Facts for the Ladies.-Mrs. R. Gunning, New York, has earned with New Pat. Perforated Metallic Graining Tools, do first class her Wheeler & Wilson Lock-Stitch Machine \$2,300 in two years. See the new Improvements and Woods' Lock-Stitch Ripper.

On Trial!!! The new Independent \$2.00 monthly, "The Science of HEALTH," sent three months for 25c. ! by S. R. Wells, 389 Broadway, N. Y.

Business and Lersonal.

The Charge for Insertion under this head is One Dollar a Line. If the Notice exceed Four Lines, One Dollar and a Half per Line will be charged.

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

A Machinist and Engineer, with best of references, is about to visit England and Scotland, and would execute any business entrusted to his care promptly and faithfully. Address Engineer, Station A, Boston. Mass.

Wanted-The New York Steam Engine Co., Manufacturers of Machiniats' and Railway Tools, can give steady employment to a number of good machinists used to tool work. At their Shop in Passaic, N. J., 11 miles from New York, on Eric Railway.

A new and desirable article for agents. 200 per cent profit Sample 25c. post paid. Wendell & Francis, 436 Walnut St., Philadelphia, Pa. Gauge and Milling Lathe combined, \$30.00. Wm. Scott, Binghamton, N. Y.

Pleasant Rooms, with Power to let at low prices, in a village of 12,000 inhabitants. Address Lock Box 129, Woonsocket, R. I.

Whitcher's Pat. Rotary Engine is the simplest, cheapest. On (xhib'n at P. Fields & Son, North Point Foundry & Mac. W'ks, Jer. Cit., N. J.

Ashcroft's Original Steam Gauge, best and cheapest in the market. Address E. H. Ashcroft, Sudbury St., Boston, Mass.

See adv. for \$300,000 investment-Manufacture of fire arms. Engineering and Scientific Books. Catalogues mailed free.

E. & F. N. Spon, 446 Broome Street, New York. Steel Measuring Tapes, manufactured and sold by W. H.

Paine, Greenpoint, N. Y. Send for circular. Inventions put into working shape; experimental and other machinery constructed. R. Creuzbaur. 10 to 12. Room 5, 34 Park Row

Heydrick's Traction Engine and Steam Plow, capable of as-

cending grades of 1 foot in 3 with perfect ease. The Patent Right for the Southern States for sale. Address W.H.H.Heydrick, Chestnut Hill, Phila. Foundry Facings of extra fine quality manufactured and for

sale by Herbert & Co., Bloomsbury, N. J. The Berryman Steam Trap excels all others. The best is

always the cheapest. Address I. B. Davis & Co., Hartford, Conn. Steam Boiler and Pipe Covering-Economy, Safety, and Du-

rability. Saves from ten to twenty per cent. Chalmers Spence Company foot East 9th Street. New York-1202 N. 2d Street. St. Louis.

Wanted-Copper, Brass, Tea Lead, and Turnings from all parts of the United States and Canada. Duplaine & Reeves, 760 South Broad Street, Philadelphia, Pa.

Brick and Mortar Elevator and Distributor-Patent for Sale. See description in Sci. American, July 20, 1872. T. Shanks, Lombardand Sharp Streets, Baltimore, Md.

Diamonds and Carbon turned and shaped for Philosophical and Mechanical purposes, also Glazier's Diamonds, manufactured and reset by J. Dickinson, 64 Nassaust., New York.

Brown's Coalyard Quarry & Contractors' Apparatus for hoisting audconveying material by iron cable. W.D. Andrews & Bro,414 Water st., N.Y

Ashcroft's Self-Testing Steam Gauge can be tested without removing it from its position.

For Machinists' Tools and Supplies of every description, address Kelly, Howell & Ludwig, 917 Market Street, Philadelphia, Pa.

Meat Chopper-The Union Meat Chopper-the Best in the country. For Circulars and Price Lists, address J. Dyer, Elizabethtown, Pa. Williamson's Road Steamer and Steam Plow, with Rubber

Tires. Address D. D. Williamson, 32 Broadway, N. Y., or Box 1809. Belting as is Belting-Best Philadelphia Oak Tanned, C. W

Arny, 801 and 303 Cherry Street, Philadelphia, Pa.

Peck's Patent Drop Press. For circulars address the sole manufacturers, Milo, Peck & Co., New Haven, Ct.

The Berryman Heater and Regulator for Steam Boilers-No one using Steam Boilers can afford to be without them. I.B. Davis & Co. Steel Castings to pattern, strong and tough. Can be forged and tempered. Address Collins & Co., 212 Water St., New York.

