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Business and Personal.

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For the best and cheapest Lubricating Oils, for Sewing Machines, Engines, and other Machinery, send for Price List and Samples, to Chard & Howe, Manufacturers, 134 Maiden Lane, New York.

The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$4 00 a year. Advertisements 17c. a line.

"507 Mechanical Movements."—The 6th Edition of this valuable work now ready. A complete illustrated table of Mechanical Movements, embracing all departments of Mechanics. No mechanic should be without it. Price \$1. By mail, \$1.12. Theo. Tusch, 37 Park Row, New York.

SCIENTIFIC AMERICAN—If you want back Nos. and Vols. of the SCIENTIFIC AMERICAN, at low prices, address Theo. Tusch, 37 Park Row, N. Y.

American Boiler Powder Co., P. O. Box 315, Pittsburgh, Pa. The Universal Clothes Washer is warranted to wash clothes as well as any other washing machine. Price only \$2.50. Address J. K. Dugdale, Whitewater, Wayne Co., Ind.

Only \$1,500 for a Patent of a Valuable Tool. Can be cast, or will be sold in State Rights. J. F. Ronan, Station A, Boston, Mass.

A. G. Bissell & Co., East Saginaw, Mich., manufacture Packing Boxes in shoos.

Wanted.—A first-class Draftsman and Calculator. One acquainted with drafting iron hulls, etc. None other need apply. Address, at once, with best references, W. S. Nelson, No. 618 N. Main st., St. Louis, Mo.

Parties manufacturing machines adapted to boring small cylinders, are requested to send illustrated circulars to J. E., Drawer 116, Bridgeport, Conn.

Wanted.—A situation as Analytical Chemist. Good references furnished. Address "Chemist," P. O. Box 60, Haverhill, Mass.

Commercial Travelers, Carpenters, Hardware Dealers, and others, address for sample of the best Sash Lock and Catch yet made Charleton & Woodbury, New Britain, Conn., or Madison, Wis. Contains no spring, and but one movable piece. Can be applied to any window in five minutes.

Wishing to increase my business, I desire to make arrangements with some responsible Sewing Machine Manufacturers, to furnish them with needles. All work warranted. Address E. S. Hill, S. Abington, Mass.

Bok & Bennett are dealers in Patents, and introducers of patented articles, 258 Broadway, New York.

Models in Miniature.—Wanted, working models of Steam Engines, Agricultural Implements, or any machine directly applied to agricultural purposes. Inventors and Patentees will please address circulars to Senor de Moncada, Grand Hotel, Broadway and 31st st., New York.

Manufacturers of Corn, Cotton, and Seed Planters (everywhere) send address and circular to Levi Scofield, Watertown, Wis.

Newton's Principia.—Wanted, a copy of this work. Address Publisher SCIENTIFIC AMERICAN, 37 Park Row, stating price.

Mechanical Draftsman wanted.—One experienced and expert in getting up machinery will find permanent employment, with liberal weekly pay. Address E. H. Stearns, Erie, Pa.

To Club Agents.—Those who have raised Clubs for the SCIENTIFIC AMERICAN, and others, can make it pay to take a Local Agency for the publications of S. R. Wells, 389 Broadway, New York. They are popular, practical and useful. Inclose stamp for terms.

A person with a knowledge of Chemistry, and 30 years' experience in Electro Plating (with some practice in Nickel Plating), is open to an engagement on reasonable terms. Address "Chemist," New Haven, Ct.

Superintendent Wanted.—An energetic man, capable of superintending a factory. Must have a general knowledge of mechanics. One familiar with the manufacture of horn, shell, or vulcanite preferred. The very best reference required. Address "Horn," P. O. Box 2874, New York.

Machinery for the manufacturing of all kinds of Rubber Goods, made by W. E. Kelly, New Brunswick, N. J.

See advertisement of L. & J. W. Feuchtwanger, Chemists, N. Y.

Carpenters wanted—\$10 per day—to sell the Burglar Proof Sash Lock. Address G. S. Lacey, 27 Park Row, New York.

Manufacturers' and Patentees' Agencies, for the sale of manufactured goods on the Pacific coast, wanted by Nathan Joseph & Co., 619 Washington street, San Francisco, who are already acting for several firms in the United States and Europe, to whom they can give references.

Pattern Letters for Machinists, Molders, and Inventors, to letter patterns of castings, all sizes. Address H. W. Knight, Seneca Falls, N. Y.

Improved mode of Graining Wood, pat. July 5, '70, by J. J. Calow, Cleveland, O. See illustrated S. A., Dec. 17, '70. Send stamp for circular.

All parties wanting a water wheel will learn something of interest by addressing P. H. Wait, Sandy Hill, N. Y., for a free circular of his Hudson River Champion Turbine.

Self-testing Steam Gage. There's a difference between a chronometer watch and a "bull's eye." Same difference between a self-tester and common steam gage. Send for Circular. E. H. Ashcroft, Boston, Mass.

Belting that is Belting.—Always send for the Best Philadelphia Oak-Tanned, to C. W. Arny, Manufacturer, 301 Cherry st., Phil'a.

E. Howard & Co., Boston, make the best Stem-winding Watch in the country. Ask for it at all the dealers. Office 15 Maiden Lane, N. Y.

For mining, wrecking, pumping, drainage, and irrigating machinery, see advertisement of Andrews' Patents in another column.

Millstone Dressing Diamond Machine—Simple, effective, durable. For description of the above see Scientific American, Nov. 27th, 1869. Also, Glazier's Diamonds. John Dickinson, 64 Nassau st., N. Y.

