

working in recesses formed in the side of the wheel-rim; 6th. The combination of the arms *c*, and flange *g*, for opening the buckets gradually as the wheel revolves; 7th. The curved projections *k* to close the buckets gradually at the proper time as the wheel revolves; 8th. The method of reclosing the buckets, which consists in causing the water, after it has done its work in impelling a bucket forward, so to change its course as to strike against the back of the same bucket; 9th. The curved and wedge shaped chambers *h* perforated or slotted on their sides next to the wheel and placed as described with relation to the openings *q* whereby the buckets are closed by the escaping water; 10th. The combination of the chute *p*, case *A*, partition *E* flange projection *f* and openings *q*; 11th. The combination of the buckets *b*, arms *c*, flanges *g*, flanges *k*, wheel *h*, and shaft *S*; 12th. The combination of the chute *p*, passages *F*, openings *q*, buckets *b*, arms *c*, flanges *g*, flanges *k*, wheel *h* and shaft *S*.

No. 8364. Improvement in Lawn Sprinklers.

(*Perfectionnement dans les arrosoirs de gazon.*)

Richard P. Street, Hamilton, Ont., (Assignee of Cornelius E. Haynes, Boston, Mass., U.S.) 26th January, 1878, for 5 years.

Claim.—1st. A screw-threaded thimble *A*, with neck *B* annular projection *C*, orifice *F* to be used in combination with a lawn hose stand; 2nd. In combination with a lawn sprinkler of the ear-shaped wings *E E* attached to a swivel *D*, or its equivalent; 3rd. A lawn sprinkler consisting of the combination of thimble *A*, neck *B*, annular-ring *C*, swivel *D*, wings *E E* and openings *F*.

No. 8365. Improvements on Coal Stoves.

(*Perfectionnements aux poeles à charbon.*)

James Good, Toronto, Ont., 26th January, 1878, for 5 years.

Claim.—1st. The oven *F* consisting of inner and outer walls *G H*, with sides provided with doors *I*, forming a circulating passage having an outlet pipe *K*, connecting the circulating passage with a pipe *L*, said passage connected to an aperture *J*, in the stove above the fire-pot; 2nd. The elevated oven attachment *F* having a circulating passage around the same formed by the walls *G H* in direct connection with an aperture *J* in the stove *A* above the fire-pot *C*, and terminating in a smoke pipe *L* connected to the stove above the oven.

No. 8366. Improvements on Multiple Telegraphy.

(*Perfectionnements à la télégraphie multiple.*)

Eli-La Gray, Chicago, Ill. U. S., 26th January, 1878, for 5 years.

Claim.—1st. The described improvement in telegraphy under the Morse-Telephonic system, which improvement consists in keeping an even electric force upon the line, whether the battery or any portion of it is in vibration or at rest, by compensating the vibrations in the electric force caused by throwing the telephonic system on or off the line; 2nd. The combination in an electric circuit of a Morse transmitting apparatus, telephonic transmitting apparatus a main battery and a compensating adjustment, whereby the disturbance of equilibrium caused by the throwing of the telephonic apparatus into and out of line is instantaneously and automatically compensated; 3rd. The combination in a telegraphic circuit of a main battery, a compensating adjustment a telephonic transmitter, a continuity preserving key, and a shunt circuit, whereby the equilibrium of the electric force is preserved; 4th. The combination with a telephonic transmitting apparatus and a Morse apparatus of a rheostat which shunts the key and relay of the ordinary Morse apparatus; 5th. The combination of two branch-circuits in a main line, one embracing rheostat, the other one or more Morse-relays and keys; 6th. The combination in one circuit of a telephonic apparatus, Morse apparatus a rheostat shunting the Morse key and relay and a condenser which when the Morse key is closed, shunts both relay and rheostat, and when opened, shunts the resistance only, whereby an even vibratory current is maintained upon the line; 7th. The combination of branch-circuits, a key a relay a resistance and a condenser which shunts the key and relay when the key is closed and the resistance when the key is opened; 8th. The combination in a branch-circuit of a relay, a key and a condenser shunting them.

No. 8367. Improvements on Flue Cleaners.

(*Perfectionnements aux nettoyeurs de cheminées.*)

Orson B. Kendall, Buffalo, N. Y., U. S., 26th January, 1878, for 5 years.

Claim.—1st. The curved springs *A*, provided with tips or scrapers at each end in combination with the centre piece *A*, longitudinally movable expanding disks *B B* and rod *C*, provided with a right and left hand screw; 2nd. The cone-shaped guard nut *J*, combined with the rod *C* and handle *H*, serving as a guard for that end of the device and a coupling for the handle.

No. 8368. Improvements on Steam Engines.

(*Perfectionnements aux machines à vapeur.*)

John Gohlie, Galt, Ont., 26th January, 1878, for 5 years.

Claim.—1st. The steam passages in cylinder; 2nd. The cams and lifters for operating the steam valves and their arrangement in connection with the governor for regulating the point of cut off of steam; 3rd. The exhaust cams with slides and lifters with the general arrangement of steam passage, valve gearing, &c.

No. 8369. Improvements on Curry Combs.

(*Perfectionnements aux étrilles.*)

Charles A. Hotchkiss, Bridgeport, Ct., U.S., 26th January, 1878, for 5 years.

