97,513.—ALARM LOCK.—B. F. Irvine and T. A. Hitchcock, North La Crosse. Wis. Antedated Nov. 27, 1869.
97,514.—WINDOW BLIND.—A. A. Jaqua (assignor to himself and David Parker), New York city.
97,515.—SADIRON HEATER.—James Jenkinson, Williamsburgh, N. Y. Antedated Dec. 4, 1869.
97,516.—CHAMBER PAIL.—J. S. Jennings, Brooklyn, N. Y.
97,517.—GAS BURNER.—W. L. Jukes (assignor to himself, F. McLewee, P. H. Putnam, and Bronson Murray), New York city
97,518.—SEWING MACHINE FOR SEWING SHOES.—Jeremiah Keith, Brooklyn, N. Y.
97,519.—DETACHABLE TIPPING BAIL.—J. Keith, Brooklyn, N. Y.
97,520.—SHAKER FOR THRASHING MACHINES.—M. A. Keller, Littlestown, Pa.
97,521.—SPRING BED.—S. P. Kittle, Newark, N. J.
97,522.—FOLDING BOX SPRING MATTRESS.—Sam. P. Kittle, Brooklyn, N. Y.
97,523.—COMBINED SHOVEL AND TONGS.—Henry Kliperd and Benjamin Newbury, Clarksville, Ohio. Antedated Nov. 30, 1869.
97,524.—MODE OF ATTACHING SEATS TO CARRIAGES.—Chas. Krebs, West Springfield, Mass.
97,525.—ATTACHING CALKS TO HORSESHOES.—Perley Laflin, Warren, assignor to himself and Z. E. Cary, West Brookfield, Mass.
97,526.—KNITTING MACHINE NEEDLE.—J. H. Lane and C. D. House, Lake Village, N. H.
97,527.—MACHINE FOR DRILLING AND PREPARING WATCH CASES FOR SPRINGING.—Jacques Laurent, New York city.
97,528.—MODE OF PREPARING PAPER FOR PRINTING POSTAGE AND REVENUE STAMPS.—Samuel Lenher and H. H. Spencer, Philadelphia, Pa.
97,529.—BASE BURNING STOVE.—G. W. Lewin, Worcester, Mass.
97,530.—BRODCAST SEEDER.—J. S. Lewis, Elkport, Iowa.
97,531.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,532.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,533.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,534.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,535.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,536.—GRAIN BINDER.—S. D. Locke, Janesville, Wis.
97,537.—METALLIC CARTRIDGE.—John Logan and D. W. Eldredge, Boston, Mass.
97,538.—PORTABLE FENCE.—Arthur Love, Saxonburg, Pa. Antedated Nov. 22, 1869.
97,539.—SAWING MACHINE.—Patrick Magee (assignor to Felix Thibodaux). Assumption parish, La.
97,540.—COOLER FOR BEER AND OTHER LIQUIDS.—John J. Märki, Richmond, Ind.
97,541.—MACHINE FOR WIRING BLIND RODS AND SLATS.—Godlip Meyer (assignor to himself and Jacob Wagner), Cleveland, Ohio.
97,542.—GARDEN IMPLEMENT.—Henry Miller, Roadside, Va.
97,543.—COMBINED HAY RAKE AND TEDDER.—John C. Mills, Palmyra, N. Y.
97,544.—TUCK-CREASER FOR SEWING MACHINE.—John H. Mooney, San Francisco. Cal.
97,545.—FOLDING BEDSTEAD.—John Muller, Philadelphia, Pa.
97,546.—ROTARY STEAM ENGINE.—H. Olney (assignor to himself, Robert A. Delong, and Lucius R. Townsend), Malone, N. Y.
97,547.—SHEET-METAL KEY.—Emery Parker, New Britain, Conn.
97,548.—WINDOW AND DOOR CAP MOLDING.—Joseph Parkin and James H. Smith, Cleveland, Ohio.
97,549.—DEVICE FOR FORMING BOILERS.—George S. Pierce, Wilkesbarre, Pa.
97,550.—PERMUTATION LOCK.—Oliver E. Pillard (assignor to Frederick H. North), New Britain. Conn.
97,551.—MACHINERY FOR MAKING PIANO-FORTE CASES.—Sawyer Porter (assignor to himself and Levi W. Porter), Leominster Mass.
97,552.—RAILWAY CAR WHEEL AND AXLE.—Perley Putnam, Laconia, N. H.
97,553.—MACHINE FOR PREPARING PAVING BLOCKS.—Wm. O. Robbins and Charles W. Stafford, New York city. Antedated November 30, 1869.
97,554.—MACHINERY FOR PREPARING WOODEN BLOCKS FOR PAVEMENT.—William O. Robbins and Charles W. Stafford, New York city.
97,555.—COMPOUND FOR DESTROYING INSECTS.—N. T. P. Robertson and Thomas Niles, Fairbury, Ill.
97,556.—HARVESTER.—A. Sheline and E. Burke, Edon, Ohio.
97,557.—SUSPENDERS.—Abraham Shenfield, New York city.
97,558.—BOOT CONFORMATOR.—Samuel W. Shorey, Galesburg, Ill.
97,559.—COMBINED UMBRELLA AND CANE.—Addison Smith, Perrysburg, Ohio.
97,560.—SAFETY LAMP.—Cyrus Smith, Hermon, Me.
97,561.—MANUFACTURE OF CARTRIDGE SHELLS.—Dexter Smith, Springfield, Mass.
97,562.—GARMENT SUSPENDER.—E. N. Snow, Chicopee, Mass.
97,563.—TRACK-CLEANER FOR MOWING MACHINE.—Pratt A. Spicer, Marshall, Mich.
97,564.—PISTON PACKING.—Edward Sullivan, Pittsburgh, Pa.
97,565.—CHURNING MACHINE.—D. G. Taylor, Campbellsville, Ky.
97,566.—EXPLOSIVE COMPOUND FOR USE IN FIREARMS, BLASTING, ETC.—Thomas Taylor, Washington, D. C.
97,567.—GUNPOWDER.—Thomas Taylor, Washington, D. C.
97,568.—COMBINATION PADLOCK.—M. P. Thatcher, Pontiac, assignor to Julius A. Foster, Adrian, Mich.