Machinery Paint, all shades. Will dry with a fine gloss as soon asput on. \$1 to \$1.50 per gal. New York City Oil Company, Sole Agents, 116 Maiden Lane

T. R. Bailey & Vail, Lockport, N. Y., Manf. Gauge Lathes. Walrus Leather for Polishing Steel, Brass, and Plated Ware, Greene, Tweed & Co., 18 Park Place, New York.

Brown's Pipe Tongs-Manufactured exclusively by Ash croft, Sudbury St., Boston, Mass.

American Boiler Powder Co, Box 797, Pittsburgh, Pa., make only safe sure and cheap reme Windmills: Getthe best, A.P.Brown & Co.,61 Park Place, N.Y.

Boynton's Lightning Saws. The genuine \$500 challenge. Will cut five times as fast as an ax. A 6 foot cross cut and buck saw. 36. E. M. Boynton, 80 Beekman Street, New York, Sole Proprietor.

Betterthan the Best-Davis' Patent Recording Steam Gauge. Simple and Cheap. New York Steam Gauge Co., 46 Cortlandt St., N. Y.

The Berryman Manf. Co. make a specialty of the economy and safety in working Steam Boilers. I, B. Davis & Co., Hartford, Conn

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

For hand fire engines, address Rumsey & Co., Seneca Falls, N.Y.

All kinds of Presses and Dies. Bliss & Williams, successors to Mays & Bliss, 118 to 122 Plymouth St., Brooklyn. Send for Catalogue. Mining, Wrecking, Pumping, Drainage, or Irrigating Machinery, for sale or rent. See advertisement, Andrew's Patent, inside page. Portable Baths. Address Portable Bath Co, Sag Harbor, N.Y

Presses, Dies & all can tools. Ferracute MchWks, Bridgeton, N. J. Also 2-Spindle axial Drills, for Castors, Screw and Trunk Pulleys, &c.

To Ascertain where there will be a demand for new Machinary, mechanics, or manufacturers' supplies see Manufacturing News of United States in Boston Commercial Bulletin. Terms \$400 a year.

work, in less than half the usual time and makes every man a first class Grainer. Address J. J. Callow, Cleveland, Ohio.

For Hydraulic Jacks and Presses, New or Second Hand, send for circular to E. Lyon,470 Grand Street, New York.

For Steam Fire Engines, address R. J. Gould, Newark, N. J.

Old Furniture Factory for Sale. A. B., care Jones Scale



[Wepresentherewith a series of inquiries embracing avariety of topics of ater or less general interest. The questions are simple, it is true, but w prefer to elicit practical answers from our readers.

1.—PITCH OF A PROPELLER.—Will you please explain the meaning of the term "pitch" used in describing a screw propeller?—J.D.E.

2.—SAPONIFICATION OF LINSEED OIL.—What will cause linseed oil to turn to soap after absorption by a piece of woolen goods?-J. D. E.

3.—REDUCING VALVE.—If I wish to drive my engine with a pressure of 50 lbs. on the square inch, the gage on my boiler showing 100 lbs. on the inch, can I do so by using an intermediate boiler and a reducing valve? What is a reducing valve?-A. H.

4.—Brick Burning Queries.—How shall I remedy a kiln of brick in which the fires have been allowed to go out during the burning, leaving the bricks too soft? If I take down, soak in water, reset and burn over, can anything be put in the water to improve the quality of the brick

5.—SAW MILL HANDS.—Please tell me why it is next to impossible to find a man who thoroughly understands the management of a circular saw mill? Such is the case in this State (Tenn.) Is it because a sawis harder to run than any other tool?—G. V. V

6.—MECHANICAL DRAWING.—What is required of a young man in addition to a thorough knowledge of mechanical drawing, to fit him for a position as draftsman in a first class machine shop? Is a practical education in the principles and construction of machinery, or a course in nechanical engineering, essential?—S.J. L.

-ATTRACTION .- Two leaden spheres, each one foot in diameter, are placed with their centers four feet apart. What is the force with which they attract each other? What is the force that unites two pull balls, when floating near each other upon the surface of water?-A. F. M.

8.—REVOLUTION OF THE EARTH.—Would the earth's ve locity upon its axis be increased by moving matterfrom the equator to the poles?-A. F. M.

9.—RADIATION OF HEAT.—Does the radiation of heat dependupon air, and would heat radiate in a room or vessel from which the air was exhausted? If air be essential in the case of heating a house would not the register supply sufficient air to the air chamber and so dis pense with a draft through the chamber? The particular question is: Car I heat a house by a furnace with the air draft closed ?-H. P.

Answers to Correspondents.

SPECIAL NOTE. - This column is designed for the general interest and in struction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries $however, when\ paid for\ as\ advertisements at\ \$1\cdot00\ a\ line, under\ the\ head$ "Business and Personal."

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

TARNISH ON BRASS .- To A. P .- We have given many directions for cleaning polished brass. See pages 281, 298, 314, and 329, of volume XXV. of the Scientific American.

