

able and otherwise, having mechanical devices for applying a disinfectant to the fecal substances deposited therein.

As to the first claim, it is to be considered that commodes were not new at the time when the invention of the present parties was made.

The third claim relates to a stirrer or mixer, placed in the receiving chamber of the commode, and moved by any appropriate means, for the purpose of thoroughly mixing the earth with the other contents of the chamber.

The Largest Newspaper Mail

Which goes to any firm in this country, is received by Geo. P. Rowell & Co. the New York Advertising Agents.

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices 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.

For the best, purest, and most economical Machinery Oils, of all kinds, send to Oil House of Chard & How, 131 Maiden Lane, N. Y.

We will pay more money for Brass Turnings, old Brass, Copper, Lead, and Zinc than any other establishment.

The best Anti-Friction Metal is made by the Tubal Smelting Works, Philadelphia, Pa. Buy it and prove it.

The undersigned, patentee of a valuable improvement in Window Sash Attachments, is desirous of making arrangements for the manufacture thereof, by parties who have good facilities.

John A. Sears, Rockford, Corsa County, Ala., has for sale 80 Beaver Hides.

Railroad Companies reach all trustworthy contractors by advertising in the RAILROAD GAZETTE.

Machinists' Grindstones. J. E. Mitchell, Philadelphia.

Face Grindstones, for Nail Cutters. Mitchell, Philadelphia.

Craigleith, for Glass Cutters. Mitchell, Philadelphia.

Soap Stone Packing, in large or small quantities. Grenee, Tweed & Co., 13 Park Place.

Walrus Leather, for polishing silver or plated ware. Grenee, Tweed & Co., 13 Park Place.

Wanted.—Iron Planer, new or secondhand; bed short, and over 30 in. wide.

Wanted.—New or secondhand Carwheel Borer, Axle Lathe, double head preferred; Wheel Press and Centering Lathe.

Best Cement Water and Drain Pipe Machinery. Works by hand, horse, water, or steam power!

Railroad Bonds.—Whether you wish to buy or sell, write to Charles W. Hassler, 7 Wall Street, New York.

Cotton Machinery for sale. See advertisement. Also, a three-story Brick Mill. R. H. Norris, Paterson, N.J.

Manufacturers of Fire Engines (hand or steam) and Hose, please send circulars, with prices, etc., to J. P. Hale, Mayor, Charleston, Kanawha C. H., West Va.

Engine Lathe wanted, about 30 inch swing, 12 feet bed, in good order. Pratt & Co., 87 Chambers st., and Buffalo, N. Y.

The Philadelphia Scientific Mechanics' Circle will answer any mechanical question for 25 cts. Address as above, 125 N. 7th st., Philadelphia.

Electrical Instruments, Models, etc., made to order, and Gear Wheels and Pinions cut, by W. Hockhausen, 113 Nassau st., Room 10, N. Y.

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

Millstone Dressing Diamond Machine.—Simple, effective, durable. For description of the above see Scientific American, Nov. 27th, 1870.

Experimental Machinery and Models, all sizes of Turned Shafting, Paper Box, Paper Collar, and Bosom Plating Machines, Self-operating Spinning Jack Attachments.

Best Scales.—Fair Prices. Jones, Binghamton, N. Y.

Steam Watch Case Manufactory, J. C. Dueber, Cincinnati, Ohio. Every style of case on hand, and made to special order.

Agents Wanted.—on a new plan—to sell a patent Collar Stud. Send for Circular. S. E. Williams, Hartford, Conn.

L. & J. W. Feuchtwanger, Chemists, 55 Cedar st., New York, manufacturers of Silicates of Soda and Potash, and Soluble Glass.

For Hydraulic Jacks, Punches, or Presses, write for circular to E. Lyon, 470 Grand st., New York.

A. G. Bissell & Co. manufacture packing boxes in shooks at East Saginaw, Mich.

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

Wanted.—A responsible dealer in every town in the United States, to sell "The Tanite Co.'s" Emery Wheels and Emery Grinders.

