

Full Files of this Paper

Can be found in New York, at the office of Geo. P. Rowell & Co., Advertising Agents, No. 40 Park Row.

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, \$4 00 a year. Advertisements 7c. a line.

A Book of Simple Rules and Formulæ, for the Solution of all Problems in the Application of Steam. By J. M. Derby, Professor at the Ecole Centrale, Brussels. By mail, \$1. A. W. Macdonald, 29 Beekman st., New York.

\$3.—The Celebrated Craig Microscope and two mounted Entomological objects sent prepaid for \$3. This is an instrument of great power, magnifying 10,000 times, and is the cheapest microscope extant. Over 60,000 sold during the past five years. Theo. Tusch, 37 Park Row, N. Y.

Capital wanted to manufacture licensed shuttle Sewing Machines. Address "Inventor," care of S. M. Pettengill & Co, 37 Park Row, N. Y.

A Chemist, Analytical and Manufacturing, of many years' experience in the largest chemical factories in Germany and in this country, wants an engagement. Best references given. P. O. Box 172, Hoboken, N. J.

Cotton Wadding Machinery.—To Manufacturers.—Wanted, a first-class set of Sizing Machinery, with latest improvements. Address Ross & Walker, Box 773, New York.

Wanted.—A new or second-hand Band or Scroll Saw Machine, to split or re-saw boards, from 6 to 12 inches wide. Address, with prices, F. K. Smith, Bennington, Vt.

Wanted.—Partner to take an interest in an established Foundry, Engine and Machine Shop, in the West. Prefer practical mechanic to take charge. Address S. L. McHenry, 355 Liberty st., Pittsburgh, Pa.

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

Grindstones made by Machinery. J. E. Mitchell, Philadelphia.

Grindstones ready for use. J. E. Mitchell, Philadelphia.

Steel Castings, of the best quality, made from patterns, at Union Steel and Iron Works, Rhinebeck, N. Y.

Wanted.—Second-hand Index Milling Machine, in good order. A. N. Darling, Brooklyn Watch Case Factory, 42 State st.

Ashcroft's Low Water Detector. \$15; former price, \$30. Thousands in use. E. H. Ashcroft, sole proprietor of the patent, Boston, Mass. See how cheap Thomas sells Lathes and Drills, in another column.

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

Japanese Paper-ware Spittoons, Wash Basins, Bowls, Pails, Milk Pans, Slop Jars, Compoide Pails, Trays. Perfectly water-proof. Will not break or rust. Send for circulars. Jennings Brothers, 332 Pearl st., N. Y.

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 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.

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

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

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

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

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

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

Machinery for two 500-tun propellers, 60-Horse Locomotive Boiler, nearly new, for sale by Wm. D. Andrews & Bro., 414 Water st., N. Y.

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.

To Cure a Cough, Cold, or Sore Throat, use Brown's Bronchial Troches.

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.

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

Building Felt (no tar) for inside and out. C. J. Fay, Camden, N. J.

Patent Elliptic-gear 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.

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

Crampton'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.

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

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.

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.

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

"Edson's Recording Steam Gage and Alarm," 91 Liberty st., New York. Illustrated in SCIENTIFIC AMERICAN, January 14, 1871.

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

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

E. Howard & Co., 15 Maiden Lane, New York, and 114 Tremont st., Boston, make the best Stem-winding Watch in the country. Ask for it at all the dealers.

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 \$4 00 a year

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

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.—REMOVING INCRUSTATION BY THE USE OF POTATOES.—A correspondent says that potatoes are a good solvent for mud and scale in steam boilers, but gives no data for use. I would like to know in what quantity? and how long after putting in before the boiler should be blown off, etc.?—H. A. H.

2.—REMOVING CHIMNEY STAINS.—How can I remove the stain and smell of creosote, caused by the condensed empyreumatic oil which has trickled down and soaked into the plaster wall below the stove-pipe hole in a chimney?

3.—JAPANNING CAST IRON.—How can I japan cast iron so that it will have the color of russet leather?

4.—PAPER PERCUSSION CAPS.—How are paper percussion caps made, and what is the fulminating material used therein?—F. F. F.

5.—SAWS AND SAW STEEL.—Is saw steel welded up after rolling, or is it welded up in large pieces and afterwards rolled? Are hand-saw blades cut from sheets, heel and point alternately? and what is the reason that such saws are often thicker at the point than at the heel?—A. R. S.

6.—RESTORING THE COLOR TO GOLD AFTER SOLDERING.—How is the color of gold restored after hard soldering?—R. K.

7.—SHOE BLACKING.—I wish a good recipe for a varnish or blacking for boots and shoes.—W. H. P.

Recent American and Foreign Patents.

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

CORN DROPPER.—J. H. Gross, Niantic, Ill.—This invention relates to improvements in corn dropping and check marking machines, and consists in the application to a pair of runners of a pair of star wheels, a dropping slide, and a check marking device, whereby the star wheels derive the rotary motion by the points coming in contact with the ground as the runners are drawn along and actuate the dropping slide and the marker, the whole arrangement being very simple, cheap, and efficient.

MILL-STONE BALANCE.—John Waich, Galena, Ill.—This invention relates to improvements in balancing apparatus for mill stones, and consists in a frame made in two parts, having lugs for attachment to the upper and lower edges of the hoop of the mill stone, and clamping bolts, connecting them together and clamping them on the hoop; on which frames are arranged a pair of weights to be adjusted to or from the plane of the point of suspension of the stone. Three of these frames are to be attached to the hoop, and adjusted.

