

No. 35,690. Washing Machine.*(Machine à blanchir.)*

Marvin Antony Caldwell, North East, Pennsylvania, U.S.A., 3rd January, 1891; 5 years.

Claim.—1st. In a washing machine, the combination, substantially as described, of a vertically yielding perforated rubbing plate D, and a chamber back, of and closed by said plate, and into which the latter sinks when it yields to pressure. 2nd. In a washing machine, the combination, substantially as described, of a chamber formed of the frame A and the back B, curved, as described, and the perforated yielding rubbing plate closing the top of said chamber. 3rd. In a washing machine, the combination of a chamber formed by the frame A and back B, the perforated or yielding rubbing plate closing the top of said chamber, and a spring secured to the loose end of the yielding plate and to the frame. 4th. In a clothes washing machine, the combination with the yielding perforated rubbing plate D, of the frame A, the chamber below said plate, of the packing strips C along the under side of the edges of said plate. 5th. In a washing machine, the combination of a yielding perforated rubbing plate, a chamber below said rubbing plate and closed by the latter, and a vertically yielding rubbing device arranged to act upon said plate, reciprocally. 6th. In a clothes washing machine, the combination with the yielding perforated rubbing plate D, and a chamber back of said plate which is covered thereby, of the pivoted yielding frame F, carrying a rubbing device at its free end in position to act upon and depress said plate, when the said frame is vibrated.

No. 69 Compound Wound Alternating Current Dynamo. *(Dynamo à courant alternatif composé et enroulé.)*

Herman Lemp, Lynn, Massachusetts, U.S.A., 3rd January, 1891; 15 years.

Claim.—1st. In a dynamo electric machine, the combination, with the field magnet coil, fed by an armature coil in circuit with the work, of a separate exciting source feeding the same field magnet coil in multiple with the said armature coil. 2nd. The combination of a transformer, whose primary is in the uncommutated portion, of the circuit of the armature of a dynamo, a field magnet coil in a locally-commutated portion of said circuit and in series with the primary, and an exciter armature coil operated in a field excited by its own currents, and also connected to the field-magnet coil, as and for the purpose described. 3rd. The combination, with a transformer for supplying large volume electric currents, of a dynamo machine, having a work circuit armature coil in series with the primary of the transformer, and a separate exciter connected in multiple with the first to the field magnet exciting circuit, as and for the purpose described. 4th. The combination, with a dynamo machine having an armature coil and field magnet coil in series with variable work, of a separate exciting coil feeding the field in multiple with the first armature coil, as and for the purpose described. 5th. The combination, with a dynamo machine, having a field coil in series with an armature coil and commutator, of a transformer, having its primary in a portion of said circuit where the current is uncommutated, and a separate armature coil supplying commutated current in multiple with the first-named armature coil to the field coil or circuit. 6th. The combination, in a dynamo machine, of a main circuit armature coil in series with the work and field magnet coil, and an exciter source or coil independent thereof, feeding the main coil in multiple with the first. 7th. In a dynamo electric machine, the combination with a work circuit coil, of an exciter coil, a commutator between the same and the field coil, a collector ring between a terminal of the exciter coil and the commutator, and a variable resistance between the collector brush for said ring and the commutator. 8th. The combination, with the exciter coil and the work circuit coil, of two collector rings in the circuit of the exciter coil, a variable resistance in the connection of the collector brushes therefor, two collector rings in the circuit for the work coil, brushes bearing on the same and including the work in circuit between them, and a commutator in the circuit of both coils, and between the same and the field magnet. 9th. In a dynamo electric machine, the combination, with the work circuit coil connected to the work through a suitable collecting ring, of an exciting armature coil connected to a separate collecting ring, and a variable reactive coil in the connection from the brush of said ring to the circuit of the first-named coil, as and for the purpose described. 10th. In a dynamo electric machine, the combination, with two revolving armature coils, of a field-magnet coil, and a commutator to which one terminal of each armature coil is connected, collector rings to which the opposite terminals of the coils are connected, and a third ring connected to the opposite side of the commutator, as and for the purpose described.

No. 35,692. Water Heating Attachment for Ranges. *(Calorifère à eau pour poêles de cuisine.)*

Henry Charles Steinhoff, Union, New Jersey, U.S.A., 3rd January, 1891; 5 years.

Claim.—1st. In a water-heating attachment to ranges, the combination, with the range hot-product chamber divided into independent flues communicating with the fire-pot, of auxiliary water pipes extending along one of said flues, a bonnet communicating by its independent passages or chambers with the separate hot product flues of the range and also with a common exit flue, and a damper at the bonnet adapted to direct the fire pot products to the exit flue either along the flue traversed by the water pipes or along the other flues of the range, substantially as described. 2nd. In a water-heating attachment to ranges, the combination with the range hot-product chamber divided into independent flues communicating with the fire-pot or auxiliary water pipes traversing the fire-pot to be heated thereby, and extended along one of the hot product flues, a bonnet communicating by its independent passages or chambers

