portable fence in lengths or panels, with one short and one long post, substantially as shown and described, to be connected and secured in a worm or zigzag form by means of the prolonged and gained rails, F F', in combination with the slide, D, as shown and set forth.

63,827.—PORTABLE FENCE.—J. Augspurger, Trenton, Ohio.

First, I claim the construction of a light portable fence in lengths or panels with one short and one long post, substantially as shown and described, to be connected and secured in a worm or zigzag shape by means of the prolonged and gained ends of certain of the rails, and the notched and tongued intermediate rails, as a b.

Second, I also claim in combination with the elements of the first clause, the additional block, D, attached to the end of the supporting foot of each panel, to serve as an anchor to give the fence additional firmness.

63,828.—PORTABLE FENCE.—J. Augspurger, Trenton, Ohio.

First, I claim the construction of a light and portable fence in lengths or panels, with one short and one long post, substantially as shown and described, to rest upon the surface of the ground in a worm or zigzag shape and to be connected and secured by means of the hooks, C, staples or eyes, D, and cleats, a b, or cleat, E, and oblique gains, F, operating as shown and set forth.

Second, In combination with the elements of the preceding clause, I claim the block, H, serving as an anchor, as set forth.

63,829.—PORTABLE FENCE.—J. Augspurger, Trenton, Ohio.

I claim the construction of a light portable fence in lengths or panels having one short and one long post, substantially as shown and described, and connected and secured in a worm or zigzag form by the hooks, a, and staples, b, in combinating with the gravitating button, D, and anchor block, C, the whole operating as shown and set forth.

63,830.—CULTIVATOR.—Wm. M. Ball, Morristown, Ind.

First, I claim the arm, s, provided with screw thread and nuts, t, as described, in combination with bar, e, for the purpose herein specified.

Second, The arm, s, provided with screw thread and nuts, t, the bar, e, handle, d, standards, C C C, braces, b b b, and beam, A, when the whole are combined, arranged and operating in the manner and for the purpose substantially as herein set forth.

63,831.—MATTRESS AND LIFE-PRESERVING FLOAT.—Louis Bauhoefer, Philadelphia, Pa. Antedated April 9, 1867.

I claim, First, An air bag, C, and a mattress or cushion, D, arranged within a frame substantially as and for the purpose described.

Second, The frame, A, with its buoyant cushion, B, and detachable buoyant cushion, D, and detachable air bag, C, the whole being arranged substantially as and for the purpose set forth.

Third, The frame, A, with its detachable cushion, D, in combination with the detachable cover, c, and the strips, e e, or their equivalents, for the purpose specified.

63,832.—MACHINE FOR DISINTEGRATING AND PULPING FIBROUS MATERIAL.—J. C. Beach, Bloomfield, N. J., and J. Abbey, Orange, N. J., assignor to J. C. Beach, Bloomfield.

I claim, First, The combination of the two spiral ribbed cylinders, A A, constructed and operating together in the manner and for the purpose set forth.

Second, The flat-faced bar, p, and the adjustable boxes, t, either or both of them, when used in combination with the spiral ribbed or grooved cylinders constructed and operated as shown,

63,833.—WAGON BRAKE.—W. W. Bean, Iowaville, Iowa.

I claim the application of the key block, C, fig. 3, in combination with brake operating upon the wheels by the action of tongue bar sliding in the holes, F, made in the tongue hounds, with the frame, E, and brace bars, D D, connected with the wooden rubber, as substantially described.

63,834.—CONCUSSION FUSE FOR EXPLOSIVE SHELLS.—Wm. S. Beebe, Philadelphia, Pa.

I claim, First, So attaching an inertia fuse to the interior of a hollow projectile that while it is secure against any ordinary shock, it will be broken loose by the discharge or the cannon or mortar from which it is fired, when such fuse is so constructed and arranged that, lying loosely in the powder during the flight of the projectile, it will turn its loaded end against the wall of the cavity in the projectile and explode when the flight of such projectile is suddenly arrested or checked, substantially as above described.

Second, A percussion or frictional fuse which is constructed with a loaded head, A, terminating in a feathered tail, a, and adapted for use in spherical and other tumbling shells, substantially as described.

63,835.—BLIND FASTENING.—E. B. Beecher, Westville, Conn.; Joseph G. Davis, Henry E. Frost, and Anthony G. Davis, Watertown, Conn.

We claim, First, The combination of the grooved friction wheel or pulley, H, the two semicircular clamps or brakes, I, and the slotted cap or case, G, with each other, with the shank of the knob or handle, F, and with the shaft, E, of the gear wheel, D, substantially as herein shown and described.

Second, The shaft, E, connected to the gear wheel, D, and to the knob or handle, F, in the manner herein shown and described and for the purpose set forth.

63,836.—WOOD-TURNING LATHE.—H. C. Berry, Wauseon, Ohio.

I claim a back rest for a wood-turning lathe composed of the segment, A, in combination with the spreading bars, B B, and the friction rollers, d d, constructed and operating substantially as and for the purpose herein specified.

63,837.—BUTTON FOR FASTENING CARRIAGE CURTAINS.—Salmon Bidwell, Bordentown, N. J.

I claim the construction and arrangement of the vertically swinging triangular plate, b, pivoted in the pin, A, in such a manner that its inner point may fall by its own gravity and rest against the upper edge of the shoulder upon the pin, G, its lower point fitting over and securing the plate, D, as herein shown and described for the purpose specified.

63,838.—PLOW.—Wm. Zeller, Lebanon County, and Richard Lechner, Berks, Pa., assignors to James Wallace, Lebanon Co., Pa.

We claim the jointed rod, D D', used in combination with the beam and the handle, H, as and for the purpose specified.

63,839.—SCHOOL DESK.—James E. Blair, New Haven, Conn.

I claim a school desk cover reversible in the manner substantially as described, having one of its surfaces coated or plated as herein set forth.

63,840.—HAND CULTIVATOR.—Reinard Blum, Champaign, Ill.

I claim the arrangement of the beam, A, wheel, B, shank, C, provided with point or tooth, D, with the handles, E E, and strap, F, for forming a hand cultivator, substantially as specified.

63,841.—ATTACHMENT TO MUCILAGE BOTTLES.—Douglas Bly, Macon, Ga.

First, I claim an attachment to a mucilage bottle for clearing the brush, having such a range of motion that when lowered it rests beneath the surface of the liquid, but when raised for action it rests above the surface, as set forth.

Second, An attachment to a mucilage bottle so arranged that the clearing edge for the brush is situated below the mouth of the bottle, as specified.

Third, A device for clearing the brush of a mucilage bottle, consisting of flexible jaws, between which the brush rests, as herein set forth.

Fourth, The combination of the nibs, c, and stops, d, with the attachment, B, and bottle, A, operating substantially in the manner and for the purpose specified.

Fifth, The cover, g, provided with the slits, h, for shutting over the flange of the attachment, as herein set forth.

63,842.—WOOD BORING BIT.—Charles Boernicke, Philadelphia, Pa.

I claim the combination and arrangement of the tube, A, composed of the slotted parts, e f, within which is pivoted the rod, b, provided at its lower end with the horizontal cutter, c, working through the slot near the lower end of the tube, A, its upper end bent so as to project in an inclined line through the slot in the upper part of the tube, A, its upper end bent so as to project in an inclined line through the slot in the upper part of the tube, A, and held outwardly by means of the spring, d, as herein set forth for the purpose specified.

63,843.—CAR BELL.—A. Borrowman, New York City.

I claim suspending the tongue, B, in the slotted bell, A, by means of the pin, C, passing through the upper side of the bell, and through the end, D, of the tongue, B, as herein set forth for the purpose described.

63,844.—BOOTJACK.—Henry D. Boss, Williamsburgh, N. Y.

I claim a bootjack having the inside of its jaws provided with an india-rubber bearing surface for the boot heel, inserted therein, substantially as and for the purpose specified.

63,845.—PROPELLING ATTACHMENT FOR CHILDREN'S SLEDS.—F. Philip Bourne, Williamsbridge, N. Y.

I claim the attachment of lever picks, B, to sleds, sleighs, etc., substantially as and for the purpose described.

63,846.—EXERCISING APPARATUS.—Benjamin F. Brady, New York City. Antedated April 8, 1867.

First, I claim the combination of the levers, F, with the seat, a, and with springs applied in such manner that their tension will oppose the backward movement of the said levers, substantially as herein set forth for the purpose specified.

Second, The outriggers, B, levers, F, arms, D, and springs, E, combined in relation with each other and with the box, A, and seat, a, substantially as herein set forth for the purpose specified.

63,847.—COMPOSITION FOR COATING LEATHER.—Ellison Brown, Indianapolis, Ind., assignor to himself and James B. Bell, Cincinnati, Ohio.

I claim the water-proof oil polish compounded of the ingredients named, or their chemical equivalents, in the manner and for the purpose substantially as set forth.

63,848.—ELECTRO-MAGNETIC BATTERY.—Peter Bruso, Erie, Pa., assignor to himself and Charles B. Clark, Buffalo, N. Y.

I claim the adjustable connecting arm, A, for the cups of electro-magnetic batteries consisting of the pivoted attachment, f f g, and sliding clamp for the platinum, constructed and operating substantially as set forth.

63,849.—COTTON TIE.—W. F. Buckelew, Shreveport, La.

I claim the point, A b a, in combination with the point, c, and the bend, B C, as and for the purpose set forth.

63,850.—ATTACHMENT FOR CONTROLLING DRAFT IN STOVE-PIPES.—Ira S. Bullard (assignor to himself and C. H. Parker), Geneva, N. Y.