GATES.—L. W. Sebley, Ames, Iowa.—This invention relates to improvements in gates, and consists in an improved arrangement of means for opening and closing the gate by the action of the wheels of a vehicle coming in contact with levers at the side of the gate.

PUMP.—G. H. Laub, West Lebanon, Ind.—This invention relates to an improved manner of attaching metal barrels, for the valves to work in, to wooden pipes, for detaching and removing the barrels when required for cleaning or repairs.

BARK MILL.—G. E. Palen and F. P. Avery, Tunkhannock, Pa.—The object of this invention is to improve the machines for grinding bark in such manner that they can be adjusted to any extent, readily repaired, and perfect in their operation.

GANG PLOW.—J. R. McConnell, Marengo, Iowa.—This invention has for its object to furnish an improved gang plow, which shall be so constructed and arranged that it may be conveniently adjusted to work at any desired depth, or to cut a narrower or wider furrow, as may be desired.

TREATMENT OF FRUIT TREES.—William J. Everett, Mahony City, Pa.—This invention relates to a new and useful improvement in the treatment of fruit and other trees, for preserving them from the ravages of worms, grubs, and insects.

BEE HIVE.—David H. Swartz, Lancaster, Ohio.—This invention has for its object to furnish an improved beehive, which shall be so constructed as to protect the bees from moths and ants, and which shall at the same time be simple in construction, and will enable the bees to be conveniently controlled.

MILL-STONE DRIVER.—John J. Tomlinson, Bazeman City, Montana.—This invention relates to a new and useful improvement in drivers for mill stones, by means of which the running stone adjusts itself to the bed-stone, and to the resistance when the latter is out of level, or when the spindle is out of "tram," or varies from a line perpendicular with the face of the bed.

TRAY HOLDER.—Obed Fahnestock, Indianapolis, Ind.—This invention relates to a new and improved holder for trays, by which to carry them on one arm; and it consists in a plate provided with handles for supporting and carrying it on the arm, on which plate suitable holding devices are placed at the top to hold the tray.

BELT TIGHTENER.—G. W. Runk, Franklin, La.—This invention relates to a new apparatus for clamping belts while the same are on the pulleys, and for stretching the same so that they may be tightened.

WATER COOLER.—Abel Putnam, Jr., Saratoga Springs, N. Y.—This invention relates to a water cooler having two separate compartments, one to contain water and the other ice, the annular water space being exterior to the ice compartment, and each chamber having an opening of its own.

CAST-IRON BARREL.—Abel Putnam, Jr., Saratoga Springs, N. Y.—This invention consists of a cast-iron barrel, provided with a porcelain lining, and one solid and one detachable head.

HOUSEHOLD IMPLEMENT.—E. H. Schmults and Jacob Baker, New York city.—This invention relates to a new instrument which can be used for picking and breaking ice, opening all kinds of bottles, and lifting kettles, stove plates, etc.

GATE.—W. G. Franklin, Shelbina, Mo.—This invention has for its object to furnish an improved gate, which shall be so constructed and arranged, that, when opened, its forward end may swing up from the ground, to pass over snow or other obstructions, and which shall be simple in construction and inexpensive in manufacture.

PORTABLE ESCRITOR.—W. G. Mitchell, Holliston, Mass.—This invention has for its object to furnish a simple, convenient, and inexpensive escrutor, which shall be so constructed and arranged that, when opened up for use, it may serve as a smooth and firm writing table, and when closed for transportation, may be folded up into small compass, and at the same time serve as a receptacle for paper, pens, inkstand, stamp box, etc.

NEW BOOKS AND PUBLICATIONS.

THE PHOTOGRAPHER'S FRIEND. An Illustrated Quarterly Magazine, devoted to the Photographic Art. Published at 103 West Baltimore Street, Baltimore, Md. G. O. Brown, Editor.

We have received the first number of this magazine, and find in it a great deal of matter, of value to persons interested in photography. Under the caption of "The Great Quartette," are given the formulas and methods of working of four of the most distinguished photographers of this country Messrs. Sarony, Kurtz, Gurney, and Fredricks. This is certainly information worth having, and it is greatly to the credit of the gentlemen named that they have been willing to give the trade the benefit of their large experience. Accompanying the first number is a fine photograph of Mrs. Scott Siddons, by Sarony, which, in the management of drapery and control of light, could not easily be excelled. Photography under such treatment ceases to be a trade, and is elevated to the dignity of an art. No one but a first-class artist which could produce such a picture. There is a little over-exposure in the editorial management of the journal that needs toning down in the printing, but all this will improve with time and experience.

THE KIDNEY. This pamphlet of 44 pages treats practically of the structure, functions and diseases of the kidney, Bright's disease, and the urine, its constituents chemical tests for the various diseases, their symptoms, and treatment, adapted to popular comprehension. By Edward H. Dixon, M. D. J. S. Redfield, Publisher, No. 140 Fulton street. Price, 25 cents.

Official List of Patents.

ISSUED BY THE U. S. PATENT OFFICE.

FOR THE WEEK ENDING JAN. 24, 1871.

Reported Officially for the Scientific American.