Walrus Leather, for Polishing Steel and Plated Ware, at reduced rates. Greene, Tweed & Co., 10 Park Place.

Oak-Tanned Leather Belting.—We make an extra quality, cheapest for the consumer. Greene, Tweed & Co., 10 Park Place.

Gage Lathes for Broom and other handles, Chair Rounds, etc. Price \$20. With attachment for Null work, price \$30. Also, Wood-turning Lathes. A. L. Henderer & Co., Binghamton, N. Y.

E. P. Peacock, Manufacturer of Cutting Dies, Press Work. Patent Articles in Metals, etc. 55 Franklin st., Chicago.

Peck's Patent Drop Press. Milo Peck & Co., New Haven, Ct.

Dr. E. F. Garvin's Tar Remedies cure Gout and Rheumatism. Sold by Druggists.

Inventors' Coöperative Mfg Co, 258 Broad'y. Send for circular.

H. S. Redgrave, Norfolk, Va., would like information as to the most improved process or apparatus for drying fruits, either by steam, hot air, or other means.

Wanted, a man, fully up to the times, who has acted as Superintendent of a Gun or Sewing Machine Factory, to take charge of a shop. One fully competent to set up the machinery and break in the help. Address H. H., 35 Bond st., N. Y.

Brown's Coal-yard Quarry & Contractors' Apparatus for hoisting and conveying material by iron cable. W. D. Andrews & Bro., 414 Water st., N. Y.

Improved Foot Lathes. Many a reader of this paper has one of them. Selling in all parts of the country, Canada, Europe, etc. Catalogue free. N. H. Baldwin, Laconia, N. H.

Cold Rolled-Shafting, piston rods, pump rods, Collins pat. double compression couplings, manufactured by Jones & Laughlins, Pittsburgh, Pa.

Keuffel & Esser 116 Fulton st., N. Y., the best place to get 1st-class Drawing Materials, Swiss Instruments, and Rubber Triangles and Curves.

For Solid Wrought-iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, etc.

The Merriman Bolt Cutter—the best made. Send for circulars. H. B. Brown & Co., 25 Whitney ave., New Haven, Conn.

Taft's Portable Hot Air, Vapor and Shower Bathing Apparatus. Address Portable Bath Co., Sag Harbor, N. Y. (Send for Circular.)

Glynn's Anti-Incrustator for Steam Boilers—The only reliable preventive. No foaming, and does not attack metals of boilers. Price 25 cents per lb. C. D. Frédricks, 587 Broadway, New York.

For Fruit-Can Tools, Presses, Dies for all Metals, apply to Bliss & Williams, successor to May & Bliss, 118, 120, and 122 Plymouth st., Brooklyn, N. Y. Send for catalogue.

Presses, Dies, and Tinner's Tools. Conor & Mays, late Mays & Bliss, 4 to 8 Water st., opposite Fulton Ferry, Brooklyn, N. Y.

2d hand Worthington, Woodward and Novelty Pumps, Engines 25 to 100 H. P., 60 Horse Loc. Boiler. W. D. Andrews & Bro., 414 Water st., N. Y.

English and American Cotton Machinery and Yarns, Beam Warps and Machine Tools. Thos. Pray, Jr., 57 Weybosset st., Providence, R. I.

Winans' Boiler Bowder.—15 years' practical use proves this a cheap, efficient, safe prevention of Incrustations. 11 Wall st., New York.

To Ascertain where there will be a demand for new machinery or manufacturers' supplies read Boston Commercial Bulletin's Manufacturing News of the United States. Terms \$4 00 a year

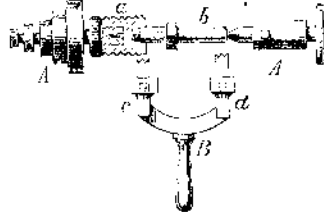
Answers to Correspondents.

CORRESPONDENTS who expect to receive answers to their letters must, in all cases, sign their names. We have a right to know those who seek information. From us: besides, as sometimes happens, we may prefer to address correspondents by mail.

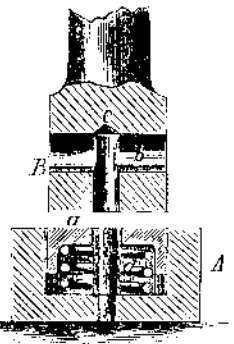
SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at 100 a line, under the head of "Business and Personal."

All reference to back numbers must be by volume and page.

CUTTING SMALL BRASS SCREWS.—L. C. D. asks for a plan to cut small brass screws, fine thread and true, in a quick and reliable way. I submit drawing of tool that is simple, and that will do good work if given half a chance. On the threaded end of the spindle of hand lathe, A, a hub, *a*, is screwed; said hub is threaded on its outer surface, the same pitch being given as is required on the bolts to be cut. The hub has a square, tapered socket formed in its free end, for the retention and driving of the bolt, *b*; the bolts to be turned and chased should have one end squared to fit the socket in *a*. The chaser holder, B, is constructed, as shown, with two boxes, one of which carries the guiding chaser, the other the cutting chaser. The guiding chaser, *c*, meshes into the hub, *a*; the cutting chaser, *d*, cuts the bolt, *b*. A proper rest, or support, for the holder should be provided. The great difficulty which amateurs experience, in using a chaser, is to properly start the thread. This tool overcomes the trouble, and, with a little practice, by its use a true thread can be cut without failure.—W. P. P., of Pa.