The new Stem Winding (and Stem Setting) Movements of E. Howard & Co., Boston, are acknowledged to be, in all respects, the most desirable Stem Winding Watch yet offered.

Belting that is Belting—Always send for the Best Philadelphia Oak-Tanned, to C. W. Army, Manufacturer, 301 Cherry st., Phila.

Ashcroft's Low Water Detector, \$15; thousands in use; can be applied for less than \$1. Names of corporations having thirty in use can be given.

To Cotton Pressers, Storage Men, and Freighters.—35-horse Engine and Boiler, with two Hydraulic Cotton Presses, capable of pressing 15 bales an hour.

Tin Presses & Hardway Drills. Ferracute Works, Bridgton, N. J.

Brown's Coalyard Quarry & Contractors' Apparatus for hoisting and conveying material by iron cable.

American Boiler Powder Co., P. O. Box 315, Pittsburgh, Pa.

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

Improved Foot Lathes, Hand Planers, etc. Many a reader of this paper has one of them. Sell it in all parts of the country.

Twelve-horse Engine and Boiler, Paint Grinding Machinery Feed Pumps, two Martin Boilers, suitable for Fish Factory.

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

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

Glynn's Anti-Incrustator for Steam Boilers—The only reliable preventive. No foaming, and does not attack metals of boilers.

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.

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

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

Winans' Boiler Powder.—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.

Queries.

[We present herewith a series of inquiries embracing a variety of topics of greater or less general interest. The questions are simple, it is true, but we prefer to elicit practical answers from our readers.]

1.—EXPLANATION WANTED.—I am running an engine lathe, twenty-four inch swing, and a short time ago, I tried to bore a pair of sixteen inch cylinders.

2.—ELECTROPLATING.—How can I prepare Britannia metal, tin, and ordinary soft solder, so that they can be electroplated or gilt in a cyanide solution?

3.—ICE BOAT.—Will some one tell me the dimensions of an ice boat which would carry two medium sized persons?—C. S. M. K.

4.—FIXING LEAD PENCIL MARKS.—I would like a ready way of fixing lead pencil marks to paper.—J. H. R.

5.—JAPANNING.—I wish a recipe for making and using the quickest baking and best Japan.—B. B. C.

6.—MALLEABLE IRON.—Will some one give me practical information how to make malleable cast iron?

7.—SPECTROSCOPE.—I have a hollow glass prism, filled with sulphide of carbon, two inches on each face.

8.—MUCILAGE AND INK.—Will some of your readers give me a formula or making mucilage, such as sold by stationers, and also a formula for a good, cheap, black copying ink?—A. S.

9.—CHEAP LATHE.—I would like practical directions for constructing, at the least possible expense, slight lathe of about eight inches swing; as great accuracy is not essential.

10.—NICKEL PLATING.—I wish plain practical directions and formula for nickel plating?—T. D. T.

11.—DYEING COTTON BLACK.—I want to dye soft cotton black, and have no steam. Can I do it and get a good color without steam, and would it be better to use aniline black, or the usual dye stuffs?—H. W.

12.—GLIDING ON GLASS.—What is the size used for gliding on glass?—M.

13.—TELESCOPE AND HOROSCOPE.—I wish to know, if, with the addition of one more convex lens of one inch diameter I cannot make a terrestrial telescope from the directions given in No. 18, by A. W. G. of Mich.; and will it change the power?

14.—EMERY WHEEL.—Can any reader of the SCIENTIFIC AMERICAN tell me how to make solid emery wheels that will not gum nor chip?—T. W. B.

15.—OVERSHOT WHEEL.—I wish a rule, simple and practical, for calculating the power of overshot water wheels, and the means of determining with accuracy the power of water in a flowing stream.—T. W. B.

16.—SPEED OF CIRCULAR SAW.—I want a rule for determining the number of revolutions a circular cutting saw of any given size should make per minute.—T. W. B.

17.—REFINING GOLD.—Can some one give me any information on refining gold? I melted over some scrap gold leaf, which appeared to be very free from dirt, but after melting, it looked like a lump of tin instead of gold.