SCHEDULE OF PATENT FEES
On each Caveat \$10
On each Trade-Mark \$15
On filing each application for a Patent (seventeen years) \$15
On issuing each original Patent \$20
On appeal to Examiners-in-Chief \$10
On appeal to Commissioner of Patents \$20
On application for Reissue \$50
On application for Extension of Patent \$50
On granting the Extension \$50
On filing a Disclaimer \$10
On an application for Design (three and a half years) \$10
On an application for Design (seven years) \$15
On an application for Design (fourteen years) \$20

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 Claim covers, from upward, but usually at the price above named \$1
The full Specification of any patent issued since Nov. 20, 1866, at which time the Patent Office commenced printing them \$1.25
Official Copies of Drawings of any patent issued since 1836, we can supply at a reasonable cost, the price depending upon the amount of labor involved and the number of sheets.
Full information, as to price of drawings, in each case, may be had by addressing

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

- 111,102.—CHARGER FOR SHOT POUCHES.—Thomas W. Allen, Waterbury, Conn.
111,103.—CHILDREN'S CARRIAGE.—Rodney C. Britton, Springfield, Vt.
111,104.—BAGGAGE TRUCK.—William Hammond Brown, Bangor, Me.
111,105.—AUTOMATIC LUBRICATING CUP.—James A. Bryan and William Stainfield, Kent, Ohio.
111,106.—PRUNING SHEARS.—John Calder, Macedon, N. Y.
111,107.—BEE HIVE.—Albert Claypool, Weston, Ohio.
111,108.—PARLOR BEDSTEAD.—Francis E. Coffin, Boston, Mass.
111,109.—SLEIGH BRAKE.—Eustace J. Cooper, Mineral Point, Wis.
111,110.—STEAM LUBRICATOR.—Daniel Currie, Belleville, Ill.
111,111.—TYPE-CASTING MACHINE.—William Wallace Dunn, San Francisco, Cal.
111,112.—GOVERNOR FOR ELECTRO MOTORS.—Thomas A. Edison, Newark, N. J., assignor to himself, Elisha W. Andrews, George B. Field, and Marshall Lefferts, New York city.
111,113.—MACHINE FOR CUTTING PAPER COLLARS.—Alfred L. Elliot, Boston, assignor to himself and Edwin A. Eaton, Winchester, Mass.
111,114.—FLUX FOR WELDING STEEL OF HIGH AND LOW GRADES.—John Farrell, New York city.
111,115.—TRUSS.—Alexander Colleau, San Francisco, Cal. Antedated January 13, 1871.
111,116.—STEAM-BOILER FEEDER.—Lucas Foote, North Fairfield, Ohio.
111,117.—BURIAL CASE.—Patrick H. Griffin, Albany, N. Y. Antedated January 7, 1871.
111,118.—THRILL COUPLING.—Collins W. Griffith, Cincinnati, Ohio, assignor to himself and Charles H. Mackintosh, Strathroy, Canada.
111,119.—BACK-PAD PRESS.—Edwin W. Harlow, Hastings Mich.
111,120.—PUMP.—Patrick Harvey, Chicago, Ill.
111,121.—EVAPORATOR.—Richard Hawley, Jr., Detroit, Mich.
111,122.—FEED-TROUGH GUARD.—Edwin Hovenden, Bushnell, Ill.
111,123.—RAILWAY-CAR COUPLING.—Lewis Huddle and Jacob K. Huddle, Tiffin, Ohio.
111,124.—GATE.—Robert Henry Hudgin, Fairfield, Canada.
111,125.—HARROW AND CULTIVATOR.—James F. Jaquess, Commerce, Miss.
111,126.—ASH SCREEN.—Edward C. Jenkins, Jr., Worcester, Mass.
111,127.—CAR SPRING.—James Leland, Springfield, Mass.
111,128.—METHOD OF SECURING JOINTS OF FRAMES, ETC.—Charles F. Linscott (assignor to Edward S. Torrey and Joseph Torrey) New York city.
111,129.—SEWING MACHINE.—T. A. Macaulay, New York city.
111,130.—GATHERING ATTACHMENT FOR SEWING MACHINES.—William A. Mack, Norwalk, Ohio.
111,131.—SAWING MACHINE.—James D. Matthews, Niles, Mich.
111,132.—GRAIN DRILL.—Daniel E. McSherry, Dayton, Ohio.
111,133.—COMPOUND FOR PRESERVING DRAIN TILES, BRICKS, ETC.—Edward Milner, Marquette, Mich., assignor to Charles H. Mackintosh, Strathroy, Canada.
111,134.—METER.—Charles Moore (assignor to José F. DeNavarro), New York city.
111,135.—CHAIR CLAMP FOR RAILWAY RAILS.—Wm. Morehouse, Buffalo, N. Y.
111,136.—MACHINE FOR UPSETTING IRON.—Martin L. Munger and Corodon D. W. Gibson, Grand Blanc, Mich.
111,137.—BOOT STRETCHER.—Isaac M. Myers, San Francisco, Cal.
111,138.—HAY RACK.—Franz Louis Nagler, Irving Township, Mich.
111,139.—CORN SHELLER.—Franklin Nelson (assignor to himself and Joseph Masett), Wyandotte, Mich.
111,140.—CLAMP FOR CARRIAGE SEATS.—Henry J. Northrup, Lansingburg, N. Y.
111,141.—MACHINE FOR PRESSING FABRICS.—George H. Nussey and William B. Leachman, Leeds, England.
111,142.—OBTAINING Madder Extracts.—Alfred Paraf (assignor to Edward S. Renwick, trustee), New York city. Antedated December 29, 1870.
111,143.—WATER METER.—Webster Park, Norwich, Conn.
111,144.—ANCHOR.—Gurney C. Pattison, Baltimore, Md.
111,145.—ANCHOR.—Gurney C. Pattison, Baltimore, Md.
111,146.—TUBE EXTRACTOR.—Isaac S. Peters, Marshall, Mich.
111,147.—MACHINE FOR GRINDING HAND SAWS.—Edwin S. Piper, Rochester, N. Y.

