

partition *e*, reservoir *f* and agitator *g*, in combination with burning gas supply pipe *V* and eduction pipe *IX* for burnt gas. 12th. The ammonium furnaces for the decomposition of the organic vapours, and for the formation of carbonate of ammonia, constructed as described, in combination with burning gas supply pipe *V* and eduction pipe *IX*, and having therein preferably six cylinders provided with top and bottom covers and intermediate sieve like bottoms, these cylinders being connected separately with inlet gas pipe *h* and one of pipe *XII*. 13th. In an apparatus for manufacturing sulphate of ammonia from moor mass, the combination of the cineriferous furnace *I* II III, ammonium furnaces *VI* VII VIII, preheater *IV*, gas supply pipe *V*, eduction pipes *IX*, regenerators *Xa* *Xb*, crystallizing pan *XI*, refrigerator *XIII*, eduction pipe *XIV*, gypsum digesters *XV* and *XVI*, reservoir *XVII* and filter press *XIX*, with chalk gypsum cylinders and chamber *XXI*, drain pipe press *XXIX* and any suitable gas engine and exhaustor 14th. In the manufacture of sulphate of ammonia from moor mass or meadow land, the utilization of the burning gas arising therefrom for supplying heat to the different vessels and furnaces, driving engines and heating chambers employed in operating the process.

No. 9404. Improvements in Baling Presses. (*Perfectionnements aux presses d'emballage.*)

Peter K. Dederick, Albany, N. Y., U. S., 22nd November, 1878, for 5 years.

Claim.—1st. The toggle *B* connected to and operated by a crank, eccentric cam and adjustable screw or horse lever. 2nd. The screw or horse lever *C* adjustably connected to the crank, eccentric or cam, and in combination with the toggle connected and vibrated laterally.

No. 9405. Improvements in Car Bumpers. (*Perfectionnements aux buttoirs de wagons.*)

Charles C. Neimeister, Chicago, Ill., U. S., 22nd November, 1878, for 5 years.

Claim.—A wrought metal rail car bumper and draw-head forged in two parts, the part *A* extended and curved laterally, and the edges welded along the lines *a* *x* lengthwise of the bumper to form a coupler-socket and the parts *B* extended longitudinally to form the shank or draw bar.

No. 9406. Improvements on Acoustic Telegraphs. (*Perfectionnements aux télégraphes acoustiques.*)

John H. Irwin, Philadelphia, Pa., U. S., 22nd November, 1878, for 15 years.

Claim.—1st. In an acoustic telegraph, a transmitter composed essentially of two pencils or needles *e* *f*, one or both of which are pointed and brought

into contact and interposed in the line wire of a battery current; 2nd. In an acoustic telegraph a receiver provided with two pencils or needles *e* *f*, one or both of which are pointed and provided with suitable mechanism for vertical adjustment of the same; 3rd. In an acoustic telegraph transmitter, two pencils or needles *e* *f*, one or both of which are pointed and one of said needles freely suspended with its end adjustably in contact with the opposite needle; 4th. In an acoustic telegraph transmitter the combination at the point of variable resistance of a pointed needle of platinum and a pencil of carbon; 5th. In an acoustic telegraph transmitter, the combination at the point of variable resistance of a pointed needle suspended by an elastic support over and in contact with a stationary pencil of carbon; 6th. In an acoustic telegraph transmitter a pointed needle suspended by an elastic support combined with an adjusting device, whereby said needle may be adjusted as to pressure of contact at its point; 7th. In an acoustic telegraph transmitter, a pointed needle suspended by an elastic support combined with a protecting tube or jacket to prevent disturbance by atmospheric currents; 8th. In an acoustic telegraph transmitter a pointed needle freely suspended in a vertical position and in contact at its point with another pencil combined with fixed guides, whereby the needle is retained in a vertical position; 9th. In an acoustic telegraph transmitter, a movable needle combined with fixed guides to restrict the movement of the needle to a direction convenient with its axis; 10th. In an acoustic telegraph transmitter provided with a movable needle guides of hard polished anti friction material, such as rubber, &c.; 11th. In an acoustic telegraph a transmitter combined with a non-resonant jacket to enclose the same; 12th. In an acoustic telegraph transmitter a stationary sensitive apparatus provided with a non-resonant jacket combined with flexible tubes having suitable mouth pieces; 13th. An acoustic telegraph transmitter combined with an electro magnetic regulator to control the contact resistance in said sensitive plain; 14th. An acoustic telegraph transmitter combined with a sound producing apparatus permanently attached for the purpose set forth.

No. 9407. Improvements in Horse Hoes.

(*Perfectionnements aux houes a cheval.*)

Joshua Henshaw, St. Hyacinthe, Que., 22nd November, 1878, for 5 years.

Claim.—1st. The shovel *D* fixed to the standard *B* projecting obliquely forward at lower end, convex in front and with wings extending outwards and rearwards and adapted to receive the point *E*, bolted thereto, the lower edges of the shovel being on or nearly on a line horizontally with the lower edges of the point. 2nd. In combination with the frame composed of the plow beam *A*, standard *B*, handles *C* and bolts *b* *c* constructed substantially in the manner specified, the plough or shovel *D* and removable point *E* the whole combined in the manner set forth.