I claim the construction and arrangement upon the side of the stovepipe, A, of the circular box, B, provided upon its slotted face, C, with a semicircular graduated ring, D, and depressions, b, into which fits the pointed stud of the spring index hand, H, secured to the end of the damper spindle, G, sliding slotted plate, I, hung upon said spindle, and held in place by means of the spiral spring, b', substantially as herein shown and described for the purpose specified.

63,851.—CORN PLANTER.—John Burns, Elyria, Ohio.

I claim, First, The wheels, D, provided with the rotary cutting blades, E, in combination with conductors, O, and seed boxes, Q, when arranged and operated conjointly with the adjustable frames, A B, as and for the purpose described.

Second, The levers, J L, and links, M K, as arranged, in combination with the pole, H, and adjustable frames, A B, for the purpose and in the manner set forth.

63,852.—STRAW CUTTER.—W. W. Burson, Rockford, Ill.

I claim, First, The arrangement of the cutting knives, a a', in combination with the spiral arms, h h' of pulley, A, constructed and operating substantially as described.

Second, In a combined fuel and feed cutter, the manner of fastening the cutting knives, a a' b b', to the pulley, A, substantially as described.

Third, The arrangement of the knives, a a' b b', to the pulley, A, and the construction of the stationary cutter, c, operating substantially as and for the purpose set forth.

Fourth, The arrangement of the feed passage, I, with relation to the cutters, a c, substantially as described and operating for the purpose set forth.

Fifth, The construction of the feed rollers, d d', for the purpose of giving an intermittent feed motion, as described.

Sixth, The placing of the additional knives, b b', upon the pulley, A, and additional serrated plates, i i, upon the feed rollers, d d', substantially as described and operating for the purpose set forth.

Seventh, The combination and arrangement of the nut, F, with shaft, H, and cutter pulley, A, substantially as described and operating for the purpose set forth.

63,853.—PORTABLE FENCE.—John T. Campbell, Rockville, Ind.

I claim, First, The cross stakes, C, with the notches, b, combined with the wedge, c, and arranged for supporting the plank rails, A, in the manner herein specified.

Second, A fence constructed with the plank rails, A, and posts, B, so united by bolts and nuts, a, as to permit any required degree of inclination to be given to the rails, the posts remaining vertical thus permitting its adaptation to convertable use, substantially as and for the purpose set forth.

63,854.—HAND SEEDING MACHINE.—M. D. Cone, Port Gibson, N. Y., and A. N. Douglass, Avon, N. Y.

We claim, First, Suspending the seeding apparatus from the front of a hand barrow by which they are drawn, substantially in the manner and for the purposes shown and described.

Second, The employment or use of the revolving seed cylinder, C, when it is made to contain the supply of grain, substantially as and for the purposes set forth.

Third, Enclosing the grain cylinder, C, within the casing, B, for the purpose of concentrating the seed after leaving the distributing cylinder and conveying it to the drill through the conductor.

Fourth, The adjustable perforated band, n, in combination with the revolving seed cylinder, C, substantially as and for the purposes set forth.

63,855.—LOCKING APPARATUS FOR FERRYBOAT.—James L. Canham, Newark, N. J.

I claim, First, Pivoting the blocks, D, to the frame of the boat in such a position as to take hold of the teeth of the racks, C, and hold the boat locked, substantially as herein shown and described.

Second, The combination of the springs, F, pivoted blocks, D, chains, G, shaft, H, ratchet wheel, J, and pawl, K, with each other, substantially as herein shown and described and for the purpose set forth.

Third, Attaching racks, C, to the fenders, B, substantially as herein shown and described and for the purpose set forth.

63,856.—Machine for Stuffing and Currying Leather.—Frederic Carl, Charlestown, Mass.

I claim, First, The combination of the rotating cylinder, A, of the shaft, B D, and perforated cage, E, or its equivalent, as and for the purpose described.

Second, The combination of the cylinder, A, and coiled pipe, G, as and for the purpose set forth.

63,857.—Excavator.—Oliver S. Chapman, Canton, Mass.

First, I claim the shovels, E, provided with the doors, F" and f, arranged to operate as herein described.

Second, The combination of the latterally adjustable hub, h, provided with the inclines, e' and the rock shaft, c, for tightening the friction bands, b, substantially as and for the purpose set forth.

Third, The combination of the bands, U, rock shafts, c, provided with the arms or levers, d', and the block, W, when arranged to operate as and for the purpose set forth.

Fourth, Constructing the wheels with a notched flange as represented in fig. 1, for the purpose herein set forth.

Fifth, I claim constructing the machine with the extra wheels, T, of larger diameter than the wheels, G, for the purpose of running the same on ordinary railway tracks clear of obstructions, substantially as set forth.

Sixth, The compound gear wheel, consisting of the movable portion, F, having slots therein, and the disk, F, with projections to fit into said slots, with the rubber or other yielding material interposed the whole being arranged for joint operation, substantially as shown and described.

Seventh, The combination of the clutch wheel, I, constructed and arranged as described with the endless chain, H*, and sprocket, w and w' as set forth.

63,858.—Planter and Cultivator Combined.—Isaac H. Chappell, Decatur, Ill., assignor to himself and James B. Millison.

First, I claim the combination of the adjustable lever, J, with the beams, H, substantially as herein shown and described and for the purpose set forth.

Second, The combination of the bent lever, W, and cross bar, X, with each other and with the standards, T, of the plow, S, substantially as herein shown and described and for the purpose set forth.

Third, Making the seat bar, N' adjustable suostantially as herein shown and described and for the purpose set forth.

Fourth, The combination of the roller shaft, G' arms, H' I, shaft, J', and arm, K' with each other and with the valve bar, F', substantially as herein shown and described and for the purpose set forth.

63,859.—Seed Planter.—E. E. Chesney, Abingdon, Ill.

First, I claim the combination of the gage wheels, D, and single shaft, C, with the seed boxes, B, and frame, A, of the machine, substantially as herein shown and described.

Second, Operating the shaft, C, to drop the seed by means of a hand lever, K, substantially as herein shown and described.

Third, The combination of the tongue, I, and upright bars, J, with each other and with the frame of the machine, substantially as herein shown and described and for the purpose set forth.

Fourth, The combination of the plows, H and G, with the frame of the machine, substantially as herein shown and described.

63,860.—Shingle Machine.—Enoch Conger, Lexington, Ohio.

First, In a shingle machine I claim the two saw sashes, E and F, placed one behind the other and to one of which a lateral movement is given for the purpose of giving a taper to the shingles sawed, substantially as herein shown and described.

Second, The combination of the sliding frame, H, with the saw sash, F, carriage, J, to whose under side is secured the inclined bar, L, working in the inclined groove of the cross bar, h, of the sliding frame, H, for the purpose of giving a lateral movement to the said sash, substantially as herein shown and described.

63,861.—Farm Gate.—Samuel B. Cooper (assignor to himself and Richard Tattershall), Beloit, Wis.

First, I claim broadly the revolving slotted post, B for the purpose set forth.

Second, I claim the brace, E e, and pulley, H, for the purpose specified.

Third, I claim an improved farm gate in combination with the revolving slotted post, B, brace, E and c, pulleys, H and a, gudgeons, b, cap, C, and fence post, D, as herein set forth for the purpose specified.

63,862.—Farm Gate.—William M. Crawford, Ashland, Ohio.

I claim the lever wheel, J, tongue board, P, slide, B, in combination with board, C, and block, K, substantially as shown and described for the purpose set forth.

63,863.—Corset Clasp.—C. O. Crosby, New Haven, Conn.

I claim the loop, B, formed in the manner described, its two ends secured to the tongue, d, substantially as set forth.

63,864.—Saddle.—John Curry, Stanford, Ky.

I claim the saddle constructed with head piece and cantle, mounted upon and secured respectively to bent plates C E, united by metallic side plates and forming a skeleton frame for the support of the suspended seat.

63,865.—Clasp for Skeleton Skirts.—Theodore D. Day, New York City.

I claim the clasp for skirts and similar articles formed with a lining to the clasps and the teeth in the manner specified.

63,866.—Clasp for Skeleton Skirts.—Theodore D. Day, New York City.

I claim the lip or lips, l, in combination with the clasps hinge, a b, formed of sheet metal in the manner and for the purpose set forth.

63,867.—Clasp for Hoop Skirts.—Adolph Delkescamp, Brooklyn, N. Y., assignor to Theodore D. Day, New York City.

I claim the button or clasp for skeleton skirts formed with the flange, 2, the raised head, 1, and the teeth, 3, as and for the purposes specified.

63,868.—Stalk Cutter.—William M. Dexter, Augusta, Ill., administrator of the Estate of John A. Dexter deceased, assignor to William A. Newton.

I claim the truck, H, applied to the tongues or poles, C D, of the frames, A E, in combination with the splinter bar, L, and double trees, M M, arranged substantially as and for the purpose set forth.

63,869.—Apparatus for Tanning.—Constant J. Dumery, Paris, Francis assignor to Francis C. Cormier, New York City. Antedated April 10, 1867.

I claim, First, The receptacle C, applied outside of the boiler or heating vessel, A, and communicating therewith by means of the pipe, D E, substantially as herein set forth for the purpose specified.

Second, The agitating blades or arms, i, arranged within the receptacle, C, and in relation with the opening, d, and tube, e, substantially as herein set forth for the purpose specified.

Third, The serpentine partitions, F, arranged in the upper part of the receptacle, C, substantially as herein set forth for the purpose specified.

63,870.—Glass Cleaner.—J. B. Dunlop, Meriden, Conn.

I claim as an improved article of manufacture, a cleaner made substantially as described.