97,569.—CHECK HOOK.—George Theobalt, Springfield, Mass.
97,570.—VENTILATOR.—Wm. F. Thoms, New York city.
97,571.—INSTRUMENT FOR DESCRIBING SPIRAL LINES.—Lewis W. Truesdell, Owego, N. Y. Antedated November 30, 1869.
97,572.—TRUNK HASP.—Cornelius Walsh, Newark, N. J.
97,573.—CULTIVATOR.—Hiram J. Wattles, Rockford, Ill.
97,574.—SURCINGLE.—Martin Wesson, Springfield, Mass.
97,575.—SHAFT COUPLING.—Seth Wheeler, Albany, N. Y.
97,576.—VENTILATOR.—Charles F. Whorf, St. Louis, Mo.
97,577.—RAILWAY TRACK CLEANER.—M. F. Wickersham, Springfield, Ill.
97,578.—TRACE-LOCK FOR WHIFFLETREE.—Samuel P. Williams, Rutland, Vt.
97,579.—SEAT FOR CHAIRS, SOFAS, ETC.—Frederick Wittram, San Francisco, Cal.
97,580.—GENERATING HYDROGEN AND HYDROCARBON GAS.—Joseph S. Wood (assignor to himself and John J. Carberry), Philadelphia, Pa.
97,581.—LOCK.—Thomas B. Worrell and Thomas Walker, Philadelphia, Pa., assignors to Thomas B. Worrell.
97,582.—MANUFACTURE OF STEEL.—John Amsterdam, New York city.
97,583.—DRINKING CUP.—Bernhard Adler (assignor to himself and W. N. Drescher), New York city.
97,584.—GRAIN SEPARATOR.—J. R. Allen, Edinburg, Ind. Antedated November 27, 1869.
97,585.—PACKING FOR STUFFING BOXES.—Wm. W. Allmand, East Boston, Mass.
97,586.—DRIVING MECHANISM FOR SEWING MACHINES.—James B. Ayer, Elizabeth, N. J.
97,587.—HORSE COLLAR.—W. M. Baker, Greenwich Station, Ohio.
97,588.—FRUIT JAR.—Thomas J. Bargis and John C. Underwood, Richmond, Ind.
97,589.—SPRING FOR HORSE COLLARS.—Benjamin J. Barton and Roswell J. Stanley, Washington, Iowa.
97,590.—HOLLOW AUGER.—H. T. Beam, Joseph C. Freeman, and D. B. Mills, Palestine, Ill.
97,591.—WATER WHEEL.—E. R. Beardsley, Aroma, Ill.
97,592.—HORSE COLLAR.—A. Beckwith, New Orleans, La.
97,593.—RAILWAY RAIL.—Henry Belfield, Philadelphia, Pa.
97,594.—ALARM FAUCET.—Thomas M. Biddle, Fort Wayne, Ind.
97,595.—STEAM GAGE COCK.—Samuel Blackman, Reading, Pa.
97,596.—MACHINE FOR PREPARING TOBACCO STEMS.—Nicholas H. Borgfelt, New York city.
97,597.—PROCESS OF TREATING ASPHALTUM TO OBTAIN COLORS AND DYES.—Julius Bronner and Hermann Gutzkow, Frankfort-on-the-Main, Prussia.
97,598.—DUMPING WAGON.—J. G. Burwell and J. J. Walls, Crystal Springs, Miss.
97,599.—CORN HARVESTER.—John F. Byland, Walton, Ky.
97,600.—APPARATUS FOR DRESSING FLOUR.—Henri Cabanes, Bordeaux, France.
97,601.—RAILROAD TICKET.—C. A. Chamberlin, Pittsburgh, Pa.
97,602.—DEVICE FOR TURNING LOGS IN SAW MILL.—Bela L. Churchill and George Z. Vanderslice, Philipsburg, Pa.
97,603.—WOODEN TRUNK.—D. J. Clark, W. F. Doggett, and S. M. Burr, Columbus, Ohio.
97,604.—DISH-WASHER.—Frances E. Clarke (assignor to Thos. D. Clarke), Flint, Mich.
97,605.—FOLDING CHICKEN COOP.—George Edward Cleeton, New Haven, Conn.
97,606.—DITCHING MACHINE.—William Cline, Jr., Clayton, Ind.
97,607.—PROCESS FOR DECORATIVE OIL PAINTING.—Paul Cousin and Pierre Oury, Paris, France, assignors, for one third, to N. Washauer, New York city.
97,608.—RAILWAY CAR.—Walworth D. Crane, New York city.
97,609.—PLOW.—Charles Crow (assignor to himself and Williamson D. Kerr), Covington, Ind.
97,610.—WATER WHEEL SCROLL CHUTE.—Homer H. Cummings, Enfield, N. H.
97,611.—MACHINE FOR SEWING THE SOLE AND UPPER OF BOOTS AND SHOES.—John Cutlan, Moorestown, N. J.
97,612.—MUSICAL GAME.—George W. Dawson (assignor to Willis M. Smith), New Haven, Conn.
97,613.—APPARATUS FOR TREATING CROUP AND OTHER DISEASES.—Gilbert Déclat, Paris, France.
97,614.—MACHINE FOR IRONING AND STIFFENING LINEN AND OTHER FABRICS.—Jules Decoudun, Paris, France. Patented in France, May 16, 1868.
97,615.—METALLIC CARTRIDGE.—A. C. Depew and J. Slatcher, Bridgeport, Conn.
97,616.—TOBACCO MACHINE.—J. H. Dickason, Hannibal, Mo
97,617.—COMBINED CALL BELL AND TABLE CASTER.—H. A. Dierkes, New York City.
97,918.—CARRIAGE JACK.—W. S. Douglass (assignor to W. O. Douglass and A. S. Douglass), Richmond, Vt.
97,619.—BEDSTEAD.—D. E. Dugan, Springville, Pa.
97,620.—CAR COUPLING.—Joseph Dunott (assignor to himself and Geo. Gibson), Philadelphia, Pa.
97,621.—SAWING MACHINE.—Samuel Fletcher, Hollis, N. H.
97,622.—AXLE FOR CARRIAGES.—Samuel Forrester, Allegheny, Pa.
97,623.—CARRIAGE AXLE.—Samuel Forrester, Allegheny, Pa.
97,624.—KNIFE HANDLE.—James D. Frary, New Britain, Conn.
97,625.—MACHINE FOR JOINTING STAVES.—L. R. Fulda and Martin Fulda, San Francisco, Cal.
97,626.—SAWING MACHINE.—Samuel A. Gardner, Round Hill, Pa.