18.—BELT.—Can you tell me why a belt runs to the largest part of a pulley? I have asked a number of mechanics for a year past, but they cannot tell why.—F. E. H.

Answers to Correspondents.

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.

TURNBULL'S BLUE.—With much deference to the undoubted erudition of your correspondent, E. C., of N. J., I must point him to an error into which he has certainly fallen, and into which he is likely to lead J. B., who wants to know how to make "Turnbull's blue."

POUNDING OF PISTON.—Let E. S. take out the trap and put in a half inch globe valve at each end of the cylinder, and keep them open while the engine is in motion.

TO KILL BEDBUGS.—Any woman ought to be ashamed to ask for an article to kill bedbugs. No one will be troubled with these pests if they will take the trouble to thoroughly cleanse the bed and room once a month.

TO KILL BEDBUGS.—If "Housekeeper," No. 11, page 346 Vol. XXII., will use benzine or gasoline, she can kill bedbugs as fast as she can find them; and by using a spring bottom roller, the fluid can be forced into cracks and crevices which can be reached only by this or similar means.

HONING RAZOR.—P. R. says that in honing his razor, he always gets a rough wire edge. So he ought to have. Always hone until you turn the edge, or you might as well not hone at all.

MAGIC LANTERN.—Your querist, No. 11, page 282, can construct a magic lantern to meet his requirements, as follows: Use a plain convex lens, 4 inches in diameter, and 8 inches focus; put one double convex lens, 2 inches in diameter, in the focus of the first.

OILING FURNITURE.—In answer to query No. 1, in your issue of May 20, I would state for the information of A. H. that pure linseed oil (raw oil) is used for walnut furniture, applied with a brush.

POUNDING OF PISTON.—Your correspondent "S. E." in issue of May 20th, asks what makes his piston pound. I set up an engine once that was troubled with the same difficulty, and afterwards spent a large amount of time and some money in trying to remedy the trouble.

POUNDING IN STEAM CYLINDER.—S. E. asks "what is the cause of the knocking in the cylinder?" I have known valves in steam closets to knock, and sound as though the trouble were in the cylinder.

M. E. Y.—Some medicines appear to operate in a peculiar way upon the retina of the eye. For example: Dr. Rose, of Berlin, has described a sort of color blindness, in respect to blue colors only, produced by taking a dose of santal.

Official List of Patents.

ISSUED BY THE U. S. PATENT OFFICE.

FOR THE WEEK ENDING MAY 30, 1871.

Reported Officially for the Scientific American.

SCHEDULE OF PATENT FEES:

Table with 2 columns: Fee description and Amount. Includes items like 'On each caveat', 'On each Trade-Mark', 'On filing each application for a Patent', etc.

For Copy of Claim of any Patent issued within 30 years... \$1
A sketch from the model or drawings, relating to a work portion of a machine... \$1
The Full Specification of any patent issue since Nov. 20, 1866... \$1.25

MUNN & CO.,

Patent Solicitors, 37 Park Row, New York.

