

bridge; then stretch it over the strings close to the bridge, carrying it down to one of the notches on the other side, and make it fast there. The tension of this small band, being supported by the strings, produces almost the effect of the common mute, with the difference that the power of the tone is preserved in its full purity, while it seems that this small band absorbs all that harsh noise which is more the result of friction than any musical quality contained in the instrument. I have tried this effectually on all the different sizes of instruments, from the smallest down to the double bass, and I find that the effect is very pleasing, and would, I think, by good players on any of the instruments, be pronounced beautiful. The tone may be gradually diminished by the use of additional bands, without lessening its real purity.

(30) A. C. H. says, in reply to F., who asked if there were such a flower as the thousand dollar plant: There is a plant called the thousand gulden (not dollar) plant; it grows in Switzerland, and is used to a great extent in medicine. The botanical name is *Erythraea centaurium*. It has red or white flowers, and is about 1 or 2 feet high.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined with the results stated:

B. B.—It is iron pyrites, of no value.—S. R.—If you wish to know the value of an ore, you must send the ore, not the reduced metal. The specimens sent are reduced zinc.—H. V.—It is granular sulphide of iron.—W. H.—It is an iron ore, containing a large percentage of silica and sulphur, and a small percentage of manganese. It contains none of the precious metals.—R. W. B.—They are grasshoppers (Packard) or *caloptenus epretus*. Mr. Scudder states that a third (whether belonging to the same species or not, is still uncertain), has invaded at different times nearly all the country lying within the boundaries of the United States between the Rocky Mountains and the Pacific Ocean. The smallest one sent by you is probably the one referred to by Mr. Scudder.—J. W.—They are rings from the fossil stems of various species of crinoids.—I. H. S.—It is a hard sandstone, inclosing scales of sulphide of iron.—T. J. R.—No. 1 is a silicious rock, inclosing fine particles of iron pyrites. No. 2 is a small and regular crystal of quartz.—A. F. M. A.—The acorn-shaped mineral is a deposit of sulphide of iron. Your well water must contain a large percentage of iron.—A. J. H.—It is laumontite, or a hydrous silicate of alumina and lime.—C. H. W. & Co.—It is a very rich quality of iron pyrites.—D. R. B.—It is a coarse quartzose sandstone, utterly unfit for a fertilizer.—A. V. V.—Ten of your specimens are sulphurets of lead distributed through limestone. No. 11 is sulphurets of lead in quartz rock. No. 12 is iron pyrites in quartz rock.—J. W. S.—It is a special variety of white cast-iron, known as spiegel-eisen. It is largely used in the manufacture of Bessemer steel.—A. H.—Magnetite is magnetic oxide of iron, of a certain crystalline form and chemical composition, containing, in the purest varieties, 72-4 per cent of metallic iron. We regret the loss of your specimens, but must again repeat, to you and other correspondents, that we report immediately on all minerals received by us.—We have received a blue plateboard box, 2x3 inches, without any label or name. It contains many small specimens of quartz rock, through which are disseminated specks of altered muscovite, of no practical use.

P. J. K. asks: What is the best method to destroy a lot of rats that infest my house?—G. U. F. asks: Who are the best writers on ventriloquism, explaining the art in full?—W. F. B. asks: Is there any way by which a person can tell if his own breath is offensive?—A. B. asks: Can any one give me information concerning the history, past and present, of the children and grandchildren of Robert Burns, or his brother Gilbert?

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Channeling the Bars of Rivers. By O. P. S.
On Locusts and Grasshoppers. By H. J. S.
On the Weight of the Atmosphere. By J. B. T.
On Sea Sickness. By W. M.
On Drawing a Parabola. By F. H. R.
On Making Copper Alloys. By A. E. O.
On Some New Galvanic Batteries. By L. B.
On a Discovery in Missouri. By C. I.
On Bees and Honey. By W. A. B.
On Practical Mechanism. By W. H.
On Small Engines. By N. T. W., and by N. G. N.
On the Locust Plague. By J. W.

Also enquiries and answers from the following:
W. H.—J. E. D.—H. V. M.—E. C. M.—J. N.—H. M.—H. F.—F. L.—W.—J. W. S.

HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given. Enquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address is given. Hundreds of enquiries analogous to the following are sent: "Please to inform me where I can buy sheet lead, and the price? Where can I purchase a good brick machine? Whose steam engine and boiler would you recommend? Which churn is considered the

best? Who makes the best mucilage? Where can I buy the best style of windmills?" All such personal enquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States WERE GRANTED IN THE WEEK ENDING August 18, 1874,

AND EACH BEARING THAT DATE.

(Those marked (r) are reissued Patents.)

Table listing inventions with names and dates. Includes: Addressing machine, J. Blocher; Animal fat, treating, J. Hobbs; Axles, turning, W. K. Stevens; Bale tie, cotton, W. S. Davis; Bale tie, cotton, R. D. McIlwaine; Ballot box, Omensetter & Parker; Bed bottom, spring, W. H. Austin; Bed bottom, spring, Comstock & Lupton; Beefsteak tender, M. Trowbridge; Bell, door, E. B. Sims; Belt, W. Mullee; Belt coupling, adjustable, W. H. Roberts; Bleaching hemp, Sneed & Mount; Boiler attachment, wash, Henry & Dennis; Boilers, tube and flue for steam, J. H. Wilkinson; Boot heels, forming, E. Fisher; Boot soles, drying, J. T. Jeffers; Boots, making, Fearey & Chickering; Bottle, caster, C. P. Crossman; Bronzing machine, W. D. Cooke; Buckwheat scouring machine, J. Klaer; Burner, locomotive head light, S. M. Davies; Cap, H. Kuhlman; Caraxle box, J. S. Sanson; Car brake, C. Adams; Car coupling, B. Almonte; Car coupling, W. H. Darling; Car coupling, T. D. Gambrell; Car doors, operating, A. C. Goodell, Jr.; Car mover, Lewis & Overton; Cap, safety passenger, J. T. Worley; Car shoe, safety, L. B. Stilson; Car, sleeping, J. Woodruff; Car track, C. J. N. Rebour; Car wheels, casting, Sax & Kear; Cars, pole coupling for street, W. Leaf; Carpet, measuring, T. M. Brintnall; Carpet stretcher, S. C. Calhoun; Carriage axle nut, E. W. Ives; Carriage spring, T. H. Wood; Cartridge primer, T. J. Powers; Case and sample box, H. Westphal; Chair, W. Gotorth; Chamber case, W. Hinman; Churn, K. Nolan; Churn, G. Shoup; Corn husking implement, Cavender & Dallis; Corn husking machine, E. Ellison; Corset, T. S. Gilbert; Culinary vessel, Neale & Booth; Culinary vessel, J. H. & N. Weare; Cultivator, C. Kinsey; Card worker, W. C. Smith; Curry comb, L. Sawyer; Digger, potato, J. M. Whitman; Disillation, treating grain for, A. Woolmer; Document stitchee, C. C. E. Van Alstine; Door check, F. Linsel; Dyes, treating anthracene, Rumpf et al.; Egg beater, D. D. Mackay; Egg carrier, J. L. Stevens; Elevator, J. B. Chynowith; Elevator, J. F. Marsh; Elevator, ice, R. R. Reynolds; Elevator, water, Reed & Blythe; Engine, rotary, A. Dietz; Engine, rotary, J. H. Teal; Engine, rotary steam, H. Boettcher; Engine, steam, J. W. Hayes; Eyeglass holder, A. Wild; Faucet, beer, L. Poh; Feather renovator, L. W. Powis; Fifth wheel, M. Christanson; Fire arm hook, I. Merrill; Fish hooks, making, Court et al.; Fishing rods, spring attachment for, B. Hill; Fishway, J. D. Brewer; Food for infants, H. Hensch; Fork for plating hedges, H. Hollingsworth; Furnace, L. C. England; Gas apparatus, J. D. Patton; Gas process and apparatus, W. Elmer; Generating heat, Allen & Harris; Glass mold, J. Zihlman; Glassware mold, J. E. Miller; Governor, electro-magnetic, J. M. Bradford; Grain drill, P. Bostrom; Grain drills, feed roller for, J. H. Cook; Grate, L. M. Chpley; Grate, Lee & ParPer; Harness, A. McCracken; Harness pad, G. W. Vosburgh; Harrow, J. Wheeler; Harrow and seeder, R. McAdams; Harvester, A. R. Keese; Harvester cutter, B. C. Rockwell; Harvester rake, E. L. Hutchinson; Hatchways, closing, Spaulding & Tuttle; Hedge fork, H. Hollingsworth; Healing machine receiver, W. F. Trowbridge; Hemp brake, Dulin & Burgan; Hops, preserving, T. A. Breithaupt; House, wooden, J. R. Perry; Hubs, core box for metallic, C. G. Allen; Hydrants, stop-valve for, S. H. Brown; Index, C. F. Thomas; Indicator, electro-magnetic station, C. W. White; Jack, lifting, B. Harrison; Kilo, brick, E. V. Wingard; Knife, butter, S. J. Chadwick; Lap board, J. E. Cotton; Lathe, wood turning, N. T. Melvin; Lathes, chuck for metal, J. H. Vinton; Leather-scouring machine, J. Head.

