

a flat face bearing in a hub formed by a circular cavity in the wheel, partly enclosed by an annular plate firmly secured over said cavity, and confining said disk journal between elastic bearings, substantially as set forth. 2nd. The combination with the axle A, provided with the disk A₁, having a flat face, conical ends and a central projection *d*, of the wheel B, provided with a hub C C₁ formed by a recess, and annular plate accommodating the journal A₁, and bearing and cushions D, E and F and G, substantially as set forth. 3rd. The combination of the axle A, disk A₁, conical ends *a*, facing *a*, wheel B, hub C, hub-plate C₁, neck *c*, bearing G₁, bearing D, elastic ring E and cushion F, substantially as set forth.

No. 27,375. Road Planer. (*Grattoir de chemin*)

John C. Steele, Vaughan, Ont., 9th August, 1887; 5 years.

Claim.—1st. A road planer, constructed with a curved plane iron, placed in a suitable frame, at an angle of about 65 degrees, less or more, and secured by brackets to the frame of the machine, and moved on vertically adjustable wheels, substantially as set forth. 2nd. In a road planer, having a plane iron, either wholly of metal or partly of metal, and of other suitable material, curved in the face and secured to suitable frame-work, the combination of the vertically-adjustable wheels F, F₁, and cranked axles *e*, *e*₁, the levers *g*, handles with links *g*₃, springs *g*₄, latches *g*₅ and ratchets *g*₆, the whole constructed and arranged and operating substantially as set forth.

No. 27,376. Combined Centre Table and Secretary. (*Table de centre secrétaire*.)

Hermin A. Goring, London, Ont., 9th August, 1887; 5 years.

Claim.—1st. The table-top T and bed-piece B, in combination with the stand S, formed with the top S₁, substantially as shown and described and for the purpose specified. 2nd. The table-top T, formed with apartments A, bed-piece B and door E, in combination with the stand S, formed with the top S₁ and flange F, substantially as shown and described and for the purpose specified. 3rd. The table-top T, formed with apartments A and door E, in combination with and hinged to the top S₁ of the stand S, substantially as shown and described and for the purpose specified.

No. 27,377. Dental Engine. (*Machine Dentaire*.)

William A. Knowles, Alameda, Cal., U.S., 9th August, 1887; 5 years.

Claim.—1st. The combination, with a bracket, of a sleeve secured thereto, and a strain-rod extending from the bracket to the outer end of the said sleeve. 2nd. The combination, with a bracket and a sleeve, of an adjustable sleeve, substantially as and for the purposes set forth. 3rd. The combination, with a bracket and sleeve secured thereto, of an adjustable sleeve, and a collar carrying a set screw to adjust the adjustable sleeve. 4th. The combination of a plate having perforated lugs, of a bracket having pivots, and a sleeve secured to said bracket and serving as a support for the operating mechanism, substantially as and for the purposes set forth. 5th. The combination, with a stationary sleeve, of an adjustable sleeve, a tubular post or sleeve R attached to the latter, a vertical jointed shaft in said post, a head-block N mounted on said shaft, a sleeve supported by said head-block, a drill-rod, and the drilling mechanism employed by the latter, substantially as and for the purposes set forth. 6th. The combination, with a tubular support, of a pipe or tube adapted to be automatically adjusted therein, a drill head post and a drill head jointed thereto, substantially as and for the purposes set forth. 7th. The combination, with a tubular support and a spring in the bottom thereof, of a vertically adjustable sleeve located in the said support, a drill-head post located in said sleeve, and a drill-head jointed to said post, substantially as and for the purposes set forth.

No. 27,378. Railway Plow and Scraper.

(*Charrue et Grattoir de Chemin de fer*.)

Frank Nearing, Jersey Shore, Penn., U.S., 9th August, 1887; 5 years.

Claim.—1st. The combination, with a truck and its frame, of suitable side bars connected to the truck, and provided at their outer ends with earth excavating devices, substantially as described. 2nd. The main frame of the truck, provided with a central beam A₁, in combination with the arms C, C₁, and means for elevating them, substantially as described. 3rd. The frame of the truck, provided with bars C, C₁, in combination with the plows and the braces F, substantially as and for the purposes set forth. 4th. The scrapers hinged to the side arms C, C₁, provided with the projections P, in combination with the chains for elevating the scrapers the lids D₂, and the devices for fastening the lids, substantially as described.

No. 27,379. Ironing Table. (*Table à repasser*.)

Maud Counter, Toronto, Ont., 9th August, 1887; 5 years.

Claim.—1st. As a new article of manufacture, an ironing-table capable of adjustment as to height and of being folded when not in use with bracket for iron-rest, and spring metal clips secured to the under side of the ironing-board near the end, which has corners rounded off the board, being suitably covered with cotton or other material, and having cross-slats to prevent warping and afford rests for the free ends of one set of legs which are centrally pivoted on another set which are hinged to the bottom of the ironing board, substantially as specified. 2nd. An ironing-board A adjustable as to height and suitably covered, in combination with legs C hinged thereto at *e* and pivoted at *c* on legs D, rungs *g* and *h*, cross-pieces F, cross-slats E, F, G and H, strengthening strips *k*, spring clips K and bracket B, substantially as described and for the purpose specified.

No. 27,380. Fire-Escape. (*Sauveur d'incendie*.)

Richard Belches, Haymarket, Va., U.S., 9th August, 1887; 5 years.

