

No. 24,488. Earth Closet.*(Latrine à la Terre Stèche.)*

John H. Watson and Joseph B. Taylor, Toronto Ont., 9th July, 1886; 5 years.

Claim.—1st. The combination, with the hopper and seat of an earth closet or commode, of a device designed to hold the hopper in such a position when the seat is held down that the upward movement of the seat shall cause the sudden removal of the device from the hopper, and permit the said hopper to slip forward so as to throw the deodorizing material into the excrement. 2nd. A pivoted hopper A, provided with a weight B, in combination with the pivoted bar C, connected to the spring D, and operated by the seat E, substantially as and for the purpose specified.

No. 24,489. Planing and Matching Machine.*(Machine à Raboter et à Raligner.)*

James B. Mahaffey and Henry A. Gable, Baltimore, Md., U.S., 9th July, 1886; 5 years.

Claim.—1st. In a machine for dividing a board into two or three pieces, and forming tongues on, and surface-planing each piece, the herein-described construction consisting of a suitable frame A, a surface-planer C mounted on the frame, the first feed rollers B also mounted on the frame in front of the surface-planer, and upper and lower shafts I, each carrying a head having a tongue-cutter G provided with a dividing flange d, said shafts and cutters having position between the surface-planer and said first feed-rollers, whereby the rough board first is divided into pieces having tongues and then the pieces are surface-planed, as set forth. 2nd. The combination of the frame A, a vertically adjustable horizontal slide K on each of two opposite sides of the frame, shafts I, each turning in bearings fitting in said slides, a tongue-cutter and divider-head mounted on the inner end of each of said shafts, and a surface-planer C mounted on a separate shaft, as and for the purpose set forth. 3rd. In a machine for tonguing and dividing boards, the combination of a horizontal slide K which is vertically adjustable, a plate having bearings J and fitted in the horizontal slide, a shaft I turning in said bearings carrying a tongue-cutter and having a screw-thread, a movable half-nut h to take over the screw-thread of the shaft and a vertical adjusting screw connected with the horizontal slide, as set forth.

No. 24,490. Feed Water Heater.*(Réchauffeur de l'Eau d'Alimentation.)*

John Kirkaldy, London, Eng., 10th July, 1886; 5 years.

Claim.—1st. The combination of the outer casing A, provided with an inlet A₁ and outlet A₂, with the trunk tube or tubes B and C passing across it at two of its opposite sides (one trunk tube or tubes B or C serving as the inlet, and the other as the outlet for the fluid to be cooled or heated), and the series of helically coiled tubes F passing from both sides of the trunk tubes B and C, at one side or end of the casing A, to both sides of the trunk tubes B and C, at the other side or end of the casing A, substantially as described. 2nd. The construction of heaters and coolers and condensers, substantially as hereinbefore described.

No. 24,491. Insole for Boots and Shoes.*(Basane pour Chaussures.)*

Charles Grant, Jr., (assignee of David E. Goldthwait), Boston, Mass., U.S., 10th July, 1886; 5 years.

Claim.—An insole consisting of an upper layer or ply of teased woven hair, and one or more layers of card or other board, cork, leather, cloth, etc., united by adhesive material, or stitching, or both, as described.

No. 24,492. Valve Gear for Engines.*(Distribution par Tiroids.)*

John Grime and John A. Matthews, Minneapolis, Minn., U.S., 10th July, 1886; 5 years.

Claim.—1st. The combination, in a valve-gear, with an eccentric and a rock-shaft, of a guide having a slide-channel widened interiorly and a slide block adapted to slide in said channel. 2nd. The combination, in a valve gear with an eccentric and a rock-shaft, of a guide having a recessed slide channel extending to the ends of said guide, removable caps for the ends of said channel, a slide-block in said channel, and a sliding plate on said guide carried by said slide-block, substantially as set forth. 3rd. In a valve-gear for locomotive engines, a rocker having arms set at an angle to each other, an eccentric rod connected to one of said arms for operating said rocker, and a rod connected to the other of said arms for operating the valves, substantially as set forth. 4th. In a valve gear, the combination, with the driver-axle of a locomotive, of an eccentric on said axle, a standard boxed on said axle, a rocker-shaft mounted in said standard and carrying a guide, a slide-block operated in said guide by said eccentric, and guides for said standard supported independently of said axle for permitting up and down movement corresponding with said axle, and preventing lateral movement of said standard, substantially as and for the purpose set forth. 5th. In a locomotive valve-gear, the combination, with the driver axle, of a standard boxed thereon, guides for preventing lateral displacement of said standard, a rock-shaft supported by said standard, a guide and slide-block carried by said rock-shaft, an eccentric on said driver axle and connected to said slide-block, a rocker having arms set at an angle to each other a rod connecting said eccentric with one of said arms, and a rod connecting the other of said arms with the valves, substantially as described. 6th. In combination, in a valve-gear, a rock-shaft, a guide and slide-block carried thereby, a shaft, an eccentric thereon connected to said slide-block, a standard boxed on said shaft, and provided with a sliding bearing for said rock-shaft, a curved way provided in said standard, a roller-wheel in said way and bearings therefor in said guide and a

casting connected thereto, substantially as and for the purpose set forth. 7th. The combination, with a valve-gear, of substantially the construction described, of a governor, an eccentric operated by said governor, and an eccentric rod connecting said eccentric with the rock-shaft lever, substantially as and for the purpose set forth.