- 115,264.—BOBBINS.—J. Adams, W. A. Tolman, Richmond, Ind.
115,265.—FIREPLACE FENDER.—C. C. Algeo, Pittsburgh, Pa.
115,266.—CAR STARTER.—Arthur Amory, New York city.
115,267.—NAIL MACHINE.—Daniel Armstrong, Chicago, Ill.
115,268.—SCALE.—S. C. Baker, Altoona, J. Root, J. Case, York Pa.
115,269.—HAND STEREOSCOPE.—A. Beckers, New York city.
115,270.—HOT AIR FURNACE.—J. M. Blackman, Decorah, Iowa.
115,271.—SPINNING MULE.—Wm. Bond, Windsorville, Conn.
115,272.—WASHING MACHINE.—Nathan Booth, Cheshire, Ct.
115,273.—CLAMP FOR THILL COUPLING.—W. Boyd, Hartford, Ct.
115,274.—PULP MACHINE.—James Bridge, Augusta, Me.
115,275.—VISE.—H. V. Brown, Warren, Ill.
115,276.—WASHING MACHINE.—J. Brown, W. Manchester, O.
115,277.—GLOVE.—R. D. Burr, Kingsborough, N. Y.
115,278.—ENAMELED METAL.—G. A. Burrough, Providence, R. I.
115,279.—CONVERTER.—Henry Chisholm, Cleveland, Ohio.
115,280.—TRACTION ENGINE.—J. H. Clapham, New York city.
115,281.—BENDING METAL.—W. and H. Cooley, Toronto, Can.
115,282.—HEMMER.—D. H. Darby, Mendon, Ill.
115,283.—FLASK.—H. W. Dee, London, England.
115,284.—GRAIN BINDER.—C. G. Dickinson, Poughkeepsie, N. Y.
115,285.—SURGICAL INSTRUMENT.—E. Dithridge, Pittsburgh.
115,286.—KEYED INSTRUMENT.—H. Downes, New York city.
115,287.—MATRICE.—R. E. Draper, Sacramento, Cal.
115,288.—WORK HOLDER.—H. Eddy, N. Bridgewater, Mass.
115,289.—URN STAND.—W. J. Evans, New York city.
115,290.—LATHE SPINDLE.—L. R. Faught, Philadelphia, Pa.
115,291.—DIE STOCK.—L. R. Faught, Philadelphia, Pa.
115,292.—HOISTING APPARATUS.—R. L. Fitch, Sing Sing, N. Y.
115,293.—POLISHING ORE.—I. W. Forbes, La Porte, Ind.
115,294.—PULVERIZED ORE.—I. W. Forbes, La Porte, Ind.
115,295.—STAMP BATTERY.—I. W. Forbes, La Porte, Ind.
115,296.—VALVE.—I. W. Forbes, La Porte, Ind.
115,297.—VALVE.—I. W. Forbes, La Porte, Ind.
115,298.—VALVE.—I. W. Forbes, La Porte, Ind.
115,299.—VALVE.—I. W. Forbes, La Porte, Ind.
115,300.—VALVE GEAR.—I. W. Forbes, La Porte, Ind.
115,301.—STEAM ENGINE.—I. W. Forbes, La Porte, Ind.
115,302.—COFFEE ROASTER.—J. Galloway, Webster, Ill.
115,303.—STEAM TRAP.—I. E. Giddings, Springfield, Mass.
115,304.—STANCHION.—W. C. Gifford, Jamestown, N. Y.
115,305.—BLASTING FURNACE.—L. S. Goodrich, Waverly, Ten.
115,306.—PACKING BOX.—A. Gregg, Watertown, Mich.
115,307.—WHIFFLETREE.—A. J. Griggs, Pittsburgh, Pa.
115,308.—SOLDERING APPARATUS.—J. Gulden, Keyport, N. J.
115,309.—WIRE ROPE.—A. S. Hallide, San Francisco, Cal.
115,310.—WIRE ROPE.—A. S. Hallide, San Francisco, Cal.
115,311.—HORSESHOE.—W. H. Halsey, Philadelphia, Pa.
115,312.—CREASING LEATHER.—B. R. Hamilton, South Deerfield, and S. Swan, Conway, Mass.