111,148.—COMPOSITION FOR COATING WOODEN STRUCTURES, TO PROTECT THEM AGAINST FIRE.—Anthony Pirz (assignor to himself and Henry Torstrik), Long Island City, N. Y. Antedated January 7, 1871.

111,149.—TOY CARRIAGE.—Frederick W. Porter, Springfield, Vt.

111,150.—HORSE HAY RAKE.—Samuel Rockafellow, Moline, Ill.

111,151.—ASPHALTIC PAVEMENT.—Samuel R. Scharf, Baltimore, Md., assignor to himself and Hugh M. Funston, New York city.

111,152.—COUPLING FOR SHAFTINGS.—Scott A. Smith (assignor to Cresson & Smith), Philadelphia, Pa.

111,153.—SIZING MACHINE.—Albert H. Sturgis (assignor to himself and Joseph A. Pierce), Lewiston, Me.

111,154.—FURNACE FOR STEAM BOILERS.—Morse K. Taylor, United States Army.

111,155.—MANURE RAKE ATTACHMENT FOR PLOWS.—Marinus Van Duine and Jan De Jonge, Zealand, Mich.

111,156.—COFFER DAM.—John E. Walsh, New York city.

111,157.—COFFER DAM.—John E. Walsh, New York city.

111,158.—PLOW COLTER.—Seth Way, La Porte, Ind.

111,159.—STEAM GENERATOR.—Samuel West (assignor to Elmwood Mining and Manufacturing Company), Elmwood, Ill.

111,160.—SERVING REEL.—Joseph Henry Westcott, Medford, Mass.

111,161.—MOP HEADS.—Henry H. Wetmore, Barre, Vt. Antedated January 12, 1871.

111,162.—WINDOW PROTECTOR.—William K. Winant, Rye, N. Y., assignor to himself, William Wilnot-Kissam, and Emily Winant.

111,163.—GRAIN DRIER.—Levi Abbott, Lewiston, Me., and Joseph A. Sherburne, Boston, assignors to themselves and Earl W. Johnson, Boston, Mass.

111,164.—SAW.—Emanuel Andrews, Williamsport, Pa.

111,165.—EARTH SCRAPER.—Asher S. Babbit (assignor to Babbit, Hinckley & Co.), Keeseville, N. Y. Antedated January 14, 1871.

111,166.—CONCRETE FOR PIPES, TUBES, BUILDINGS, ETC.—Thomas J. Barron, Brooklyn, E. D., N. Y.

111,167.—HOLLOW AUGER.—Aaron Bauman and Orin O. Withereff, Toledo, Ohio.

111,168.—ATMOSPHERIC PRESSURE ATTACHMENT FOR DENTAL PLATES.—John B. Beers, San Francisco, Cal.

111,169.—LIQUID COMPASS.—John Bliss and George H. Bliss, Brooklyn, N. Y.

111,170.—CAR COUPLING.—Joseph Boothroyd, Michigan City, Ind.

111,171.—COAL BOX.—Timothy S. Bozart, Jr., Indianapolis, Ind.

111,172.—RAILWAY-CAR TRUCK.—Louis D. Boyce and George H. Jones, Rochester, N. Y.

111,173.—COLLAPSE CORES.—Anthony T. Brodie and Robert R. Smith, Pittsburgh, Pa.

111,174.—GAS GENERATOR.—John Butler, New York city.

111,175.—APPARATUS FOR CARBURETING AIR.—Henry Albert Chapin, New York city.

111,176.—SCOURING, WASHING, AND WRINGING MACHINE.—William H. Churchman, Indianapolis, Ind.

111,177.—DIE FOR MAKING FELY PLATES.—Allison N. Clark, Plainville, Conn.

111,178.—HAT.—James W. Corey, Newark, N. J.

111,179.—FLUID METER.—Robert Creuzhaur, Williamsburg, Va.

111,180.—VARIABLE CUT-OFF FOR STEAM ENGINES.—William B. Cross, Sacramento, Cal.

111,181.—SPOKE-TENONING MACHINE.—Godfrey E. Culp and Matthew Flag, Lockhaven, Pa.

111,182.—FURNACE FOR BURNING SMALL COAL, OR CLUM.—Alfred Dart, Carbondale, Pa.

111,183.—WINE PRESS.—George L. Davenport and Charles G. Case, Davenport, Iowa.

111,184.—REMOVABLE CAR-SEAT BACKS.—Peter F. Duchemin, Somerville, Mass.

111,185.—TREATING FRUIT TREES TO PREVENT THE RAVAGES OF INSECTS, ETC.—Samuel J. Everett, Mahoney City, Cal.

111,186.—TRAY HOLDER.—Obed Fahnestock, Indianapolis, Ind.

111,187.—PIPE COUPLING.—John P. Fink, Mechanicsville, Pa.

111,188.—HO STING APPARATUS.—Henry Flad and J. B. Eads, St. Louis, Mo.

111,189.—WATER CLOSET.—Charles Frankish, Chicago, Ill. Antedated January 14, 1871.

111,190.—GATE.—W. G. Franklin, Shelbina, Mo.

111,191.—STEAM BOILER.—John L. Frishie (assignor to M. T. Davidson), Brooklyn, N. Y.

