

Chloralum---Its Value as an Antiseptic and Disinfectant Denied.

This new disinfectant, recommended by Prof. Gamgee, an account of which was recently published in this journal, has, according to the Scientific Review, been experimented upon by Dr. Crace Calvert, who finds it valueless as a disinfectant.

Dr. Ballard, the medical officer of health for Islington also entertains modified notions as to the value of the chloralum. He has the greatest personal respect for Prof. Gamgee, and for the admirable work he has done---no one more; but Dr. Ballard is sure that he is not warranted in propounding chloralum as a "disinfectant," and still less in recommending its use as such, without, at the same time, adducing the evidence on which his opinion and recommendation are grounded.

Among the Doctors

Who take their own medicine may be counted the Advertising Agents, Geo. P. Rowell & Co., of New York. They are themselves among the largest advertisers in the country, and know, by experience, when and how to advertise.

Business and Personal.

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, \$1 00 a year. Advertisements 17c. a line. \$3.--The Celebrated Craig Microscope and two mounted Entomological objects sent prepaid for \$3. Magnifies 100 diameters, or 10,000 times the area. It is not a humbug because it is cheap. If not as represented, money refunded. Theo. Tusch, 37 Park Row, New York.

Wanted.--An Analytical Chemist. Good references required. Address M. A., Post Office Box No. 3000, New York.

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

Wanted.--A partner, with a small capital, to carry out an invention of great value. For curiosity, address L. David, Montgomery, Ala.

An old established business for light machinery, patented articles, etc., for sale, 30 mins. from N.Y. Investment sure. Address Iron, Newark, N.J.

Hirzel's German Gas Works, for lighting towns, factories, etc., make a fixed gas, which gives the most beautiful and steady light extant. James Austin & Co., 7 Bowling Green, New York.

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 Sale at a bargain.--A complete one-set woolen mill, with an established trade. Address H. M. Woodruff, Pewee Valley, Ky.

Foundry and Machine Shop for sale. See page 156.

Master-Machinists will be furnished with Photographs of improved Wood Machines for Car Work, by addressing Richards, Kelley & Co., Philadelphia.

Lathe Wanted.--A second-hand Lathe, to swing 36 inches, 10 feet between centers; must be a good tool, and in good order. Marvin & Co., 255 Broadway.

"Edson's Recording Steam Gage and Alarm," 91 Liberty st., N. Y. Recommended by U. S. Inspectors as protection to good engineers, the charts showing quality of work performed.

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

For Sale.--The Combined Tool illustrated in Scientific American, Jan'y 25, 1871. Wilkinson & Boyle, Plattsburgh, N. Y.

Peteler Portable R. R. Co. contractors, graders. See adv'ment.

Wanted.--The address of every reader of the SCIENTIFIC AMERICAN, to whom will be sent FREE a specimen number of that first-class Family Magazine, THE PHRENOLOGICAL JOURNAL. Address S. R. Wells, 339 Broadway, 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.

First-class Gage Cocks, at E. H. Ashcroft's, 55 Southbury st., Boston, for \$10.80 per dozen.

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

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

Steel name stamps, figures, etc. E. H. Payne, M'fr, Burlington, Vt.

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.

For the best Self-regulating Windmill in the world, to pump water for residences, farms, city buildings, drainage, and irrigation, address Con. Windmill Co., 5 College Place, New York.

Conklin's Detachable Rubber Lip, for bowls, etc., works like a charm. For Rights, address O. P. Conklin, Worcester, Mass., or A. Daul, Philadelphia, Pa.

For the latest and best Improved Hub Lathe, Hub Mortising Machine, Spike Lathes, Spike Tapping and Throating Machine, address Kettering, Strong & Lauster, Defiance, Ohio.

Thomson Road Steamers save 50 per cent over horses. D. D. Williamson, 32 Broadway, New York.

Patent Elliptical-geared Punches and Shears.--The greatest economy of power, space, and labor. Can be seen in operation at our factory, in Trenton, N. J. Address American Saw Co., 1 Ferry st., New York.

The Merriman Bolt Cutter--the best made. Send for circulars. H. B. Brown & Co., Fair 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. Fredricks, 587 Broadway, New York.

For Fruit-Can Tools, Presses, Dies for all Metals, apply to Bliss & Williams, successor to May & Bliss, 118, 123, and 123 Plymouth st., Brooklyn, N. Y. Send for catalogue.

McCauley's Improved Force Pump, especially adapted to deep wells. Send for Circular. R. A. McCauley, Baltimore, Md.