63,871.—Cooking Kettle.—Benjamin W. Dunning, Brooklyn, N. Y.

First, I claim the adjustable covers, g, for closing the vessels, to which they are secured, and being provided with strainers, substantially as herein shown and described.

Second, The combination with the rings, c and d, and plate, e, of the vessels, A B C and D, or any or more of them, substantially as and for the purpose herein shown and described.

63,872.—Loom Temple.—W. W. Dutcher and G. Draper, Milford, Mass.

We claim each toothed wheel as constructed with the frusto-conical eye, substantially as described.

We also claim the toothed wheels so made, and their arrangement directly on, and so as to bear on one common pin and in a carrier, substantially as specified.

We also claim our improved carrier as made with the cheek pieces extended from and combined with a single supporting plate as specified.

We also claim the arrangement of a series of toothed wheels between cheek pieces, or their equivalents, and on and so as to bear on one common pin or axis, and with each wheel inclined thereto, and provided with an eye which while resting on the pin, will allow the wheel to be freely revolved thereon and between the cheek pieces.

63,873.—Machine for Mixing Roofing Composition and other Material.—Albertis Eagle, Trenton, N. J.

I claim a machine for mixing compositions consisting of a combination of a hopper, D, which is provided with a slotted or reciprocating false bottom, m, and valves, h, of a cylinder, B, which is provided with stirrers, s, on shaft E, and stationary arms, u, and of a furnace, A, all made and operating substantially as and for the purposes herein shown and described.

63,874.—Hinge for Covers for Tea Kettles and Hollow Ware.—James Easterly, Albany, N. Y.

First, I claim the slot, C, entering first radially from the opening of the kettle top, then turned laterally as at C' in combination with the stem, g, of of the cover, provided with a continuously projecting ledger or flange, h, or its equivalent arranged and operating substantially as set forth.

Second, I also claim the nib, d, in combination with the recess, f, on the cover, arranged and operating in the manner and for the purpose shown and described.

63,875.—Hydraulic Press.—A. H. Emery, New York City.

First, I claim a plurality of rams arranged so as to operate consecutively upon the plateau of a press, substantially as set forth.

Second, Operating or moving the plateau of a press by means of two or more columns of water or other liquids whenever these columns of water or liquid are so arranged that the plateau is moved through a part of its stroke by one or more of the acting columns, but not all, and through the rest of its stroke by a part of or the whole of the columns so used.

Third, The arrangement of two or more concentric rams placed one within the other and inclosed within a fixed cylinder to operate upon the plateau of a press, substantially as shown and described.

Fourth, The arrangement of the supply pipe, H, with the fixed cylinder, C, and the two rams, D E, for the purpose of operating the smaller ram, E, while the larger one remains stationary, substantially as set forth.

Fifth, The arrangement of the supply pipe, H, sliding packing, I, and compress ram, D, substantially as and for the purpose set forth.

Sixth, The arrangement of the two sliding packings, F I, packing ring, G, and the compress ram, D, substantially as described.

Seventh, The two supply pipes, H K, arranged and combined with the fixed cylinder, C, packing and compress rams, E D, to operate substantially as shown and described.

Eighth, The shoulder or stop, e or O, on the packing ram, E, with the nut, Q, in the compress ram, arranged to operate substantially in the manner as and for the purpose set forth.

Ninth, The two supply pipes, H K, with the valve, S, arranged to operate in connection with the packing and compress rams, E D, substantially in the manner as and for the purpose specified.

Tenth, The levers, V V, sliding wedges, U U, and valve, S, arranged to operate in the manner substantially as and for the purpose set forth.

Eleventh, The lifters, X X, plateau, P, and compress ram, D, combined and arranged to operate substantially as and for the purpose specified.

Twelfth, The combination of the lifters, X X, compress ram, D, and levers Y, arranged to operate substantially as and for the purpose set forth.

Thirteenth, The sliding wedges, V V, plateau, P, levers, W W Y Y, spring, f', and valve, S", combined and arranged to operate substantially as and for the purpose specified.

Fourteenth, The plateau, P, and lifters, X X, in combination with the levers, Y Y, and the springs, B', or their equivalents, arranged to operate substantially as and for the purpose set forth.

Fifteenth, The spring, B', arranged with the levers, Y Y, stops, w, and the cords, n, to operate substantially as and for the purpose specified.

Sixteenth, The lifters, X X, pawls, Y', at the ends of the lifters, X X, the recesses, i, in the compress ram, D, and the fixed rests, j j, all combined and arranged to operate substantially as and for the purpose specified.

Seventeenth, The arrangement of the clamp frame, D', wedge, E', and the clews or loops, e' e', substantially as and for the purpose set forth.

63,876.—Blacking-box Holder.—William A. Field, Boston, Mass.

I claim the combination of devices constituting my improved blacking-box holder, viz., the box, A, its handle, a, cover, b, elastic block, e, and screw, f arranged substantially as specified.

63,877.—Mode of Hanging and Guiding the Harness in Looms.—L. S. Fisher, Broadhead, Wis.

I claim, First, Hanging the harness in looms in the manner substantially as shown and described and for the purpose set forth,

Second, The adjustable guides, F, in combination with the harnesses, B B, constructed and operated in the manner as shown and described and for the purpose set forth.

63,878.—Dung Hook.—Jacob G. Good, Raps, Pa.

I claim an improved dung hook constructed substantially in the manner herein shown and described and for the purpose set forth,

63,879.—Construction of Strainers.—R. I. P. Goodwin, M. D., Manchester, N. H.

I claim a strainer constructed with a flange formed as described and shown in "view c."

63,880.—Ventilating Apparatus for Railroad Cars.—Robert C. Graves, Barnesville, Ohio.

I claim the construction and arrangement of the supplementary outlets, E, E, having deflector, n, upon the pipe, c, whose ends are curved upward and pass out of the top of the car, and whose under side is provided with crescent-shaped openings, e e, having air guides, d d, inclined in opposite directions upon each side of the middle partition, b, as herein set forth for the purpose specified.

63,881.—Hydro-carbon Burner.—Alva J. Griffin, Lowell, Mass.

I claim, First, Constructing the chambers, D E, with longitudinal ribs, B C, and lateral ribs, b b b b, perforated with orifices, substantially in the manner and for the purpose set forth.

Second, The gas chamber or retort, F, when combined with the chambers, D and E, substantially in the manner and for the purpose set forth,

Third, The coil pipe, J, or its equivalent, when arranged in combination with the gas retort, F, and chambers, D and E, substantially as and for the purpose set forth.

63,882.—Device for Cutting Washers.—Adam P. Gruger, Lancaster, Pa.

I claim the manner of constructing the sliding socket head, D, with its open knife slot, d, and single binding screw, F, to each, thereby making the knives doubly adjustable, in combination with a horizontal bar, C, united firmly with the vertical brace shaft, A, and center point, B, in the manner and for the purpose specified.

63,883.—Driving Belt.—M. J. Haines, Bristol, England, assignor to R. R. and J. H. Whitehead, Great Britain.

I claim, First, The construction and use of driving straps or bands composed of a number of longitudinal straps of leather, hide, or other suitable material of a width equal to the thickness of the intended strap and placed side by side and secured together in any convenient manner.

Second, The peculiar modes of fastening or securing together a number of longitudinal strips of leather with a view to forming an edge laid driving strap or band, substantially as hereinbefore described and illustrated by my drawings.

63,884.—Machine for Grinding Top Cards and the Workers, Strippers and Licker-in Cylinders of Carding Machines.—Charles Hardy, Biddeford, Me.

I claim the combination as well as the arrangement of the rotary grinder and mechanisms for supporting, grinding and operating two or more top cards so as to cause them at one and the same time while being ground to have reciprocating motions in directions transverely of them and in planes tangential to the curved surface of the grinder, the whole substantially as specified.

I also claim the combination of the box, x', and its lateral adjusting mechanism with the carriage, Z', and its longitudinal adjusting mechanism.

I also claim the combination of the plate, y', and its pivot, b2, with the box, X', and the carriage, Z', and their mechanisms for effecting their longitudinal and lateral adjustment, as set forth, such employment of the plate, y', and its pivot serving to enable the box to turn so as to readily adjust itself to the bearing of a card cylinder when placed within the box.

I also claim the adjustable cap, f2, and the box, x', as made and applied together, as set forth.

I also claim the combination as well as the arrangement of the grinder and its operative mechanism and mechanisms for supporting and operating one or more top cards and one or more cylindrical cards on opposite sides of such grinder in manner and for the purpose of grinding such top cards and cylindrical cards at one and the same time by such grinder, substantially as described.

I also claim in combination with each set of top card carriers and their slides, mechanism for supporting such set of carriers and moving them toward the shaft of the grinder, under circumstances and in manner substantially as hereinbefore specified.

I also claim the combination of the rotary cleansing brush, its operative mechanism and the adjustable gage bar applied to the frame, A, and for the purpose as set forth.

63,885.—Fireplace.—C. Harris and P. W. Zoiner, Cincinnati, Ohio.

We claim the arrangement in a shell or case, A, open in front of the interior fire pot, B, having a grated front, C, and recessed crown, E, closed rearward and laterally and open in front, substantially as set forth.

63,886.—Bridle.—James Harris, Kansas, Ill.

I claim the tubes F, secured to the bit E, receiving the check straps G, having holding collars I, for the purpose described, substantially as specified.

63,887.—Car Propelling-Apparatus.—Charles T. Harvey, Tarrytown, N. Y.

First, I claim the combination of the lateral rollers E E, with the large roller B, the axis of the latter being at a right angle with the axis of the former substantially as shown.