97,627.—GAS-BURNER REGULATOR.—Robert Gill, New York city.
97,628.—CORRUGATED REFLECTOR.—Bernard Goetz, Philadelphia, Pa.
97,629.—ATTACHMENT FOR FASTENING OVERLAPPING PARTS OF GARMENTS.—B. J. Greeley, Boston, Mass.
97,630.—POTATO DIGGER.—Wm. Green, Holly, Mich. Antedated Nov. 27, 1869.
97,631.—COTTON AND HAY PRESS.—Robert Greene, Greenville, N. C.
97,632.—MODE OF GENERATING ILLUMINATING GAS.—Alexander Hamar, Philadelphia, Pa.
97,633.—PUMP.—Michael Hanstine, Waynesborough, Pa.
97,634.—PORTABLE FURNACE.—John H. Harper, Pittsburgh, Pa.
97,635.—GRAPPLING HOOK.—Henry H. Hatheway, Clockville, N. Y.
97,636.—SPARK ARRESTER.—W. E. Hayes, Durand, Wis.
97,637.—FASTENING FOR NECKTIE.—Harry M. Heineman, San Francisco, Cal.
97,638.—MACHINE FOR TRIMMING THE HEELS OF BOOTS AND SHOES.—C. H. Helms, Poughkeepsie, N. Y.
97,639.—WATER CLOSET.—J. B. Hobson and J. Middleton, Jr., San Francisco, Cal.
97,640.—SAW MILL.—J. R. Hoffman, Fort Wayne, Ind.
97,641.—SADIRON HOLDER.—Egmont Inger, New York city.
97,642.—BRICK MOLDS.—Stephen Inman, Rockford, Ill.
97,643.—FASTENING FOR CORSETS.—Ludwig Jarchow, New York City.
97,644.—COFFEE ROASTER.—John Jay, Jonesborough, Ind.
97,645.—CAR SPRING.—C. T. Jeffries, Philadelphia, Pa.
97,646.—GANG PLOW.—Byron Jennings (assignor to himself and Henry W. Briggs), Gilroy, Cal. Antedated Dec. 1, 1869.
97,647.—ARTIFICIAL LEG.—S. B. Jewett, Laconia, N. H.
97,648.—SASH BALANCE.—Chas. Kanzler and Albert Nega, St. Louis, Mo.
97,649.—STAY FOR TRUNKS.—Chas. Kellermann and P. W. Stauff, Chicago, Ill.
97,650.—GRAIN DRYER.—S. C. Kenaga, Kankakee, Ill. Antedated Nov. 27, 1869.
97,651.—OILING CARRIAGE AND CAR AXLES.—Wm. Kenworthy and J. H. Pollitt, Buchanan, Pa.
97,652.—GAS BURNER.—A. M. Laevison, Quincy, Ill.
97,653.—SHOT CARTRIDGE.—Chas. Wm. Lancaster, London, England.
97,654.—ATTACHING KNOBS TO DOORS.—Chas. F. Langford, Brooklyn, N. Y.
97,655.—CENTRIFUGAL PUMP.—N. H. Lebby, Charleston, S. C.
97,656.—TOOL HOLDER FOR GRINDSTONES.—Philip Leonard, Sharon, Pa.
97,657.—MODE OF PREVENTING CORROSION IN PIPES, BOLTS, AND SIMILAR ARTICLES OF IRON IN SEA WATER.—Reuben Lighthall, Brooklyn, N. Y.
97,658.—WATER WHEEL.—A. W. Lloyd, North Adams, Mass.
97,659.—ARTIFICIAL NIPPLE.—H. D. Lockwood, Charlestown, Mass.
97,660.—COOKING STOVE.—Zephaniah Lockwood, Saratoga Springs, N. Y.
97,661.—SLED BRAKE.—C. M. Lufkin, Alstead, N. H.
97,662.—COCKEYE FOR HARNESS.—Thomas J. Magruder, Marion, Ohio.
97,663.—BUSH HAMMER.—J. W. Maloy, Boston, Mass.
97,664.—MACHINE FOR GRINDING NEEDLES.—Clark Marsh (assignor to Wheeler & Wilson Manufacturing Company), Bridgeport, Conn.
97,665.—WATER WHEEL.—H. P. McCleave, Tomales, Cal.
97,666.—WAGON STANDARD.—Jas. McCullough, Quincy, Ind. Antedated Dec. 4, 1869.
97,667.—CUTTER FOR CARD-SETTING MACHINE.—D. McFarland, Worcester, Mass.
97,668.—DRAIN-PIPE MACHINE.—Peter McIntyre, Norwich, Conn.
97,669.—FRUIT CAN.—A. J. McMillen, Ravenswood, West Va.
97,670.—PUMP.—C. L. Merrill, Watertown, N. Y.
97,671.—ABRADING AND POLISHING WHEEL.—E. C. Merrill, Charleston, Vt.
97,672.—PATTERN FOR LAYING OUT GARMENTS.—Wm. M. Michael, Indiana, Pa.
97,673.—MACHINE FOR OPERATING PUMPS.—R. E. Moore, Navasota, Texas.
97,674.—CHURN.—Ezra Morgan, French Creek, N. Y.
97,675.—CLAMP FOR EMBOSSING HARNESS LOOPS.—O. H. Morris. New Haven, Conn.
97,676.—PEN.—W. A. Morse, Philadelphia, Pa.
97,677.—HAY TEDDER.—M. D. Myers (assignor, of one fourth, to G. W. Gates), Frankfort, N. Y.
97,678.—HEATING ATTACHMENT FOR COOKING STOVES.—R. W. Meyers (assignor to himself, Geo. Gardiner, Wm. Gardiner, and O. L. Gardiner), Glen Gardner Station, N. J.
97,679.—MECHANISM FOR OPERATING THE SHUTTLE BOXES IN LOOMS.—Archibald Nimmo (assignor to himself and Thomas Moran), Philadelphia, Pa.
97,680.—HARROW CULTIVATOR.—Frederick Nishwitz, Brooklyn, N. Y
97,681.—INTERCHANGEABLE BOOT AND SHOE HEEL.—John Norburn, Pittsburgh, Pa., assignor to J. C. Woodhead and J. Holmes, trustees for Universal Manufacturing Co.
97,682.—MACHINE FOR WASHING WOOL.—Emile Nougaret, Newark, N. J. Antedated Dec. 1, 1869.
97,683.—VELOCIPEDE.—Rene Olivier, Paris, France.
97,684.—CENTRIFUGAL MACHINE FOR EXTRACTING HONEY FROM THE COMB.—H. O. Peabody, Boston, Mass.
97,685.—SPRING.—Wm. Pearson, Windsor Locks, Conn.
97,686.—PIANOFORTE ACTION.—A. W. Perry, St. Joseph, Mo
97,687.—FEED CUTTER.—Hans Peterson, Red Wing, Minn.