CUTTING BLANKS FOR TOOTHED WHEELS.—In the SCIENTIFIC AMERICAN of March 25, B. B. S. desires a plan to cut blanks of small toothed wheels and to punch the center hole at one operation. I send a drawing of a method, now in use for similar work, that operates well. The lower die, A, cuts the outside of blank; the small punch, *i*, is rigidly adjusted in the center of die, A. A flanged disk, *a*, is provided of proper size to slide in die, A, and over punch, *i*. A stout spiral spring, preferably of steel, supports the disk, *a*, level with the upper face of the die, A. The upper punch, B, has a longitudinal hole of the size of punch, *i*, drilled in its center; a transverse hole or opening, *b*, is cut to intersect hole, *c*, and should be of sufficient size to permit the waste cut by punch, *i*, to pass out. The spring, *d*, should be of sufficient strength to remove the punched blank from die, A, by forcing up disk, *a*.—W. P. P., of Pa.



TEMPERING CHISELS MADE FROM OLD FILES.—Tempering cold chisels made from old files, would, to a very great degree, depend upon the quality and temper of steel from which the files are made. If the chisels are made from saw files, draw your steel down, at a very low heat, to the shape or form required, and let them get cold. Then grind, or rub with sandstone, at least two inches up from the cutting edge, till bright, which enables you to see distinctly the change in color as it advances to the end. Heat them slowly, at least three inches from the point upwards, in a clean, low fire, till you get a cherry red heat through the body of the metal. Effectually cool them in clean cold water, one inch up from the point. Rub away the dirt from the surface with your sandstone, and the heat above will bring down your white, cool end, gradually and bodily, to a dark blue; cool off, and you have a good tool. If your files be small flats or rounds, run down your temper, by the same process, to a pale blue, and cool off. If your files be large, cool off at a dark straw color. These remarks apply only to files made from good material and on most approved principles. Should the nature of your steel by the foregoing process, require a higher or a lower temper, regulate it by the degrees of color in your tempering, but in no case make your steel too hot.

But you may rest satisfied that if your files have been bad as files, they will not make good cold chisels. Want of precaution, ignorance of the nature of steel, and overheating and hurry in the hardening and tempering tools, have wasted thousands of dollars that would otherwise have been moving in the legitimate channels of commerce and trade. If you want a good tool, there must be no undue haste in making it; your steel should never be heated in a quick hot fire, from the fact that the point is hot before you have sufficient heat above to gradually bring down the temper. Besides, in this way, you do not get even the point heated as a mass. A hot, quick fire gives you a skim heat, and, if you adopt this process, do not charge the fault to the steel, but to your individual ignorance, carelessness, or undue haste, when your tools crumble off in bits at the points, and you have to spend more time at the grindstone than at the lathe or vise. All files for cold chisels should be annealed, though this is not necessary for lathe tools.—B. C., of Pa.

CUTTING FINE THREADED SCREWS.—L. C. D., does not give the length of the screws, nor state whether it is necessary that they should be cut sharp up under the head. If they are not to be so cut, a solid die, having three or four cutting edges in it, may be made to do the work by flaring out the three or four first threads, so that it will act like a female taper tap. If necessary to come sharp up under the head, use a second die that is not tapered out. Make the outside of the dies round, and on one side slot them right through to the center; then put them into a holder, having a set screw in it, and set them together, by means of the set screw, if they make the screw too large. Use them in the engine lathe with the screw gearing on, if necessary.—S. G. S., of Conn.

BOILER FURNACE.—N. H., with two boilers, will find that a furnace constructed as follows will answer his purpose: Fire the full width of both boilers with 7 feet grate bars, then let each boiler have its own draft of 2 feet 6 inches by 15 inches deep, a division wall running from the fire back to the end flue. Distance from back wall to boiler, 2 feet—3 feet would be better. Use good fire brick for walls.—G. D., of Miss.

J. G., of Miss.—We have no means of judging as to the durability of the cement you name. We certainly should not condemn it upon present information, and we should not praise it over others, even if we knew it to be superior. The proprietors of a good article need no gratuitous advertising from us.

YELLOW RAIN.—The yellow powder, observed by H. H. B., after the storm of March 8, 1871, at New Orleans, was the pollen from the blossoms of the forest trees of the Great Mississippi Valley.

J. L. & Son, of Md.—With the same mean effective pressure, and same amount of radiation, the indicated power of two engines will be in proportion to the steam consumed. A cylinder 7 x 9, making 300 strokes per minute, will, with equal mean effective pressure, give two and one fifth times as much power as a cylinder 5 x 10, making 240 strokes per minute.

W. A., of R. I.—The suggestions made in the article sent you on improved permanent way for railways, contain nothing substantially new. Stone supports for rails have been tried, but have not met with favor. Such a permanent way as you describe would cost more money than railway companies are willing to pay, and would, we think, be accompanied by practical difficulties unforeseen by you.

T. B. K., of Pa.—An inch rope laid upon a level surface, and long enough, so that its friction in moving would be greater than the tensile strength of the rope, would of course break before tension could be transmitted from one end to the other.

W. P., of Md.—Lightning conductors conduct only on their surfaces. A hollow tube slit longitudinally will conduct both on outside and inside surfaces, or if open at both ends will conduct on both sides. The resistances of conductors vary as their cross sections.

N. T. D.—We should prefer Bunsen's carbon battery to Daniell's for the voltaic arc experiment. Forty eight of Bunsen's elements have produced good results. We should not expect much success with fifty Daniell's elements.