CEMENTING RUBBER TO SHEET IRON.—D. P. W. should try either or both of the methods described on page 42 of volume XXV. and page 42 of volume XXVI. of the SCHENTIFIC AMERICAN. If he paints his sheet iron with a thick metallic paint, he can fasten his rubber on with glue or any cement he chooses.

Power of Engine.—By a slip of the pen, there is an error in my answer, on page 170, to this query. The horse power, theoretically is 1.856, which is subject to variation as I mentioned.-D. B., of N. Y.

ELIMINATION OF MERCURY.—To I. H. M., query 9, page 138.—Place the tin amalgam in a retort, and distil at a low red heat, conducting the mercury into a receiver of water. If the quantity to be operated upon is small, you may use a hard glass retort.—E. H. H., of Mass.

CEMENT FOR MEERSCHAUM.—To E. S. T., query 10, page 138.-Dissolve carbonate of magnesia in strong hydrochloric acid till saturated. With this solution, make a paste by adding fresh calcined magnesia, and rapidly use the cement so formed for building up the fractured pipe. If a piece is to be cemented in, moisten each edge with the solution, apply a little of the thin cement, and bring the pieces into correct on. In an hour or less it will have hardened sufficiently to clean off, and the pipe will be quite serviceable. -E. H. H., of Mass.

DRILLING HOLES IN GLASS .- To W. V. B., query 11, page 138.- Use chrome steel for drills, and make the points very obtuse angled. Use a slow motion, with firm and moderate pressure. Moisten continually with a saturated solution of camphor in turpentine. -E. H. H., of

Boiling Oil.—To V. L., query 12, page 138.—Steam can be used for the purpose, but to obtain the necessary heat, a very high pres sure would be required, and would be attended with no advantage over coal where ordinary care is observed .- E. H. H., of Mass.

INDIA RUBBER FOR STEAM JOINTS.—To N. L., query 13, page 138.-India rubber washers exposed to the heat of steam pressure at four pounds and upwards will soon become hard and brittle, but if the joint has been carefully made at first, this will not affect its integrity.-E. H. H., of Mass.

NITRO-GLYCERIN.-To P. G. S., query 20, page 138.-Take nitrate of potash in powder 1 part, sulphuric acid 3% parts. Mix thoroughly, and cool to zero, then pour off the strong fuming nitric acid, draining thoroughly the mass of sulphate of potash left behind. To this acid and four fifths of a part of glycerin very gradually, taking care to maintain the whole at as near zero as possible. In an hour's time add a considerable quantity of water; the nitro-glycerin will separate and fall to the bottom. Wash it thoroughly with fresh water, and whatever else you do, be careful in all your manipulations with this powerful agent .-

CEMENT TO RESIST WATER AND ALCOHOL.—To F. S, query 24, page 31.—You do not say what material is to be cemented. The peeling off depends on an affinity between the cement and the object it is placed on, and what will answer in some cases will not in others. -E. H.

H., of Mass.
DRILLING HOLES IN GLASS.—To W. V. B., query 11, page 138.—Holes can be drilled in glass by the use of turpentine constantly applied to the drill .- C. O. I., of Ps.

Recent American and Loreign Latents.

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

PLOW. Charles C. Lewis, Gainesville, Ala. -This invention has for its object to furnish an improved wooden mold board plow. The upper forked end of the standard is attached to the middle part of the plow beam, and the forward branch of the former supports the plow share. The land side is attached by its forward end to the share, to the outer part of which is fastened a brace, which, passing through the lower end of the standard, is secured to the land side. The space at the land side of the plow is closed by a metallic plate. The foot of a solid wooden mold board is fitted and secured in the cavity of the share, by which it is claimed the device is rendered light, cheap, and suitable for furrowing or for use in light soil.

GRAIN CEILING FOR VESSELS .- Constantin Lazarevitch, New York city .-When grain is shipped in bulk from one port to another, and especially to European ports, it is necessary to ceil the part of the vessel which contains such cargo to protect it from dampness. Such ceiling is required by the insurance companies. Boards are therefore placed between the bottom of the vessel and the grain, thus making a second bottom with boards, which overlap each other in that part of the hold. These boards are firmly nailed down to the bottom of the vessel, which renders it impossible to remove them without splitting, breaking, and effectually destroying them. This lumber, consisting of many thousand feet, is consequently sold for fire wood after the grain has been discharged. The object in this invention is to so put in and secure this ceiling that the lumber or boards of which it is composed shall not be injured, but may be removed intact and sold as perfect lumber, thus effecting a very material saving to ship owners, while reducing the cost of freight. The invention therefore consists in securing the ceiling with hooks, which do not penetrate or injure the lumber.