Second, I also claim the ferrule A', composed of a conical forward part O, a frame D, and a rear part N, the several parts being connected by joints which permit of lateral motion of such parts substantially as set forth.

Third, I also claim the construction and arrangement of the ferrule A, or its body or portion that contains the anti-friction rollers in sections 1 2, substantially as set forth.

Fourth. I also claim the yielding finger or ferrule guide P, substantially as set forth.

Fifth, I also claim the combination of the hook M, connected to the part D, as shown, the conical shell N, and the conical end Q', of the rope or cable A', substantially as shown.

Sixth, I also claim the combination of the link G, connected to the part D, as shown by a universal joint, with the conical forward part O, of the ferrule, substantially as shown.

63,888.—Method of Propelling Cars.—Charles T. Harvey, Tarry own, N. Y.

I claim the combination of a cable driving drum A, with the stationary guides B, to control and guide a propelling cable while passing around such driving drum substantially as set forth.

Second, I also claim the twisting conducting guide E, between a driving drum and railway track or any conducting pipe or guide substantially as set forth.

Third, I also claim the construction and arrangement of a driving drum for propelling cables of two or more independent stationary guides coiled in opposite directions, substantially as set forth.

Fourth, I also claim the construction and arrangement of propelling cables with heads or ferrules whose operating faces or spurs project at right angles from the heads substantially as described.

Fifth, I also claim the sliding heads or ferrules for keeping a moving cable in proper position and preventing it from turning in its guide, substantially as set forth.

Sixth, I also claim combining with the spiral guide B, anti-friction rollers for relieving the cable of friction, substantially as described.

Seventh, I also claim the hollow pipe K, constructed and arranged for conducting a propelling cable substantially as set forth.

63,889.—Hotel Register.—Charles L. Hawes, Titusville, Pa. Antedated Jan. 17, 1867.

I claim a hotel register book with the margin of its leaves occupied by advertisements substantially as described.

63,890.—Harvester Rake.—John F. Hirschy and W. M. McDonald, Wooster, Ohio.

First, We claim the attachment of the raking apparatus to an adjustable wrist on an exterior clutch wheel on an outer end of the carriage axle substantially as and for the purpose described

Second, The arrangement of the pitman C, rocking arm E, connecting rod G, and clasp H, with universal joint connections the pivotal point of the rocking arm, F, being adjustable to vary the length of throw substantially as described.

Third, The combination with the rear extension prong j, of the rake head of the curved rod L, the bearings K M, latch N, and platform guide o o, substantially as described.

63,891.—Spinning Tops.—Robert Hoadley, Ansonia, Conn., assignor to N. C. Stiles, S. S. Wilcox, E. N. Crocker, F O. Tucker, and W. W. Tucker, West Meriden, Conn.

I claim ballasting the thin top A B, by the addition of the extra weight D, or its equivalent distributed around the periphery at or near the zone of greatest diameter substantially as and for the purposes herein specified.

63,892.—Device for Seaming Sheet Metal Cans.—Robert J. Hollingsworth, Cincinnati, Ohio.

I claim the tube or form C, in combination with the solder trough F, arranged for joint operation in connection with a soldering iron H, substantially as and for the purpose specified.

63,893.—Window Cornice.—A. J. Holmes, (assignor to Wells L. Robbins) Saratoga Springs, N. J.

I claim a cornice for interior decoration or for windows, doors and similar objects constructed substantially as herein described.

63,894.—Ox-Bow Pin.—B. B. Hotchkiss, New York City.

First, I claim the hollow ends of the arms, B1 B2, arranged relatively to the main body, A, and to the trunions, b, substantially in the manner and for the purposes herein set forth.

Second, The coiled spring, c, with extended ends operating on the arms, B1 B2, b1 b2, substantially in the manner and for the purposes herein set forth.

Third, The studs, A3 A4, in combination with the spring, C, and arms, B1 B2, b1 b2, and the cheeks, A1 A2, and body, A, substantially in the manner and or the purposes herein set forth.

63,895.—Machine for Raising a Nap upon Cloth.—Adrien Houget, Verviers, Belgium.

I claim in machines for raising the nap on cloth, by means of two teazling drums, the arrangement substantially as herein shown of the teazling drums, conducting and stretching rollers, and suitable gear mechanism for imparting to the cloth its move to, against, and from the said teazling drums, and also to and from the receiving basin, in the manner and for the purposes set forth.

63,896.—Printing Paper.—Joseph E. Hover, Philadelphia, Penn.

I claim a printing paper, the surface of which is coated with carbonate of lime, or its equivalent, for purpose specified.

63,897.—Folding Chair.—David Howarth, Portland, Me.

I claim the cross legged chair as described, when, by means of the pivot, c, pivots, d, grooves, k k, and pins, m m, it may be folded in the manner described and set forth.

63,898.—Soap Frame.—Mathias H. Howel., New York City. Antedated March 27, 1867.

First, I claim the frame divided vertically and diagonally, through two corners, into two parts or halves, substantially as herein set forth, for the purpose specified.

Second, The hinged locking bars, e, and lugs, n, arranged with reference to each other, and operating to lock the two parts or halves of the frame together, substantially as herein set forth.

Third, The packing, n, within the rebate around the base or bottom, A, in combination with the diagonally divided upright portions of the frame, substantially as herein set forth, for the purpose specified.

Fourth, The diagonal trusses, w, arranged with reference to the diagonal crossed braces, h h, and with the sides of the frame, substantially as herein set forth, for the purpose specified.

63,899.—Broom Head.—Barnabas Hunt, Farmland, Ind.

I claim as a new article of manufacture a broom head, consisting of a series of tubes, a, made of sheet metal, and having the central longer than the others, to receive the handle, f, as herein shown and described.

63,900.—Sash Supporter.—John W. Hutchings, Bridgeport, Conn.

I claim the combination of the strip, B, and eccentric or cam lever, C, as a sash supporter, substantially as and for the purpose described.

63,901.—Bridge.—William James, Richmond, Va.

First, I claim the construction of the towers or supports of the bridge, with passages or flues through which the suspension rods, wires, or chains are passed, in such manner as to form extended frictional bearings for said rods, wires, or chains, substantially as described.

Second, The central drum or shaft in the tower, around which the suspension wires or rods are passed substantially as described.

Third, Forming the sides of the passages or flues on which the suspension wires rest with an extended flattened bearing surface to adapt them to receive any desired number of such wires or rods arranged side by side in the same horizontal plane, substantially as described.

Fourth, Securing the ends of the wires or rods which pass through the perforated tower at a point or points at or near the base of said tower, substantially as described.

Fifth, The tight wires, rods, or chains, forming the bottom of the bridge, and passing through the perforated tower thereof, in combination with the suspension rods or chains, substantially as described.

Sixth, The manner of applying the tight wire hand rail, whereby it is made to form an additional support to the bridge as described.

Seventh, The employment of one or more suspension rod or wires, i, intermediate between the tight wire and suspension rods or wires, h and k, substantially as described.

Eighth, The arrangement of the suspension wires, rods, or chains, i k, tight hand rail and bottom wires, g h, and vertical ties or suspenders, l, in combination with the perforated towers or supports, A, in the manner and for the purpose described.

63,902.—Medical Compound.—John G. Jeffrey, M.D., South New Berlin, N. Y.

I claim the improved medical compound, composed of the ingredients in substantially the proportions herein specified.

63,903.—Coffee Pot.—George Jones, Saugerties, N. Y.

First, I claim in combination with the space, E, formed, constructed, and arranged substantially as specified, the tube space or passage, f, substantially as and for the purpose specified.

Second, In combination with the body, A, constructed with a space, E, cylinder, F, and spout, C, I claim the ball valve, H, the whole arranged in the manner substantially as herem set forth.

63,904.—Eyeleting Machine.—Henri Juge (assignor to himself and Thomas H. Rockwell), New York City.

First, I claim the eyelet clinching head, having a tubular punch or cutter, f, applied to it, in combination with a perforated clinching head, having a pin, h, through it, said parts being arranged and operated so as to cut a hole through cloth or other substance, insert and clinch an eyelet at one operation, substantially as described.

Second, The clinching head, f' provided with a tubular cutting punch, f, substantially as and for the purposes set forth.

Third, In combination with eyelet punching and clinching devices, constructed substantially as described, I claim the moveable tube, l, and movable steam, h h', with their springs, k l, and cam lever, B, arranged so that they shall operate substantially as described.

Fourth, The adjustable pin, C, applied to the cam head, B', of lever, B, for moving the steam, h h', substantially as described.

Fifth, In combination with the machine constructed as herein described, I claim the adjustable gage pin, v, substantially as set forth.

Sixth, In combination with the machine constructed as herein described, I claim the adjustable gage, E, and adjustable gage pin, v, substantially as described.

63,905.—Paper Fastening.—James M. Keep, New York City.

I claim the plate, A, provided with a divided tube, B, when used in combination with the plate, C, provided with the conical protuberance, D, and the inner plate, E, in which is formed an opening, F, to receive the tube, B, the cone, D, serving to spread and secure the sections of the divided tube beneath the plate, E, as and for the purpose specified.

63,906.—Garment Fastener.—M. H. N. Kendig, Washington, D. C.

I claim the within-described fastening device, composed of studs or plates, A and A', the latter being provided with a suitable retaining device, D, within which is adjustably secured a chain, B, or equivalent device, the whole constructed and arranged substantially as described.

63,907.—Stove for Cooking.—O. G. Kennel, Ezra Smith, and G. L. Morrison, New York City.

We claim the chambers, H, in the case, A, their lower ends opening into the chamber, G, their outer sides placed a short distance from the side plates, J, their upper edges extending upward within the box, A, and provided with escape pipes, L, said case, A, resting upon the perforated plate, F, of the base, D, when all are constructed and arranged as herein set forth, for the purpose specified.