with the separate hot product flues of the range, and also with a common exit flue, and a damper at the bonnet adapted to direct the fire-pot products to the exit-flue either along the flue traversed by the water pipes or along the other flues of the range, substantially as described. 3rd. In a water heating attachment to ranges, the combination, with the range hot-product chamber divided into independent flues, communicating with the fire pot, and a partitioned bonnet communicating by its independent passages or chambers with the separate hot product flues of the range and also with a common exit flue, of water pipes extended along one of said hot-product flues, and also into one passage or chamber of the bonnet, and a damper at the bonnet adapted to direct the fire-pot products to the exit flue, either along the flue and bonnet chamber traversed by the water pipes or through the other flues of the range and bonnet, substantially as described. 4th. In a water heating attachment to ranges, the combination, with the range hot-product chamber divided into independent flues communicating with the fire-pot, and a partitioned bonnet communicating by its independent passages or chambers with the separate hot-product flues of the range and also with a common exit flue, of water pipes traversing the fire-pot to be heated thereby and extended along one of the range hot product flues, and also into and along one passage or chamber of the bonnet, and a damper in the bonnet adapted to direct the fire pot products to the exit flue along either the flue and bonnet chamber traversed by the water pipes or through the other flues of the range, substantially as described. 5th. In a water heating attachment to ranges, the combination, with the main fire-pot having a ledge or shoulder formed preferably by its fire brick or refractory lining, of an auxiliary water heating pipe or coil set back of said ledge, and a bodily removable guard placed upon said ledge and shielding the pipe or coil from direct heat of the fire-pot, substantially as described. 6th. In a water heating attachment to ranges, the combination, with the main fire-pot having a ledge or shoulder formed preferably by its fire brick or refractory lining, and a hot product flue communicating with the fire-pot, of a water heating pipe or coil set back of said ledge and extending along said hot product flue, and a bodily removable guard adapted in part to said ledge and in part to the mouth of the hot product flue to shield the water heating pipes next the fire-pot and in the flue from the fire-pot products, substantially as described. 7th. In a water-heating attachment to ranges, the combination, with a range having a hot-product chamber divided into independent flues communicating with the fire-pot, of auxiliary water-heating pipes or coils traversing the side of the fire-pot next the direct hot-product flue and also extending along said flues, substantially as specified, said range fire-pot also provided with a water-back and pipe connections which are independent of the auxiliary water heating pipes or coils and their connections, substantially as described.

No. 35,693. Apparatus for Burning Hydro-Carbon. *(Foyer à hydrocarbures.)*

James Herbert Bullard, Springfield, Massachusetts, U.S.A., 3rd January, 1891; 5 years.

Claim.—1st. In an apparatus for burning hydro-carbon, the combination and arrangement of instrumentalities, as follows: a series of hydro-carbon burners, having oil and air-passages therethrough, a closed tank to be partially filled with oil constituting the oil supply located at a distance from and below said burners, an air-pump or compressor and a pipe leading from said air-pump to the air-space above the oil in said tank, a pipe leading from said oil-tank below the top of the oil therein upwardly to said burner, and a pipe leading from the air-space in said tank to the burner for supplying air under pressure to said burner, substantially as described. 2nd. In a hydro-carbon burner, a coupling body having therein an air-passage terminating in a pipe extension, open at its forward end, and a chamber separated from said passage for receiving oil therein, and having an opening therethrough, which is extended in the forwardly continued tube F, which terminates in proximity to the nozzle of said pipe extension, an axial spindle movably supported in the rear of said coupling body and adapted to open and close the ingress opening to said tube F, for the purpose set forth. 3rd. In a hydro-carbon burner, a coupling body having therein an air-passage terminating in a pipe extension formed with an opening in its forward end, and a chamber separated from said air passage for receiving oil therein, and having an opening i therethrough, a tube movable through said opening and forwardly continued in a tubular extension movable therewith, and having its forward end open and in proximity to the nozzle of said pipe, said tube being provided with one or more perforations through the portion thereof, which is within said chamber, and having internally thereof and in advance of said valve perforations, a valve seat, an axial spindle supported in said tube at the rear of said valve-seat and capable of an independent longitudinal movement in said tube, whereby its forward end may open and close the valve seat, substantially as and for the purpose described.

No. 35,694. Hydro-Carbon Burner.*(Foyer à hydrocarbures.)*

Harrison Newell Davis, Armourdale, Kansas, U.S.A., 3rd January, 1891; 5 years.

Claim.—1st. In a hydro-carbon burner, the combination with a pan or water receptacle A, provided with an interior and separate chamber B, of the water-supply pipes E and D provided respectively with a funnel and valve J, substantially as described. 2nd. In a hydro-carbon burner, the combination of a separate chamber B located in the side of a water receptacle or pan A, and provided with the perforations, as shown, with an oil reservoir K, by means of suitably arranged conducting pipes, controlled by a valve L, substantially as and for the purpose set forth. 3rd. In a hydro-carbon burner, the combination with a water receptacle A, of a burner P having the annular chambers O, Q, and R formed by the annular walls S, T, U and V, through the medium of the short vertical feed pipes M, substantially as described. 4th. In a hydro-carbon burner, the pan or burner P, having the annular chambers O, Q and R, the annular walls S, T, U and V enclosing said chambers, the communi-