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.

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

Self-testing Steam Gage--Will tell you if it is tampered with, or out of order. The only reliable gage. Send for circular. E. H. Ashcroft, Boston, Mass.

Wanted.--A Partner, with capital, in a newly invented Gun. Address A. H. Townsend, Georgetown, Colorado.

Agents wanted, to sell the Star Bevel. It supercedes the old style. Send for Circular. Hallett & White, West Meriden, Conn.

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

Diamond Carbon, of all sizes and shapes, furnished for drilling rock, sawing and turning stone, conglomerates, or other hard substances also Glazier's Diamonds, by John Dickinson, 64 Nassau st., New York.

Hand Screw Punches and Lever Punches. American Saw Co. New York.

Japanese Paper-ware Spittoons, Wash Basins, Bowls, Pails, Milk Pans, Slop Jars, Commode Pails, Trays. Perfectly water-proof. Will not break or rust. Send for circulars. Jennings Brothers, 352 Pearl st., N. Y.

House Planning.--Geo. J. Colby, Waterbury, Vt., offers information of value to all in planning a House. Send him your address.

Manufacturers and Patentees.--Agencies for the Pacific Coast wanted by Nathan Joseph & Co., 619 Washington st., San Francisco, who are already acting for several firms in the United States and Europe, to whom they can give references.

Crompton's Imperial Laundry Soap, washes in hard or salt water, removes paint, tar, and grease spots, and, containing a large percentage of vegetable oil, is as agreeable as Castile soap for washing hands. "Grocers keep it." Office 84 Front st., New York.

Valuable property and machinery for manufacturing in P'keepse, N. Y. Apply to W. H. Crosby, 251 Mill st., or on the premises, Bayeaux st.

For small, soft, Gray Iron Castings, Japanned, Tinned, or Bronzed, address Enterprise Manufacturing Company, Philadelphia.

The best place to get Working Models and parts is at T. B. Jeffery's, 160 South Water st., Chicago.

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 \$1 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 10 a line, under the head of "Business and Personal."

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

J. T. says: "I have made an improvement in machinery, by the use of which one half of the fuel now used in running machinery will be saved. I had my model about ready to send you, but have been informed that patents will not be issued to persons who participated in the late rebellion. Upon this I destroyed my models, until I can learn for certain, as I was a participant in that unfortunate affair." Our correspondent is informed that his participation in the rebellion does not debar him from applying for a patent. Since the close of the war, patents have been taken out, through the Scientific American Patent Agency, by General Beauregard, and other distinguished warriors. They have converted their swords into pruning hooks, and are heartily engaged in the conservation of peaceful and improving arts. Our correspondent is advised to reconstruct his model, and send it along by express, directed to Munn & Co., 37 Park Row, N. Y.

T. B. S., of Ind.--J. P. Joule once made an electro-magnet which raised 140 times its own weight. An account of this magnet is given in "Annals of Electricity," Vol. V., page 187. An ordinary electro-magnet will raise 20 times its weight, with proper battery power. Very small electro-magnets have been made to lift 2,334 times their own weights. The powerful electro-magnets of Joule were tubes with thick walls, split, and wound in the direction of their length.

J. C. W., of Mass.--Railroad managers have had their attention called to elastic car wheels, packed with rubber, paper, wood, etc. Some of these devices are now undergoing trials which will settle the question of their worth. All new improvements of magnitude are introduced slowly. If the wheels in question sustain in trial what is claimed for them, their general adoption is only a question of time.

B. N. P., of ---.--The same number of units of heat is required to heat a given mass of water, no matter whether the heat be conveyed into the water by steam, or hot water jets.

J. A. F., of Mo.--A gas, in expanding to its original volume after compression, absorbs as much heat as it evolved during the compression. There is neither gain nor loss in this respect.

A. R. S., of Ohio.--The marginal scale, on Auchincloss' Travel Scale is made to correspond with the travel scale.

FILING CIRCULAR SAWS.--I swage the teeth, at the point, to a gage on both sides, of sufficient width to clear the blade while in the log, and file perfectly square on the face and back of the teeth. If A. O. B. will dress his saw in this way, it will give satisfaction in soft or hard timber.--S. H., of Pa.

W. F. H., of N. Y.--You will not be able to stop the leaking of your cider vats without taking out the cider, and having them overhauled by a first-class cooper.

T. E. N., of Tenn.--You will find the information you wish in regard to capillary attraction, in any good treatise on physics. To answer you here would occupy too much space.

