

No. 6473. Improvements in Lifting Jacks.*(Perfectionnements aux crics.)*

Lewis O'Hara and Henry Cooper, Oswego, N. Y., U. S., 24th August, 1876 for 5 years.

Claim.—The combination of the hollow standard S with its male screw b, the rod R, the lever L with its bifurcated short arm a, the connecting rods C C and the screw slide S.

No. 6474. Improvements in the Mariners' Compass.*(Perfectionnements dans le compas de marine.)*

Silas Best, St. Louis, Mo., U. S., 24th August, 1876, for 5 years.

Claim.—1st. The combination of the magnetic needle A provided with the pointer N, the card B and the nut C; 2nd. The combination of the magnetic needle A provided with the north and south pointers N and S, the card B and the nut C; 3rd. The combination of a suitable securing device with a card and needle, the card and needle being relatively adjustable as specified.

No. 6475. Gas Apparatus. (Appareil à gaz.)

Thaddeus S. C. Lowe, Morristown, Pa., U. S., 24th August, 1876, for 5 years.

Claim.—1st. Dropping or otherwise admitting in limited quantities continuously or intermittently hydro carbon oils or other carbonaceous substances, liquid or solid, upon the top of a thick mass of coal or other carbonaceous substances in a state of incandescence in a close chamber previously heated by direct internal combustion, with or without the introduction of steam, and then for the purpose of superheating and fixing the gases of said chamber passing them from said chamber into and through a second chamber which also has been previously heated by direct internal combustion; 2nd. Superheating steam by passing it through a chamber previously heated by direct internal combustion then causing said steam to pass through a mass of coal or other carbonaceous substances, in a state of incandescence, in a close generating chamber to decompose the steam, and afterward for the purpose of still further heating the gases of said generating chamber, and thereby producing a more fixed gas passing the gases from said generating chamber into and through another superheating chamber which has been previously heated by direct internal combustion; 3rd. In utilizing the heat contained in the gases evolved in generator a the process which consists in passing said gases directly through the boiler r or through the resuperheater, and thence through said boiler r for the generation of steam, the superheating of steam or the heating of air in said boiler r; 4th. In the generation of steam, the process which consists in applying heated gases to the top portion of a boiler constructed with upright tubes and causing such gases to pass down through said tubes and out at the bottom of the boiler; 5th. The wash box U constructed with an inclined diaphragm i in combination with the entrance and exit pipes for gas; 6th. The combination of the generator a, superheater d, the heat restorer i and means for forcing air through pipe k around the tubes of the heat restorer i through pipes l, m, and n, into the chamber g for generating and securing intense combustion in said chamber g; 7th. The combination of the generator a, superheater d, heat restorer i, elevated oil tank m, the upright tubular boiler r, with their several connecting pipes and other appurtenant parts constituting apparatus for rapidly evolving illuminating gas and fixing the same in its gaseous condition; 8th. The combination of the generator a, superheater d, heat restorer i, elevated tank m, upright tubular boiler r, wash box U, scrubber y, with their several connecting pipes and other appurtenant parts for rapidly evolving illuminating and heating gas, fixing the same in its gaseous condition and purifying the same preparatory to storage or immediate use.

No. 6476. Improvements on Organs, &c.*(Perfectionnements aux orgues, &c.)*

Raphael E. Letton, Quincy, Ill., U. S., 24th August, 1876, for 5 years.

Claim.—1st. A means of sounding a reed, the hands being free to play any other note or notes while the reed is still speaking; 2nd. A knee pedal or swell for prolonging or silencing a note; 3rd. An organ or other analogous instrument in which one note may be sounded as desired, while the hands are free to play any other note or notes; 4th. An action frame having an elastic pressure; 5th. An action frame having an elastic pressure in combination with a means of operating a pitman of an organ; 6th. An action frame which being depressed permits and being released determines the operation of the sound producing element of an organ; 7th. A jack pivoted to an elastic action frame; 8th. The pedal R and arm crank T in combination with the action frame H and spring L; 9th. The coupler E in combination with the jack F; 10th. The combination of the lever z and jack F.

No. 6477. Improvements on Locks.*(Perfectionnements aux serrures.)*

George A. Shaw (Assignee of Robert W. Semple), Toronto, Ont., 24th August, 1876, for 5 years.

Claim.—1st. The latch D placed within the car B and operated by the handle H, in combination with the catch O placed on the inside of the door A; 2nd. The quadrant plate E keyed or otherwise fastened to the latch stud C and having a slot e in combination with the latch pin F; 3rd. The pivoted latch handle G in combination with and secured to the eye H by means of the seal B or its equivalent; 4th. The pivoted latch D, provided with a tail piece I fitting in or resting upon the locking bolt G, in combination with the discs R or their equivalent; 5th. A detachable index knob M in combination with the stud L for operating a combination lock.

No. 6478. Glove Fastener. (Agrafe de gant.)

William F. Foster, Chicago, Ill., U. S., 27th August, 1876, for 5 years.

Claim.—The glove with the wrist opening provided with studs on each side of the frame, and a lacing cord or cords secured by one end to one of the studs and having a ring or ball on the other end, whereby said opening may be laced without the use of eyelets.