111,192.—STEAM RADIATOR.—John L. Frishie (assignor to M. T. Davidson), Brooklyn, N. Y.

111,193.—CASTER.—F. A. Gardner, Danbury, Conn.

111,194.—PEN HOLDER.—Alfred M. George, Sand Fly, Texas.

111,195.—MEDICAL COMPOUND FOR THE CURE OF RHEUMATISM.—Rebecca Gilkinson, New York city.

111,196.—SPRING-CATCH FOR DOORS.—William Glue, Muskegon, Mich. Antedated January 14, 1871.

111,197.—MACHINE FOR SEWING BOOTS AND SHOES.—Chas. Goodyear, Jr., New Rochelle, N. Y.

111,198.—COMPOUND FOR REMOVAL OF SCALE FROM STEAM BOILERS.—Wm. T. Grant, Neelyville, Ill.

111,199.—BASTER-GUIDE FOR SEWING MACHINES.—Franklin T. Grimes, Liberty, Mo.

111,200.—CORN DROPPER.—Jacob H. Gross, Niantic, Ill.

111,201.—GATE.—John K. Harris, Springfield, Ohio.

111,202.—HAND CORN PLANTER.—James M. Harrison, Spartanburg, Ind.

111,203.—BEER COOLER.—Carl W. Haug (assignor to himself and Henry Bunz), New York city.

111,204.—BEEHIVE.—Henry L. Heckman, Brooklyn, Iowa.

111,205.—COCK.—Wm. H. Hedges and M. E. Campfield, Newark, N. J.

111,206.—MACHINE FOR CUTTING AND DRESSING STONE.—Jacob Hedrick, William Tash, and Henry Kreidler, York, Pa.

111,207.—BOX OPENER.—Thomas B. Henkle, Knightstown, Ind.

111,208.—VEGETABLE CUTTER.—David W. Hersey, Pembroke, Me.

111,209.—FOLDING CHAIR.—Francis March Holmes, Boston, Mass.

111,210.—BRICK MACHINE.—Erwin C. Hubbard, Green Bay, Wis.

111,211.—RAILWAY CAR WHEEL.—Lewis B. Hunt, New York city.

111,212.—OPERATING CUTTER FOR STEAM PLOWS.—Oliver Hyde, Oakland, Cal.

111,213.—ELASTIC TIRE FOR TRACTION ENGINES.—Oliver Hyde, Oakland, Cal.

111,214.—MANUFACTURE OF LEATHER.—S. B. Jenks and F. A. Holcomb, Grand Rapids, Mich.

111,215.—COMBINED FEED-WATER HEATER AND CIRCULATOR.—E. L. Jones, Memphis, Tenn.

111,216.—DIE FOR ORNAMENTS SHEET METAL.—Charles Kaufman, Oconomowoc, Wis.

111,217.—POTATO PLANTER.—Hiram J. Kent, Palmyra, N. Y.

111,218.—DEVICE FOR BENDING WOOD.—Edward Lacey, Chicago, Ill.

111,219.—PUMP.—G. H. Laub, West Lebanon, Ind.

111,220.—TOOL FOR CUTTING OFF PIPES IN OIL WELLS.—J. H. Luther, Petroleum Centre, Pa.

111,221.—TOOL FOR CUTTING OFF AUGER STEMS IN OIL WELLS.—James H. Luther, Petroleum Centre, Pa.

111,222.—EMBALMING.—Benjamin F. Lyford, San Francisco, Cal.

111,223.—GRATE BAR.—Joseph T. Marshall, Wilmington, Del.

111,224.—CAR COUPLING.—John Mayben, Milroy, Pa.

111,225.—STOVE-PIPE SHELF.—James McCallum (assignor of one third of his right to H. E. Gillam), Rochester, N. Y.

111,226.—GANG PLOW.—John R. McConnell, Marengo, Iowa. Antedated January 18, 1871.

111,227.—PUMP.—John H. McGowan, Cincinnati, Ohio.

111,228.—COMBINED GANG PLOW AND CULTIVATOR.—J. A. Medaris, Sullivan, Ind.

111,229.—BRACE FOR CARRIAGE AND OTHER SPRINGS.—L. C. Miller, Humphrey, N. Y.

111,230.—FOLDING DESK.—John Milwain, Nashville, Tenn.

111,231.—PORTABLE ESCRITOIR.—W. G. Mitchell, Holliston, Mass.

111,232.—BUGGY SEAT.—E. T. Mithoff and J. W. Dann, Columbus, Ohio.

111,233.—FLUID METER.—Charles Moore (assignor to William Tobin), New York city.

111,234.—LIQUID METER.—Charles Moore (assignor to William Tobin), New York city.

111,235.—MEASURING ATTACHMENT FOR PACKAGED FABRICS.—Edward Morgan, Washington, D. C. assignor of two thirds of his right to J. F. McKee, Fort Smith, Arkansas, and Charles Fair, Philadelphia, Pa.

111,236.—BODY LININGS FOR LADIES' DRESSES.—Schamu Moschowitz, New York city.

111,237.—LAMP.—Rufus Nutting, Randolph, Vt.

111,238.—GATE.—Patrick O'Neill, Mooresborough, Tenn.

111,239.—BARK MILL.—G. E. Palen and F. P. Avery, Tunkhannock, Pa.

111,240.—SPADE.—Harrison Parkman, Philadelphia, Pa.

111,241.—STOP VALVE.—John Paterson, Troy, N. Y.