WINDLASS.—Melancton Bryant, Northport, N. Y.—This invention consists of the attachment of the pawl lever for turning the drum of a windlass or winch to the ratchet wheel or disk by a kind of yoke or frame, embracing both sides of the wheel, and confined upon it by sectional annular flanges fitting in annular grooves in the disk, and sliding around the disks in said grooves, for raising the pawl, but binding therein when the pawl is forced against the teeth, and moving with the disk when the latter is turned. When the pawl lever has the end of its short arm pivoted at the axis of the drum, it is capable of being worked much faster than the detachable bar arrangement, wherein two or more hand bars are placed in radial mortises arranged at intervals around the drum.

MUSIC STAND.-Lewis V. Brown, Salisbury, N. C.-This invention relates to an improved music stand whose rack can be extended for large or contracted for smaller sheets of music. The invention consists in making the rack proper on the principle of lazy tongs, of jointed rods, and in combining it with a bar or plate at the back, whereby it is locked in its expanded position. When the stand is not in use it is folded together and can be packed into a narrow space.

FANNING MILL.-James M. Kendall and James Peel, Madelia, Minn.-This invention consists of a simple and efficient arrangement of the shaking shoe and a revolving screen, whereby the grain is first subjected to the blast in the shoe, and then passed through the screen, which is revolved by gearing connected with the fan driving shaft, the said screen being protected from the blast of the fan by a hood. It also comprises a novel arrangenent for shaking the shoe, whereby a horizontal and a vertical motion are imparted to the shoe. The shoe is constructed with perforated

SAND-PAPERING MACHINE .- Orra I. Foster, Salem, N. H .- This invention onsists of an arrangement of the fan blower for carrying the dust away, the fan blades being applied to a prolongation of the sand paper cylinder or its haft instead of to the hood of the machine, as heretofcre.

CULTIVATOR.-Totten Poling, Guthrie, Iowa.-This invention relates to an improved iron cultivator, which shall be so constructed that it may conform to irregularities in the surface of the ground, and may be readily djusted to run deeper or shallower in the ground, as may be desired. Suitable appliances enable one of the plows to rise-above or drop below the level of the other, thus adapting the cultivator to work upon an uneven surface, and enabling one of the plows to be raised to pass an obstruction vithout disturbing the other. This construction also forms an arch or rise in the connecting bar so that the cultivator may cultivate both sides of a row of plants at the same time without injuring or breaking the plants. The plow beams may be moved farther apart or closer together, as may be lesired, their rear ends having a free lateral but no vertical movement. The plowman, while guiding the plows, walks at the side of the row of plants being cultivated. Bars bent downward and curved rearward to rest apon the ground serve as drag bars to support the plows away from the ground when passing from place to place.

CARRIAGE WHEEL HUB.-Jesse B. Bauman, Shepherdstown, Pa.-This nvention relates to an improvement in carriage wheel hubs, the construction of which is such that the spokes, tire and felloe can be readily and easily ightened by means of movable collars, when it is necessary to take the dish out of the wheel.

CARRIAGE WHEEL.-Samuel R. Bryant, Waterford, Pa.-This invention relates to the mode of locking the spokes by means of grooves and wedges, and the mode of fitting the spokes and pipe box together. To lock together the spoke tenons so that lateral movement of one upon the other shall be prevented, longitudinal grooves in their contiguous surfaces are formed, and to prevent longitudinal movement of the spokes one upon another, ransverse perforations may be formed to receive locking pins of any suitable material.

WAGON BRAKE.-Joseph Pavey and Marshall Martin, Walla Walla, Washington Territory .- This invention relates to improvement in a class of wagon brokes, wherein the brake bar is suspended below the reach of the wagon. This brake can be used with or without the wagon box, by reason of the employment of the bar for suspending the brake bar when the box is removed, and the attachment of the supports for the brake levers and to the

APPARATUS FOR DEVING FLOCK OR VELVET PAPER. -Theodore A. Blanhard, New York ci y.—Flock paper after being flocked has heretofore been dried by looping or festooning the paper over poles, which were usually arranged so that they could be moved closer together or further apart, as circumstances required. This mode of drying the paper, though allowing the air to c rculate freely about the paper, always permanently creased or marked it where it passed over the poles. This invention consists in supporting the paper in a horizontal or nearly horizontal position during the

IMPROVED MANUFACTURE OF BITARTRATE OF POTASSA. -Gustave Bourgade, Jersey City, N. J.—The object of this invention is to simplify the means of producing cream of tartar or bitartrate of potash, so that the same may be economically manufactured in large quantities. The apparatus consists of a double jacket steam kettle, made of copper or equivalent material, with its lower part hollow, for the admission of steam. In the bottom of the kettle is a discharge pipe, having a valve and covered with a filter. The inventor fills the kettle with water, and, when it is boiling by the heat of steam admitted into the jacket, adds a quantity of crude argols, well ground, which are left to hoil until perfectly dissolved. In order to prevent the formation of tartrate of lime, he adds a quantity of diluted sulphuric or muriatic acid. Bone black is then poured in and the mixture left to boil. After dissolution, a quantity of prime American clay well dissolved in water is added; after which the preparation is allowed to flow into crystallizing