P. A., of Mich.--The subject of ice formation was treated at length in Vol. XXII. of this journal. We do not wish to reopen this subject at present. You will, by reference either to the volume referred to, or to works on physics, be able to answer your query.

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, and hope to be able to make this column of inquiries and answers a popular and useful feature of the paper.]

1.--CEMENT.--We want a cement to fasten wooden drawer handles on bureau drawers, after the same are painted and varnished.--S. & C.

2.--SHELLAC VARNISH.--I wish a recipe for the best shellac varnish.--A. R. S.

3.--TO IMITATE ROSEWOOD.--Will some of your numerous readers please give me a good recipe for staining, in imitation of rosewood.--H. G. W.

4.--SUPERHEATING STEAM.--I have a boiler of twenty-five horse power, from which I carry steam 800 feet. Can I profitably superheat my steam? and if so in what manner?--P. W. G.

5.--SOLDERING CAST IRON.--Can any of your correspondents let me know if there is any kind of fluid that can be used, with soft solder, to solder cast iron together, and if it will do for stove foundry iron and common gray iron, providing the surface be clean? I use chloride of lime, water, and sal ammoniac for wrought iron, steel, brass, copper, zinc, etc.; chloride of lime, two fluid ounces; water, two fluid ounces; sal ammoniac, one half a teaspoonful; but it will not work on cast iron to any advantage.--W. S. B.

6.--HARDENING TALLOW CANDLES.--Is there any cheap method of hardening tallow candles, so as to render them less objectionable?--E. H. H.

7.--SPIRAL SPRING.--What sized wire must I use for a spiral spring, and what size must the coils be, to stretch three fourths of an inch, with a strain of 200 pounds, without setting the spring? Also, what size rubber spring will do the same work? Is rubber as good as wire for such a spring?--F. W. H.

8.--WATER HEATER.--How can I stop my heater from leaking? It is constructed in the cylinder form, with six copper pipes passing through, and the escape steam passing around the pipes. The leakage occurs from the expansion and contraction of the pipes, where they are fastened in the cast iron head.

Recent American and Foreign Patents.

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

MOLD AND PATTERNS FOR CASTING GROOVED ROLLERS.--John Herald, Otsego, N. Y.--The object of this invention is to so construct the molds for casting rollers or sheaves with grooved edges, that the grooves in the edges will be accurate, and throughout of the desired shape.

TILE, OR FIRE-BACK, FOR FIREPLACE.--Joseph Hackett, Louisville, Ky.--This invention relates to a new tile, or fire-back, for fireplaces, which is so made, that it can be readily applied without cementing or special fastenings, radiate the heat in the most advantageous manner, and form part of the throat of the flue.

CARPET RAG LOOPER AND SEAM RIPPER.--Daniel A. Russell, Windham, Ohio.--This invention relates to a new apparatus for connecting the ends of woolen or other rags preparatory to the weaving of the same into rag carpet. The invention consists in the use of a perforated knife blade, which is pivoted to a block, and held in an upright position thereon by a spring catch.

BALING PRESS.--E. R. Wallace, Jonesville, S. C.--This invention relates to a new baling press, of that kind in which two followers are used, one above the other, they being secured, respectively, to right and left hand screws, and moved forwards or away from each other by being turned together with the box. The invention consists in a new combination of parts.

INDIA-RUBBER SHOES.--C. Meyer, New York city, and John Evans, Rochester, N. Y.--This invention relates to improvements in india-rubber shoes, and consists in shoes provided with raised ribs or other raised figures on the surface, with rows of stitching, or imitation thereof, by the sides of the said ribs, which inclose spaces representing the openings made in the front uppers of sandals, or representing other ornamental figures, the same being made by means of compressing rollers, one having the reverse of the ribs or other raised figures, and the indentations required, engraved on it, the other being plain, between which rollers the outersheet of which the shoe is composed is formed from the mass, at the same time receiving the impressions the said rolling being done before the rubber is vulcanized and made up into the shoe.

HOOP SKIRT.--James O. West, New York city.--This invention relates to improvements in hoopskirts, and it consists in a novel construction of the same, calculated to form, by the arrangement of the hoops and an adjusting band, a prominent and efficient adjustable bustle.

BATHING BRUSH.--Joseph Marshall, Brooklyn, N. Y.--This invention relates to improvements in bathing brushes of that kind in which a sponge or other porous article is arranged within an annular rim or border of bristles. The invention has for its object to prevent the water from entering between the back of the brush and the plate which holds the bristles and from thereby injuriously affecting the wood and wire-work of the brush.