H. B., of Pa.—We do not think tea is liable to become tainted with lead from the lead lining of the chests, unless, through leakage water should gain access to the contents.

Recent American and Foreign Patents.

Under this heading we shall publish weekly notes of some of the more prominent home and foreign patents.

DUMPING CART.—William Hand, Plainfield, N. J.—This invention relates to a new and useful improvement in dumping carts, whereby much time and labor is saved, and it consists in attaching the body of the cart to the axle and in connecting the "hind board" of the cart body with the shafts, attaching the shafts to the body, and in fastening the body of the cart down to the shafts by a hook which fastens automatically.

CONSTRUCTING WATER-PROOF CELLARS, CISTERNS, ETC.—Tobias New, Brooklyn, N. Y.—This invention relates to a new and useful improvement in the construction of water-proof cellars, cisterns, vaults, and all underground apartments for whatever purpose, whereby the bottom and walls of such cellars, etc., are made perfectly impervious to water.

ADJUSTABLE SEAT.—Louis Postaroka, East Cambridge, Mass.—This invention relates to a new and useful improvement in seats for pianos and other purposes, and consists in making the seat adjustable as to height.

SWIVEL PIN FOR TETHERING ANIMALS.—William Lyon Troop, Camp I, Halleck, Nevada.—This invention relates to a new and useful improvement in a pin for tethering horses and other animals.

COMBINED WASHER AND WRINGER.—Cyrus E. Carter, Martinsville, Ohio.—This invention relates to new and useful improvements in machines for washing and wringing clothes, whereby convenience, ease of action, and expedition are secured.

AUTOMATIC CLOSING GATE.—Benoni F. Palmer, Baraboo, Wis.—This invention relates to a new and useful improvement in mode of hanging and operating gates, whereby the gate is made self-closing, and may be opened from either side or in four different directions.

COMB.—Leonce Picot, Hudson City, N. J.—This invention has for its object to avoid the corrosion of the metal strengthening backs applied to horn, bone, and composition combs, to permit warping, which is caused by the acids deposited on the combs in use, and it consists, in one case, in applying the stiffening ribs so as to be wholly covered by the substance of which the comb is made, and in another case, in providing a raised rib between the metal back and the base of the teeth, one on each side, to arrest the said deposit in advance of the metal backs, and prevent contact therewith.

PREPARING SILK AND OTHER TEXTILE FABRICS FOR PRINTING.—Louis Prang, Boston, Mass.—This invention has for its object to facilitate the proper printing of silks, laces, and other textile fabrics of a pliable character, in one or more colors.

ELECTRICAL GAS LIGHTING AND EXTINGUISHING APPARATUS.—John Vansant, San Francisco, Cal.—This invention has for its object to produce an apparatus by means of which gas can be lighted and extinguished on a suitable number of burners in rapid succession, and without requiring the handling of, or personal contact with, each burner or its gas pipe. The invention consists in the application to each gas pipe, or burner, of an electric apparatus, by means of which the valve, for admitting the gas to the burner or withholding it from the same, will be opened or closed whenever the currents are directed in the appropriate manner.

PADLOCK.—George Merkel and Charles H. Meyer, New York city.—This invention relates to a new padlock, and has for its object to make the picking of the same more difficult than in ordinary padlocks, and also to facilitate the operation of the same by the right key.

CLOTHES PIN.—K. H. Goss, Cedar Springs, Mich.—This invention relates to improvements in clothes pins, and it consists in a piece of wire having one or more coils at the center, and a sharp bend in each part below the coils at the termination of which the two parts cross, and beyond these bends the said two parts are bent backward beyond the coils, to form levers for opening the pin, and terminate in finger pieces suited to grasp between the thumb and finger for opening the bent parts below the coil for attaching to the clothes line.

AWNING FRAME FOR ANIMALS.—Simon Moffitt, Minneapolis, Minn.—This invention relates to an awning to be attached to the pole of a two-horse wagon, for the purpose of protecting the animals, when harnessed to the wagon, from the action of sun and rain.

CEILING FOR STAGES.—J. W. Dunne, New York city.—This invention relates to an improvement in ceilings which are to be used on the stages of theatres, opera houses, etc., to complete and perfect the display of scenery.

MATCH SAFE.—William Stine, Elmore, Ohio.—This invention relates to a new match safe, which is so constructed that the matches can successively and singly be removed from the same without requiring the opening of the main lid or cover.

WATER AND WIND WHEEL.—Andrew Folsom, Eastport, Me.—This invention relates to a new water or wind wheel, which is so constructed that it will serve to revolve its shaft whenever it is exposed to a current of liquid or air, whatever the direction from which the same may come.

WIND MILL.—Peter Bailey, Smyrna, Iowa.—This invention relates to a wind-mill constructed with a double wind wheel, the two parts of which are mounted, side by side, on the same shaft, and revolve in opposite directions. The apparatus is supplied with rudders, that have adjustable wings, by regulating which the wind wheels may be kept face to the wind, or inclined to the wind, or side to the wind, at pleasure, the wheels, when in this last mentioned position, being stopped.

WINDOW-SILL AND FIRE-ESCAPE.—George Laynor and Harry Helmling, Baltimore, Md.—This invention consists in arranging in a window-sill, made as a box, and having a cover that turns back, and a side or sides that turn down, a fire escape ladder, so constructed that it may be folded compactly within the sill, and there stored till wanted for use, when the sill may be opened, and the ladder unfolded and let down the side of the building. The invention also consists in so constructing the ladder that the several sections thereof fold one within another, so as to occupy a minimum of space.