115,313.—TURPENTINE BOX.—W. B. Hamilton, N. Orleans, La.
115,314.—TELEGRAPH REPEATER.—C. H. Haskins, Chicago, Ill.
115,315.—LAMP BURNER.—H. W. Hayden, Waterbury, Conn.
115,316.—HUB.—P. Heoter, R. Vietor, Grand Rapids, Mich.
115,317.—WAGON AXLE.—J. H. and P. Hermann, Tell City, Ind.
115,318.—TRIGONOMETRICAL APPARATUS.—E. A. Hickman, Independence, Mo.
115,319.—ANIMAL POKE.—James Hopkins, Akron, Ohio.
115,320.—WASH BOILER.—M. L. Horton, Windsor, Vt.
115,321.—DUMPING CART.—J. B. Hulbert, Hermon, N. Y.
115,322.—STOVE LEG.—H. A. Humphrey, Milwaukee, Wis.
115,323.—CHURN DASHER.—W. F. Jones, Easton, Kansas.
115,324.—CHUCK.—Wm. Kerr, Jr., Boston, Mass.
115,325.—WASHING MACHINE.—B. Kinne, Syracuse, N. Y.
115,326.—GLASS JAR.—W. M. Kirchner, Pittsburgh, Pa.
115,327.—DIGESTER.—W. F. Ladd, New York city.
115,328.—HAND SAW.—O. H. Langdon, Homer, N. Y.
115,329.—LAMP.—H. H. Laughlin, Philadelphia Pa.
115,330.—CATCH.—G. C. Lawton, Algona, Iowa.
115,331.—FLOUR BOLT.—F. B. Lewis, Tiffin, Ohio.
115,332.—MUSIC STOOL.—J. R. Lomas, New Haven, Conn.
115,333.—SLIDING DOOR.—T. M. Lyons, New York city.
115,334.—EXHAUST.—P. W. Mackenzie, Blauveltville, N. Y.
115,335.—ELEVATOR.—John Macomb, Chicago, Ill.
115,336.—BAG TIE.—C. P. and W. H. Markham, Rogersville, N. Y.
115,337.—CENTERING MACHINE.—E. McNeil, Groton, N. Y.
115,338.—BOILER.—F. Meyer, New York city.
115,339.—VENTILATOR.—B. F. Miller, New York city.
115,340.—EAVES TROUGH.—R. B. Miller, Utica, N. Y.
115,341.—LOCK FOR SASHES.—W. Miller, Boston, Mass.
115,342.—LUBRICATOR.—A. Millochau, New York city.
115,343.—GAR TRUCK.—G. F. Morse, Portland, Me.
115,344.—DRAINER.—P. W. Neefus, New York city.
115,345.—DOOR MAT.—P. W. Neefus, New York city.
115,346.—HORSE COLLAR.—James Nellis, Ypsilanti, Mich.
115,347.—TASSEL.—James Norman, Brooklyn, N. Y.
115,348.—GROOVING MACHINE.—H. J. Noyes, Ashtabula, O.
115,349.—LETTER BOARD.—J. H. Palm, Mansfield, Ohio.
115,350.—VAPOR BURNER.—G. T. Parry, Philadelphia, Pa.
115,351.—WATCH.—E. H. Perry, Boston, Mass.
115,352.—GARDEN IMPLEMENT.—A. A. Porter, Griffin, Ga.
115,353.—WASH BOILER.—C. W. Powell, Yalesville, Conn.
115,354.—WIREFASTENING.—H. W. Putnam, Bennington, Vt.
115,355.—WASHING MACHINE.—L. Putnam, Worcester, Ma.
115,356.—TELEGRAPH RELAY.—C. Rathbone, Albany, N. Y.
115,357.—BAGATELLE.—M. Redgrave, Cincinnati, Ohio.
115,358.—PINCH BAR.—Abram Reese, Pittsburgh, Pa.
115,359.—STOVE.—H. R. Remsen, Newtonville, N. Y.
115,360.—BOAT DETACHING.—I. A. Richards, Middletown, Ct.
115,361.—FREEZER.—Moritz Rosenstein, Boston, Mass.
115,362.—WATER WHEEL.—R. R. Royer, Ephratah, Pa.
115,363.—TOBACCO PIPE.—W. G. Ruge, Holstein, Mo.