METHOD OF MAKING BLANKS FOR PLOW ATTACHMENTS.-Orren A. Authony. Mayfield. N. Y.—This invention consists in a method of making a blank for an attachment for plows of a single plate of steel, which is fitted on to the worn out point of a plow and secured by rivets or bolts through

RAILROAD TANK VALVE.—Charles W. Chappell, Watertown, Wis.—This invention has for its object to furnish an improved device for operating a railroad water tank valve, enabling the valve to be conveniently opened, whatever may be the weight of the water pressing upon the valve. effected by means of a lever attached to the valve stem being raised by the revolution of an eccentric on the end of a shaft which enters the side of the tank. This shaft is rotated from the outside by means of a hand wheel.

SCROLL SAWING MACHINE.-David R. Williams, Sr., Paris, Ky.-This invention relates to an improved mode of combining guide rods and a bearing plate with a saw cross head, so that the cross head will not have the friction of the bearing plate, except when pressed against it by the work; and it also consists in providing a clamp, which holds the saw, with an adjustable pin that will afford a rest thereto when the width is lessened by wear or sharp

CORN PLANTER.-George G. J. Millar, Lockbourne, Ohio. - This invention has for its object to furnish an improved corn planter which maybe adjusted to plant the rows of hills at any desired distance apart, and to drop any de sired number of kernels to a hill. The dropping cylinders are so placed a to receive the seed from the hoppers and discharge it upon the ground, and are attached to the outer ends of a rod or shaft which is made in parts sliding upon each other, so that its length may be extended or contracted as the machine is adjusted to plant the rows of hills wider apart or closer to gether. By means of suitable appliances the driver can operate the dropping cylinders and drop the seed with his foot or by hand. The driver's sea is adjustably supported from the platform, so that it may be moved back or torward, to enable the driver to balance the machine with his weight, thus relieving the horses' necks. Other mechanism allows the planter to be raised from the ground for convenience in turning or passing from place to The machine may be adjusted to plant the seeds at any desired depth in the ground. The covering plates are secured by a single belt, se that they may be set back or forward, according to the amount of soil desired to be drawn over the seed. Cutters are provided, designed to cut off anystalks or other rubbish that may be upon the ground, and which might affect the proper operation of the plows.

FENCE.-William T. Willie, Independence, Texas.-It is economically important to the farmer that the rails composing the fence he removes, and for which he substitutes another, should be fully utilized on the spot. Hence the inventor purposes setting the posts diagonally across the fence alternately, in opposite directions, which brings the lower or base portions of every successive pair of posts much nearer each other than they would otherwise be. This renders it practicable to utilize the short rails for the $bottom\ and\ longer\ rails\ for the\ top\ portion\ of\ the\ panel.$

WASH BOILER.—Wilson C. Berger, Bethel, Pa.—This invention consists of a secondary or false bottom, adapted to fit inside that of the sheet metal boilersnugly, with the legs to hold it about three inches above the perma nent bottom, which said false bottom has three parallel rows of hole through it vertically, said rows being in the direction of its long axis; and over the middle row a long narrow space is inclosed by two perforated plates, rising as high as the top of the boiler, and joined together at the top and ends, so that water heated in the space below the farse bottom will be torced up in the said inclosed space, and out through the perforated sides among the clothes, and down to the heating space again, through the outside row of holes in the false bottom, so as to act upon the clothes very effi-

KNIFE SHARPENER.-Jonathan Quipp, Buffalo, N. Y.-This invention furnishes convenient means for sharpening knives; and it consists simply in an emery roller, supported on a suitable frame, with a journal or pivot at each end. Stands or ears are attached to the bed plate, through which the journals of the roller pass. The roller is made of wood or of any suitable material, and is covered with emery or equivalent material, the same as emery wheels; or it may be made of a composition of emery or sand and other material. The sharpener may be placed upon the dining table, and is intended to take the place of the ordinary steel sharpener.