FASTENING END BOARDS IN WAGON BOXES.--George W. Diller, Odell, Ill.--This invention relates to a new and useful improvement in mode of fastening end boards in the boxes of wagons, and consists in a hinged cleat and staple, and hook, connected with the side of the box.

HAT SIZING MACHINE.--James H. Hopkins, Newark, N. J.--This invention has for its object to furnish a simple, convenient, and effective machine for sizing hats, which shall be so constructed and arranged as to do well and thoroughly work which has heretofore been done only by hand.

OILER FOR THE JOURNALS OF PULLEYS AND OTHER WHEELS.--E. Douden, Lykens, Pa.--This invention has for its object to furnish an improved oiler for oiling the journals of loose pulleys and drift car wheels, and for use in other cases where a hub revolves upon a journal, and which be simple in construction, conveniently manipulated, and prevent the waste of oil.

WASHING MACHINE.--Lawrence White, Orford, Iowa.--This invention has for its object to furnish a simple, convenient, cheap, and effective washing machine, which will wash the clothes quickly and thoroughly, and without rubbing and wearing them, the washing being done by squeezing out the water, and again allowing them to become saturated.

REVOLVING CHURN.--F. B. Chapman, Salisbury, Mo.--This invention relates to a new and useful improvement in a churn for converting cream and milk into butter, and consists in revolving the churn instead of the dasher.

CULTIVATOR.--William Gowen, Bartlett, Tenn.--This invention has for its object to furnish an improved cultivator, designed for use in cultivating cotton, corn, and other crops planted in drills or rows, which shall be simple in construction, effective in operation, and easily controlled when at work and which may be easily adjusted for cultivating narrow rows, or for use as a harrow.

PLOW.--Alexander Rickart, Schoharie, N. Y.--This invention has for its object to improve the construction of plows so that the draft may be applied to the plow in the rear of the moldboard, which will enable the beam to be made lighter than is possible when the beams are made in the ordinary manner, and which will at the same time give it sufficient strength.

PRESS.--Christopher D. Findlay and David D. Craig, Macon, Ga.--This invention relates to improvements in presses for hay, cotton, and other like

PATENTS.

American and European.

MUNN & CO. continue to give opinions in regard to the Novelty of Inventions, free of charge; make special Examinations at the Patent Office; prepare Specifications, Drawings, Caveats, and Assignments; and prosecute applications for Letters Patent at Washington, and in all European countries.

MUNN & CO., 37 Park Row, N. Y.

ADVERTISEMENTS. 108 FULTON ST., NEW YORK, February 18, 1871.

MESSRS. MUNN & CO., EDS. SCIENTIFIC AMERICAN:

Gentlemen:—In your issue of the 18th inst., we note your able editorial remarks on "Kerosene Murner." You, and the public generally, are familiar with Pratt's Astral Oil, which for some years we have endeavored to make known.

"In making the annual review of our business in Astral Oil, we ask your attention to the following: It has grown steadily in public favor; the business has increased largely, and in every case, so far as known, the oil has been satisfactory to dealers, and entirely so to consumers; and the trade gives every promise of large increase.

"We ask consumers or dealers to frankly state any and every cause of complaint, and we assure them that, so far as we know, no fault has existed in the oil in the past, and will not in the future.

"The following appears on our circular: 'Caution—Unprincipled dealers are selling inferior and dangerous oils for Astral. Be sure you get the genuine Astral Oil. See that the seals of the cans have not been tampered with. Buy only of responsible dealers.'

"The following appears on our circular: 'Caution—Unprincipled dealers are selling inferior and dangerous oils for Astral. Be sure you get the genuine Astral Oil. See that the seals of the cans have not been tampered with. Buy only of responsible dealers.'

Official List of Patents. ISSUED BY THE U. S. PATENT OFFICE. FOR THE WEEK ENDING FEB. 21, 1871.

SCHEDULE OF PATENT FEES. On each Caveat, \$10. On filing each application for a Patent, (seven years) \$25. On issuing each original Patent, \$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 as the Claims cover, from \$1 upward, but usually at the price above named.

MUNN & CO., Patent Solicitors, 37 Park Row, New York.