MILLSTONE.—J. A. P. asks "why his new run of millstones will not do more work?" The fact is that the way his stones are dressed brings the grinding circle smaller to that of a thirty inch run of stone.

DRILLING GLASS.—If R. A. P., who asks how the holes in large electrical machine plates are drilled, wishes to drill them for himself, he can do so by making an instrument like a fiddle, or bow drill, and using in place of the drill, a piece of brass tube of the required size, then fastening a thin board tightly over the glass, with a hole in it directly over the spot to be drilled, and large enough to let the tube turn freely in it.

DRILLING GLASS.—I have had occasion for several years to drill holes in glass from the thickness of common plate to that of an inch, and of various sizes, and have always found satisfactory success with a common machinist's drill, lubricated during the process with oil of turpentine.

PRESERVING FLOWERS.—Seeing in No. 21, of current volume, that a correspondent wishes to know how to preserve flowers, so as to keep their natural colors, I send the desired information. Take of white wax, paraffin, or any other waxy substance, any desired quantity; place it on the fire, and bring it almost to a boil.

MILLSTONE.—The trouble with J. A. P.'s millstone is too much draft, which keeps the face of the stones scant of wheat, and they become smooth in a short time. Let him put in 13 quarters in the stone and 3 furrows to each quarter. This will equalize the draft, and his burrs will grind well.—J. F., of Mass.

MILL STONES.—To make a stone grind fast, make the furrows at least 1/4 of an inch wider at the eye than at the skirt of the stone, with the inclined plane uniform the entire length. The furrows should have, as nearly as possible, the same draft, which can be done by increasing the number of quarters with a less number of furrows.

H. W. G., of Mich.—We know of no American journal specially devoted to astronomy. The Journal of the Franklin Institute publishes much interesting astronomical matter.

LEATHERS FOR VISE JAWS.—In your issue of May 27th, C. A. W asks what to use for securing leather to vise jaws. If he will use bees-wax, he will have no difficulty whatever.—T. A., of N. Y.

DISSOLVING MICA.—"M." wishes to know how to dissolve, and hold in solution, mica. Mica, which is essentially a silicate of lime, is, like most other native silicates, entirely insoluble in any menstruum whatever, excepting by decomposition, when of course it is no longer mica, and is not held in solution as such.—C. L. R. S., of D. C.

TO KILL BEDBUGS.—Use a strong alcoholic solution of corrosive sublimate, carefully.—C. L. R. S., of D. C.

T. D. T., of —.—By consulting catalogues of industrial books, you will find many excellent works on electroplating, which will give you a part of the information you desire. We insert your other question in our query column.

S. W. S. of Ohio.—There is no accepted standard for the threads of bolts in this country. There ought to be, and we have often urged the adoption of such a standard, but our machine shops are each a law unto themselves in this matter as yet. The standard for gas pipes is as follows:

Table with 4 columns: Diameter inside, Threads to the inch, Diameter inside, Threads to the inch. Lists values for diameters 1/2, 3/4, 1, 1 1/4, 1 1/2, 1 3/4, 2.

For all diameters above this, 8 threads per inch is the standard.

C., of Ala.—We do not believe copper was ever tempered to be as hard as good steel, although there are historical traditions of a lost art of this kind. To be able to harden copper like steel, might perhaps be of service to modern industry, but we do not see how copper could be advantageously substituted for steel in any of the purposes for which the latter is now used.

B. H. B., of Miss.—Glass water pipes have been tried, but there are many practical difficulties in their use, for domestic service. Your article on the subject is declined with thanks.

S. G. S., of N. Y.—The thing for you to do, if your eyes are giving out, is to apply to a competent oculist for advice, and, if need be, remedies.

BOILS.—I have recently got rid of eleven or twelve troublesome boils by taking a teaspoonful, in water, of the following mixture, before every meal: 2 grains bichloride of mercury, 2 drams iodide of potassium, 2 ounces sirup of sarsaparilla, 2 ounces water. The boils were gone before I had taken half the medicine.—D. B., of N. Y.

Recent American and Foreign Patents.

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

HAY AND COTTON PRESS.—This improvement consists in a combination of T-shaped pawl plates, double racks, levers, etc., designed to inform an improved mechanism for actuating the followers of hay and cotton presses. It can be applied to all presses in which the follower bar works in slots. Invented by Eugene Rock, of Greenville, N. Y.