ILLUMINATING APPARATUS.—F. H. Lutkewitte, St. Louis, Mo.—This invention consists of a series of small hydrogen chambers, filled with absorbent, and arranged in a series of sections, which may be shut off from one another, to graduate the amount of oil through which the air passes, and its time of contact therewith, according to the temperature and season of the year.

CIDER OR WINE MILL.—W. B. Farrar, Greensboro, N. C.—This invention relates to a cider or wine mill, in which the unbroken fruit is first placed in a press-box, wherein, by the moving of the platen, it is fed up to the revolving grinding cylinder, and thereby reduced to pomace; and in which the pomace is then replaced in the same box, and, by the operation of the platen, forced again against the grinding cylinder, which now stands still, whereby the juice is expressed from the pomace, the same box thus serving to hold the fruit to both while grinding and pressing.

COTTON PRESS.—C. C. Conner, D. D., Ripley, Tenn.—This invention relates to an improvement in presses, in which the platen is raised and lowered by the action of two complementary sets of cables or ropes operated by one and the same set of vertical shafts, one set of ropes being unwound from the shaft as the other is wound upon them, and vice versa.

HAY LOADER.—L. D. Taylor, Granville Center, Pa.—This invention relates to a new hay-loader, which is to follow a wagon for the purpose of transferring the hay to the same. The invention consists in a new arrangement of inclined rake-heads, which receive their motion from two crank shafts, so that they will serve to elevate the hay gradually to the top of the wagon; also in the combination of the same with a fixed inclined platform having detaining teeth.

ROTARY STEAM ENGINE.—T. S. La France, Elmira, N. Y.—This invention relates to a new rotary engine, of the class composed of two toothed drums or wheels within a fixed case, the drums being revolved by the pressure of steam against their teeth.

LOOM.—W. R. Gifford, W. R. Gifford, Jr., and J. A. Gifford, Piscataqua Co., Me.—This invention relates to improvements in hand looms, and consists in certain novel arrangements of apparatus for setting the spring for acting the picket staves by the action of the lathe, the same being accomplished during the backward movement, so that on the forward movement, the whole power may be applied to the reed in beating up. The invention also comprises improvements in the arrangement of the driving shaft and the apparatus for operating the lathe by which the treddles and the yarn beam are operated, and it also comprises improvements in the part of the frame which supports the cam shaft and the yarn beam, calculated to facilitate packing for shipment.

FEEDER FOR NAIL MACHINES.—H. B. Landers, Williamsburgh, N. Y.—The object of this invention is to provide a mechanism whereby plate iron can be fed to the cutting apparatus of a nail machine at such regular intervals that the blanks can be cut therefrom with the desired velocity.

ASH SIFTER.—G. W. Rogers, New York city.—This invention relates to a new ash sifter, in which an oscillating sieve is employed, the same being supported on an U-shaped rock shaft, from which it can be readily detached. A very convenient and reliable ash sifter is thereby produced.

EEL TRAP FOR WATER PIPES.—J. J. Dutcher, New Haven, Conn.—The object of this invention is to provide an eel trap at the extreme end of the water pipe, let into a main or reservoir, so that the eels cannot enter a portion of the pipe.

BOLT.—William C. Coles, Williamsburgh, N. Y.—This invention has for its object to furnish a neat, simple, and convenient bolt for window sashes, doors, etc.

PLATFORM SPRING COUPLING.—Benjamin T. Parsels and John L. Hedges, Hanover, N. J.—This invention has for its object to furnish an improved coupling for platform springs, which shall be simple in construction, strong and durable, and which will allow the springs to lengthen under pressure, without twisting or straining them.

CHURN DASHER.—Stephen Stout, Tremont, Ill.—This invention has for its object to furnish an improved churn dasher, simple in construction and effective in operation, bringing the butter in a very short time, and gathering it, when brought, quickly into a mass.

FOUNTAIN PAINT BRUSH.—Daniel J. Kellogg, Toledo, Ohio.—This invention has for its object to improve the construction of the improved fountain paint brush, patented, by the same inventor, January 17, 1871, and numbered 110,978, so as to make it more convenient in use, and more effective in operation.

COVERING FOR MELTING POTS.—Albert C. Lewis, New York city.—This invention has for its object to furnish an improved covering for melting pots, to protect them from being injured by the intense heat, and by the adhesion of the coals.

ANIMAL TRAP.—C. R. Veronee, Athens, Ga.—This invention relates to a new and useful improvement in traps for catching rats and other animals.

SPINDLE BEARING.—Charles Wilson, Brooklyn, N. Y.—This invention relates to a new and useful improvement in bearings or boxes for upright spindles, in spinning frames in cotton or woolen manufactories, and for other upright journals.

TUBULAR STEAM BOILER.—James Howard and Edward Tenney Bousfield, Bedford, England.—This improved boiler is constructed of sections or a group of tubes, so arranged that the main connecting tube of each section will be in or approach a vertical position, with smaller tubes projecting from one side of it, say at right angles thereto, and secured to it by any approved method. The tubes which stand out at right angles to the main tube, we prefer to connect by water and steam warp with each other at both ends.

WAREHOUSE TRUCKS.—John S. Cochran, New York city.—This invention relates to a new and useful improvement in trucks for warehouses, stores, etc.