97,688.—APPARATUS FOR CLEANING BARRELS.—Immanuel Pfeiffer (assignor, for one half, to H. M. Braem), New York city.
97,689.—VENTILATOR.—W. L. Phillips, Normal, Ill.
97,690.—DRAFT REGULATOR FOR PLOWS.—Martin Prillaman (assignor to himself and Elizabeth Kessler), Tipton, Ind.
97,691.—MACHINE FOR SWAGING THREADS ON SCREWS.—T. T. Prosser, Chicago, Ill.
97,692.—MANUFACTURE OF SOAP.—Wm. P. Pugh, High Point, N. C.
97,693.—GUN HARPOON.—J. P. Rechten, New York city.
97,694.—PRIVY SEAT.—Frank Reed, Fitchburg, Mass. Antedated Nov. 30, 1869.
97,695.—PISTON VALVE.—A. F. Reeder, Normal, Ind.
97,696.—TUBULAR REFRIGERATOR.—Adam Reid, Buffalo N. Y.
97,697.—LAND ROLLER.—Hermann Retzlaff, St. Louis, Mo.
97,698.—ATMOSPHERIC AND CONDENSING HYDRAULIC ENGINE.—A. J. Reynolds, Chicago, Ill.
97,699.—FLEXIBLE PIPE COUPLING.—Quartus Rice, Nevada, Cal.
97,700.—MACHINE FOR MAKING BUCKLES.—Julius Robbins, Auburn, N. Y.
97,701.—KNIFE SHARPENER.—Z. C. Robbins and H. A. Robbins, Washington, D. C.
97,702.—TOBACCO ELEVATOR.—G. Robinson, Louisville, Ky.
97,703.—MACHINE FOR ROLLING, PRESSING, AND CUTTING TOBACCO.—G. Robinson, Louisville, Ky.
97,704.—TRACE BUCKLE.—Wm. A. Robinson, Grand Rapids, Mich., assignor to O. B. North & Co.
97,705.—COIL SPRING AND ITS ATTACHMENTS.—Timothy Rose, Cortland, and P. S. Buell, Windsor, N. Y.
97,706.—SPRING BED BOTTOM.—Ira M. Russell, Lewiston, Me.
97,707.—APPARATUS FOR LAYING OUT STAIR RAILS.—A. Schollars, Leavenworth, Kansas.
97,908.—HORSE HAY RAKE.—Wm. Sharkey, Chico, Cal.
97,709.—PROCESS FOR MANUFACTURING CHEESE.—Mary A. Sheaffer, Elizabethtown, Pa.
97,710.—BOOK HOLDER.—Hamilton Sherman, Waverly, Pa.
97,711.—PLATE FOR HOLDING THE LIDS OF TRUNKS IN PLACE.—J. W. Shubert and Norval Douglas, New Haven, Conn.
97,712.—VISES FOR WOOD WORKING.—J. Simpson, Cleveland, Ohio.
97,713.—KEY GUARD.—P. G. Smith (assignor to himself and Robert Donahue), Brooklyn, N. Y.
97,714.—BRIDGE.—R. W. Smith, Toledo, Ohio.
97,715.—HAMMER.—S. B. Smith, New Haven, Conn.
97,716.—BOOT AND SHOE CLEANER.—W. H. Smith, Newport, R. I.
97,717.—SIGHT FOR FIREARMS.—C. E. Sneider, Baltimore, Md.
97,718.—MANUFACTURE OF IRON AND STEEL.—H. Spencer and L. K. Saylor, Philadelphia, Pa.
97,719.—TOY HARPOON GUN.—Ebenezer Sperry, St. Louis, Mo.
97,720.—SPRING BED BOTTOM.—Jost Stengel, Croton, Mich.
97,721.—PLEATING MACHINE.—Simon Sterns, New York city.
97,722.—BEDSTEAD FASTENING.—William Stevens, Tarentum, Pa.
97,723.—TOOL REST FOR LATHES.—J. G. Stowe, Providence, R. I.
97,724.—HAY LOADER.—W. H. Straub, Danville, Pa.
97,725.—WASHING MACHINE.—T. H. Tatlow, Jr., Newark, Mo.
97,726.—HANGING WINDOW SHADES.—J. I. Tay, Oakland, Cal.
97,727.—MEANS FOR HANGING WINDOW SHADES.—J. I. Tay and L. L. Sawyer, Oakland, Cal.
97,728.—BREAD SLICER.—Joseph Taylor, Hudson, N. J.
97,729.—GRAIN DRILL.—J. H. Thomas and P. P. Mast, Springfield, Ohio.
97,730.—RAILWAY CAR BRAKE.—J. B. Van Dyne, Nashville, Tenn. Antedated Nov. 30, 1869.
97,731.—COOKING STOVE.—Nicholas S. Vedder, Troy, N. Y. Antedated Nov. 30, 1869.
97,732.—COAL STOVE.—S. D. Vose, Milwaukee, Wis.
97,733.—FASTENING FOR TRAVELING BAG.—C. Walsh and Josiah Walsh, Newark, N. J., assignors to C. Walsh.
97,734.—BREECH-LOADING FIREARM.—Wm. G. Ward, New York city.
97,735.—PEN.—Addison G. Waterhouse, San Francisco, Cal. Antedated Nov. 25, 1869.
97,736.—CLOTHES DRYER FOR STOVE PIPES.—L. B. Waterman (assignor to L. B. Kelly), Chicago, Ill.
97,737.—BOILER FEED AND WATER HEATER.—H. Wigley, New Albany, Ind.
97,738.—ICE CREEPER.—A. Wilke, Brunswick, Germany.
97,739.—CORN PLANTER.—F. L. Wilkens, St. Mary's, Ohio. Antedated Dec. 4, 1869.
97,740.—TIRE HEATER.—Isaiah M. Williams, Clinton county, Ohio.
97,741.—MECHANISM FOR DRIVING SEWING MACHINES.—J. H. Wilson, Philadelphia, Pa., and J. C. Outwater. Newark, N. J.
97,742.—MOLE KILLER.—Joseph Wilson, Little Falls, N. J.
97,743.—CIDER MILL.—Levi Wilson, Springfield, Ohio.
97,744.—APPARATUS FOR TREATING DISEASES BY MECHANICAL MOVEMENT.—A. L. Wood. New York city.
97,745.—GATE.—J. A. Wood and E. V. Marbaker, Crosswicks, N. J.
97,746.—PLOW.—Alex. Wright, Allegheny City, Pa.
97,747.—GAME TRAP.—E. M. Day, Elkhart, Ill.
97,748.—GAS MACHINE.—T. G. Springer, Clinton, Iowa.
97,749.—MACHINE FOR MAKING CANDLE MOLDS.—Moses Burlingame, Garrattsville, N. Y., assignor to himself and J. E. Pilkington, Washington, D. C.
97,750.—HOOP SKIRT.—Gottfried Biering, New York city.