CULTIVATOR.—This invention presents a novelty in this class of agricultural implements, namely, that it makes the two outside plows or teeth adjustable as to their distance from each other, the adjustment being made by the operator as desired for varying width of rows of plants while the cultivator is in motion and use. This is done in the following manner: The two inside plows are attached to the front ends of beams, which are pivoted to the central and principal beam of the cultivator in such a way that they extend obliquely forward. A chain extends from the front end of each of these branch pivoted beams, at nearly a right angle to, and under, a pulley fixed to the central plow beam and thence to the front end of the plow

handle on the side next the beam. The plow handles are pivoted to upright supports near their middle. When the end of either of the plow handles is depressed by the hand, the other end is raised, pulling the chain and drawing the plow attached to the chain inward toward the central and principal beams; or by depressing both handles at once, the operator may draw both these plows inward, narrowing the width of land cultivated whenever the plants on one or both sides of the cultivator are endangered. As soon as the handles are relieved of pressure, the position of the pivoted beams branching forward and outward obliquely, causes the resistance of the earth to push them outward and take up the chains as fast as the latter are slackened. This ingenious device is the invention of Leauder Walker, of Victoria, Texas.

MEAT SAFE.—August Knoche, St. Louis, Mo.—This invention provides for constant circulation of air through meat safes, the ventilation secured enabling the meat to be longer kept in good condition. The safe is made preferably square in its horizontal section, and of any suitable height. The air enters a perforated side of a lower chamber, protected from flies by gauze, and, passing out through a perforated side opposite the first, ascends a flue to the perforated side of an upper chamber, thence through this side, and across the upper chamber; and through another perforated side into a flue which extends up to, and over the top of the upper chamber, and opens into a chimney or funnel communicating with the external atmosphere. The flues are made the entire width of the safe.

FOLDING SETTEE.—This is made with cross-legs, pivoted together, like the folding seats and chairs now in use; but the inventors have added an improvement, consisting in hinging the back to the back rail, upon which the canvas, leather, or other flexible seat is nailed. Strap braces extend from the ends of the front seat rail to the tops of the side posts of the back, and, when attached, hold the back at the proper angle with the seat for comfort; but when released, the back may be folded down, and the whole settee so folded together as to occupy very little space, a great desideratum in settees used in public halls, churches, etc. Invented by William C. Adams and William B. Mahew, of West Tisbury, Mass.

SPRING BED BOTTOM.—A rectangular frame supports a long spring bar on each side of the bed; to the middle of each of these bars is bolted a plate, under which the ends of two inclined spring bars are inserted, their inclination being adjusted by wedge-shaped blocks placed under them, near the lower ends, and resting on the first named bars. Cross bars connect these inclined bars at each end of the bed, and on them longitudinal spring slats are placed, to support the mattress. A slat frame is pivoted to the supporting upper frame thus formed, the frame extending from the pivots toward the head of the bed, and occupying a space somewhat more than one third that of the principal frame. This is inclined and held at any desired angle by braces, so as to raise the upper end of the bed higher than the foot. Invented by Manasseh W. Farber, of Mount Pleasant, Iowa.

WASHING MACHINE.—This is the invention of William C. Marr and Joseph S. Maughlin, of Onawa City, Iowa. It consists in a hollow drum, made by joining two disks with cross bars, with spaces between them. Every alternate bar projects inwardly. The drum has a door in the side for putting in and taking out the clothes, and on one of the disks is formed a rubbing surface, to be used for hand rubbing when requisite. The drum is made for attachment to common wash tubs, by means of suitable devices. It is turned by a crank, and the agitation of the water through the openings and through the clothing cleanses without rubbing the goods to be washed.

APPARATUS FOR UNLOADING HAY.—Alexander Smith, Hoosick Four Corners, N. Y.—This invention consists essentially of a sling, of canvas or other material, which is to be spread over the wagon rack before the hay is loaded, to be hoisted by derricks. The sling is made of two triangular pieces of the material used, the lower bases of which triangles are joined to wood bars, so arranged that they can be hinged together, and unhinged when the load is raised so as to dump it on the mow or stack. The sling is patented by itself, and also in combination with other devices for carrying the load to the desired point where it is desired to dump it, etc.

