

No. 26,006. Combined Table and Writing Desk. (*Table-pupitre.*)

Ira W. Moore, New York, N. Y., U. S., 15th February, 1887; 5 years.

Claim.—1st. In a combined table and writing desk, the combination, with the top *c* having a stationary chamber between its upper and lower sides, and being hinged on the lower side and about midway from its centre to its back edge to the back edge of the stand *a* *b* of the desk top *g*, hinged at its back edge to the lower side of the table top, forward of the hinge joints connecting the table top and stand, and the thrust bearing *f* located below the top of the stand and relatively to the extension of the table top back of the back edge of the stand, substantially as described. 2nd. The improved combined table and writing desk, consisting of the stand *a* *b*, the table top *c* hinged to the stand *a* *b*, and the writing desk top *g* hinged to the table top, said table top being adapted to be swung up and to rest in an upright position, said desk top being adapted to be raised up automatically and be supported in a sloping or inclined position, and said desk top having a sliding motion on the supporting stand and an automatic locking and unlocking catch *k*, *l*, substantially as described. 3rd. The improved combined table and writing desk consisting of the stand *a* *b*, the table *c* hinged to the stand *a* *b*, and the writing desk top *g* hinged to the table top, said table top being adapted to be swung up and to rest in an upright position, and having the chamber *i* and said desk top being adapted to be raised up automatically and be supported in a sloping or inclined position, substantially as described. 4th. The improved combined table and writing desk, consisting of the stand *a* *b*, the table *c* hinged to the stand *a* *b*, and the writing desk top *g* hinged to the table top, said stand *a* *b* having an ink bottle receptacle under the writing desk top, and said desk top and stand having a fastening device *k*, *l*, substantially as described.

No. 26,007. Hot Water Heating Boiler.(*Chaudière de Calorifère à eau chaude.*)

Donald McPhie, Hamilton, Ont., 15th February, 1887; 5 years.

Claim.—1st. In a hot water heating boiler, water sections connected by a central tube, and containing horizontal diaphragms having openings for water to rise through them, and each alternate section provided with smoke openings for the products of combustion to pass through to the exit flue, substantially as and for the purpose specified. 2nd. In a hot water heating boiler, the combination of the alternate sections *F* and *H*, the same connected together by nipples *b* the former having smoke openings *a* and smoke openings *f* in diaphragms *I*, substantially as and for the purpose specified. 3rd. In a hot water heating boiler, the combination of the sections *F* and the inner diaphragms *I*, the said sections provided with openings *a* and the diaphragms *I*, with openings *f* and *g*, all arranged substantially as and for the purpose specified. 4th. In a hot water heating boiler, the combination of the sections *H* and the inner diaphragms *I*, the said sections provided with central openings *b* and the said diaphragms with openings *e*, all arranged and constructed substantially as and for the purpose specified. 5th. In a hot water heating boiler, the combination of the sections *F*, *H*, diaphragms *I*, *I*, openings *a*, *d*, *e*, *g*, inlet *B* and outlet pipes *C*, all arranged and constructed substantially as and for the purpose specified.

No. 26,008. Rotary Steam Engine.(*Machine à Vapeur Rotatoire.*)

David G. Wherry, Alexandria, Neb., U. S., 15th February, 1887; 5 years.

Claim.—1st. In a rotary and steam engine, the side casing plates provided with slots *A*, in combination with the rotary piston having eccentric grooves within which slide blocks *F* with projecting pins *d* which engage with the aforesaid grooves and reciprocating bars, said bars having attached thereto out-offs *B*, substantially as shown and for the purpose set forth. 2nd. In a rotary engine, the combination, with the out-offs *B*, of a rotary piston having a projecting portion *E*, and eccentric grooves *e* for operating sliding blocks *F*, which are connected to the out-offs *B*, so that said out-offs will be moved by the piston, as substantially as shown and for the purpose set forth. 3rd. In a rotary engine, the piston *E* provided with eccentric grooves, to which are connected rods for reciprocating the valves which cover the supply-ports, and also valves for opening and closing the exhaust-ports, substantially as shown and for the purpose set forth. 4th. In a rotary engine, the out-off valves *a*, which reciprocate from the supply-ports, said valves being connected to each other by a rod *p* and rock-shaft *p*; having an upturned end which engages with projections formed on an oscillating plate *P*, said plate being moved by an eccentric *c* attached on the shaft of the piston, substantially as shown and for the purpose set forth. 5th. In a rotary engine, the ports *g*, *g* connected to the steam-supply by branch pipes, and valve *T* connected with said supply-pipes so as to admit steam from the boiler into either of said pipes, so as to cause the engine to rotate in a different direction, substantially as shown and for the purpose set forth. 6th. In a rotary engine, the plates provided on opposite sides with slots *A*, within which are located sliding blocks *F* having projecting pins *d* on opposite sides, said pins engaging with eccentric grooves *e* formed in the piston, and with sliding bars *D* to which out-offs are attached, so that the out-offs will be moved out of the path of the projecting portion *E*, and inlet and out-off valves operating over the supply and exhaust ports so as to change the entrance and exhaust of the steam to and from the piston, the valve and out-offs being operated from the piston and its shaft, substantially as shown and described. 7th. In a rotary steam engine, the plate *P* having perforations in which the upturned ends of the rods *c* are connected to the out-offs for the exhaust-ports, and plate *P* having projections *r* which engage with a rock-shaft for reciprocating the rod which carries the valves which cover the inlet ports, said plates being operated by eccentrics rigidly attached to the shaft of the rotary piston, the parts being combined and organized substantially as shown and for the purpose set forth.