- 111,896.—MACHINE FOR CUTTING AND MITERING PRINTERS' RULES.—Frank H. Aiken, Franklin, N. H. 111,897.—GOVERNOR-VALVE CONNECTION.—John F. Allen, Harlem, N. Y. 111,898.—FISH-HOOK.—Levi Arnold, Belchertown, Mass. 111,899.—MACHINE FOR CUTTING SCREWS.—James S. Atkinson, Ormsby borough, Pa. 111,900.—MACHINE FOR CUTTING LEATHER.—H. Z. Baker, Pawtucket, R. I. 111,901.—CARRIER'S TOOL.—James T. Barnstead, Peabody, Mass. 111,902.—TAP FOR OIL CANS.—Jabez A. Bostwick, New York City. 111,903.—SPRING CARRIAGE CUSHION.—T. S. Burnett, Syracuse, N. Y. 111,904.—WOOD PAVEMENT.—William Bushnell, Elizabeth, N. J. 111,905.—WIRE STRETCHER.—Albert Byington, Rochelle, Ill. 111,906.—WASHING MACHINE.—Wm. H. Carman and R. P. McCollum, Philadelphia, Pa. 111,907.—CHURN.—Franklin B. Chapman, Salisbury, Mo. 111,908.—VALVE FOR WATER ENGINES.—Abraham Coates, Watertown, and George W. Laseell, Syracuse, N. Y. 111,909.—WASHING MACHINE.—John Court, Memphis, Tenn. 111,910.—TREATING BLOOD FOR THE MANUFACTURE OF FERTILIZERS AND AMMONIACAL SALTS.—John J. Craven, Jersey City, N. J. 111,911.—PLOW.—Francis Cremer Elmwood, Ill. 111,912.—MANDREL FOR GAGING AND CUTTING SOLDER WIRE.—Lewis Cutting, San Francisco, Cal., assignor to himself and Francis Cutting.

