

wheel axle, and movable about the driving shaft as a centre, the water-wheel shaft and the fixed driving shaft being geared to revolve together in any of the several ways, substantially as hereinbefore set forth. 3rd. The combination, with a water-wheel, of the counter-balanced lever D supporting the water-wheel axle at each side of the water-wheel, and movable about the driving shaft as a centre, the water-wheel shaft and the fixed driving shaft being geared together by chains running within the lever D, substantially as described.

No. 32,253. Elevator and Conveyor.

(*Elevateur à godets.*)

Charles J. Seymour, Brookline, Mass., U.S., 14th September, 1889; 5 years.

Claim.—1st. The combination, with a vessel or other receptacle, of an elevator leg at one end thereof, and an endless chain of buckets and pans constructed and arranged to travel up over and down said elevator leg, and to-and-fro in a way or ways formed in the vessel or receptacle, whereby the contents of the vessel may be taken therefrom, carried to and up the elevator leg, and discharged with a single "handling," as set forth. 2nd. The combination, with a vessel or other receptacle, provided with a trough or ways beneath the floor and above the keel, of a vertically arranged elevator frame at the end of such trough or way, and endless chain of buckets and pans arranged in said trough or way and on said elevator frame, and wheels to move and guide said chain, whereby the coal or contents of the vessel may be taken therefrom and directly carried up the elevator frame, as set forth. 3rd. The combination, with a vessel or other receptacle, provided with a trough or way beneath the floor and above the keel, of a vertically arranged elevator frame at one end of said trough or way, said elevator frame being provided with an overhanging head *c*, an endless chain of buckets and pans arranged in said trough or way and on said elevator frame, and wheels or pulleys, and tracks *e* to move and guide said chain of buckets and pans, as set forth. 4th. The combination, with a vessel or other receptacle, provided with delivering holes or ports in its floor, of movable sections *g* of the floor, hinged at points *a* or near said delivering holes or ports, and leaves or shelves *b* hinged to the side of the vessel, with their free edges in contact with said hinged sections of flooring, as set forth. 5th. The combination, with a vessel or other receptacle, provided with delivering holes or ports in its floor, of movable sections *g* of the floor, hinged at points *a* or near said delivering holes or ports, leaves or shelves *b* hinged at the side of the vessel, with their free edges in contact with said hinged sections of flooring, and partitions *i* between each two sections, as set forth. 6th. The combination, with a vessel or other receptacle, provided with delivering holes or ports in its floor, of covers or cut-offs for said holes or ports, said covers or cut-offs being pivoted beneath the floor, and provided with tables whereby they may be swung around to close the ports or holes, or be moved in the opposite direction to open the same tracks *N* beneath the free ends of the covers, of cut-offs to support the same, and stops to limit the movement of the covers or cut-offs, as set forth. 6th. The combination, with the partitions *i*, and the sections *g* cut away at their corners, as described, of the fixed protuberances formed to fit the cut away portions of the sections *g*, and prevent the lodgement of coal at said corners, as set forth.

No. 32,254. Process of Refining Oil.

(*Procédé de raffinage de l'huile.*)

Jesse A. Dubbs, Allegheny, Penn., U.S., 14th September, 1889; 5 years.

Claim.—As an improvement in the art of refining oils containing sulphur, the herein described method which consists in charging into the still with the oil arsenium or its salts, and then subjecting the compound to a volatilizing heat, and then condensing the vapor so produced, substantially as set forth.

No. 32,255. Clasp. (*Agrafe.*)

Frederick B. Spooner, Brooklyn, N.Y., U.S., 14th September, 1889; 5 years.

Claim.—1st. A clasp for garments, substantially as set forth, comprising two parts consisting of a slotted plate, and a cam slotted latch pivoted to said plate and adapted to be operated by the stud, eye, or shank which it secures. 2nd. A clasp adapted to be operated by a stud, substantially as set forth, comprising a stationary slotted plate with an unattached bent over end, and a cam slotted latch pivoted thereto, and whose bent over end encloses the front part of said latch. 3rd. A clasp adapted to be operated by, and secure a stud eye, or shank, substantially as set forth, consisting of a plate constructed of a piece of doubled sheet metal having a slot therein for the reception of the stud eye, or shank, and a cam slotted latch pivoted to said plate and enclosed thereby. 4th. A clasp adapted to be operated by, and secure a stud eye, or shank, comprising a doubled sheet metal plate having a slot therein, and a latch pivoted thereto having an operating guard, hooked end, and a slot with a cam projection. 5th. A clasp, substantially as described, comprising a slotted plate, and a latch pivoted thereto having an open slot with a cam projection, in combination with an adjacently situated stud for operating and engaging said latch. 6th. A clasp adapted to be operated by a stud, substantially as set forth, comprising a slotted plate with a bent over unattached end, and a cam slotted latch pivoted thereto having an overhanging hooked end provided with a front curved edge. 7th. A clasp comprising a slotted plate, a latch having an open slot, with a cam projection pivoted to said plate below the slot thereof, and an adjacently situated stud or its equivalent adapted to engage the slot in said plate and latch, and close said latch independent of spring action, substantially as described. 8th. A corset fastening having studs or equivalents on one steel thereof, and slotted plates secured to the opposite steel in alignment with the said studs, each plate having a cam slotted latch pivoted thereto and operating through said slotted plate, adapted to be actuated by and

secure said studs, substantially as described. 9th. A clasp comprising a doubled sheet metal plate, provided with a slot in its doubled position for the entrance of a stud or analogous device, and a locking latch mounted in said plate and inclosed thereby, substantially as described.