63,908.—Concrete Pavement.—B. N. Laumpum, Rutland, Vt.

I claim the concrete pavement herein described and set forth.

63,909.—Car Brake.—S. M. Lee, New London, Iowa.

First, I claim the device for disconnecting the self-acting brake, when backing the train, consisting of the rope or chain, m, bent shaft, l, chain, i, lever, b, suspended bar, d, provided with a shoulder, c, and lever, b, to which the brakes are attached, or their equivalents, substantially as described.

Second, The rod, F, with hook-shaped end to which the chain, r, is attached, for the purpose of disconnecting the self-acting brake device, and attaching the brakes to the common brake rod and wheel, in combination with the above substantially as described.

Third, The combination of the sliding bar, E, of the above described self-acting brake device, formed arm, p, and rollers, n o, with the rope or chain m, substantially as and for the purposes described.

63,910.—Skinning Cattle.—Horatio S. Lewis, Communipaw, N. Y.

I claim the employment of mechanical appliances for removing hides from animals, substantially as and for the purpose described.

63,911.—Swing.—George H. Lupton, Cleveland, Ohio.

I claim the cross bars, B, heads, C, in connection with the seat and swing ropes, substantially as and for the purpose set forth.

63,912.—CORN WEEDER.—Seth March, Norfolk, Va.

I claim the frame, A, share, B, and detachable heel, C, when these parts are constructed, arranged and combined, as herein specified.

63,913.—ARRANGEMENT FOR CLEANSING WATER PIPE.—Joseph C. Marks and Lewis G. Eckels, Washington, D. C.

First, We claim the arrangement of the pipes, B F C, stop cocks, D G, and strainer, L, constructed and operating substantially as described.

Second, The combined arrangement of the box, A, pipes, B C, cock, G, rod, H, and lid, operating as described.

63,914.—DOOR SPRING.—Jabez F. Mason, Newark, N. Y., and Job Johnson, Brooklyn, N. Y.

First, We claim the bracket, g, formed with teeth, in combination with the cylindrical ratchet, h, and spring, d, substantially as and for the purposes set forth.

Second, We claim the nut, 4, in combination with the cylinder, h, spring, d, and bracket, g, substantially as and for the purposes set forth.

63,915.—MACHINE FOR MAKING CARTRIDGE SHELLS.—Wm. A. McIntire, Springfield, Mass.

First, I claim the combination of the plunger and die for drawing the shell, the slide or equivalent for delivery of the same and the trimming device for the purpose specified.

Second, In combination with the above, I claim the rotating disk, U, and heading device, arranged substantially as described.

63,916.—COTTON PRESS.—John W. McIntyre, Memphis, Tenn.

First, I claim the arrangement of the upper box, provided with slotted sides, C C, with the follower and bar, S, side doors, D D, provided with flanges, f f, and end doors, D' D', the several parts being constructed and used substantially as and for the purpose specified.

Second, The arrangement of the shaft, G, with its attachments with the cords, t t, follower, R, bar, S, and cords, q q, with weights, P P, attached for the purpose of operating the follower in both directions, substantially as specified.

63,917.—APPLICATION OF STEAM POWER TO THE CAPSTANS OF VESSELS.—John S. McMillan, Pittsburg, Pa.

I claim rotating a capstan placed on deck of a boat by means of an auxiliary engine, when said engine and capstan are placed forward of the steam boilers of said boat, substantially as hereinbefore described and for the purposes set forth.

63,918.—STUMP EXTRACTOR.—M. Mellen, Richland Station, N. Y. Antedated April 11, 1867.

First, I claim the combination of the support, D, and pin, a, with the frame, A, of the machine, and the adjustable feet, h, attached to the lower extremities of the support, substantially in the manner and for the purpose herein specified.

Second, The combination of the main shaft, F, and clutch, K, with the loose collar, h, and hook, l, operating substantially as and for the purpose herein shown and described.

Third, The application to the stump extractor of two or more drums, L and M, substantially as and for the purpose herein specified.

Fourth, The adjustable slotted bearings of the axles, H I and K, for the purpose of throwing any portions of the machine in or out of gear, substantially in the manner herein shown and described.

63,919.—RAZOR STRAP.—Charles T. Melvin, Providence, R. I.

I claim a flexible razor strap, capable of being drawn into its receiver by means of a spring.

I also claim a brush and a swivel joint in connection with a flexible razor strap, all substantially as set forth and for the purpose specified.

63,920.—VENTILATING BUNG FOR CASKS, ETC.—Jerome B. Melvin (assignor to himself and Edward B. Howe), Lowell Mass.

I claim the combination of the vent passage, e, the cavity, I, the valve, B, its seat, o o, the pressure chamber, H, and pressure passage, f, with the bung or vent plug, A A, the whole arranged substantially as herein set forth and shown for the purpose specified.

63,921.—MATTING FOR FLOOR COVERING.—John Michell, West Farms, N. Y.

I claim an improved matting formed by the combination of woollen, jute, and Manilla or Russian grass with each other, whether woven plain or twilled, substantially as herein described, as a new article of manufacture.

63,922.—ALARM LOCK FOR TILLS.—D. K. Miller, Bernville, Pa.

First, I claim the two series of bolts, H K, fitted in boxes, C J, attached respectively to the till, and to the under side of the counter or desk, and arranged in connection with a frame, I, to operate substantially in the manner as and for the purpose set forth.

Second, The two series of levers, D D', connected by rods, b, and arranged with springs, E, rods, F, and slides, G, or equivalent means to operate in connection with the bolts, H K, substantially as and for the purpose specified.

Third, The bell hammer or rod, M, provided with the springs, k k', and operated through the medium of the shaft, m, provided with the arms, l o, the projection, p, at the under side of the counter or desk, the arm, N, fitting in the notch in the rod, and the pin, r, extending from the side of frame, I, all arranged so that the bell hammer or rod will be set each time the till is shoved inward, and the hammer or rod liberated and the alarm sounded each time the till is slightly drawn outward in an unlocked state, substantially as set forth.

63,923.—STEAM GENERATOR.—Joseph A. Miller, New York City.

I claim the combination of the water base, B2, grate, A2, steam generating tubes, C2, and jacket, g2, to the fire-box roof, E2, cylinder or upper chamber, G2, return water pipes, D2, and smoke tubes, 12, the whole being arranged relatively to each other, substantially as specified.

63,924.—HOTEL REGISTER.—John L. Mitchell, Buffalo, N. Y. Antedated Dec. 5, 1866.

I claim a hotel register book with interleaves of bibulous paper with advertisements displayed thereon substantially as specified.

63,925.—APPARATUS FOR FEEDING LIQUID TO EVAPORATING PANS OR BOILERS.—S. A. Mitchell, Alstead Center, N. H.

First, I claim the invention of a self-adjusting feeder to any number of boilers required, from one faucet or feed pipe, by means of a buoy or buoys, E, acting on the flow of liquid by means of a stopper, Q, or any similar device.

Second, The immersed buoy, N, connecting rod, M, the beam, K, standard, L, the pivot, m, in standard, L, the connecting rod, J, the eye bolt, n, in cistern, A, operating on conductor, D, as herein set forth.

Third, The small buoy, H, acting by means of the beam, b, upon the valve, U, for the purpose of controlling the flow of fluid in the aperture, V, as herein described.

Fourth, The combination of the buoys, E H and N, conductors, D and O, the standards, F and L, sockets, G c and d, the beams, K and b, the connecting rods, J and M, the pivots, P m a and c, the brace, C, stopper, Q, valves, U and f, the eye bolt, n, and the perforated guard, g, arranged and operated as herein set forth, or in a manner practically the same for the purpose specified.

63,926.—COAL STOVE.—George R. Moore, Lyons, Iowa.

I claim the hinged cover, C, so arranged and operating as to smother the fire and check combustion when turned down to a horizontal position, and to form a diving flue between the combustion chamber and the smoke pipe when turned to a vertical position, substantially as described.

63,927.—BOLT AND RIVET MACHINE.—John Morgan, Jr., Wheeling, West Va.

First, I claim the combination of the die stocks, Y, lever rods, O, stirrups and cams, substantially as arranged and set forth.

Second, The arrangement of the header, V, plunger, U, cams, F and E, loose stirrups and thumbscrews, A B.

63,928.—TURNING LATHE.—H. L. Morse (assignor to S. A. Morse), New Bedford, Mass.

First, I claim the method of adjusting the movable plate, C, consisting of a combination with each other of the circular projections, d d, grooves, e e, screw, D, and nut, f, substantially as here in shown and described.

Second, The arrangement of the scale or index to the rear end of the lathe bed, in combination with the adjustable plate, C, substantially as shown and described for the purposes herein set forth.

Third, The gage, G, constructed of a right-angular bar pivoted to the foot stock, F, in combination with the adjustable plate, C, and adapted for the purpose described when the tool is set to the point of its shorter arm, as herein specified.

63,929.—CLAMP.—S. A. Morse, New Bedford, Mass.

I claim the stock, A, provided with an upright ledge or bearing surface, a, in combination with the sliding plate, B, provided with the lever, C, having the self-adjusting plate, D, attached and operated by the cam, E, or its equivalent, substantially as and for the purpose herein set forth.

63,930.—DRAFT ATTACHMENT FOR VEHICLES.—Edward Nason, Wm. Nason, and Oliver K. Nason, Orneville, Me. Antedated April 11, 1867.

We claim the arrangement of the straps, E, snap hooks, F, rods, C, in combination with the whiffletree, B, and collar, D, and operating in the manner and for the purpose herein specified.