No. 26,009. Steam Radiator.(*Serpentin de Calorifère.*)

William Kirkwood, Guelph, Ont., 15th February, 1887; 5 years.

Claim.—1st. A radiator composed of one or more vertical wrought metal tubes, rolled so as to leave two longitudinal passage-ways extending from a point near the bottom of the tube to a point near the upper end thereof, which latter end is welded so as to leave a space by which the two passage-ways are connected, the bottom end of the tube being screwed into a base having a passage-way designed to connect the passage-ways of all the tubes screwed into the said base, substantially as and for the purpose specified. 2nd. A radiator composed of one or more corrugated wrought metal tubes *B*, rolled so as to leave two longitudinal passage-ways extending from a point near the bottom of the tube to a point near the upper end thereof, which latter end is welded so as to leave a space by which the two longitudinal passage-ways are connected, the bottom end of the tube being screwed into a base having a passage-way designed to connect the passage-ways of all the tubes screwed into the said base, substantially as and for the purpose specified.

No. 26,010. Potato-Digger.(*Scarificateur à Patates.*)

Henry Parker, Gananoque, Ont., 15th February, 1887; 5 years.

Claim.—1st. A potato-digger, consisting of the side bars *A* having handles *B* and conjoining in a clevis *C*, inclined scoop *D* open at the rear and attached to the side bars, a tail bar *G* extending rearwardly from the open end of the scoop chains *J* or other flexible drags trailing behind the scoop, and a sole plate *H* below the scoop extending from the point rearwardly parallel with the draft, substantially as set forth. 2nd. A potato-digging plough having chains *J*, or other flexible drags trailed behind an inclined scoop *D*, as and for the purpose set forth.

No. 26,011. Car Spring. (*Ressort de Char.*)

Richard Voe, New York, N. Y., U. S., 15th February, 1887; 5 years.

Claim.—1st. The combination, with a base-plate constructed in annular form, and provided around its inner circular aperture with an upwardly-projecting circumferential flange, and an exterior coil resting upon the base-plate outside of said flange, of an interior coil arranged within the circular aperture formed in said base-plate and within the circumferential flange, substantially as described. 2nd. The combination, with an exterior coil, and an interior coil, of a top plate or cap provided with a circumferential flange depending from its under side for engagement with the interior of the external coil, and a centrally-arranged sleeve-like portion which enters the upper end of the interior coil, substantially as described. 3rd. The combination, with a base-plate, constructed in annular form and provided with an upwardly-projecting circumferential flange around the central circular aperture formed therein, an exterior coil resting upon said base-plate outside the circumferential flange, an interior coil arranged within said flange, and a disk for supporting said interior coil, of a top plate or cap having centrally-arranged depending sleeve-like portion which enters the upper end of the interior coil and is provided with a recess or chamber, and an aperture, and a bolt passing through said aperture, through the interior coil, and through the disk, substantially as described. 4th. The combination, with an exterior conical coil and an interior coil, of a top plate or cap provided with a sleeve-like portion depending from its upper side, and entering the upper end of the interior, substantially as described. 5th. The combination, with an exterior and an interior conical coil, of a base-plate made in annular form and provided with an upwardly-projecting circumferential flange extending up between the coils, substantially as described. 6th. A spring composed of the exterior spring *A*, in combination with the interior coil-spring *A* one or more, the length of which is less than that of the exterior coil, which interior coil or coils serve as an auxiliary to the exterior forming thereby a graduated metal spring, substantially as described.

No. 26,012. Gate. (*Barrière.*)

William H. Cox, Virden, Ill., U. S., 15th February, 1887; 5 years.

Claim.—In combination, the sliding-gate, the crank-arm supported above the top of the gate in line therewith, a rod longer than the crank arm connecting the free end thereof with the top of the gate, a wheel in connection with the fixed end of the crank arm, and operating cords or ropes 1 and 2 in connection with the wheel upon one side, and running one to a support upon one side, and the other to a support upon the other side of the gate, and ropes 3 and 4 in connection with the other side of the wheel running one to a support upon one side and the other to a support upon the other side of the gate, all substantially as described.

No. 26,013. Machine for Making and Driving Nails. (*Machine à Faire et Chasser les Clous.*)

Orvil R. Chaplin, Michael J. Flynn, Boston, and George E. Parker, Chelsea, Mass., U. S., 15th February, 1887; 5 years.

Claim.—1st. In a machine for driving nails, the combination of the vertically reciprocating plunger *E*, carrying in its lower end the driver *d*, the toggle links *E* and *E*, the link *E*, the bar *E*, provided with the roll *b* and the cam *B*, all arranged and adapted to operate substantially as described. 2nd. The combination of the die block *H*, provided with the rectangular grooves *m* and *m*, a pair of cutting dies located in said groove *m*, and constructed and arranged to be adjusted towards and from each other, and to be sharpened by grinding their inner or contiguous ends, and a reciprocating male die carried by a plunger mounted in the groove *m*, and constructed to co-operate with the first-mentioned die to sever portions of metal from each side of the wire, to shape the sides of the nail. 3rd. The combination of the adjustable dies *H*, *H*, the sta-