111,242.—STOP VALVE.—John Paterson, Troy, N. Y.

111,243.—DRAWER PULL.—C. H. Pierpont (assignor to himself and F. J. Clark), West Meriden, Conn.

111,244.—PLOW.—Joseph Pinkham, New Market, N. H.

111,245.—BOOT CRIMPER.—William Polsgrove, St. Thomas, Pa.

111,246.—CONNECTOR FOR TELEGRAPH WIRES.—G. B. Prescott, New York city.

111,247.—PLOW.—J. P. Pritchard, Conn Valley, Cal. Antedated Jan. 14, 1871.

111,248.—MACHINE FOR CUTTING SCREW THREADS ON BOLTS.—J. W. Putnam, Jr., Fitchburg, Mass.

111,249.—STAIR ROD FASTENING.—Emil Rath (assignor to Moritz Knick), New York city.

111,250.—CULTIVATOR.—W. B. Read, Gallatin, Tenn.

111,251.—MACHINERY FOR TRANSMITTING AND DISTRIBUTING MOTIVE POWER.—James Richmond, Lockport, N. Y.

111,252.—HAY LOADER.—J. P. Rideout, Bowdoinham, Me.

111,253.—SETTING STONES, ETC.—William Riker, Newark, N. J.

111,254.—CARD FOR MARINERS' LIQUID COMPASSES.—E. S. Ritchie, Brookline, Mass.

111,255.—CATTLE STANCHION.—J. A. Rosback, Hermon, N. Y. Antedated Jan. 15, 1871.

111,256.—CULTIVATOR.—H. M. Rose, Clinton, Ill.

111,257.—BELT TIGHTENER.—G. W. Runk, Franklin, La. Antedated Jan. 14, 1871.

111,258.—MOWING MACHINE.—G. T. Savary, deceased (N. J. Savary, administrator, assignor to J. N. Pike), Newburyport, Mass.

111,259.—LATH MACHINE.—Chas. Schleicher, Louisville, Ky.

111,260.—ICE PICK AND HOOK.—E. H. Schmultz and Jacob Baker, New York city.

111,261.—RAILWAY SWITCH AND SIGNAL APPARATUS.—Adolph Schobel and Theodore Henning, Bruchsal, Grand Duchy of Baden.

111,262.—LIQUID METER.—H. C. Sergeant, Newark, N. J., assignor to J. F. De Navarro, New York city.

111,263.—BURIAL CASE.—F. B. Shearer, Columbus, Ohio.

111,264.—APPARATUS AND PROCESS FOR CANNING AND PRESERVING MEATS, FRUITS, VEGETABLES, ETC.—N. H. Shipley, Baltimore, Md.

111,265.—ROCK DRILL.—Henry Shoemaker and John Shoemaker, Putneyville, Pa.

111,266.—GATE.—L. W. Sibley, Ames, Iowa.

111,267.—PLASTER FOR WALLS.—B. R. Smith and J. C. Harris, Philadelphia, Pa.

111,268.—LIQUID METER.—W. E. Snediker (assignor to J. F. De Navarro), New York city.

111,269.—STEEL GLASS CUTTER AND KNIFE.—Thelesphore Spénard, Coatcooke, Canada.

111,270.—BOLSTER AND PILLOW.—Timothy S. Sperry, Chicago, Ill.

111,271.—BURIAL CASKET HANDLE.—Clark Strong, Winsted, Conn.

111,272.—HARVESTER.—Henry Stuckey (assignor to A. C. Stock), Bucyrus, Ohio.

111,273.—BEE HIVE.—David H. Swartz, Lancaster, Ohio.

111,274.—LAMP BURNER.—Alvin Taplin, Forestville, assignor to the Bristol Brass and Clock Company, Bristol, Conn.

111,275.—SHUTTLE FOR SEWING MACHINE.—E. C. Thaxter, Providence, R. I.

111,276.—SEWING-MACHINE MOTOR.—William C. Thornton and James D. Cooley, Hillsville, Va.

111,277.—MILLSTONE DRIVER.—John J. Tomlinson, Bozeman City, Montana Territory.

111,278.—LOOM.—Hamilton E. Towle, Newark, N. J.

111,279.—REIN SUPPORTER.—Ross Townsend, Liberty township, Ohio.

111,280.—ICE MACHINE.—David K. Tuttle and Orazio Lugo, Baltimore, Md. Antedated January 7, 1871.

111,281.—SALT CELLAR.—John T. Walker, Brooklyn, N. Y.

111,282.—MILLSTONE BALANCES.—John Walsh, Galena, Ill.

111,283.—BEE HIVE.—William Wambach, Indianapolis, Ind.

111,284.—NUTMEG GRATER.—Dewitt C. Warner, Chicago, Ill.

111,285.—ELEVATOR.—John Jacob Weber, St. Clair, Pa.

111,286.—LUBRICATOR FOR RAILWAY-CAR AXLES.—Isaac P. Wendell (assignor of one half his right to S. P. M. Tasker), Philadelphia, Pa.

111,287.—LUBRICATOR FOR RAILWAY-CAR AXLE-BOXES.—Isaac P. Wendell (assignor of one half his right to Stephen P. M. Tasker), Philadelphia, Pa.

111,288.—GAS-GENERATING AND BLAST-HEATING APPARATUS FOR METALLURGIC AND OTHER PURPOSES.—James D. Wheelpley and J. J. Storer, Boston, Mass.