63,931.—WAGON BOX.—Geo. W. Oviatt, Potter Center, N. Y.

First, I claim securing the sides of a wagon box to the bottom by means of the bolts, H and I, substantially as specified.

Second, I claim securing the end boards of a wagon box in their places by the use of the spring catch, D, and catches, E and E, as herein specified.

63,932.—GATE.—Calvin H. Paine (assignor to himself and Wm. D. Hilton), Providence, R. I.

I claim the combination of the gate or lazy tongs and mechanism for opening and closing it by means of a carriage, substantially as described.

I also claim the combination as well as the arrangement of the two sets of levers, D D and F F, the connection piece, h, and the series of T-pieces, l, the whole being for operating as specified the gate constructed on the principle and applied to a post, B, substantially as described.

63,933.—HAME FASTENER.—W. W. Palmer, Hudson, Mich.

I claim the metallic bar, B, with its keepers, C C, and curved spring, D, when used in combination with the bar, A, in the manner and for the purposes specified.

63,934.—CURTAIN FIXTURE.—C. C. Parker, Brooklyn, N. Y.

I claim the pulley slide formed with two arms at right angles to each other, one arm, e, receiving the pulley and the other arm, f, extending within the coils of a helical spring, c, within the slotted case, a, so that said arm, f, becomes a guide to sustain the pulley but allow its free motion, as set forth.

63,935.—WRENCH.—James A. Partridge (assignor to himself and E. D. Wright), Lowell, Mass.

First, I claim the liberating lever, A, applied to the movable jaw of a slide wrench when said lever has a segmental nut formed in the end, b, thereof, to engage with the screw, G, and a spring, g, at or near the end, d, to throw the nut into contact with the screw, and all arranged to operate substantially as and for the purpose set forth.

Second, The shoulders, e1 and e2, constructed and arranged to operate substantially as and for the purpose set forth.

63,936.—MACHINE FOR MAKING HOOP SKIRTS.—S. H. Perkins and Thomas S. Gilbert, New Haven, Conn.

We claim automatically measuring, marking, and cutting wire for skirt hoops, substantially as herein set forth.

63,937.—PUMP.—Alonzo Perry and Moses C. Hawkins, Edenboro, Pa.

We claim the construction and arrangement of the double-armed reciprocating piston, C, having valves, F, its hub, E, working air tight between the angles of the perforated partition plates, J, thereby forming the chambers, F2, in the cylinder, A, valves, I, in the chambers, G H, discharge ports, M, in the sections of the chamber, F, uniting and forming the tube, K, upon the upper half of the cylinder, A, as herein shown and described.

63,938.—SASH AND BLIND FASTENER.—L. Pollock, Fishkill Landing, N. Y.

I claim the combination of the screw bolt, E, provided with the square part, e2, and the sliding bolt, H, constructed and operating substantially as described and for the purpose set forth.

63,939.—APPARATUS FOR GUIDING CLOTH.—Elisha O. Potter, North Providence, R. I.

First, I claim in an apparatus for guiding cloth, paper, or other like material, during its delivery to other machinery, the combination of a beam capable of an endwise movement with the selvedge edge of the material as it is being unrolled, in the manner substantially as described, for the purposes specified.

Second, The combination in an apparatus for the above declared purpose of the following instrumentalities:—A beam capable of an endwise movement, a rack pinion, d e, and a double pawl and ratchet gear, E' g g, or the equivalents thereof, substantially as described.

Third, The combination in an apparatus for the above declared purpose of the following instrumentalities:—A mechanism for imparting an endwise movement to the cloth beam as above described, a disk plate, H, and vibrating bent lever, I, or the equivalents, for putting into action or suspending the operation of the mechanism of the shifting the position of the beam, substantially as described.

63,940.—CAR COUPLING.—Narcisse Reeves, Du Quoin, Ill.

I claim the combination of the sliding block, H, and weighted arm, J, with the link, D, and bumper, G, substantially as herein shown and described and for the purpose set forth.

63,941.—CORN-HUSKING SHIELD.—Almon C. Robinson, Louisiana, Mo.

I claim a corn-husking metal shield to wear upon the thumb of either hand, constructed and operating substantially as herein shown and described.

63,942.—BOTTLE STOPPER.—Robert Robinson, Brooklyn, N. Y.

I claim closing the neck of the bottle by means of the stopper, A, constructed as described, having its ends, a1 a2, of greater diameter than its center, and by placing the elastic band, B, over the upper end, a1, and after being inserted in the neck of the bottle, pressing said elastic band down upon the part, a2, of increasing diameter, as herein shown and described.

63,943.—MATCH SAFE.—John Roebuck, New York City.

I claim the match safe, A, consisting of the bottom piece, b, back piece, c, sides, a a, falling lid, d, hinged in the groove, f, and waste match receiver, e, constructed and arranged as herein shown and described.

63,944.—BIT STOCK.—Clemens B. Rose, Sunderland, Mass.

First, I claim the bit stock provided with the socket, D, the sliding jaws, b, having the inclined heads, d, and projecting or raised screw threads, c and ring, B, all constructed and arranged to operate as herein shown and described.

Second, Connecting the head, K, to the shaft by means of the grooves, i i and L, and the collar, O, melted in around them, substantially as set forth.

63,945.—LEVER SHEAR.—John J. Sandgren, Lyons, Iowa.

I claim the peculiar arrangement and combination of the levers, E and F, with the cam, J, and straps, K G and H, all for the purposes set forth.

63,946.—SKATE.—H. W. Sanford, Thomaston, Conn., assignor to himself and Horace Smith.

I claim the vibratory or lever runner, B, in combination with the sliding clamping jaws, t t' and w w', and the skate stock, the whole constructed in the manner and operating as hereinbefore described for the purpose set forth.

63,947.—BEER COOLER.—Amos W. and James Sangster, Buffalo, N. Y.

First, We claim the cone-shaped coolers connected together as described also in connection therewith of one or more partitions as shown at G, or the equivalents thereof for the purposes described and set forth.

Second, In combination with the cone or cones, we claim the tubes, D D3 D1 and D2, substantially as herein described.

Third, We claim the employment of a corrugated surface on the upper part of the cone as shown in fig. 3, for the purpose of more equally distributing the liquid to the cooled as it flows over said surface.

Fourth, We claim the plate, E, as and for the purposes described.

63,948.—BENCH PLANE.—Charles H. Sawyer, Hollis, Me.

I claim the arrangement of the screw, B, in combination with the joints or pivots by which the sheet m, i connected at its ends to the ends of the handle or stock, A, as and for the purposes herein described.

63,949.—PROCESS OF WHITENING HORN.—Augustus Scheller, New York City.

I claim the within described process of whitening horn or other similar substances by treating with acetate of lead or any other solable salt or oxide of lead and with muriatic acid, substantially in the manner set forth.

63,950.—TWINE HOLDER.—Frederick J. Seymour, Wolcottville, Conn.

I claim a twine holder formed of a metallic case fitted so as to be suspended and provided with a brake to prevent the cord or twine running out by its own weight as specified.

63,951.—PRESS BOARD FOR AN OIL PRESS.—John Shinn, Leverington, Philadelphia, Pa., assignor to himself and G. S. Rhoades.

I claim a press board or plate formed with grooves running parallel or otherwise, in combination with a wire screw as described for the purpose set forth.

63,952.—DRAINING AND DITCHING PLOW.—Henry B. Smawley, Greensburg, Ind.

I claim the arrangement of the share, B, provided with two connected but distinct points one in advance of the other, with the cutters, C D, as constructed and connected to the beam, and the inclined plane, K, provided with a back bone or brace on its under side, the several parts being used together, substantially as and for the purpose specified.

63,953.—COAL SCUTTLE.—Gaston D. Smith, Washington, D. C.

I claim the perforated malleable cast iron bottom plates, a b, and collar, x, of a coal hod, provided with an ash box, B, attached to it by a bayonet joint, when the same is constructed and arranged as and for the purpose set forth.

63,954.—DRAFT PLATE.—George Smith, Providence, R. I.

I claim. First, The construction of the open or skeleton plate, A, with a horizontal thill supporting sheif, B, formed on its lower edge, and two or more tenons or lugs, a a, for receiving openings in the bottom of a thill, substantially as described.

Second, The longitudinally sliding head, D, fixed guide rod, f, and central spring, g, applied to the right angular draft plate, A B, substantially as described.

Third, The two slots, d' and e', when arranged on each side of the sliding head, D, of the draft plate, A B, as described and for the purposes set forth.

Fourth, The combination of the slotted bars, d, and e, upright bars, c and c', and shaft, B, constructed of one piece of metal and adapted to serve the improved purposes described.

63,955.—HOISTING MACHINE.—Hiram Moore Smith, Richmond, Va.

I claim when applied to a hoisting machine, the double wheel on the cylinder, A, the two pinions combined and working on the rope wheel shaft the crank and loaded wheel for moving and holding them securely in gear, the whole constructed and operating as above described and set forth.

63,956.—FIRE CHAMBER FOR FURNACES.—Sidney Smith, Worcester, Mass.

I claim the cast iron, perforated flanged and rebated staves B, for the purpose of forming a fire chamber, substantially in the manner set forth.

A fire chamber constructed substantially in the manner described, so as to be removable entire from the frame or casing supporting it, for the purpose set forth.

In combination with the trap G, the arm H, and ratchet shaft I, substantially as and for the purpose set forth.

In combination with the fire chamber claimed in the second claim, the rollers K, substantially as and for the purpose described.

In combination with the fire chamber claimed in the second claim the removable front J, substantially as and for the purpose set forth.