FLAX THRASHING AND SEPARATING MACHINE.—This is the invention of James Boyce, of Muncie, Ind. Two or more pairs of rollers, with spiral grooves, are employed to crush the bolls of the flax, one roller in each pair being made to travel faster than the other, by suitable gearing, so that a rubbing as well as crushing action is obtained; and each succeeding pair runs at higher speed than the preceding pair, so that the flax is drawn out and spread, in order to subject all the bolls to crushing and rubbing. The reversed spiral flutes also give a sort of shearing motion, which assists to crush and break the bolls to pieces. A supplementary roller for crushing such bolls as escape the action of the other rollers, and an attachment of shaking riddles and a fan blower, complete the combination.

HYDROCARBON VAPOR BURNER.—This burner is designed for the consumption of naphtha. From a suitable cap, to attach the same to a lamp or a gas burner, rise metal tubes for wicks (the inventor prefers three of these tubes). The wicks lead to a cap at the top, provided with an apparatus for conducting the heat downward to the wicks, and generating the vapor. A peculiar arrangement of orifices is also claimed in the patent, by which, the inventor states, a better illuminating effect is obtained. Invented by William E. Bartlett, of Newburg, N. Y.

HAY RAKE.—This improvement consists in a new method of raising the rake head and rake frame, by a new combination of well known devices. J. George Lockwood, West Davenport, N. Y.

SHARPENING HORSESHOE CALKS.—A heavy pedestal supports a jointed frame, with a system of gearing belts and pulleys which, by the turning of a winch, drives a small emery wheel. The machine is set near a horse, whose foot being raised, the calks are held on the wheel and sharpened, while an assistant turns the winch. Patented by Geo. W. Lane, of Chichester, N. H.

RIDING PLOW.—Benaiah C. Hoyt, Fort Atkinson, Wis.—This invention consists of improvements upon a former invention, patented by the same inventor, September 2, 1856. The plow is one upon which the operator rides. The action of the mold board is supplemented by a complementary concave disk, which formerly turned on a fixed pivot, but in this instance is attached to a shaft which revolves. The machine is easily adjusted for running on level ground, or when a wheel runs in the furrow, maintaining the plow in either case in its proper vertical position. Other improvements provide for increased durability in parts, which have hitherto been subjected to great wear.

FOLDER AND TUCKER.—Thomas Manchester Farrand, Skowhegan, Me.—This is an neat, and apparently very efficient device for folding tucks in shirt bosoms and the like, which cannot be explained without diagrams. It is attached to the table of sewing machines by a clamp screw, in the ordinary way; it occupies but little space, and its design is very neat.

CLOTHES CLAMP.—This is a clasp of non-corrosive wire, bent something in the form of a twisted W, which, when sprung upon a clothes line, grips it with considerable force. It is a cheap substitute for other devices hitherto used for the same purpose. Invented by Christian L. Poorman, Bellaire, Ohio.

MACHINE OYSTER SHUCKER.—George Holtzman, Baltimore, Md.—This invention relates to a machine that is provided with a socket and jaw for crushing the points or jaws of oyster shells while still closed; and with a rest and spring holder to support the oyster after the point of the shell has been thus crushed, and a sliding knife for opening the shell while thus supported; and with a blade connected with a standard by a universal joint for cutting the oyster out of the shell after it has been thus opened.

SPINNING HEAD.—John W. Chappell, Berlin, Mich.—The object of this invention is to dispense entirely with condensers and jacks, which is accomplished by combining the spinning head, carding cylinder and winding spool in a novel and peculiar manner.

SEWING MACHINE MOTOR.—D. A. Constable, and John F. Riggs, St. Joseph, Mo.—This invention has for its object to either accelerate or retard the speed of a sewing machine motor, by means of blades hinged to radial arms, which project from a hub that is driven by the motor, the retardation of the speed of the latter being effected by opening the blades so as to cause them to present more of their surface to the air, and thus produce a greater resistance, and the acceleration of speed being effected by closing the blades so as to diminish that part of their surface against which the air acts.