Table listing inventions with names and dates. Includes: Lime kiln, F. Strayer; Locomotive, T. B. Smith; Loom shuttle box, M. A. Furbush; Loom web stop, T. Isherwood et al.; Lubricating compound, Eggleston & Rich; Lumber, etc., drying, G. Woods; Marble, imitation, J. H. Wright; Measuring machine, carpet, T. M. Brintnall; Mill and press combined, cider, S. M. Firey; Millstone dress, J. D. Mines; Millstone friction gear, C. J. Shuttleworth; Mitering machine, E. Everett; Motion, preventing back, J. H. Race; Mowing machine, J. H. Elward; Nail-driving machine, H. Dunham; Nail extractor, G. J. Capewell; Neck tie box, S. Orth; Paper barrels, making, J. L. Thomson; Paper box, F. D. Stone; Paper stock, G. B. Walker; Pelerine, J. Popovits; Pianoforte agraffe, Behning & Diehl; Pipes, exhaust trap for steam, S. Conrow; Pipes, making cement lined, J. E. Halladay; Planting machine, I. F. Thompson; Planter, corn, F. Bolduc; Planter, potato, H. J. Kent; Plow, B. C. Bradley; Plow point and share, J. F. Herring; Plow, rotary, W. E. Bleeker; Plow, sulky, W. Starling; Plow gage wheel, Matteson & Williamson; Plows, sulky attachment for, T. Weaver; Press, copying, S. Selden; Press for hay, cotton, etc., B. L. Robinson; Press, hay and cotton, E. T. Armstrong; Printing, plate or die for, J. Dickson; Pump and fire engine, A. Paget; Pump, ship, L. Egleson; Pump, siphon, H. Coll; Pump, steam siphon, H. Coll; Punching machine, metal, G. W. Vanktrk; Purifier, middlings, Cole & Marpole; Railway signal, automatic, S. Nunamaker; Railway, removing snow, P. and J. H. Baker; Range, cooking, P. J. Ackerman; Rein guard, Levy & Christian; Rein holder, A. Applegate; Roofing, metallic, S. Taylor; Sash fastener, J. Park; Sawgumner, S. H. Vosburgh; Sawing machine, J. N. Vorle; Sewing machine, E. D. Smith; Sewing machine brader, etc., S. A. Davis; Sewing machine case, F. R. Wolfinger; Sewing machine guide, W. Baglin; Sewing machine shuttle, R. Blake; Sewing machine table drawer, Anderson et al.; Sewing machine treadle, J. T. Jones; Sewing machine wax thread, E. E. Bean; Shawl strap, W. Roemer; Ship, etc., hull of, C. G. E. Hennig; Shoe leather board, etc., Moore & Rogers; Skates, O. Edwards; Spear, casing, F. J. Fox; Spindle, G. Draper; Spoke-tenoning machine, G. M. Combs; Spoon, sheet metal, G. I. Mix; Stamping apparatus, J. I. Quaid; Steam brake, vacuum, J. C. Wightman; Swing, A. Panyard; Tap and faucet, M. Kreiss; Telegraph insulator, C. L. LeBaron; Thill coupling, E. P. Jandell; Tin from tin scrap, removing, H. W. Hauberg; Toy, L. Schultz; Trap, fly, Dickson & Cole; Trellis, house and garden, G. C. Setchell; Trunk lid stay, C. H. Parliament; Type cabinet, wood, T. C. Hacker; Valve for hydrants, stop, S. H. Brown; Valve, poppet, J. P. Flanders; Valve, stop, C. F. Murdock; Vehicle spring, W. H. Haskell; Vehicle spring, J. Smith; Vehicle sleighrunners, M. S. Brooks; Veterinary instruments, A. V. Rueff; Walls and ceilings, lining, W. Smith; Walls, plastering, P. G. Hubert; Water from the ocean, drawing, D. C. Spooner; Well tube point, F. Herington; Wheelwright machine, M. C. Buffington; Whips, manufacture of, Avery & Pratt; Windmill, D. Negrotto, Jr.