REISSUES.

89,669.—FEED-CUTTING ATTACHMENT TO THRASHING MACHINES.—Dated May 4, 1869; reissue 3,756.—G. W. Lee, Sandy, Ohio.
24,772.—POWDER KEG.—Dated July 12, 1859; reissue 1,383, dated January 6, 1863; reissue 3,757.—Charles Green, Wm. Wilson, Jr., Henry Du Pont, E. I. Du Pont, L. Du Pont, and Eugene Du Pont, Wilmington, Del., and Charles Pratt, New York city, assignees of James Wilson, Charles Green, and Wm. Wilson, Jr.
96,278.—BRIDGE.—Dated Oct. 26, 1869; reissue 3,758.—Smith, Latrobe & Co., Baltimore, Md., assignees of F. H. Smith.

DESIGNS.

3,779.—CLOCK CASE FRONT.—F. Kroeber, New York city.
3,780.—PENDULUM-CLOCK CASE FRONT.—F. Kroeber, New York city.
3,781.—COLLAR.—E. E. Mack, Albany, N. Y.
3,782.—FLOOR OIL CLOTH PATTERN.—James Patterson, Elizabeth, assignor to Richard H. Reeve and Benjamin C. Reeve, Camden, N. J.
3,783.—HARNESS BUCKLE.—D. Schoonmaker, Springfield, Mass.