BEE HIVE .- Amos R. Moulton, Fall Branch, Tenn. - This invention relates to an improvement in bee hives which shall be of such a construction as to enable every portion of the same to be opened or unfolded with the greatest facility for the purpose of inspection, removal of honey and refuse mat-

CAR COUPLING. - James Broadley, of Bradford, Eng. - The mechanical arrangements comprising this invention consist of a sliding shaft or bar, working in suitable bearings secured to the ends of the carriage or vehicle at a position somewhat above the usual coupling chain arrangement, which can be left attached to the carriage or vehicle, and can be made use of when two carriages are to be coupled, one of which is not provided with the coupling arrangement. This sliding shaft or bar has a bolt connected thereto, which bolt is made to work in an orifice provided for it in the sides of a socket or guides secured to the carriage or vehicle. A slotted link is also secured to the carriage of vehicle, to which it is attached by a joint, so that it may be lifted up out of the way and secured by a catch on the sliding shaft when a carriage or vehicle unprovided with these arrangements is to coupled in the ordinary way. The coupling slotted link is, when two carriages or vehicles are brought together for coupling, down in its ordinary position, and is inserted in the sockets or guides above mentioned by simply bringing the two carriages or vehicles together, and then the sliding shaft can be actuated so as to couple the carriages by handling its end from the side of the carriage without going between the carriages, and the uncoupling can be effected by a similar though reverse action. If thought desirable, lever arrangements might, it is obvious, be adopted, to enable the guard or attendant to work these arrangements without getting down from his place.

SAFETY SWITCH FASTENING. -William B. Sloan and Edward H. Sweetser Hamburg, Iowa.—The invention consists in a railroad switch fastening, constructed with spring jaws which clamp the annular recess of a bolt passed therethrough and require to be separated by a key before the bolt can be

FOLDING PAIL.—Ransom Sabin, Benona, Mich.—This invention consists in a combined water pail or bucket and feed bag, formed of a waterproof flexible cloth or rubber cylindrical body, and a sheet metal bottom. It is capable of use in drawing water from a well, may be set over a flame, can be folded flat so as to be placed under carriage cushions or otherwise conveniently packed away, and is withal very light as well as strong, durable and

LATHES FOR TURNING BENT STICKS. -Thomas Ott. of South Green Town ship, Pa., assignor to himself and Nathan Houck, of same place.-This in vention has for its object to produce a simple apparatus for turning the hooks at the ends of umbrella sticks and other bent sticks; and consists in an annular chuck carrying a cutter at its narrow inner edge, and hoilowed at the faces to be asthin as possible along the inner edge. An annular chuck or block made of wood or metal is slotted out to receive a knife whose cut ting edge projects beyond the inner periphery of the chuck. The knife is preferably slotted, to be adjustable as its edge wears. The faces of the annular chuck are hollowed to make it as thin as possible in the middle. Beingthin in the middle, the chuck permits the stick to be held at such vary ing angles as to allow its entire bent portion to be turned to uniform thick

LAMP HEATER FOR NURSERY FLASK. - Seymour Hughes, of Jersey city N. J.—This invention relates to a new apparatus for heating the contents of nursery flasks and similar vessels; and consists in the use of a portable water heater containing a lamp, flues, and a platform for the support of the flask. The latter can be placed within the heated water to have its contents gradually and gently warmed without exposing the flask to injury or The invention also consists in providing the flue of the water heater with a transparent section so that it may also serve as a lamp. This is a very neat and useful invention, one of the small kind adapted for general use which usually produce to the patentee quick sales at good

HARROW.-Horatio N. Swift, Matteawan, N. Y,-Heretofore the connection between the sections of the well known flexible harrow has been made by means of round rings through the three eves, which approach each other. but it has been found that the sections, when connected by a ring in this manner, were liable to catch and cramp in turning the harrow, and cause much trouble in releasing and straightening out the same. To remedy this difficulty, instead of the round ring, a triangular connecting link is employed composed of a single piece of metal, but with a separate ring for each eye By this means the eyes of the sections are separated, so that in turning or twisting the harrow will not cramp, but assume its natural position without aid from the driver. These triangular links are used only for the interior Plow, R. R. Fenner. 130,797 21,867.—STRAW CARRIER.—F. W. Robins 31. connections, the outer angles of the sections being connected by common links and chains.

tion consists in providing a roller frame with four pendent bearings, each vertically slotted, and all the corresponding parts of said slots being in the same horizontal plane, so that the journals of each end of a roll car freely play up and down, and so that the weight of frame and driver will when on a level, be equally distributed over the several journals, but will be concentrated upon any clod over which either end of either roll may

[OFFICIAL.]