APPLICATIONS FOR EXTENSION.

Applications have been duly filed and are now pending for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:
30,685.—SEED DRILL.—H. Moore. Nov. 4.

EXTENSIONS GRANTED.

29,760.—HAMMER.—R. Boeklen.
26,785.—SEWING MACHINE.—D. Haskell.
29,789.—CULTIVATOR.—E. S. Huff.
29,790.—CATTLE TIE.—G. Hull.
29,816.—PRINTING PRESS.—J. E. Priest.

DESIGNS PATENTED.

7,634.—RUBBER OVERSHOE.—E. F. Bickford, Malden, Mass.
7,635.—CAP.—J. Harney, Brooklyn, N. Y.
7,636 to 7,646.—CARPETS.—O. Heineke, New Utrecht, N. Y.
7,647.—FUR JACKET.—M. Hillas, New York city.
7,648 to 7,661.—CARPETS.—H. Horan, East Orange, N. J.
7,662 to 7,669.—CARPETS.—L. G. Malkin, New York city.
7,670 to 7,674.—CARPETS.—E. J. Ney, Dracut, Mass.
7,675 to 7,679.—CARPETS.—H. Nordmann, New York city.
7,680.—CARPET.—G. W. Piggott, New York city.
7,681 to 7,684.—CARPETS.—W. H. Smith, Enfield, Conn.
7,685 to 7,687.—CARPETS.—J. H. Smith, Enfield, Conn.
7,688.—FLOW BEAM.—W. H. Wilder, Washington, D. C.
7,689 to 7,691.—CARPETS.—L. G. Malkin, New York city.
7,692 to 7,705.—CARPETS.—J. T. Webster, Phila, Pa.
7,706.—SPRINT HANDLE.—G. Wilkinson, Providence, R. I.
7,707.—SKIET.—J. W. Blackham, Brooklyn, N. Y.
7,708.—DRAWER PULL.—P. E. Guerin, New York city.

TRADE MARKS REGISTERED.

1,932.—BEE.—Cln. Bottled Beer Co., Cincinnati, O.
1,933.—IMPLEMENTS.—Keystone Manf. Co., Sterling, Ill.
1,934.—TOOTH CLEANSE.—D. G. Strawn, Boston, Mass.
1,935.—GAS REGULATOR.—Ward & Co., St. Louis, Mo.
1,936.—WATERPROOF GARMENTS.—A. K. Young et al., Boston, Mass.
1,937 to 1,940.—WHISKIES.—Elias Block & Sons, Cin., O.
1,941.—WINES.—I. Bush & Co., St. Louis, Mo.
1,942.—WHISKY.—Hoffheimer Bros. Cincinnati, O.
1,943.—TINE PICES.—F. H. Mathes, West N. Brighton, N. Y.
1,944.—WHISKY.—Shields & Co., Cincinnati, O.

SCHEDULE OF PATENT FEES.