MILLSTONE BALANCE.—J. A. Althouse, New Harmony, Ind.—This invention relates to a new and useful device for balancing millstones, and consists in a weight or weights, made adjustable on the side or sides of the stone, by means of slotted bars and plates.

WAGON BRAKE.—Abraham Quinn, Brooklyn, N. Y.—This invention relates to improvements in brakes for wagons, and it consists in a shoe, suspended by bars from the axle eccentrically to the axles, so that when let fall under the wheel it will bind firmly against the rim, which said shoe is held out of action by a chain and hand lever, arranged for readily letting it fall in case the horses attempt to run, and the said shoe is connected by a drag chain to the check rein in such a way that when it falls down under the wheel to its working position, it will check up the horse.

ROTARY STEAM ENGINE.—William Barry, Carthage, N. Y.—This invention relates to improvements in rotary steam engines, and consists in a rotary hub or wheel, with a conical face, in which is a groove or channel for the steam, with taper sides, in which groove fills a tapered stop, for separating the live steam from the exhaust, projecting through a case, having an inner face corresponding to and fitting around the hub, in which are two pistons, on which the steam acts, fitted in grooves traversing the steam groove, and arranged for sliding out to pass the stop and in again by the action of a cam groove or a cam and a spring.

SAWING MACHINE.—Wm. W. Waterbury and Jno. M. Waterbury, New Canaan, Conn.—This invention relates to improvements in foot power circular sawing machines, and it consists in the application to a bench having the saw mounted in the usual way, and multiplying gear for increasing the motion, of a tread wheel on the main driving shaft, for applying the power by treading thereon.

EXTENSION LADDERS.—R. F. Delmot, Flemington, Pa.—This invention relates to improvements in extension ladders, and consists in jointing the sections together by means of trunnions on the one section, arranged in angle plates attached to the other sections, having right-angled slots, and arranged so that one part of the slot is parallel with the bars of the section to which the said plates are attached, and the other parts are perpendicular thereto; and to the rods connecting the bars, so that one section may swing on the other, and slide up and down on it.

MIXED FELTED GOODS.—Theo. Demuth, Danbury, Conn.—The nature of this invention consists in the preparation of woolen or cotton yarn, of different colors, to be applied to the wool in process of manufacture, for imparting the mixed character by a solution of gum shellac, or other suitable resinous or glutinous substance, for the purpose of keeping the same intact and distinct, and preventing the assimilation and entanglement of its fibers with those of the wool with which it is mixed, in the process of carding and fulling, thereby producing a new and distinct mixed felted fabric, which cannot be obtained with the same materials without such preparation of the yarn.

Official List of Patents.

ISSUED BY THE U. S. PATENT OFFICE.

FOR THE WEEK ENDING APRIL 4, 1871.

Reported Officially for the Scientific American.

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- 113,238.—MACHINE FOR MAKING BOXES.—E. G. Alden, Cambridge, Mass.
- 113,239.—MANNER OF PACKING AND CONVEYING ICE CREAMS, WATER ICES, ETC.—Ignazio Allegretti, Philadelphia, Pa. Antedated March 29, 1871.
- 113,240.—MAGNETIC-ELECTRO DIAL TELEGRAPH.—George L. Anders, Boston, Mass.
- 113,241.—STEAM COOKING RANGE.—John Ashcroft (assignor to Sarah Jane Ashcroft), Brooklyn, N. Y.
- 113,242.—FLUTING MACHINE.—S. William Babbitt, West Meriden, Conn.
- 113,243.—WINDMILL.—Peter Bailey, Smyrna, Iowa.
- 113,244.—BRUSH, BROOM, AND MOP HOLDER.—Charles L. W. Baker (assignor to C. L. W. Baker & Co.), Hartford, Conn.
- 113,245.—DAMPER FOR CHIMNEYS.—Peter Baker, Oakland, Md.
- 113,246.—POWER PRESS.—C. J. Beasley (assignor to Tappey, Lunsden & Co.), Petersburg, Va.
- 113,247.—VALVE FOR STEAM PUMPS.—John V. V. Booraem, Jersey City, N. J. Antedated March 23, 1871.
- 113,248.—VALVE FOR STEAM PUMPS.—John V. V. Booraem, Jersey City, N. J. Antedated March 23, 1871.
- 113,249.—APPARATUS FOR CASTING.—John P. Broadmeadow, Bridgeport, Conn.
- 113,250.—MANUFACTURE OF SALT.—J. R. Buchanan, Louisville, Ky. Antedated March 21, 1871.
- 113,251.—CHURN.—W. E. Budd, Chatham, N. J.
- 113,252.—STEAM AND HYDRAULIC PACKING.—W. M. Canfield, Philadelphia, Pa.
- 113,253.—HORSE COLLAR AND HAME.—Otho Cann, Coldwater, Mich.
- 113,254.—WASHING MACHINE.—C. E. Carter, Martinsville, Ohio.
- 113,255.—ROLL FOR ROLLING HORSESHOE BARS.—Ebenezer Cate, East Woburn, Mass.
- 113,256.—PAPER-CUTTING AND FOLDING MACHINE.—Cyrus Chambers, Jr., Philadelphia, Pa.
- 113,257.—PAPER-CUTTING AND FOLDING MACHINE.—Cyrus Chambers, Jr. (assignor to Edward Chambers and Cyrus Chambers, Jr.), Philadelphia, Pa.
- 113,258.—RUBBER AND BRUSH.—Augustus Charles, Pittsborough, Pa.
- 113,259.—GAITER.—Peter E. Clark, Hartford, Conn.
- 113,260.—DEVICE FOR PREPARING BEEFSTEAK FOR BROILING.—W. A. Clark, Woodbridge, Conn.
- 113,261.—SHOEMAKERS' PINNERS.—Alfred Clarke, Philadelphia, Pa.
- 113,262.—CUTTER HEAD FOR PLANING MACHINES.—Henry Climer and C. E. McBeth, Hamilton, Ohio.
- 113,263.—WAREHOUSE TRUCK.—John S. Cochran, New York city.
- 113,264.—BOLT.—W. C. Coles, Williamsburgh, N. Y.
- 113,265.—COTTON PRESS.—C. C. Conner, Ripley, Tenn.
- 113,266.—STOOL OR TABLE.—Albert O. Crane, Boston, Mass. Antedated March 24, 1871.
- 113,267.—CAMERA STAND.—Aylett R. Crihfield, Lincoln, Ill.
- 113,268.—STAVE JOINTER.—Harry A. Crossley, Cleveland, Ohio.
- 113,269.—CHEMICALLY-PREPARED LAMPWICK.—Aaron M. Daniels, Hartford, Conn.