List of Patents issued up to 12th December, 1878, but not yet Officially published in the Patent Office Record.

No. 9419. G. Bartholomew, Chicago, Ill., U. S. A., "Beer Brewing Process," 2nd December, 1878.

No. 9420. E. Fisher, Worcester, Mass., U. S. A., "Leather Cutting Machine," 2nd December, 1878.

No. 9421. C. D. Marshall and H. D. Taisey, Fitch Bay, Que., "Axle Trimmer and Wheel Adjuster," 2nd December, 1878.

No. 9422. S. M. Dennison, Silver City, Idaho, U. S. A., "Stop Cock Attachment," 2nd December, 1878.

No. 9423. C. H. Augel, Rochester, N. Y., U. S. A., "Blacking Box," 2nd December, 1878.

No. 9424. J. G. Malcolm and J. Pelton, Innerkip, Ont., "Fanning Mill Elevator," 2nd December, 1878.

No. 9425. E. Robinson, Chatham, and A. F. Holmes, Napanee, Ont., "Hot Air Furnace," 2nd December, 1878.

No. 9426. W. F. Flagg, Bloomington, Ill., U. S. A., "Mode of Heating and Ventilating Buildings," 2nd December, 1878.

No. 9427. E. de Zuccato, Charterhouse Street, London, Eng., "Method of Producing Writings, Drawings and Delineations," 2nd December, 1878.

No. 9428. J. N. Ellis and R. W. Rule, Aylmer, Ont., "Mechanical Movements," 2nd December, 1878.

No. 9429. J. Darling, Newark, and J. N. Poe, Toledo, Ohio, U. S. A., "Wash Board," 2nd December, 1878.

No. 9430. T. S. Lewis, Saco, Me., U. S. A., "Ore Separator," 2nd December, 1878.

No. 9431. W. D. C. Pattison and N. S. Woodward, Sherbrooke, Que., "Dairy Can," 2nd December, 1878.

No. 9432. A. Kerr and L. Silberman, Montreal, Que., "Valve Spindle," 2nd December, 1878.

No. 9433. W. G. Flanders, Newport, N. H., U. S. A., "Steam Cooking Kettle," 2nd December, 1878.

No. 9434. Jno. Kimball, Boston, Mass., U. S. A., "Anti-friction Compound," 3rd December, 1878.

No. 9435. J. B. West, Genesee, N. Y., U. S. A., "Water Pressure Regulator," 3rd December, 1878.

No. 9436. M. H. Strong, Brooklyn, N. Y., U. S. A., "Illuminating Gas," 3rd December, 1878.

No. 9437. T. Dark, Buffalo, N. Y., U. S. A., "Receivers and Stench Traps," 3rd December, 1878.

No. 9438. H. Frash, Cleveland, Ohio, U. S. A., "Oil Distilling Apparatus," 3rd December, 1878.

No. 9439. W. C. Sillar, London, R. G. Sillar, Lec, and C. Rawson, London, Eng., "Improvements in Decolorizing, Purifying and Utilizing Sewage Urine &c." (Extension of Patent No. 2899,) 5th December, 1878.

No. 9440. Jas. Cannon, Allanburg, Ont., "Dredge Shovel," 5th December, 1878.

No. 9441. Jno. Carr, Minneapolis, Minn., U. S. A., "Thill Coupling," 5th December, 1878.

No. 9442. F. W. Schroeder, N. Y., U. S. A., "Laminated Railway Cushion," 5th December, 1878.

No. 9443. D. Brooks, Philadelphia, Pa., U. S. A., "Method of Insulating Telegraph Wires and Laying Telegraph Cables," 5th December, 1878.

No. 9444. Jno. Harley, Wallaceburg, Ont., "Hook Headed Carpet Tack," 5th December, 1878.

No. 9445. J. Kinney, London, Ont., "Instrument for Designing and Cutting Scrolls and Curved Lines," (Extension of Patent No. 2954,) 5th December, 1878.

No. 9446. E. R. Whitney and H. J. Beemer, Montreal, Que., "Fog Horn," 6th December, 1878.

No. 9447. C. Burgess, Portsmouth, Ohio, U. S. A., "Iron and Steel Manufacturing Process," (Extension of Patent No. 2927,) 10th December, 1878.

No. 9448. M. T. Boelt, Battle Creek, Mich., U. S. A., "Wood Working Machine," (Extension of Patent No. 2941,) 10th December, 1878.

No. 9449. F. W. Schroeder, N. Y., U. S. A., "Car Truck," 10th December, 1878.

No. 9450. C. C. Barton, Rochester and J. B. West, Genesee, N. Y., U. S. A., "Water Meter," 10th December, 1878.

No. 9451. W. H. Van Wormer and G. W. Hayes, Pierceton, Ind., and C. A. Veago, Chicago, Ill., U. S. A., "Boot Counter Support," 10th December, 1878.