- 111,913.—VEGETABLE CRUSHER.—Reuben Daniels, Woodstock, Vt. 111,914.—BASE-BURNING STOVE.—Edward Mortimer Deey, New York City. 111,915.—FASTENING END BOARDS IN WAGONS.—George W. Diller (assignor to himself and George B. Woodbury), O. Iell, Ill. 111,916.—CONDENSER AND FEED-WATER HEATER FOR STEAM ENGINES.—Joseph Dilworth, and John C. Hodgins, Toronto, Canada. 111,917.—FANNING MACHINE.—E. P. Doremus, Washington La. Antedated February 11, 1871. 111,918.—LUBRICATOR FOR WHEELS, PULLEYS, AND JOURNALS.—Edwin Douden (assignor to himself and Chas. Broome), Lykens Pa. 111,919.—REFLECTOR.—F. P. Doyle (assignor to himself and John Cooke), New York City. 111,920.—CRUET STAND.—Josiah W. Ells, Pittsburgh, Pa. 111,921.—MACHINE FOR FORMING ARTIFICIAL STONE.—J. S. Elliott (assignor to the Union Stone Company), Boston, Mass. 111,922.—MACHINE FOR MOLDING TWEEDS.—Samuel English (assignor to himself and James Ostrander), Troy, N. Y. 111,923.—PRESS FOR HAY, COTTON, ETC.—C. D. Findlay and D. D. Craig, Macon, Ga. 111,924.—HORSE-HOLDER ATTACHMENT TO CARRIAGES.—G. W. Goodwyn, Petersburg, Va. 111,925.—CULTIVATOR PLOW.—William Gowen, Bartlett Tenn. 111,926.—EARTH CLOSET.—Edmund Griffith, Wilmington Del. 111,927.—MILLING TOOL.—Levi Griswold, Branford, Conn. 111,928.—CARRIAGE.—Chauncey Holmes Guard, Toronto Canada. 111,929.—FIREPLACE.—Joseph Hackett, Louisville, Ky. 111,930.—MAKING CYDER.—George B. Hamlin, Willimantic Conn. 111,931.—PATTERN FOR CASTING GROOVED ROLLERS.—John Herald, Unadilla, N. Y. 111,932.—COW MILKER.—Elisha A. Hewitt, Groton, Conn. 111,933.—SELF-ADJUSTING CAR TRUCK.—Edward Hipkins, Burford township, Canada. 111,934.—CAR TRUCK.—Edward Hipkins, Burford township, Canada. 111,935.—HAT-SIZING MACHINE.—J. H. Hopkins (assignor to himself and William Carrollton), Newark, N. J. 111,936.—FLY TRAP.—Peter D. Horton and Ezra T. Bryan Marengo township, Mich. 111,937.—STEAM ENGINE.—John Houpt, Springtown, Pa. 111,938.—ROOFING TILE.—Charles Howard, Warren, Ohio. 111,939.—SNOW-SHOVEL TIP.—Eber Hubbard, Seneca Falls, N. Y. 111,940.—EXCAVATING MACHINE.—Joseph M. Hughes and Andrew J. Mapes, Independence, Mo. 111,941.—MACHINE FOR STRAIGHTENING BOLTS.—Charles E. Hunter, Hinsdale, N. H. 111,942.—LIFTING JACK.—Benjamin F. Johnson, Glasgow Mo. 111,943.—LOCK-STOP COCK.—J. Evans Jones, Tidoute, Pa. 111,944.—DRAFT DEVICE FOR THREE HORSES.—Owen W. Jones, Columbus, Wis. 111,945.—COMPOUND FOR PLATING AND POLISHING.—M. J. A. Keane, New York City. 111,946.—SASH HOLDER.—W. H. King, Newark, N. J., and Jared Rowland, Williamsburgh, N. Y., assignors to W. H. King. 111,947.—SECURING STEEL OR IRON PINS IN WOOD.—Richard Kitson, Lowell, Mass. 111,948.—PASSENGER REGISTER FOR CARS.—John Kurz Philadelphia, Pa. 111,949.—HORSE POWER.—Daniel L. Lamont, Boston, Ga. 111,950.—REFRIGERATOR.—John H. Lester, Niantic, Conn. 111,951.—BASE-BURNING STOVE.—D. G. Littlefield, Albany, N. Y. 111,952.—METHOD OF ATTACHING HANDLES TO SCRAPERS.—Edward C. Locke, Providence, R. I. 111,953.—SAW-TOOTH SWAB.—John Lough, Buckingham, Canada. 111,954.—BEAM COMPASS.—Josiah Lyman, Lenox, Mass. 111,955.—BATHING BRUSH.—Joseph Marshall, Brooklyn, N. Y. Antedated February 17, 1871. 111,956.—MILLSTONE.—John W. Masury, Brooklyn, N. Y. 111,957.—LEATHER-PUNCHING MACHINE.—John Matheis Ottowa, Ill. 111,958.—WASHING MACHINE.—Erwin W. Maxson, Scranton Pa. 111,959.—BURGLAR ALARM.—John McDowell, Washington, Pa. 111,960.—LAMP BURNER.—William C. McGill, Cincinnati Ohio. 111,961.—PUMP.—Charles L. Merrill, Watertown, N. Y. 111,962.—INDIA-RUBBER SHOE.—Christopher Meyer, New York City, and John Evans, New Brunswick, N. J. 111,963.—COOKING-STOVE ATTACHMENT.—Nathan S. Minniss Oil City, Pa. 111,964.—ANTI-RATTLING WASHER.—Benjamin Morton, Ferritilly, Pa. 111,965.—PLOW.—James Oliver, South Bend, Ind. 111,966.—DEVICE FOR GRINDING THE FLAT FACE OF VALVE SEATS.—Samuel J. Peet and Daniel Sawyer, Boston, Mass., assignors to Samuel J. Peet. Antedated Feb. 11, 1871. 111,967.—CURTAIN FIXTURE.—Phineas W. Phillips (assignor to James F. Army), Salem, Mass. 111,968.—FELTED FABRIC.—James Ezra Pollard, Franklin City, Mass. 111,969.—MINIATURE WAR GAME.—Casimiro Portillo, New York City. 111,970.—LARD AND BUTTER BOX.—William Pratt, New York City. 111,971.—FIREPLACE GRATE.—William Pulsfort, Louisville Ky. 111,972.—CAR COUPLING.—Samuel H. Reed and George A. Reed, Fredericktown, Ohio. 111,973.—MACHINE FOR BRONZING.—Israel L. G. Rice, Cambridge, Mass. 111,974.—SPRING BED-BOTTOM, SEAT, ETC.—Charles Rich, Poughkeepsie, N. Y. 111,975.—PLOW.—Alexander Rickard, Schoharie, N. Y. 111,976.—PRIVY.—Frank Riedel, San Francisco, Cal. 111,977.—IMPLEMENT FOR SLITTING AND LOOPING RAGS FOR CARPETS.—Daniel A. Russell, Winham, Ohio. 111,978.—SHIRT.—Adolphe Salmon (assignor to Cahm & Salmon), New York City. 111,979.—CORN PLANTER.—Joseph Schott, Peoria, Ill. Antedated Feb. 6, 1871. 111,980.—REVOLVING SHOWCASE.—William J. Scott, Albany N. Y. 111,981.—HOSE RING.—George Sewell, Brooklyn, N. Y. 111,982.—STEAM ENGINE.—Joel Sharp and Joseph W. Thompson, Salem, Ohio. 111,983.—PUMP.—George F. Shaw and Henry F. Shaw, West Roxbury, Mass. 111,984.—NON-CONDUCTING MATERIAL FOR COVERING STEAM BOILERS, ETC.—Benjamin F. Smith (assignor of one half his right to G. L. Laughland), New Orleans, La. 111,985.—RAILWAY CAR COUPLING.—Marcus B. Smith, Mattoon, Ill. 111,986.—HEEL FOR BOOTS AND SHOES.—Homer S. Smythe Darlington, Wis. 111,987.—HARVESTER.—George H. Spaulding, Rockford, Ill. 111,988.—CONSTRUCTION OF CYLINDER FOR CARDING AND OTHER MACHINES.—Joseph M. Stone North Andover, Mass. 111,989.—CRADLE FOR CHILDREN.—William J. Stowell, Baltimore, Md. Antedated Feb. 20, 1871. 111,990.—COMBINED AUGER AND REAMER.—Owen W. Townsend (assignor to himself and George O. Townsend), Fond du Lac, Wis. 111,991.—SPINNING WHEEL.—Franz Voegtli, Montgomery City, Mo. 111,992.—SEEDER.—Teunis Vreeland, Oneida, Ill. Antedated Feb. 11, 1871. 111,993.—BAILING PRESS.—Edwin R. Wallace, Jonesville, S. C. 111,994.—BREECH-LOADING FIREARMS.—William G. Ward, Edgewater, N. Y. 111,995.—SASH HOLDER.—Wm. M. Warren, Watertown, Conn.