Index of Inventions

For which Letters Patent of the United States were granted

FOR THE WEEK ENDING AUGUST 27, 1872, AND EACH

BEARING THAT DATE.	
Acid for hardening stone, treating carbonic, D. M. Sprogle	130,95
Alloy or bell metal, H. L. Macker	130,90
Auger, hollow, G. N. Stearns	1 30,82
Basket, fruit, O. A. North	130,93
Bed bottom, A. W. Obermann	130,85
Bedstead, bureau, W. F. Brown	130,78
Beehive, Mulkey and Case Beehive, W. T. Mosher	130,93 130,98
Bell call, W. H. Nichols	130.81
Beltshifter, T. P. Rodgers	130,87 130,81
Berth, ship's, I. A. Chomel	130,79
Billiard cue cutter, F. R. Gardner	130,91
Boiler, culisary, I. Kinney	130,92
Boiler, wash, J. C. Tilton	130,83
Boilers, low water register for steam, W. S. Belt	180,78
Boltfor sashes, etc., U. Cramer	180,90
Boot and shoe heel, J. M. Hunter	
Boot and shoe cleaning machine, Terheun and Ackerman	130,82
Bridge, C. W. Warner	130,98
Brush and mop holder, O'Brian and Baker	130,85
Car coupling, Musgrove and Sharp	180,89
Carriage seat fastener, L. D. Belnap	130,78
Chair, J. Defoe	130,89
Chill plate and flask, Long and Miller	130,92
Churn, W. E. Barr	130,9
Cock, stop, J. Stevens	
Collar, horse, J. Nack	130,9
Compass, O. Stoddard	
Cows from kicking, preventing, T. Pyle	130,9
Cuff, L. H. Foy	
Cultivator, W. R. Robinson	130,86
Dental plugger, W. D. Stillman	
Electro-magnet, T. A. Edison	180,79
Electrotype plate, S. P. Knight, (reissue)	130,8
Elevator for mortar and brick, Anderson and Wait	130,8
Excavator for railways, F. G. Johnson	130,3
Fence, T. D. Roberts	130,8
Fork, pickle, H. Laurence	130,9
Fountain, G. Finley	130,79 130.9
Furnace, hot air, J. R. Gaston	130,9
Furnace, not air. W. W. Dodge	
Furnaces, feeding the charge to metallurgic, G. Edwards	130,8
Gas retort, J. Butler	130,9
Gate, A. H. Phillips	
Gilding and ornamenting leather for suspenders, etc., G. W. Walker	130,9
Grain scourer, smutter, etc., Hunt and Ingraham	130,8
Hammer, drop, N. C. Stiles	130,8
Harness clamp, Porter and Drake	
Harrow, wheel, T. M. Brintnall	130,8
Harvester, J. F. Gordon	
Heater for curling tongs, J. Fletcher	130,9
Horses, forming the curve in tails of, I. B. Phillips	130,9
Iron and steel, manufacture of, Bradley and DeCamp	
Ladder, folding step, M. Mattern	130,9
Lamp, I. Lindsley	
Lock, combination, J. B. White	130,9
Locomotive balloon, P. Haenlein	180,9
Loom for weaving pile fabrics, W. Webster 130,960,	130,9
Masts, ball for, E. C. Séely	130,84
Mat, metallic, F. G. Johnson	
Medical compound or salve, J. Fell	130,9
Metal, machine for punching, N. C. Stiles	
Mortising chisel, Shuler and Carpenter	130,8
Movement, mechanical, W. B. Bartram	
Oils, apparatus for containing and measuring, E. F. Wilder	130,8
Organ action, W. N. Manning	139,9
Oven hot blast, T. Whitwell. Pan, cake, W. C. Butler.	130,8
Paper pulp from wood, apparatus for making, H. W. Higley	130.8
Paper cutting machine, E. R. and T. W. Sheridan	130,8
Pavements, composition block for, J. C. Tucker (reissue)	5,0
Pipe and nozzle, discharge, A. Lovie	130,9