Claim.—1st. A grasping device *A* for the fingers and a thumb rest *B* for the thumb; 2nd. A grasping device *A* for the fingers, a thumb rest *B* for the thumb, and a side handle *C*; 3rd. A grasping device *A* for the fingers made out of one piece of metal, so as to form two bars extending across its back, with a thumb rest *B* for the thumb.

No. 8370. Improvements on Pumps.

(*Perfectionnements aux pompes.*)

Tronson Draper, Petrolia, Ont., 26th January, 1878, for 5 years.

Claim.—1st. The weight *A* and its connection with the valve *D* by means of the tube *B* which also serves as a strainer, and the guide *C* combined and arranged as described; 2nd. The strainer *B*, tube *G* and the guide *C* in combination with the barrel *H* having the valve *D*, and valve *E*.

No. 8371. Improvements on Telephones.

(*Perfectionnements aux téléphones.*)

Cyrille Duquet, Quebec, Que., 1st February, 1878, for 5 years.

Claim.—1st. The combination of a bundle or cluster of permanent steel magnets *C*, of any shape, with the body of a telephone; 2nd. The angles *K* inside the mouth-piece.

No. 8372. Improvements on Rotary Churns.

(*Perfectionnements aux barattes rotatoires.*)

Ezra Buell, Henvelton, N. Y., U. S., 1st February, 1878, for 10 years.

Claim.—1st. The post *A* and side pieces *D* adjustably connected together by the platform *F*, having cross bars *E* and braces *G* to support the churn *C*; 2nd. The bearings *B* having drop lugs *f*, to secure them to the posts *A A* by screws; 3rd. The churn barrel *C*, constructed with wings *H*, inserted between the staves and bound therewith by the hoops, and having unequal inclined surfaces *d* the meeting point *g* alternating from opposite ends of the barrel.

No. 8373. Improvements on Headlights for Locomotives.

(*Perfectionnements aux lampes de locomotives.*)

Charles T. Ham, Rochester, N. Y., U. S., 1st February, 1878, for 5 years.

Claim.—1st. The combination of the burner *B*, reflector *C*, reservoir *D* and supply tube *a*; 2nd. The combination of the burner *B*, hinged reflector *C* and adjusting screw *h*; 3rd. The combination of the burner *B*, hinged reflector *C*, reservoir *D*, supply-pipe *a* and the slide board *F*; 4th. The combination of the burner *B*, hinged reflector *C*, reservoir *D*, supplementary reservoir *E* and supply tube *a*; 5th. The combination of the burner *B*, hinged reflector *C*, reservoir *D*, perforated slide board *F* and perforated base-board *G*.

No. 8374. Improvements on Ironing and Fluting Irons.

(*Perfectionnements aux fers à repasser et lugouter.*)

William Chalmers and William N. Reynolds, Detroit, Mich. U.S., 1st February, 1878, for 5 years.

Claim.—1st. The hollow irons *A A*; 2nd. The heater; 3rd. The hollow fluter; 4th. The roller of the fluter; 5th. The handle of the double roller; 6th. The combination of the hollow iron, heater, hollow fluter and roller, and the handle.

No. 8375. Improvements on Millstone Dressing Machines.

(*Perfectionnements aux machines à rabotter les meules.*)

Samuel E. Griceom, Pottsville, Pa. U. S. (Assignee of Leonard Moore, Cole's Creek, Pa., U. S.) 1st February, 1878, for 5 years.

Claim.—1st. The combination of the following elements, namely: a be-plate *C* to bear on the stone a cutter carriage and an intermediate plate through the medium and by the adjustment of which the said cutter-carriage may be tilted; 2nd. The adjustable guide plate *A*, in combination with the be-plate *C* and screws *D D*.

No. 8376. Improvements on Metal Neck Yokes.

(*Perfectionnements aux jougs métalliques.*)

George E. Marvine, Darius S. Jackson and Maurice Farrington, (Assignees of William H. Johnson,) Delhi, N. Y., U. S., 1st February, 1878, for 5 years.

Claim.—1st. A hollow malleable iron neck-yoke; 2nd. In combination with the metal neck-yoke *A*, the central ring *C*, attached thereto by means of the swivel eye *B*.

No. 8377. Improvements on Sleigh Runners.

(*Perfectionnements aux patins des traîneaux.*)

James Boydell, Kingsey, Que., 1st February, 1878, for 5 years.

Claim.—The steel cutters *B*, with the lever *C*, and the knife *D*, also the spring *E*, with the socket *F*, and the guard *G*.

No. 8378. Improvements on Baking Ovens.

(*Perfectionnements aux fours de boulangeries.*)

John F. Robbins and Melvin J. Starr Osage, Iowa, U.S., 1st February, 1878, for years.

Claim.—The oven *A* with a close fitting cover *B*, with supports or flanges *D D D*.

No. 8379. Improvements on Anchor Trippers.

(*Perfectionnements aux bossoirs.*)

Elisha F. Robbins, Reading, and Nathaniel T. Gorham, Boston, Mass., U.S., (Assignees of Elisha Robbins, Barnstable, Mass., U. S.) 1st February, 1878, for 5 years.

Claim.—1st. The plate *A* formed to fit to the upper surface of the rail and provided on its upper side with one or more projections *b*, and one or more recesses *c*, for receiving and retaining or holding an anchor fluke and allowing and aiding in its discharge from such plate; 2nd. The plate *A* provided with a flange or guard *a*, extending down from one or each