63,957.—EVAPORATOR FOR SACCHARINE JUICES.—George L. Squier, Buffalo, N. Y.

First, In a series of two or more evaporating pans, arranged and used for evaporating saccharine juices, I claim making the bottoms of such pans of different thicknesses of metal for the purposes and substantially as specified.

Second, In a series of two or more evaporating pans arranged and used for evaporating saccharine juices, I claim making such pans of different depths for the purposed and substantially as set forth.

Third, An air pipe or pipes or conductors so connected and arranged with an evaporating pan or pans for treating saccharine juices that currents of hot or cold air (either or both) may be forced through or into the juices during either part of the process for the purpose and substantially as set forth.

Fourth, Regulating and controlling the temperature of saccharine juices by means of hot or cold air forced therein in the process of evaporation substantially as set forth.

Fifth, Placing or arranging an air pipe within the furnace, so that the same fire used for heating the evaporating pans may also be used for heating the air.

Sixth, The plate K, placed in the evaporating pan for the purpose of spreading the air and for drawing the scum to the centre substantially as described.

Seventh, Dividing the furnace in the rear into two flues with a damper at each flue, in connection with evaporating pans, constructed and arranged as herein described.

63,958.—RUBBER HEEL STIFFENER.—Edgar M. Stevens, Chelsea, Mass., assignor to himself and John A. Mendum, Roxbury, Mass., assignors to A. B. Ely, Newton, Mass.

I claim a molded heel stiffening of rubber or similar elastic material having a slit or slits cut in the rear portion of the lower and under rim as and for the purposes set forth.

63,959.—DAMPER FOR STOVE PIPES.—W. X. Stevens, Worcester, Mass., and W. E. Puffer, Lexington, Mass.

First, We claim keeping two or more parts of a stovepipe damper in the desired relation to each other by means of the turning bar used as a pin in the manner and for the purposes set forth.

Second, The combination and arrangement of frame A, gate B, and bar C as specified and for the purposes set forth.

63,960.—DEVICE FOR WASHING CARRIAGE WHEELS.—Wm. T. Sweet, Fayette, N. Y.

I claim a receptacle A, provided with sockets c c, and brushes i i, operating substantially as and for the purpose herein set forth.

I also claim the folds g g, or equivalent in combination with the receptacle A, operating substantially as and for the purpose specified.

63,961.—ANIMAL TRAP.—Jesse Teed, Tompkins, N. Y.

I claim the combination of the spring trap A, (composed of one piece) and having two supporting legs B B, and the detachable brace or triggers C, arranged and operating in the manner shown and described, and for the purpose set forth.

63,962.—HINGE FOR SHUTTERS.—Lawrence Tevis, Philadelphia, Pa.

I claim a self catching hinge, provided with cam D, lug o, pin P, and catch c, the whole combined and constructed in the manner and for the purpose above described and set forth.

63,963.—APPARATUS FOR TREATING PETROLEUM.—Alexis Thirault, Williamsburg, N. Y., assignor to himself and B. S. Hilton, New York City. Antedated April 5, 1867.

First, I claim the arrangement of one or more steam jets a in combination with the condensing coil A, constructed and operating substantially as and for the purpose set forth.

Second, The steam jets d, or d,' applied in combination with tanks C or C', and with the pipes carrying the oil into said tanks substantially as and for the purpose described.

Third, The jets d* or d'* in combination with the tanks C or C', constructed and operating substantially as and for the purpose set forth.

Fourth, The combination of the coil A, tanks C C' C*, steam jets a d d* d' d** and coils k1, all constructed and operating substantially as and for the purpose described.

63,964.—SPIRIT METER.—Isaac P. Tice, New York City. Antedated April 5, 1867.

I claim, First, The diaphragm measuring can or cans constructed so as to form a chamber above and below and provided with valves to admit and discharge the liquid into and from the lower chamber of each can by the movement or action of the latter, substantially as specified.

Second, In combination with the measuring or weighing cans the valves controlling the entry and discharge of the liquid thereto or from, constructed so as to spring or yield on the cans reaching the end of their strokes to give time and space for the locking of the raised can, essentially as herein set forth.

Third, The combination of the diaphragm, measuring or weighing cans, tilting hopper, G, and floats, K K', with locking and unlocking devices under control of the floats, substantially as specified.

Fourth, The combination with a liquid meter of a device for closing the induction or passage of liquid through the meter so operated or set in motion automatically by the liquid in the eduction passage as to prevent tampering with the meter, essentially as herein set forth.

Fifth, The combination with a vessel within the meter, of a detector arranged within said vessel and operated by the liquid rising therein to record any attempt at tampering with the meter, substantially as specified.

Sixth, The combination, in a spirit meter, of a hydrometric and the rometric register with a counter or indicator of quantities for operation together by the weight or action of the liquid or other motor in passing through the meter, essentially as specified.

63,965.—MEDICAL VEGETABLE LINIMENT.—Thomas L. Upton, Farmington, West Va.

I claim the liniment consisting of the ingredients named in about the proportions specified and compounded substantially as and for the purpose set forth.

63,966.—MEDICAL VEGETABLE SALVE.—Thomas L. Upton, Farmington, West Va.

I claim the salve consisting of the ingredients named in about the proportions specified and compounded substantially as and for the purpose set forth.

63,967.—DEVICE FOR SACKING GRAIN.—Peter Von Lackum St. Charles, Minn.

I claim First, The elevator, A B E, provided with the adjustable tube, a, having hooks for attaching the bag or sack, arranged to operate substantially as shown and described.

Second, The combination of the adjustable tube, a, cords, b, lever, d, and ratchet, f, when arranged for joint operation, as set forth.

63,968.—METHOD OF OBSTRUCTING ICE IN RIVERS AND HARBORS.—Peter Voorhis, New York City.

I claim the combination of floating iron-clad obstructors with anchors, arranged to operate substantially in the manner and for the purposes herinbefore described.

63,969.—CHURN.—Thomas A. Warren, Gettysburg, Pa.

I claim the arrangement of the horizontal churn box, provided with a curved corrugated or irregular bottom, with the shaft, C, and frame, D, provided with arms, d, revolving in different directions, and with the wheel, K, the whole being constructed and used in the manner and for the purpose specified.

63,970—APPARATUS FOR PURIFYING WASH FOR THE MANUFACTURE OF VINEGAR.—Gardner Waters, Cincinnati, Ohio.

I claim the apparatus made and operating substantially as above set forth and described.

63,971.—SEAMING TOOL—Philip Weck, Brooklyn, N. Y.

I claim a tool consisting of a frame, B, provided with a series of rollers whether more or less in number, when one or more of such rollers are arranged so as to be slid or moved in or out upon the said frame, substantially as and for the purpose described.

63,972—CATTLE PUMP.—Milo D. Wilder, Laporte, Ind.

I claim the tubular driving lever, C, in combination with a pump and a trough, which pump is operated by gearing, substantially in the manner herein shown and described.

63,973.—MOP SQUEEZER.—E. S. Wilkins and John Straw, Stowe, Vt. Antedated March 14, 1867.

We claim the treadle, R, mop squeezer, G and H, and spring lever, M, and pail, B, when arranged, combined, and operated as herein described and for the purposes set forth.

63,974.—GATE.—Horace S. Wolf, Rolling Prairie, Ind.

I claim the application of the lever herein described, by means of which to elevate the entire gate, and that too with the least possible labor.

63,975.—INKING APPARATUS.—George W. Wood, Richmond, Ind.

I claim, First, The use in an inking apparatus of one or more inking belts for conveying the ink whether applied automatically from a fountain or by hand.

Second, The combination of a fountain from which the ink is transferred to the inking belts and the distributing rollers.

Third, The combination of one or more inking belts, and the composition rollers from which the ink is transferred to the type.

Fourth, The combination of the driving roller, I, the inking belts and distributing rollers turning upon their axes, and having a longitudinal reciprocating motion.

Fifth, The arrangement of the distributing rollers and inking belts, so that the former shall have a revolution upon their axes, and at the same time an alternately reciprocating motion in opposite directions longitudinally in contact with the face of the belt.

Sixth, The combination of the adjustable fountains, the soft rollers attached to an oscillating frame, and adjustable rollers around which the inking belts are carried.

63,976.—STEAM-ENGINE GOVERNOR.—John B. Wood, Brooklyn, N. Y.

I claim the piston, i, spring, n, and connections, k l, to the throttle valve, in combination with the pump, a, and valve, q, operated by a connection, s, to the piston, i, as and for the purposes specified.

63,977.—FRICTION CLUTCH.—Sylvester C. Wright, Fitchburg, Mass.

I claim, as my invention for effecting the movements of the clutch plate, D, the combination of the auxiliary male screw, h, and its bar or nut, E, with the nut, G, and its male screw, f, having their threads pitched in opposite directions to those of the screw, h, and nut, E, the whole being applied substantially as explained to the parts or shaft, C and H, projecting from the gears, A B, and the clutch, D, as set forth.

I also claim the arrangement of the auxiliary nut, E, and its screw, h, at either end of the shaft, H, as hereinbefore set forth, when combined with plate, D, tube, c, and nut, G.

I also claim the combination as well as the arrangement of the oil passages,

k l, with the hearing, F, the shaft, C, and the clutch plate, D, applied to the shaft by means substantially as specified.

63,978.—CASTING SHUTTLE.—C. E. Billings, Hartford, Conn.

First, I claim the dies, C and D, with cavity, a, and projection b, for the purpose of forming the shuttle frame, arranged substantially as described.

Second, The dies, E and F, the cavity, c, and projection. d, for the purpose of finishing the shuttle frame, arranged substantially in the manner described.