111,289.—BEE HIVE.—Asbury Wilkinson, Greensburg, assignor to himself and William T. Gibson, Indianapolis, Ind.

111,290.—FLOOR-BOLTING REEL.—Allison L. Williams, Orth, Ind.

111,291.—ROACH AND BUG TRAP.—Thomas Williams, Tompkinsville, N. Y.

111,292.—APPARATUS FOR MAKING ICE AND COOLING.—Franz Windhausen, Brunswick, Germany, assignor to Louis Schneider, C. T. Buddecke, and John A. Blaffer, of New Orleans, La.

111,293.—ICE MACHINE.—Franz Windhausen, Brunswick, Germany, assignor to Louis Schneider, C. T. Buddecke, and John A. Blaffer, of New Orleans, La.

111,294.—CAR STARTER.—Finley J. Wright and Livingston W. Wandell, New York city. Antedated January 21, 1871.

111,295.—PAINT FOR SHIP'S BOTTOMS.—Isaac J. Wyman, New York city.

REISSUES.

4,237.—CONSTRUCTION OF ELECTRO-MAGNETS.—Henry M. Paine, Newark, N. J., assignor by mesne assignments to the Paine Electro-Magnetic Engine Company.—Patent No. 103,231, dated May 17, 1870.

4,238.—RAILWAY CAR TRUCK.—William Petit, Philadelphia, Pa.—Patent No. 38,980, dated June 23, 1863.

4,239.—COMPOUND TO INCREASE THE FRICTION BETWEEN BELTS AND PULLEYS.—Louis F. Robertson, New York city.—Patent No. 104,356, dated June 14, 1870.

4,240.—PASSENGER FARE BOX.—John B. Slawson, New York city.—Patent No. 17,899, dated July 28, 1857; reissue No. 530, dated May 4, 1868.

4,241.—RAILROAD-CAR SEAT AND COUCH.—Theodore T. Woodruff, Philadelphia, Pa.—Patent No. 16,159, dated December 2, 1856; reissue No. 1,439, dated March 17, 1868; extended seven years.

DESIGNS.

4,588.—HEATING STOVE.—Nicholas Brayer (assignor to "Equitable Co-operative Foundry Company"), Rochester, N. Y.

4,589 to 4,601.—CARPET PATTERN.—Jonathan Crabtree (assignor to Leedom, Shaw & Stewart), Philadelphia, Pa. Thirteen Patents 4,602 and 4,603.—BOX FOR TOPS OF BUREAUS.—Daniel A. Hall and David Garri on (assignors to Swan & Clark), Philadelphia, Pa. Two Patents.

4,604.—SEWING-MACHINE STAND.—Henry Loth, Philadelphia, Pa.

4,605.—FRAME OF SCHOOL DESKS.—Albert E. Roberts, Des Moines, Iowa.

4,606 to 4,609.—BOX FOR THE TOPS OF BUREAUS.—Baxter C. Swan, Philadelphia, Pa. Four Patents.

4,610.—BED QUILT.—Francis C. Van Horn, Camden, N. J.

4,611.—COOKING STOVE.—Nicholas S. Vedder and Francis Ritchie, Troy assignors to Russell Wheeler, Utica, N. Y.

4,612.—FENCE CAP.—George W. Young, St. Louis, Mo.

TRADE MARKS.

143.—AVERILL CHEMICAL PAINT.—Averill Chemical Paint Company, New York city.

144.—CORN PLANTER.—James Selby & Co., Peoria, Ill.

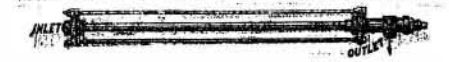
145.—LUBRICATING OIL.—Warfield & Co., Rochester, N. Y.

Advertisements.

The value of the SCIENTIFIC AMERICAN as an advertising medium cannot be over-estimated. Its circulation is ten times greater than that of any similar journal now published. It goes into all the States and Territories, and is read in all the principal libraries and reading-rooms of the world. We invite the attention of those who wish to make their business known to the advertised rates. A business man wants something more than to see his advertisement in a printed newspaper. He wants circulation. If it is worth 25 cents per line to advertise in a paper of three thousand circulation, it is worth \$2.50 per line to advertise in one of thirty thousand.

RATES OF ADVERTISING.

Back Page 1.00 a line,
Inside Page 75 cents a line,
for each insertion.
Engravings may head advertisements at the same rate per line, by measurement, as the letter-press.



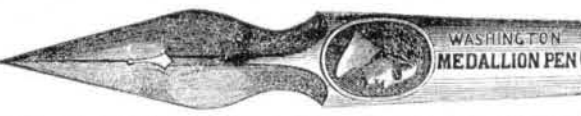
S. BONSER'S PATENT STEAM TRAP
Is warranted to be the best in the United States. Every one of Bonser's Steam Traps warranted to give perfect satisfaction. They are very easy to repair, and warranted not to freeze in the coldest place. State Rights for sale on reasonable terms, or the entire patent right to be sold.
SAMUEL BONSER, Dover, N. H.

WANTED.—To sell Rights, or to arrange with responsible parties to manufacture on royalty the **CLIMAX PLOW**, the best combined gang-plow and cultivator in America. Patented Dec. 24, 1870. For circular and terms apply, with particulars, to **THOMAS PRIPPLER**, Hightstown, N. J.

MODELS FOR PATENTS, and Certified Duplicates for patented or rejected Models for Courts or other purposes, built to order by **E. D. CLAPP & CO.**, No. 509 7th st., Washington, D. C.