- 113,270.—SPRING FOR VEHICLES.—J. N. Decker (assignor to himself and Thomas J. Smith), Covington, Ky. Antedated March 21, 1871.
- 113,271.—FLUTING MACHINE.—E. M. Deey, New York city.
- 113,272.—MANUFACTURE OF BILLIARD BALLS AND OTHER COMPOSITION ARTICLES.—Lewis Deitz, B. P. Wayne, and Albern Stone Albany, N. Y. Antedated March 22, 1871.
- 113,273.—EXTENSION LADDER.—R. F. Delmont, Flemington, Pa.
- 113,274.—FELTED FABRIC.—Theodore Demuth, Danbury, Conn.
- 113,275.—SASH HOLDER.—John F. Dingee, Bedford Station, N. Y.
- 113,276.—LITHOGRAPHIC PRINTING.—Otto Dubois, Fall River, Mass.
- 113,277.—CEILING FOR STAGES.—John W. Dunne, New York city.
- 113,278.—EEL TRAP FOR WATER PIPES.—J. J. Dutcher (assignor to G. W. Dutcher), New Haven, Conn.
- 113,279.—PURIFYING ANIMAL CHARCOAL.—Hermann Eissfeldt, Sollingen, Duchy of Brunswick, and Camillo Thumb, Magdeburg Prussia.
- 113,280.—BOLT HEADING DIE.—Philip Eley, New York city, assignor, by mesne assignments, to Charles Wallich, George Hicock, and Alexander Young.
- 113,281.—WATCH REGULATOR.—Julius Elson, Boston, Mass.
- 113,282.—GATE.—J. B. Erwin, Pittsburgh, Pa.
- 113,283.—CIDER AND WINE MILL.—W. B. Farrar, Greensborough, N. C.
- 113,284.—WATER AND WIND WHEEL.—Andrew Folsom, Eastport, Me.
- 113,285.—WAGON JACK.—George Benedict Fowler, Brooklyn, N. Y.
- 113,286.—HARROW.—William Fox, Beaver Dam, Wis. Antedated March 18, 1871.
- 113,287.—CHAIR.—George Gardner, Glen Gardner, N. J.
- 113,288.—LOOM.—W. R. Giffard, W. R. Giffard, Jr., and J. A. Giffard, Milo, Me.
- 113,289.—CLOTHES PIN.—Keyes J. Goss, Cedar Springs, Mich.
- 113,290.—RAILROAD CAR BRAKE.—John C. Gove, Cleveland, Ohio.
- 113,291.—PAPER FEEDER.—John A. Graves, Washington, D. C. Antedated April 1, 1871.
- 113,292.—FISH TRAP.—Job E. Hammond, New Bedford, Mass. Antedated March 24, 1871.
- 113,293.—DUMPING CART.—William Hand, Plainfield, N. J.
- 113,294.—GATE.—U. W. Hardy, Abingdon, Ill.
- 113,295.—PIN LOCK.—August Hermann and W. H. Taylor (assignors to the Yale Lock Manufacturing Co.), Stamford, Conn.
- 113,296.—GRAIN SCOURER AND SEPARATOR.—S. H. Hinsdell, H. W. Drake, and C. B. Way, Camillus, N. Y.
- 113,297.—WOOD PULP MACHINE.—W. M. Howland, Topsham, Me.
- 113,298.—TUBULAR STEAM BOILER.—James Howard and E. T. Bousfield, Bedford, England.
- 113,299.—AUTOMATIC APPARATUS FOR OPERATING THE VALVE OF THE EXHAUST PIPE OF LOCOMOTIVES.—Ralph C. Huse, Jr. Georgetown, Mass.
- 113,300.—BRICK AND TILE MACHINE.—William Hutchinson, Salford, Great Britain.
- 113,301.—WINDOW BLIND OPERATOR.—George Jennisen and M. F. Otis, Westborough, Mass.
- 113,302.—MILK COOLER.—Nelson Johnson and R. E. Johnson, Jasper, N. Y. Antedated March 21, 1871.
- 113,303.—SASH HOLDER.—Wm. Jones and S. M. Rankin, Long Green, Md.
- 113,304.—COMBINED CHAIR AND STEP LADDER.—Ib Jørgensen and Rasmus Olson, Racine, Wis.
- 113,305.—FOUNTAIN PAINT BRUSH.—D. J. Kellogg, Toledo, Ohio.
- 113,306.—CULTIVATOR.—A. H. Kennedy, Oberlin, Ohio.
- 113,307.—ROLLING BED.—Julius Krich and Charles Thoeber, New York city.
- 113,308.—POTATO DIGGER.—J. P. Lafreta, Shrewsbury, N. J.
- 113,309.—ROTARY STEAM ENGINE.—J. S. La France, Elmira, N. Y.