63,979.—MACHINE FOR GRINDING AND AMALGAMATING ORES.—Philip Hinkle (assignor to himself and Charles S. Capp), San Francisco, Cal.

First, I claim the employment of the renewable side dies, G G, to form a perpendicular grinding surface on the sides of the tub or pan, substantially in the manner and for the purpose described.

Second. The employment of the perpendicular muller hangers, E E, loosely hung on the pins, C C, carrying the renewable mullers or grinding plates, F F, of the shape shown in the drawings, thrown and passed laterally by centrifugal force against the perpendicular grinding surface, G G, when the arms, B B, are revolved, with the supporting lip, I, and bearing surface, D, upon the arms, B B, by which arrangement the pressure is lightest at the feeding point and heaviest at the heel of the muller, and also the provision for loading the muller hanger to counterbalance the loss of weight by wear of the face of the muller, F, substantially in the manner and for the purpose described.

Third, The shape and arrangement of the cover of the pan, U, so as to form a flattened funnel-shaped dish, with annular grooves, S, for mercury and raised current breaking ring, W, on its upper surface, the collars or projecting flange, V, with the apertures, R R, under it, by which the escape of the pulp is permitted, and its current directed so that it is returned to the center, and a continual circulation maintained.

RE-ISSUES.

2,558.—POWER CAPSTAN.—D. N. B. Coffin, Jr., and Irah D. Spaulding, Boston, Mass., assignees of D. N. P. Coffin, Jr. Patented Nov. 21, 1865. (Div. 1).

First, We claim the conical or taper gears, h g f e, and the angular shafts, j, in combination with the barrel of a capstan, substantially as described.

Second, Connecting the fulcrum gear, e, to the bed plate automatically by furnishing each with a series of inclined faced lugs, substantially as described.

Third, Duplicating the inclined faces of the lugs, i, on the fulcrum gear and the bed plate in reverse order so as to operate both ways.

2,559.—POWER CAPSTAN.—D. N. B. Coffin, Jr., and Irah D. Spaulding, Boston, Mass., assignees of D. N. B. Coffin, Jr. Patented Nov. 21, 1865. (Div. 2).

First, We claim the inclined or wedge-shaped lifter, q, made movable separately from the parts to be locked together in combination with the sliding bolts of a capstan, substantially as described.

Second, The arrangement of one or more series of inclined or wedge-shaped lifters upon a ring or circular connection, p, so as to operate simultaneously on several bolts in the locking mechanism of a capstan, substantially as described.

Third, Casting the lower journal part of the spindle or shaft of a capstan on and as a part of the bed plate.

Fourth, Casting the lower journal part of the spindle or shaft of a capstan hollow in combination with its formation and as a part of the bed plate irrespective of the construction of the upper portion.

Fifth, Compounding the spindle or shaft of a capstan by forming the lower journal part on and as part of the bed plate and inserting the comparatively lighter wrought part to form the upper portion, substantially as described.

2,560.—HORSESHOE,—Oliver P. Macgill and T. Poultney, Brooklandville, Md., assignees of Oliver P. Macgill. Patented April 11, 1865.

We claim a false or supplemental shoe provided with ice calks and so constructed that it may be clamped to or confined upon the shoe of the horse by means of griping flanges and a clamping screw without the necessity of any screws, keys or other devices entering the stock or metal of the shoe on the horse's foot.

We also claim making the supplemental shoe in two parts hinged together in combination with the flanges, D D, or their equivalents, and the tightening screw in order that the said shoe may be clamped only to the inner edges or portions of the shoe of the horse, substantially as described.

We also claim making the ice calks, J, removable and constructed and combined with the false shoe, in the manner described for the purposes set forth.

2,561.—TOBACCO POUCH.—Winfield S. Sims, Newark, N. J. Patented Feb. 26, 1867.

First, I claim the tobacco pouch, A, for ed with two openings, one for the reception of the nozzle and the other for the reception of the rod or rammer, as described.

Second, claim the combination of the pouch, A, with the nozzle, B.

Third, I claim the combination of the pouch, A, nozzle, B, rod, E, substantially as and for the purpose described.

2,562.—HOE.—Theodore R. Timby, Saratoga Springs, N. Y. Patented March 5, 1867. (Div. A).

I claim the hoe with its peculiar angular edge, as described.

2,563.—HANDLE FOR IMPLEMENTS.—Theodore R. Timby, Saratoga Springs, N. Y. Patented March 5, 1866. (Div. B).

I claim a metallic lapped thimble or ferrule for handles of agricultural implements and other useful articles.

2,564.—MACHINE FOR GRINDING SHEET METALS.—The Bridgeport Brass Company, Bridgeport, Conn., assignees of Henry Todd. Patented March 5, 1867.

First, I claim the combination of the trough, B, provided with strips or corrugations, b, and presser, B, constructed substantially in the manner described so as to grind the surface of sheet metal drawn there through.

Second, The combination of the trough, B, provided with strips or corrugations, b, and presser, C, provided with strips or circulations, c, with the mechanism constructed and arranged so as to draw the sheet between the scouring surface of the trough and presser, substantially as specified.

Third, In combination with the trough, B, and presser, C, the removable sleeve, G, and reversely rotating shafts, E and F, essentially as and for the purposes herein set forth.

2,565.—WATER-PROOF SOLE.—The Water-proof Sole Company, New Haven Conn., assignees by mesne assignments of John W. Coburn. Patented June 27, 1865.

First, We claim a compound sole presenting a surface of rubber or analagous gum or its componnds over the main portion of the sole and a border of leather, the gum having been applied to the leather while soft and vulcanized threon, substantially as and for the purposes herein specified.

Second, We claimin combination with the above, causing the vulcanized material to extend through from one face of the sole to another through a hole provided for the purpose in the leather, substantially in the manner and for the purpose herein specified.

Third, We claim in compound soles having rubber vulcanized with leather as specified, the protension of the rubber face outside of and beyond the face of the leather edging substantially as represented in fig. 4, and for the purpose herein specified.

Fourth, We claim in compound soles of rubber and leather covering the surface in the whole or in part with thin rubber cloth or analogous strong fibrous material attached so as to serve in connection with the rubber and leather substantially in the manner and for the purposes herein set forth.

2,566.—METHOD OF OPERATING RAILROAD PUMPS.—Samuel Moss, San Francisco, Cal., assignee of Gilbert Cole. Patented Dec. 16, 1862.

First, I claim conducting by means of connecting pipes, the steam generated in the locomotive boiler to a stationary engine by the road side, to operate the same as and for the purpose set forth.

Second, The combination of a stationary engine and pump, the connecting pipes, c c', and a locomotive boiler, as and for the purpose described.

2,567.—SEWING MACHINE.—Alfred B. Ely, Newton, Mass., assignee of Reuben W. Drew. Patented June 30, 1863.

I claim the application of heat by or through the flame of a lamp, gas burner or their equivalent to the metallic arm of a waxed thread sewing machine in or along which the thread may pass, for the purpose of warming the thread and making it pliable, substantially as described.

2,568.—WINDOW SASH FASTENING.—M. B. Stafford, New York City. Patented Jan. 27, 1863.

First, I claim the combination in the window fastener, of the fastening bar, B, and recessed ledge, f, substantially as herein shown and described.

Second, The combination in the window fastener of the recessed ledge, f, with a ledge, l, and fastening bar, B, substantially as herein shown and described.

Third, The employment in the window fastener of the divided fastening bar, constructed substantially as herein shown and described.

2,569.—MANUFACTURE OF CAUSTIC ALKALI.—George Thompson, East Tarentum, Pa. Patented Oct. 21, 1856. Reissued Feb. 1, 1859. (Div. A).

I claim as a new article of manufacture, caustic alkali enclosed in an integument or casing of anti-corrossive, impervious fabric, substantially as above described.

2,570.—PROCESS OF PUTTING UP CAUSTIC ALKALI.—George Thompson, East Tarentum, Pa. Patented Oct. 21, 1856. Reissued Feb. 1, 1859. (Div. B.)

I claim the process of putting up caustic alkali in metallic casing or integument, by pouring the molten caustic alkali into the casing, substantially as above described and then closing up the top of the case.

2,571.—MANUFACTURE OF CAUSTIC ALKALIES.—George Thompson, East Tarentum, Pa. Patented Oct. 21, 1856. Reissued Feb. 1, 1859. (Div. C).

I claim the caustic alkali encased or enveloped in a tight metallic integument or metallic casing, substantially as above described.

DESIGNS.

2,614.—CIGAR BOX.—Frederick Becker, Baltimore, Md.

2,615.—CASKET HANDLE.—Wm. M. Smith, West Meriden, Conn.

2,616.—CARPET PATTERN.—Alexander Beck, Philadelphia, Pa. Division A.

2,617.—CARPET PATTERN.—Alexander Beck, Philadelphia, Pa. Division B.

2,618.—PRINTERS' TYPE.—David Bruce, Newtown, N. Y.

2,619.—WASH STAND.—J. L. Mott, Mott Haven, N. Y. Division A.

2,620.—WASH STAND.—J. L. Mott, Mott Haven, N. Y. Division B.

2,621.—STOVE HANDLE.—J. S. Simmerman, Millville, N, J.

2,622.—HAT.—P. W. Vail, Newark, N. J.

2,623.—SHADE FOR A CEILING LIGHT.—Charles Wilhelm and Joseph Neumann, Philadelphia, Pa.

2,624.—LANTERN REFLECTOR.—Charles Wilhelm and Joseph Neumann, Philadelphia, Pa.

2,625.—STOVE DOOR.—Chas. J. Woolson, Cleveland, Ohio.

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