Table listing patent fees: On each Caveat, \$10; On each Trade Mark, \$25; On filing each application for a Patent (17 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, \$30; On application for Extension of Patent, \$50; On granting the Extension, \$50; On filing a Disclaimer, \$10; On an application for Design (3 1/4 years), \$10; On application for Design (7 years), \$15; On application for Design (14 years), \$30.

CANADIAN PATENTS.

LIST OF PATENTS GRANTED IN CANADA AUGUST 13 TO 22, 1874.

- 3,758.—G. W. Harrison, Lansing, Mich., U. S. Improvements on pitman connections, called "Harrison's Pitman Connection." Aug. 13, 1874.
3,759.—T. E. Mullins, Hopewell Corner, New Brunswick. Improvements on steam cooking apparatus, called "Mullins' Improved Family Steamer and Condenser." Aug. 13, 1874.
3,760.—J. W. Herington and J. W. Stoakes, Mill Point, Ont. Improvements on horse collars, called "Herington's Improved Horse Collar." Aug. 13, 1874.
3,761.—R. Christie, Hamilton, Wentworth, Ont. Improvements on reaping and mowing machines, called "Christie's Improved Tilter and Guard for Reaping and Mowing Machines." Aug. 13, 1874.
3,762.—J. N. Miller, Bellefontaine, Ohio, U. S. Improvements on shifting seat buggies or convertible carriages, called "Miller's Convertible Buggy." Aug. 13, 1874.
3,763.—H. E. Wells, Van Wert, Ohio, U. S. Improvements on lumber drying kilns, called "Wells' Lumber Drying Kilns." Aug. 13, 1874.
3,764.—R. Teats, Central City, Colorado, U. S. Improvements on furnaces for roasting ore, called "Teats' Ore Roasting Furnace." Aug. 15, 1874.
3,765.—S. S. White, Philadelphia, Pa., U. S. assignee of N. Stow, Binghamton, N. Y., U. S. Improvements on dental engines, called "S. S. White's Dental Engine." Aug. 13, 1874.
3,766.—W. Watson and D. Watson, Somerville, Middlesex county, Mass., U. S. Improvement on friction mechanism for loose pulleys or gears, called "The Watson Pulley Friction Clutch." August 22, 1874.
3,767.—W. Abercrombie, Hamilton, Ont. assignee of R. L. Greenlee, Chicago, Cook county, Ill., U. S. Improvements in sash and door clamps, called "Greenlee's Sash, Blind, and Door Clamp." August 22, 1874.
3,768.—P. Wallace, London, Middlesex county, Ont. Improvements on machines for making matches, called "Wallace's Self Feeding and Racking Match Making Machine." August 22, 1874.
3,769.—J. Spratt, Fer Emina, St. Martin's, Guernsey, Channel Islands, and now of London, England. Improvements on solidified tea, called "Spratt's Solidified Tea." August 22, 1874.
3,770.—H. Harmer, Southamton, Bence county, Ont. Improvements on the working of railway switches, called "The Safety Switch Guard." August 22, 1874.
3,771.—J. H. Cleveland, Buffalo, Erie county, N. Y., U. S. Improvements on tuckers for sewing machines, called "J. H. Cleveland's Tucker." August 22, 1874.
3,772.—C. F. Gardner, London, England, and E. Pocock, Paris, France. Improvements on machines for last ing the uppers of boots and shoes, called "Gardner & Pocock's Boot and Shoe Laster." August 22, 1874.
3,773.—G. S. Lacy, New York city, U. S. and U. C. Allen, Glen's Falls, Warren county, N. Y., U. S., assignees of A. C. Cronald, New York city, U. S. Improvements in gas regulators, called "Cronald's Improved Gas Regulator." August 22, 1874.
3,774.—H. Beauchamp, Montreal, Montreal Dist., P. Q. Ameliorations aux machines a laver, dite "La Laveuse a Valve de la Puissance." August 22, 1874.
3,775.—W. Franz, Bucyrus, Crawford county, O., U. S., & W. Pope, Crestline, Crawford county, O., U. S. Improvements on knitting machines, called "Franz & Pope's Improved Automatic Knitting Machine." August 22, 1874.

Advertisements.

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