- 113,310.—FEEDER FOR NAIL MACHINE.—H. B. Landers, Williamsburgh, N. Y.
- 113,311.—FIRE ESCAPE.—George Laynor and Harry Helmling, Baltimore, Md.
- 113,312.—COVERING FOR MELTING POTS.—A. C. Lewis (assignor to himself, H. A. Richardson, and N. A. Boynton), New York city.
- 113,313.—CLOTHES PIN.—A. B. Lipsey, West Hoboken, N. J.
- 113,314.—MACHINE FOR TAPPING GAS AND WATER FITTINGS.—C. B. Long, Worcester, Mass.
- 113,315.—COVER AND DESK FOR SEWING MACHINES.—B. T. Loomis and J. A. Carey, New York city.
- 113,316.—COMBINATION LOCK.—Samuel Loyd, New York city.
- 113,317.—APPARATUS FOR CARBURETING AIR AND GAS.—F. H. Lutkewitte, St. Louis, Mo.
- 113,318.—SWIVEL PIN FOR TETHERING ANIMALS.—William Lyon, Camp Halleck, Nevada.
- 113,319.—PAPER BOX.—B. J. Magee and J. F. Wall, Watertown, Mass.
- 113,320.—COTTON SCRAPER, HILLER AND CULTIVATOR.—Cyrus Marsh, 2d, Natchez, Miss.
- 113,321.—HARVESTER RAKE.—Alexander McArthur, Booneville, Mo.
- 113,322.—PADLOCK.—George Merkel and C. H. Meyer, New York city.
- 113,323.—AWNING FOR ANIMALS.—Simon Moffitt, Minneapolis, Minn.
- 113,324.—FURNACE GRATE.—G. R. Moore, Philadelphia, Pa.
- 113,325.—MACHINE FOR WINDING BOBBINS.—F. H. Morrill, Philadelphia, Pa.
- 113,326.—MACHINE FOR CORKING BOTTLES.—David Mueller (assignor to himself and Fraaz Wagner), New York city.
- 113,327.—MODE OF PREPARING PAPER FOR PHOTOGRAPHIC PURPOSES.—P. H. Murray, Portsmouth, Ohio.
- 113,328.—WATER-PROOF CELLAR.—Tobias New, Brooklyn, N. Y.
- 113,329.—FIRE ESCAPE.—G. H. Nichols, Richmond, Va.
- 113,330.—COMB.—C. H. Noyes, Brooklyn, N. Y.
- 113,331.—ORNAMENTING THE SURFACE OF METAL BY ELECTRO-DEPOSITION FROM SOLUTIONS.—Richard O'Neil, New York city.
- 113,332.—MACHINE FOR ROLLING HOLLOW BARS FOR NUTS.—Jonathan Ostrander, Manchester, Va.
- 113,333.—EXTENSION LOUNGE.—J. S. Paine, Cambridge, Mass.
- 113,334.—GATE.—B. F. Palmer, Baraboo, Wis.
- 113,335.—PLATFORM SPRING COUPLING.—B. T. Parsels and J. L. Hedges, Hanover, N. J.
- 113,336.—LAWN MOWER.—E. G. Passmore, Philadelphia, Pa.
- 113,337.—STOP VALVE.—J. L. Peake, New York city.
- 113,338.—PORTABLE APPARATUS FOR PRESERVING WOOD.—W. T. Felton, New York city.
- 113,339.—APPARATUS FOR STRIPPING THE TOP FLATS OF CARDBOARD MACHINES.—E. C. Pfaff, Chemnitz, Saxony, assignor to Dobson & Barlow.
- 113,340.—COMB.—Leonice Picot, Hudson City, N. J.
- 113,341.—SHOVEL PLOW.—S. W. Pope, Louisville, Ky.
- 113,342.—ADJUSTABLE SEAT.—Louis Postawka, East Cambridge, Mass.
- 113,343.—PRINTING SILKS AND OTHER TEXTILE FABRICS.—Louis Prang, Boston, Mass.
- 113,344.—DRILL STOCK.—W. H. Rand, Brooklyn, N. Y.
- 113,345.—FIELD THRASHING MACHINE.—George Rieke, Kairo Township, Minn.
- 113,346.—PRINTING PRESS.—J. T. Robertson, New York city.
- 113,347.—CLOTHES-WRINGING PRESS.—Charles Robinson, Boston, Mass.
- 113,348.—RAILROAD CAR HEATER.—A. M. Rodgers, Brooklyn, N. Y.
- 113,349.—ASH SIFTER.—G. W. Rogers, New York city.
- 113,350.—MACHINE FOR CHANNELING AND BEVELING SOLES FOR BOOTS AND SHOES.—J. G. Ross, Philadelphia, Pa.
- 113,351.—FOOT SCRAPER.—August Sahlstrom, Chicago, Ill.
- 113,352.—WASHING AND WRINGING MACHINE.—J. S. Sandt, St. Joseph, Mo.
- 113,353.—COAL-DELIVERING SACK.—W. S. Shackleton, Cleveland, Ohio.