substances, and consists in a combination with the screw and nut for working the follower, of anti-friction balls for reducing the friction. It also consists in a combination with the nut and nut holder of anti-friction balls under an arrangement calculated to relieve the friction of the end thrust.

HEELS FOR BOOTS AND SHOES.—Homer S. Smythe, Darlington, Wis.—This invention relates to improvements in the construction and arrangement of heels for boots and shoes, and consists in making the heels in two parts, one of leather permanently attached, and the other of india rubber or other substance, which may be molded and attaching it by means of a screw bolt passing through a metallic plate or block formed in the detachable part, and screwing into a metal plate bedded in the other part.

METHOD OF ORNAMENTS GOLD, SILVER, OR PLATED WARE.—H. G. Reed, Taunton, Mass.—This invention is an improved process, whereby gold, silver, and plated ware can be beautifully ornamented with chased, engraved, or etched designs, without the use of pitch, or the necessity of finishing or burnishing the articles afterward, and so rapidly and perfectly that work can, by this process, be done in a superior manner for less than one twentieth its cost by the old methods.

MACHINE FOR CUTTING LEATHER.—H. Z. Baker, Pawtucket, R. I.—This invention has for its object the cutting of leather into strips for belting and other purposes, and it consists in a machine in which a pair of parallel rolls is employed, one having a circumferential cutting flange or knife fitting in a circumferential groove in the other.

HORSE HOLDER ATTACHMENT TO CARRIAGES.—G. W. Goodwin, Petersburg, Va.—This invention has for its object to prevent horses from running away with carriages, and consists in the arrangement of a lever, in connection with the carriage wheel and with the reins, whereby it is caused to draw the reins backward when the carriage moves forward.

GATE-OPERATING APPARATUS.—Patrick O'Neill, Murfreesboro, Tenn.—This invention relates to improvements in gate-operating apparatus, and it consists in the application, to the hinged end of the gate, of a projecting arm and friction roller, and in the combination therewith, of a pair of plates hinged together, and connected by chains with an operating lever and cords, all so arranged that on approaching the gate from either side, and pulling the cord, the gate may be raised, unlocked, and swung open by one of the plates acting under the roller, and taking the weight off the hinges upon its oblique side; then, on pulling the same rope again, the other plate similarly acting on the roller, will cause the gate to shut again.

MILL STONE.—J. W. Masury, Brooklyn, N. Y.—This invention relates to improvements in the construction and dress of millstones for grinding paint and other wet substances, which improvements are also applicable to stones for grinding plaster, grain, or other substances.

PLATING AND POLISHING COMPOUND.—M. J. A. Keane, New York City.—This invention relates to a new compound for plating or polishing articles of soft metals, such as spoons, forks, and the like, and consists in a compound made of silver, chemically pure, or chloride of gold, cyanide of potassium, and prepared chalk, or any coloring substance of a similar nature, to hold the other ingredients in a semi-fluid state.