No. 32,256. Ocean Signal. (*Signal océanique.*)

Walter Thompson and Alfred Gartner, Newark, N.J., U.S., 14th September, 1889; 5 years.

Claim.—1st. The electric ocean danger signal herein described, consisting of a metallic rotating drum carrying a funnel provided with a diaphragm and metallic brush, an insulator drum provided on its outer periphery with carbon or metallic projections, a post supporting said rotating and insulating drums, and adapted to serve as a conductor from a battery and a frame supporting said parts, and an electric battery, all said parts being so arranged that when the metallic brush and the carbon projection come in contact the electric circuit will be closed, as described and for the purposes set forth. 2nd. The electric ocean danger signal herein described, consisting of a frame carrying an annunciator, a conducting post supported in said frame, an insulated drum on said post provided with carbon projections on its outer periphery, a metallic drum adapted to rotate on said post, provided with an arm carrying a diaphragm and metallic brush, a funnel connected with said diaphragm, an annunciator provided with openings in its face, and indicating discs adapted to reciprocate within the annunciator by magnetic action, all said parts being so arranged and combined that, when the metallic brush is in contact with a carbon projection, the electric circuit is closed, as described and for the purpose set forth. 3rd. In an electric ocean danger signal or metallic revolving drum, an arm connected with said drum, diaphragm connected to said arm, a metallic brush secured to said diaphragm, a funnel secured to said arm, and means for revolving said drum, as described and for the purpose set forth. 4th. In an electric ocean danger signal, in combination with a suitable supporting frame, of a metallic drum, an arm connected with said drum, a diaphragm connected to said arm, a metallic drum secured to said diaphragm, a funnel secured to said arm, means for revolving said drum, an insulated drum on said frame provided with carbon or metallic projections on its outer periphery, and electric connections with an annunciator, as described and for the purpose set forth. 5th. In an electric circuit for electric ocean danger signal, an annunciator provided with a series of two or more openings in its upper face, and reciprocating indicating discs within said annunciator, and discs being connected by bell crank levers with armatures adapted to be operated by magnets in such annunciator, as described and for the purpose set forth.

No. 32,257. Steam Engine. (*Machine à vapeur.*)

William Geib, Wickliffe, Ky., U.S., 14th September, 1889; 5 years.

Claim.—1st. In a steam engine, the combination of the oscillating shaft, the oscillating wheel rigidly mounted on said shaft, the curved stationary cylinder, the piston rod projecting out of each end of the cylinders, and curved on a plane smaller than the rim of said wheel, the two radial arms, one attached rigidly to each end of said piston-rod, the free ends of said arms being pivotally attached to the rims of the oscillating wheel at points diametrically opposite each other, a cranked power shaft, and a connecting rod pivotally attached at one end to the rim of said wheel, and to the crank of the power shaft at the other end, substantially as set forth.

No. 32,258. Steam Engine. (*Machine à vapeur.*)

Joseph A. Mumford, Hantsport, N.S., 14th September, 1889; 5 years.

Claim.—1st. In a steam engine, the combination with the cylinder A, crank shaft C, piston D, and rod D₁ connecting said shaft and piston, of the cylinder head L₂ having the steam passages E₁ therein, and the valve casing F united to said head and located to one side of the cylinder in line with the crank shaft, substantially as described. 2nd. In a steam engine, the combination, with the cylinder A, crank shaft C, piston D, and rod D₁ connecting said shaft and piston, of the cylinder head L₂ having the steam passages E₁ therein, and the valve casing F formed integral with said head L₂ and located to one side of the cylinder in line with the shaft C substantially as described. 3rd. In a steam engine, the combination, with the cylinder A, crank shaft C, piston D, and rod D₁ connecting said shaft and piston, of the cylinder head L₂ having the steam passages E₁ therein, the two valve chambers F₁ formed integral with said head, the governed valve G₁ located in one of said casings, and the slide valve G in the other casing, substantially as described. 4th. In a steam engine, the combination, with the high pressure cylinder A, crank shaft C, piston D, and connecting rod D₁ uniting said piston and shaft, of the removable cylinder head L₂ having the low pressure cylinder E₄, and valve casings I₁ mounted thereon, valves G₁, K, and direct connections between said valves, and the crank shaft and steam passages F, E₁ in said head for opening communication between the steam supply and high pressure cylinder, and the high pressure cylinder and low pressure cylinder, and the exhaust, substantially as described. 5th. The combination, of a steam engine of twin cylinder type, and the removable cylinder head L₂ having the low pressure cylinder E₄, and valve casings I₁ mounted thereon in line with the crank shaft C, of the low pressure piston E₅ connected to one of the high pressure pistons, and the valve K controlling the admission of steam to and from said cylinders, substantially as described. 6th. In a steam engine, the combination, with the cylinder, piston, and cylindrical trunk, piston D having the connecting rod D₁ pivoting therein, of the annular oil chamber d₁ surrounding said trunk, and the packing rings D₂ below said oil chamber, substantially as described. 7th. In a steam engine, the combination, with the cylinder A, the piston D having the downwardly extending enlargement or trunk, and the connecting rod D₁ pivoting therein, of the annular oil chamber d₂ surrounding said trunk, and the trap M for the water of condensation communicating with said chamber, substantially as