NEW PUBLICATIONS.

FOR CHRISTMAS.—The children must always have something to make them merry on Christmas. Messrs. Turner & Brother, 808 Chestnut street Philadelphia, have issued a neat and very pretty book called "Christmas Day," with three poems; viz.: "'Twas Night Before Christmas," "Christmas Day," and "The Night After Christmas," from Punch. It has a beautiful cover, and is sent by mail for fifty cents.

Improved Telegraph Instrument.

The apparatus which we herewith illustrate is a combination of three distinct inventions, upon each of which a separate patent has been granted; viz., the magnet, the sounder, and the key. They, together, constitute one of the most beautiful and efficient instruments of its class we have had brought to our notice. We will notice the parts of the device in the order above specified.

The wire has, previous to this invention, been wound entirely around one spool, after which it was carried to the other, which was wound in like manner; the current consequently passed through the entire coil on one spool before reaching the other.

In this new system of applying the wire, both spools receive the current simultaneously; the current passing alternately from one to the other. Greater power and quicker action are, therefore, secured by a battery of a power which, under the old system, would almost be insufficient to work the instrument.

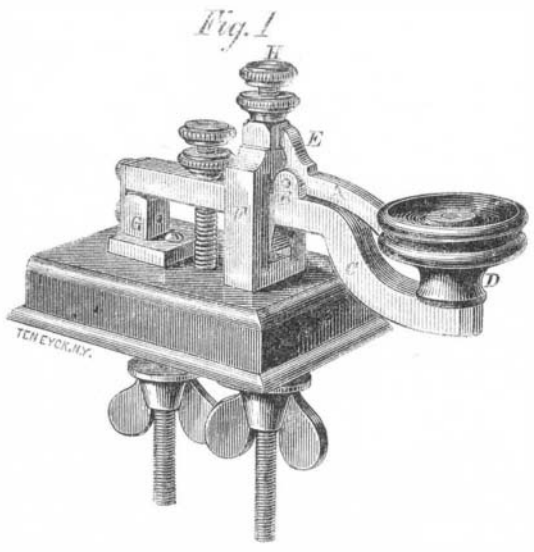
These advantages are secured by winding both spools at once. The spools are placed with their heads together, and the wire being started at the outer end of one spool is wound in a single layer over that spool, crossed over the heads of both spools, which are placed together, then wound over the second spool, and back, crossed over the heads again and wound over the first spool and back, again crossed over the heads, and so on until both spools are filled. In this way many connections are made between the two coils, and the wire, instead of being wound continuously on each spool separately, is equally distributed between both.

The spools thus wound are set up in the ordinary manner.

When the electric current is passed through the coils, it passes simultaneously around both spools, and both, therefore, act at once to attract the armature, instead of, as heretofore, one after the other. The action is thus rendered more sudden and powerful than in the method of winding, as heretofore practiced.

It is scarcely necessary to add that this method is equally applicable to all kinds of electro-magnets for whatever purpose they may be employed, and whether spools, cores, or legs are used.

The principal differences between the key, Fig. 1, and those in ordinary use are, first, the addition of a supplementary lever, A, pivoted to the principal lever, C, at B, the use of which is to make an indirect circuit while the instrument is not in use; and, second, the insulation of the point of the adjusting screw, H, which limits the motion of the principal lever, C. A hard-rubber knob, D, on the principal lever, C, is



separated by a coiled spring from a button of similar material on the supplementary lever, A. The latter has a foot, E, which rests against the standard, F, when the instrument is not in use, the points of contact being made of platinum. The current then passing through the standard, F, passes through E, and thence through C, and the spring attached to the standard, G, and so out through the wire. In use the knob, D, and the button on the supplementary lever, A, are pressed together, which breaks the indirect current, and the direct circuit, is then made and broken in the usual manner by bringing together a platinum point on the under side of the principal lever, and a similar point on the bottom of the slot in the standard, F, or *vice versa*, as the key is depressed or elevated.