BOLT STRAIGHTENING APPARATUS.—C. E. Hunter, Hinsdale, N. H.—This invention relates to improvements in apparatus to be used in straightening bolts, and it consists in a combination of a shank-holding attachment and clamping and holding devices therefor, with a metal block or "saw," so called, preferably of iron, having grooves of different sizes in or across the face, corresponding in form and size to the heads of the bolts to be straightened, with which the said shank-holding attachment is so arranged that the shank of the bolt may be placed in it, and the head in the groove in the block, and so supported that the bolt may be readily straightened at the juncture of the shank with the head, or the head and shank brought into the same axial line by blows of a hammer delivered on the shank or head.

EXCAVATING MACHINE.—J. M. Hughes and A. J. Mahez, Independence, Mo.—This invention relates to improvements in excavating machines, and consists in a pair of rotary diggers or spaders of peculiar construction located in a vertically adjustable frame, under the fore wheels of a truck, and operated by gearing connected with the said wheels in a manner to spade up the surface of the earth, and throw it upwards and backwards upon a suspended tray or receiver, on which it may be carried away to be discharged by tilting the several boards of the bottom of said tray, which are paneled and provided with tilting apparatus for the purpose.

VEGETABLE CRUSHERS.—Reuben Daniels, Woodstock, Vermont.—This invention relates to improvements in machines for crushing vegetables, apples and other like substances, by passing them between two crushing rollers, and it consists in an arrangement with a scroll hopper applied to the upper and larger roller in such a way, that the apples or other articles are forced, by the action of the roller, from the mouth, through a gradually decreasing space, in which they are flattened preparatory to entering between the rollers of a copper or other metal covering, non-corrosive in cider or vegetable acids, for maintaining a smooth surface, which is necessary to the success of the flattening operation, which is promoted if the surface is rough, owing to the apples sticking thereto.

FISH-HOOK AND LINE HOLDER.—Levi Arnold, Belchertown, Mass.—This invention consists in a metallic connection between the hook and the line, made in one or more pieces, and in fastening the hook and the line, or either of them, to the ends thereof by means of one or more rings sliding on said connection.

FANNING MACHINE.—E. P. Doremus, Washington, La.—This invention relates to a new mechanism for moving fans by means of clock work, and consists in the use of double-jointed levers, which are combined with the escapement wheel of the works to impart oscillating motion to a connecting link and the fan. The invention will be very convenient for working fans in parlors and work-rooms, but can also be used as an appendix to machinery of all kinds.

NEW BOOKS AND PUBLICATIONS.

PRINCIPLES OF MECHANISM.—Designed for the Use of Students in the Universities, and for Engineering Students generally. By Robert Willis, M.A., F.R.S., Jacksonian Professor of Natural Philosophy in the University of Cambridge, Hon. Fellow of the Institution of Civil Engineers, etc., etc. Second Edition. London: Longmans, Green & Co. New York: John Wiley & Son, 15 Astor Place. Price \$6.50.

This is a work the scope of which is so well set forth in its title that we need not dwell upon it in this notice. Those who read it must bring to its perusal a sound knowledge of elementary mathematics. To those possessing such knowledge, the method pursued is one calculated to lead the mind, by easy gradations, into a thorough knowledge of the principles of mechanism. We would not be understood to find fault with the mathematical character of the treatise. A thorough knowledge of mechanics cannot be obtained without mathematics, and it is a pity that such works as this cannot be made more widely useful by more thorough and general mathematical training. The work is a large octavo, well printed and bound, but we are sorry to say, it lacks an index, an omission which is poorly supplied by its table of contents.

Inventions Patented in England by Americans.

- 251.—SEWING MACHINE.—W. A. Mack, Norwalk, Ohio, and James Blake, Scranton, Pa. January 31, 1871. 261.—VAPOR ENGINE.—J. A. H. Ellis, Springfield, Vt. January 31, 1871. 262.—FILING AND SHARPENING SAWS.—Wm. Tucker and Prince Snell, Fiskdale, Mass. January 31, 1871. 293.—MACHINE FOR CUTTING CLOTH AND OTHER MATERIALS.—A. Warth, of Stapleton, and W. F. Jobbins, New York City, both in N. Y. 294.—ELECTRIC MOTOR FOR RAILWAY CARRIAGES.—Solomon Jones, of New Orleans, La., William H. Smith, Raudolph, Ala., and J. H. Weaver, New Orleans, La. February 2, 1871. 296.—MATTRESS AND LIFE PRESERVER COMBINED.—J. W. Wotton, New York City. February 3, 1871.