Claim.—1st. The combination, with adjacent upper and lower rooms of a building, of a ladder arranged within a compartment

between said rooms, and means, substantially such as described, by which said ladder may be drawn from said compartment into the lower room, as set forth. 2nd. The combination, with the adjacent upper and lower rooms of a building, of a flexible ladder arranged within the space between the floor of one room and the ceiling of the adjoining room, and means such as a bolt connected to the ceiling of the lower room, whereby when said bolt is pulled a portion of the ceiling will be detached and the flexible ladder permitted to descend, substantially as described. 3rd. The combination, with the adjacent upper and lower rooms of a building, of a flexible ladder arranged within the space between the floor of one room and the ceiling of the adjoining room, means for entering the said compartment from the room above, and means such as a bolt connected to the ceiling of the lower room, and projecting into the latter, and serving as a means to detach a portion of the ceiling so as to liberate the ladder, as set forth. 4th. The combination, with the adjacent upper and lower rooms of a building, of a flexible ladder arranged in the space between the floor of one room and the ceiling of the adjoining room, means for entering said compartment from the room above, means such as a bolt connected to the ceiling of the lower room, and projecting into the latter, and serving as a means to detach a portion of the ceiling so as to liberate the ladder, and an alarm for indicating the disturbance of the ladder from either above or below. 5th. The combination, with the compartment, of which the ceiling of one room forms the bottom of the flexible ladder, the batten and the screw hook. 6th. The combination, with the compartment of which the ceiling of the lower room forms the bottom of the batten, the flexible ladder secured at one end indirectly or directly to the joists, and at the other end to the batten, and means substantially such as a bolt connected to the batten and projecting into the room below to effect a hold upon the ladder, and extend into the said room below. 7th. The combination, with the compartment of which the ceiling of the lower room forms the bottom of the batten, the flexible ladder secured at one end directly or indirectly to the joists, and at the other end to the batten, means substantially such as a bolt connected to the batten and projecting into the room below to effect a hold upon the ladder and the staff provided with the hook, substantially as described.

No. 27,381. Hot Air Furnace.

(*Calorifère à Air*.)

Francis Farquhar, Milton J. Farquhar and Henry B. Farquhar, Wilmington, Ohio, U.S., 9th August, 1887; 5 years.

Claim.—1st. The combination, in a heater, of a casing enclosing the ash chamber fire pot, and combustion chamber, and radiating flues arranged outside of and below the top of said casing, the upper flue communicating directly at one end with the side of the combustion chamber, and having a valve communicating with the smoke pipe, and the other end communicating with the lower flue, and the said lower flue having at its opposite end an opening for communicating with the smoke pipe, substantially as set forth. 2nd. The combination of the casing enclosing the ash pit, fire pot, and combustion chamber, the flues C, D, enclosing the casing and extending through a plate or wall U in front thereof, and communicating at one end through the pipe *n*, a smoke pipe communicating with both flues at the other end thereof, an opening *w* communicating with the upper flue adjacent to the smoke pipe, and a valve L arranged between the smoke pipe and opening *w*, substantially as set forth. 3rd. The combination of the walls J and plate U enclosing a chamber Z, a casing W enclosing an ash chamber, fire pot, and combustion chamber flues C, D, each of a U shape, with its ends extending through the plate U, and passing around the casing W, and arranged to leave an air space Z, and air inlet opening *r* arranged to direct the air entering the chamber Z against the lower flue, substantially as set forth. 4th. The combination, in a furnace, of a fire pot, an air chamber *v*, and an air inlet thereto, a magazine supported above the fire pot, and provided with an air chamber *v* open at the lower end, and a communication between the chambers *v* and *v*, substantially as and for the purpose set forth. 5th. The combination of the casing W, fire pot lining S constructed to leave a chamber *u* between the lining and the casing partition *t*, air inlet upon one side of said partition, a flue *t* communicating with the chamber *u* at the other side of said partition, and a magazine provided with a chamber *v* open at the lower end and communicating with the flue *t*, substantially as set forth. 6th. The combination, in a heater, of a magazine having a chamber *v* open at the lower end, a fire pot having a chamber *v* surrounding the same and communicating with the chamber *v* and a flue *s*, communicating with the chamber *u* and extending through the outside of the heater and provided with a cover, substantially as set forth. 7th. The combination of the magazine having a surrounding air chamber opening at its lower end into the fire pot below, a fire pot having a surrounding air chamber, a flue connecting said chambers, and an air inlet communicating with the chamber which surrounds the fire pot, and all arranged to cause the air to flow to said latter chamber and around the fire pot, and thence to the chamber around the magazine, substantially as set forth. 8th. The combination, with a heater of a magazine, composed of two cylinders *k*, *k*₁ arranged to form an intervening air chamber, one of the cylinders being secured in a fixed position, and the other being provided with a flange by which it is rotatably suspended within, and from a bearing on the fixed cylinder, and extending below the latter, substantially as and for the purpose set forth. 9th. The combination, with the top of the heater of a magazine, a shute communicating with the magazine and extending laterally therefrom above said top of the heater, a door closing the said shute and provided with a lining *3*, and a tube extending from the highest point of the shute to the reservoir, substantially as and for the purpose described. 10th. The combination in a heater of the following elements, to wit: a fire pot, a surrounding air chamber the fire pot constituting one of the walls thereof, a flue magazine above the fire pot with an air chamber at its mouth opening into the fire pot, and an air flue connecting the said air chambers, substantially as set forth. 11th. The combination in a heater, a fire pot having a surrounding air chamber, the pot having a wall thereof, and inlets therefor at the base of the furnace, a magazine with surrounding air chamber at the mouth and a connecting flue extending through the combustion chamber above the fire, substantially as described.