No. 6479. Gas Motor Engine.*(Machine à moteur à gaz.)*

Nicolaus A. Otto, Dautz, Germ., 24th August, 1876, for 5 years.

Claim.—1st. A gas motor engine wherein a combustible gas mixture is admitted to the cylinder separate from a charge of air or incombustible gas at atmospheric or higher pressure and in such manner that the combus- tible gas is more diluted the farther it is from the point of ignition, whereby the development of heat and the expansion or increase of pressure produced by the combustion are rendered gradual; 2nd. A gas motor engine wherein by one instroke of the piston a charge of combustible and incombustible gas drawn into the cylinder by its previous instroke is compressed so that the compressed charge when ignited propels the piston during the next out- stroke and the products of combustion are expelled by the next instroke of the piston; 3rd. In a gas motor engine the method of regulating the admission of the combustible gas to the cylinder by means of a slide P worked by a cam R, the position of the said cam on its shaft being determined by a governor Q so that when the speed of the engine increases the combustible charge is reduced; 4th. In gas motor engines the method of working the admission and emission slide valves D P and S of the cylinder A from a shaft K revolving at half the speed of the crank shaft I so that the piston has to make two strokes for each stroke of the said valves; 5th. The construction of the slide D and slide cover L, with ports and passages so arranged as to establish communication consecutively between the port C and the outer air a supply of combustible gas and an igniting flame; 6th. In gas motor engines the combination of the cylinder A, piston B, engine shaft I, counter shaft K, crank R, slide D, gas slide P, cam R, escape valve F, lever F' and cam F''.

No. 6480. Improvements in Bank Checks, &c. (Perfectionnements aux mandats de banques, &c.)

William A. Smith, Clifton, Ont., 24th August, 1876, for 5 years.

Claim.—1st. The employment of a check, draft, &c., upon which a scale or table is printed from which a character or characters may be chosen to indicate a point upon which a character or characters, written with an invisible fluid, will appear upon the application of an element that shall be understood by the maker of such check, draft, &c., and the banker to whom it is addressed; 2nd. The employment of a check, draft, &c., upon which is printed, stamped or written a character or characters that will indicate a point where the amount intended to be represented of such paper, written with invisible fluid, will appear by the application of an element that shall be understood by the maker of such check, draft, &c., and the banker to whom it is addressed; 3rd. The employment of a check, draft, &c., upon which is printed a scale from which a character or characters may be chosen or indicated by a card held by a banker that will indicate a point upon such check, draft, &c., when the card is written with invisible fluid and a character or characters will appear by the application of an element that shall be understood by the maker of such check, draft, &c., and the banker to whom it is addressed; 4th. The employment of a card upon which is printed a scale by which a number, letter or character on a check, draft, &c., may be indicated (of which the card is an associate detective) that indicates a point where a number, letter or character will appear on the check, draft, &c., by which it is an associate, by the application of an element that shall be understood by the maker of such check, draft, &c., and the banker to whom it is addressed; 5th. The combination or association of a check, draft, bonds, notes, bills of exchange and other negotiable paper and a scale that shall assist or enable a banker to detect fraud by the employment of a character or characters written, stamped or printed with a fluid that shall remain invisible until subjected to an element that will make it appear; 6th. The employment of a fluid for printing, stamping or writing characters on negotiable paper that remain invisible until subjected to an element that will make such printing, stamping or writing visible and remain so.

No. 6481. Improvement in Fork Tines.*(Perfectionnement des fourchons de fourches.)*

Edward C. Jones and William Chapin (Assignees of William H. Rodden), Toronto, Ont., 5th February, 1876 (extension of Patent No. 725), for 5 years.

Claim.—Making the tines or prongs of hay, straw, barley or manure forks full or rounded on the upper or lifting side and tapering them off to an oval or eel tail-shaped edge on the other or under sides, also in the combination of the full or rounded upper side with the oval or eel tail-shaped under side in the tines of hay or other fork.

No. 6482. Fog Alarm. (Alarme en cas de brume.)

Lewis Smith and Robert Booth, Sherbrooke, Que., 30th August, 1876 for 5 years.

Claim.—1st. A compound fog alarm consisting of a boiler E, steam cylinder S with its piston A, so constructed that the piston C being raised by the pressure of steam shall cause the piston A to rise until the pressure is removed when the descent of the piston A forces the air contained in the cylinder T through a horn or whistle and at the same time draws air through another horn or whistle to fill up the vacuum formed by the descent of the piston; 2nd. In combination with the compound fog alarm described in the above claim a controlling mechanism whereby a valve in connection with the boiler is opened on the completion of the upward stroke of the piston C and A and closed on the completion or partially and momentarily closed at intervals variable at will during the downward stroke of said pistons, whereby the time occupied by the formation of the steam used for raising the pistons causes the intervals between the blasts or signals and the varied escape of steam when formed causes corresponding momentary interruptions of the said signals; 3rd. In combination with the air passage N of the air cylinder T a vacuum or reversed reed.

No. 6483. Improvements on Rotary Pressure Blower.*(Perfectionnements aux soufflets rotatoires à pression.)*

Thomas S. Dixon, Philadelphia, Pa., U. S., 30th August, 1876, for 5 years.

Claim.—1st. A rotary blower in which are combined the following elements namely: a cylinder H with two vanes I P; a cylinder G with two co-