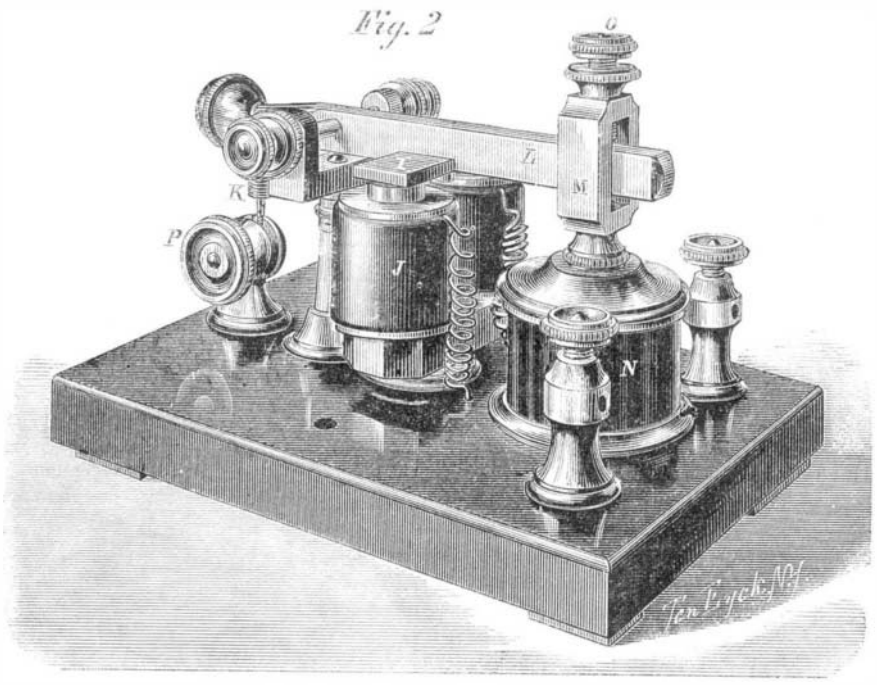
The insulation of the point of the adjusting screw, H, is necessary to prevent the current from passing through it from the standard, F, to the principal lever, C. The sides of the slot in the standard, F, are also insulated by plates of hard rubber, to prevent any danger of making the circuit by accidental contact of the lever, C, with them.

This device, therefore, it will be seen, closes the circuit automatically when not in use.

Fig. 2 represents a combination of an electro-magnet with coils formed as above described, with an improved sounding column.

The armature, I, being alternately attracted to the magnet, J, and withdrawn by the action of the spring, K, through the sounding bar, L, strikes L upon the end of a steel bolt, not shown in the engraving, which passes down through the bottom of the standard, M, and through the center of the hollow hard-rubber cylinder, N. This hollow rubber cylinder is surmounted by a brass cap, and rests on a brass ring, which, in its turn rests on the rosewood stand of the instrument, the whole being firmly held by a nut screwed on the lower end of the central steel bolt. Around this nut are boren sound-holes which communicate from the bottom of the rosewood stand with the interior of the hollow hard-rubber cylinder, N. This cylinder reinforces the sound made by the impact of the sounding bar, L, upon the central steel bolt above described, in a remarkable manner, making it very distinct and

Fig. 2



DAVIS' SOUNDING INSTRUMENT.

clear; the sound waves formed in the interior of the hard-rubber cylinder, N, communicating freely with the external air, through the holes at the bottom of the stand above described. A screw, O, limits the motion of the sounding bar, L, and a winding pin, P, in a double-slotted post, serves to regulate the tension of the coiled spring, K.

The construction of this instrument involves some nice scientific principles, which cannot fail to attract the attention of electricians and practical telegraph operators.

The patents for the three parts of this instrument we have thus described were taken out through the Scientific American Patent Agency; the one on the electro-magnet bearing date Nov. 9, 1869, and the patents on the key and sounding column July 6, 1869. The patentee is Mr. William Edward Davis, of 319 Newark avenue, Jersey City, N.J., where address him for further particulars.

REDUCE THE COST OF PATENTS.

We publish elsewhere an extract from the Report of the Secretary of the Interior, giving a brief *resumé* of the operations of the Patent Office for the past year.

The financial result appears to be gratifying. The applications have been very numerous, and the fees in excess of expenditures some $213,920. The Secretary proposes to use this surplus in printing copies of the drawings—a suggestion which is very good so far as it goes; but we should have experienced additional pleasure if the Secretary had urged upon Congress the importance of reducing the patent fee. The Patent Office is a self-sustaining institution, and can be kept so by a judicious administration of its affairs and upon a reduced scale of fees. We should say that $25 were amply sufficient —$10 payable in advance, and the balance, $15, upon the allowance of the claims. We hope Commissioner Fisher, in his Annual Report, will take hold of this matter and urge a reduction of the costs of granting patents.

Patent Office Affairs.