No. 24,493. Bolt Clipper.*(Cisailles à Boulons.)*

Joseph R. Smith, Brockville, and William G. Matthews, Gananoquo, Ont., 14th July, 1886; 5 years.

Claim.—1st. In a bolt clipper, having the cutting jaws A and levers B B, pivotally connected, as set forth, the eccentric bushings D D, adjustable rotatively, for the purpose described. 2nd. The combination of the jaws A, having eccentric bushings D D, and provided with set screws E E, as set forth. 3rd. The combination, with the jaws A, and levers B B, pivotally connected, as set forth, of the fulcrum plate G having stem G₁ and fulcrum pin C, having an eye C₁ adapted to receive said stem slidingly and pivotally connecting the levers B B, as set forth for the purpose described. 4th. The combination of the jaws A, fulcrum plate F having fulcrum pins F₁, fulcrum plate G having stem G₁, fulcrum pin C having eye C₁, and levers B B, pivoted together and to levers A, as set forth. 5th. The combination of the jaws A, having eccentric bushings D D, and set screws E E, fulcrum plate F having fulcrum pins F₁, fulcrum plate G having stem G₁, fulcrum pin C having eye C₁, and levers B B, pivoted together and to jaws A, as set forth.

No. 24,494. Lamp. (Lampe.)

Charles S. Upton, New York, (assignee of Frank Rhind, Brooklyn, N.Y.), U.S., 15th July, 1886; 5 years.

Claim.—1st. The combination, with the central air-tube, of a reservoir composed of an open-bottomed glass vessel, and a metallic septum connected to the air-tube and forming the bottom, and having metallic rims at each side of the lower edge of the glass vessel, and cement that is proof against the action of kerosene filling the groove between the rims and securing the glass, substantially as set forth. 2nd. The combination, with a glass reservoir, of a metal base having a rim, within which the glass reservoir is secured, by cement, that is proof against the action of kerosene septum within the base, an air tube passing through the septum and soldered to the same, and stays extending from the lower end of the air-tube to the inner part of the base, substantially as set forth.

No. 24,495. Process and Apparatus for the Manufacture of Gas. (Procédé et Appareil de Production du Gaz.)

John Hanlon and Heyward H. Leavitt, New York, N.Y., U.S., 15th July, 1886; 5 years.

Claim.—1st. The process of uniformly combining and fixing the mixed gas and vapour produced during an ordinary run in a gas generating furnace, which consists in heating a comparatively large body, or several bodies, of refractory material in a fixing chamber or chambers to the proper temperature, then passing the mixed gas and vapour produced during the first period (five to ten minutes) of the run through a portion of such heated refractory material to the main, then passing the succeeding volumes of mixed gas and vapour produced during the succeeding period (five to ten minutes) of the run through another portion of heated refractory material and to the main, and thus on to the end of the run, whereby destructive decomposition of the hydrocarbons is prevented and a uniform quality of gas as to candle power is produced. 2nd. In the manufacture of illuminating gas, the process of uniformly combining and fixing the mixed gas and vapour produced in an ordinary run in a gas generating furnace, which consists in heating two or more bodies of refractory material to successively higher temperatures from the first upward, then passing mixed gas and vapour produced during the first period (five to ten minutes) of the run through the refractory material at the lowest temperature or least highly heated refractory material to the main, then passing the succeeding volume of mixed gas and vapour produced during the succeeding period (five to ten minutes) of the run through the next higher heated body of refractory material to the main and thus on to the end of the run, for the purpose described. 3rd. The process of manufacturing gas which consists in highly superheating steam in contact with heated brick work, passing such steam down through heated metallic scrap producing hydrogen, together with any undecomposed steam through one or more bodies of heated carbonaceous material, for fully converting all watery vapour into fixed gas. 4th. The process of manufacturing gas, which consists in highly superheating steam, and then passing it down through heated iron scrap, thereby producing hydrogen, then passing such hydrogen together with any undecomposed steam through a body of heated carbonaceous material for completing the decomposition of the steam, then carburetting the resulting gas with hydrocarbon vapours from liquid or solid material in a heated chamber. 5th. The process of manufacturing gas, which consists in superheating steam, decomposing it in contact with heated iron scrap, passing the resulting hydrogen gas, together with any remaining undecomposed steam through one or more bodies of heated carbonaceous material, for completing decomposition of the steam into fixed gas, then carburetting the gas and fixing it by passing volumes of it made in successive periods through successive bodies of heated refractory material to the end of the run whereby destructive decomposition of hydrocarbons is prevented and a uniform quality of gas is produced. 6th. The process of generating hydrogen gas, which consists in first highly superheating steam then passing it through one or more beds of heated iron, scrap or other similar metal, thereby oxidizing said scrap and partially decomposing the steam, then further superheating and decomposing any remaining portion of the steam by passing it through heated refractory material, and one or more beds of heated metallic scrap, and thus passing the steam in company with the hydrogen formed through alternate bodies of heated refractory material, and heated metallic scrap until a com-