THE BEST PENS

Ever yet made—only \$1.50 a gross. Two dozen samples sent by mail, postpaid, on receipt of 25 cents. Address **W. M. PEN CO.**, 11 College Place, New York.



DECALOMANIE PICTURES.
Get a list. We mail free, for \$2, a new book of 300 illustrated designs for church windows; 20 for carriages; 25 Monograms, and 100 different Alphabets, A to Z, for painters' use. 92 pages. Warranted to satisfy, or cash refunded. **W. ATKINSON & CO.**, 1270 Broadway, N. Y.

How to Read Character at a Glance. STUDY PHRENOLOGY.

Lecturers and Examiners wanted. Send stamp for Circular to **S. R. WELLS**, 389 Broadway, New York.

THE PERFECT LUBRICATOR
A sure preserver of machinery for hot journals. Has ten times the lubricating quality of any oil. 400° F. 50° below zero, acids or gases do not affect or change its wonderful, unique nature. Forms on bearing surfaces a glaze of unequalled smoothness, which economizes power 20 per cent.; reduces friction to a minimum, and prevents heat, wear, strain, and repairs of machinery. Send for envelope sample and circular to **AMERICAN GRAPHITE CO.**

PATENT RIGHT FOR SALE.—I offer cheap the entire or States' right of my **Grain Drier**. Pat. Dec. 27, 1870. This is the best and most complete arrangement for drying grain, and is a valuable improvement over all others. Address **ROBT BROWN**, Columbus, Miss.

GEAR'S VARIETY MOLDING MACHINE.
We advise all parties who have irregular-shaped wood work to get out, to buy the best Machine in the market, which is **Gear's**. A valuable book; new edition. **ELLIS, BRITTON & EATON**, Manufacturers of Children's Toys, Springfield, Vt.

Hinkley Knitting Machine.

THE simplest, cheapest, and best in use! Has but one needle! A child can run it! Agents Wanted in Every Town. Send for Circular and Sample Stocking to **HINKLEY KNITTING MACHINE CO.**, Bath, Me.

DR. J. ARMSTRONG'S (Patent) Improved Heater, Filter, Lime Extractor, and Condenser Combined, For Steam Boilers. MANUFACTURED BY **Armstrong & Starr**, Toledo, Ohio. Send for Circulars. Formerly Armstrong & Welsh.

Mill Owners!! Facts!!

THE Complicated, Fine-cut Turbines now give vast troubles. While Low Water, Skim and Slush stop them most of the time. Our Staunch, Reliable **Raymond's Turbines** run steadily, to the confusion of all Croakers. While other Builders are disputing over "Scientific Tests," Our Turbines are quietly doing the work. **GEO. TALLCOT**, New York.

BOYS! BOYS!! BOYS!!! Game, Fun, Money.
You can successfully hunt, trap, and catch all game, from mink to bear, by following the directions given in the **"HUNTER'S GUIDE AND TRAPPER'S COMPANION."** It is the only reliable work; a valuable book; new edition. Just out. 40,000 sold last year; prepaid free for only 25 cents; 6 for \$1. Order at once from **HUNTER & CO.**, publishers, Hinsdale, N. H.

PATENTS

SOLD for Cash, or on Royalty. Exchanges for Real Estate effected. Capital procured for their manufacture and introduction. Charges deferred until sales are completed. Order, terms and references address **E. H. GRAS & Co., International Agency** 98 Broadway, N. Y. **MONTGOMERY GRIBBS**, late Agent for U. S. Treasury in Europe, Manager of London office, 17 Henrietta st., Covent Garden, London, Eng.

ATTENTION.—Wanted forthwith, 1 Surveyor and about 50 practical men, of the following occupations, viz: Machinists, Blacksmiths, Millwrights, Brickmakers, Limeburners, Masons, Carpenters, Cabinet-makers, Lumbermen, and Gardeners, to go at once to Western North Carolina Co-operative Manufacturing and Art cultural Association. Must have \$30 in cash, so as to become shareholders and cover travelling expenses to the Warm Springs, N. C. None but those who have the above capital need apply. Constant work assured. Apply by mail or in person, between 3 and 12 A. M., to **J. B. LYMAN**, Trustee, 214 Bowery (up stairs), New York city.

FOR SALE.—Two valuable inventions to dispose of on reasonable terms, viz: The adjustable Bedstead, and Antifiction Box. Working Models to be seen at 15 Center st., Room 10. A number one cheap coffee, Capitalists and Manufacturers for profitable investment. Call and see, or address by letter the inventor, **WM. O. REID**, 19 Centre st., New York city.

Home Amusement free to all.

THE HOLIDAY JOURNAL, containing a Splendid Story, Plays for all seasons, Magic Tricks, Curious Quirks, Experiments, Engravings, etc. 46 pp. sent FREE on receipt of 1 stamp for postage. **ADAMS & CO.**, Publisher, Boston.

SMEDEBERG'S SYNOPSIS OF BRITISH GAS LIGHTING. To be published shortly. 9000 pages, large 4to. 2 vols. Profusely illustrated. A complete compend of Gas Lighting: its history, improvements, patents, etc. A standard work for engineers, patentees, manufacturers, and scientific men generally. Price \$6, payable on delivery. Sold only by subscription. Address **JAMES R. SMEDEBERG**, Consulting Engineer, S. F. Gas Co., San Francisco, California, or **EDWARDS AM. GAS LIGHT JOURNAL**, No. 42 Pine st., New York.