The report of the Secretary of the Interior furnishes the following interesting facts concerning the Patent Office:

Application for Patents	19,360
Caveats filed	3,686
Applications for extension	153
Patents issued	13,762
Patents extended	125
Patents allowed, not issued	899
Balance appropriation on hand Oct. 1, 1868	$117,249·18
Appropriation since made	722,018·00
Total	$839,267·18
Expenditures since Oct. 1, 1868	$472,462·62
Balance on hand	416,804·53
Fees in excess of expenditures	213,926·02
Expenditures in excess of fees, 1868	171·64
Appropriation asked for	564,420·00

The office now publishes a weekly list of claims, which is furnished to subscribers at $5 per annum. It is believed that by the ensuing year the receipts will cover the entire cost of the work. This list, published simultaneously with the issue of the patents, serves all the purposes of the annual report, which is not issued until two years later.

In order that the public and the examining corps may have access to the drawings of the Office, I recommend an appropriation for printing copies. The expense so occasioned can be reimbursed, if the Commissioner be authorized to make sale of them, and apply so much of the proceeds thereof as may be necessary. If he could sell copies of the patents and of the drawings at cheap rates to those who desire them, and place copies in the State capitals and great commercial centers, more complete information of the action of the bureau than is now furnished by the report would be promptly disseminated, and an annual expenditure of $200,000 of the public money avoided.

My immediate predecessor, in each of his annual reports, urged the repeal of all laws which authorized an appeal from the decision of the Commissioner of Patents on applications for letters patent and in interference cases. The reasons he presented are, in my opinion, clear and unanswerable. It is, indeed, believed that it was the intention of Congress to abolish such an appeal by the act of 1861. No mention is made of it in the provision for appeals, or in the new schedule of fees thereby established. It has, however, been held that prior acts which authorized such an appeal are still in force, and that the right thereto still exists. If their purpose was to secure uniformity in the administration of the patent laws, it has signally failed. The appellants may select either of the four members of the Supreme Court of the District to hear and determine the case, and from his decision no appeal lies to the court in banc.

The Commissioner, in a paper addressed to me, represents that, as a natural consequence of the appeal and of the fee claimed for acting upon it, the judges have, without authority from Congress, assumed to extend their jurisdiction to his purely ministerial duties, and to interfere with the discharge of them. Decisions have been made on the proper date of letters patent, the allowance of amendments, the issue of double patents to an inventor and his assignee, and on other questions of a like character. The practical working of this asserted supervisory control over the doings of the Commissioner has been, upon the whole, injurious. Consistency of decisions and of administration has not been attained. Controversies and litigation as to the extent of relative jurisdiction have arisen, and the usefulness of the Office, in its attempts to protect the public against imposition has been essentially impaired.

Sheepskin Mats.

A correspondent of *The Country Gentleman* gives the following directions for making beautiful sheepskin mats, the recipe being for two skins.

"Make strong soapsuds, using hot water, and let it stand till cold, then wash the skins in it, carefully squeezing out all the dirt from among the wool, then wash them in cold water till all the soap is out. Next dissolve half a pound each of salt and alum in a little hot water, and put into a tub of cold water sufficient to cover the skins and let them soak twelve hours, then hang over a pole to drain. When well drained, stretch carefully on a board to dry. Stretch several times while drying. Before they get entirely dry, sprinkle on the flesh side one ounce each of finely pulverized alum and saltpeter rubbing it in well; then lay the flesh sides together and hang in the shade for two or three days, turning thew over every day till perfectly dry.

"Finish by scraping the flesh side with a blunt knife, to remove any remaining scraps of flesh, and then rub the flesh side with pumice or rotten stone and the hands. Very beautiful mittens can be made of lamb skins tanned as above."

The Genesis.

Professor Agassiz denies that he, as has been publicly charged, recently opened a lecture with the statement that he wanted no one to listen to his lectures who believed in the first chapter of "Genesis." This charge bears on its face the evidence of its falsity, yet Professor Agassiz deems it worthy of notice. He says in a letter to a friend:

"I am little in the habit of noticing things of this kind, being convinced that often it is useless, and having become from long habit somewhat callous to misrepresentation. Something in the tone of your letter makes me answer, and unwilling to leave it unanswered, I write to say that the statement you sent me is false. In some opening remarks of a course on geology, which I am now delivering in the University, I said that the 'theological interpretation of the Book of Genesis, giving six thousand years as the age of the world, was a hindrance to the understanding of geological evidence, and no one who started with this idea, and allowed his researches to be influenced by it, could be a geologist.' I do not remember my exact words, the lecture being extemporaneous; but this is the substance, and I know that I did not say what your newspaper extract reports."

THE LEVEL OF THE MEDITERRANEAN AND RED SEAS.—During the celebrated Egyptian campaign of 1798, the difference of level between these two seas was calculated by the French engineers, and found to be 0·85 of a meter. The result obtained in making the survey for the construction of the Suez canal, in 1866, was ·86 of a meter. The accuracy of the earlier survey is very strikingly confirmed by the close coincidence of these results.

A VALUABLE PRESENT.—What more useful present can be made to young mechanics than a year's subscription to the SCIENTIFIC AMERICAN? Employers will be doing their employés a great service by acting on this hint, and we feel sure that at the end of the year they will consider the investment a good one.