Printing, inking apparatus for color, I. L. G. Rice	
Pump, steam, W. Arthur	
Pump, glass cylinder of, J. Bryan	
Rack, feed, J. L. Rhodeback	
Saddle, harness, G. W. Dutton	
Sap bucket bracket, J. J. Pellett	130,863
Sash holder, A. Perron	130,864
Sash holder, G. W. Richardson	
Saw set, W. Nash	130,936
Saw mill edger, G. Willett	
Saw mills, head block for, G. Willett	
Sawing machine, stave, Gerlach and Knipper	
Sawing machine, stone, G. A. Davidson	
Scraper, earth, A. B. Smith	
Scrubber and scraper, J. A. Little	
Seat, spring, Lathrop and Fowles	
Sewing machine, Q. Rice (reissue)	5,045
Sewing machines, steadie for, P. Grosfeld	
Sewing machines, tuck creaser for, T. B. Bishop	
Shackles, convict's, P. Runquist	
Signaling apparatus for railroads, electric, F. L. Pope	130,941
Silk winding machine, J. W. Cox	
Soda fountain, E. B. Chamness	
Spark arrester, C. B. Street	
Spark arrester and consumer for locomotives, C. F. Pike	
Spinning and twisting, spindle 101, E. Osgodu	
Staples, process of making blind, J. Keith	
Staves, machine for jointing, W. C. Perkins	
Stone, manufacture of artificial, D. M. Sprogle	
Stone, manufacture of artificial, Sprogle and Pierce	
Straw cutter, J. E. Tyler	
Straw cutter, F. L. Maynard	
Stump extractor, Miller and Bowen	
Telegraph apparatus, G. Little	
Telegraph key, A. G. Davis	
Telegraph printing, H. Van Hoevenbergh	130,831
Telegraph pole, iron, J. Weis	130,884
Telegraph paper, composition for chemical, G. Little	
Telegraph relay and sounder combined, G. Little	
Telegraph, magneto electric dial, Johnson and Whittemore	
Thill coupling, J. G. Schiller	
Thill coupling, J. O. MaClasky	
Tobacco hanger, F. G. Johnson	
Transplanter, C. E. Brown	
Truss, C. H. Carr	
Valve and cut off, steam, R. T. P. Allen	
Valve indicator, check, J. G. Blackburn	
Valve, steam governor, C. H. Burton	
Valve, water pressure check, T. Bailey	
Ventilator, car, Williamson and Bicknell	
Wagon, dumping, D. D. Smith	
Wagon standard, P. Sweeney	
Wardrobe and bookcase, F. F. Voight	130,957
Washing machine, A. Doney	
Washing machine, B. Edgar	
Washing machine, J. W. Pratt	
Water wheel gates, operating, J. W. Hill	
Well tube, R. R. Rouse	
Well point, tube, S. L. Bignall	
Wheel traction, C. E. Brown	
Whiffletree, J. M. Isenberg	
Whiffletrees, trace fastener for, J. F. Morley	
Whip, A. Scharff	
Wire tabric, woven, J. M. Farnham	190,190

DESIGNS PATENTED.

-Campaign Shirt.-A. Blumann, New York city. 6,090. —OTTOMAN. —C. J. Conradt, Baltimore, Md. 6,091 and 6,092.—CARPETS.—A. M. King, Kidderminster, England. 6,093. - SHAWL. - M. Landenberger, Philadelphia, Pa. ,094.—CARPET.—J. Powell, Kidderminster, England. 6,095.-MUFF COVERING, ETC.-R. M. Seldis, New York city.

TRADE MARKS REGISTERED.

969.—Spool Thread.—Clark Thread Company, Newark, N. J. 970.—Pomatum.—P. Davis & Son, Montreal, Canada. 971.—Drugs, etc.—J. Faber, New York city. 972.—Molasses.—A. Thomson & Company, New Orleans, La. 973.—Strup.—A. Thomson & Company, New Orleans, La. 974.—Molasses.—A. Thomson & Company, New Orleans, La. 975 .- FANCY GOODS .- Weil & Woodleaf, San Francisco, Cal.

SCHEDULE OF PATENT FEES:

	On each Caveat	\$10
	l (In each Trade, Mark	3.25
	On filing each application for a Patent, (seventeen years)	\$15
	On issuing each original Patent	\$ 20
i	On appeal to Examiners-in-Chief	\$10
ì	On appeal to Commissioner of Patents.	\$ 20
	On application for Reissue.	\$30
	On application for Extension of Patent. On granting the Extension. Un film a Disclaimer.	\$50
1	On granting the Extension.	\$50
Į	On filing a Disclaimer	\$10
	On an application for Design (three and a half years)	Ж1 U
	On an application for Design (sever years)	\$15
	On an application for Design (seven years)	\$ 30

For Copy of Claim of any Patent issued within 30 years...... \$1 A sketch from the model or drawing, relating to such portion of a machine upward, but usually at the price above named.

The full Specification of any patent issuedsince Nov. 20, 1866 at which time

at a reasonable cost, the price depending upon the amount of labor involved and the number of views. Full information as to price of drawings in each case, may be had so

addressing MUNN & CO.

Patent Solicitors, 37 Park Row, New York.

APPLICATIONS FOR EXTENSIONS.

Applications have been duly flied, and are now pending, for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned: 22,185.—PRESERVATION OF FLESH FOR FOOD.—N.B.Marsh. Nov. 13, 1872, 22,197.—Hoop Skirt.—S. Peaberdy. Nov. 13, 1872.

22,674.—TRUSS SPRING.—J. W. Riggs. Jan. 2, 1873.

EXTENSIONS GRANTED.

21,233.—CARPET SWEEPER.—H. H. Herrick.

21.306. - HILLSIDE PLOW. - H. S. Akins. 21,311. - SECURING PLANE IRONS TO STOCKS. - L. Bailev.

948 21,324.—Sun Shade.—A. G. Davis. 927 21,329.—Sending and Receiving Telegraph Messages.—M. G. Farmer. 2) 21,352.—RAILROADCAR SEAT. -- C. M. Mann.

Plow, H. H. Swe etland. 130,88 | 221,381.—Bracklet.—F. M. Sweet.