cuitous path, substantially as described, and for the purposes specified. 2nd. In apparatus for the manufacture of sulphuric acid, a leaden chamber adapted to form a circular path for the gases, passing from the inlet to the outlet of the chamber, substantially as described. 3rd. In apparatus for the manufacture of sulphuric acid, a leaden chamber adapted to form a circular path for the gases travelling through the chamber, and provided with two inlets at unequal distances from the centre or axis of the chamber, substantially as described and for the purposes specified. 4th. In apparatus for the manufacture of sulphuric acid, a leaden chamber having the shape of a circular ring with a sector cut out, the said chamber being provided at one end with two gas inlets at unequal distances from the centre and at the other end with a gas outlet, substantially as described and for the purposes specified. 5th. In apparatus for the manufacture of sulphuric acid, a leaden chamber adapted to form a circuitous path for the gases travelling from one end to the other, and provided with distributing pipes leading from the upper part, to the lower part of the chamber along the inner or outer wall, substantially as described and for the purposes specified. 6th. In apparatus for the manufacture of sulphuric acid, a concentrating or denitrating tower filled with natural acid-proof stone, such as feldspar, trachyte, granite, porphyry, basalt and lava, substantially as described and for the purposes specified. 7th. In apparatus for the manufacture of sulphuric acid, the combination of a leaden chamber adapted to form a circuitous path for the gases passing through the chamber and having two gas inlets at unequal distances from the centre, with a dividing chamber interposed between the denitrating tower and the leaden chamber, the said dividing chamber having in the centre a gas inlet and at each end an outlet towards the leaden chamber, and being filled with parallel rows of tubes or with natural acid-proof stone adapted to sub-divide the two currents of gases on their passage from the centre to the ends of the dividing chamber, substantially as described and for the purposes specified. 8th. In apparatus for the manufacture of sulphuric acid, the combination of a concentrating tower A, with a denitrating tower C, connected with each other and filled with natural acid-proof stones, substantially as described and for the purposes specified.

No. 38,609. Electric Motor for Wheeled Vehicles.

(Moteur électrique pour voitures à roues.)

Robert S. Dobbie, Brooklyn, New York, U.S.A., 2nd April, 1892; 5 years.

Claim.—1st. A wheeled vehicle, having an electric motor elastically supported, and having its rotary part secured to a hollow sleeve, which surrounds an axle of the vehicle, and is provided with elastic or yielding bearings at its opposite ends between it and the axle, substantially as described. 2nd. A wheeled vehicle, in combination with the following elements, an electric motor elastically sustained or supported beneath the vehicle, and having its moving part secured to the driving wheels by one or more link connections, a hollow sleeve, which surrounds a shaft of the vehicle, and elastic or yielding bearings between the sleeve and the shaft, substantially as described. 3rd. A wheeled vehicle, having an electric motor sustained or supported entirely by elastic means, and having its rotary or movable part attached to the driving wheels or shaft by a hollow sleeve, being provided with journal bearings at its opposite ends, and elastic or yielding bearings between it and the shaft, substantially as described. 4th. A wheeled vehicle, having an electric propelling motor entirely sustained or supported by elastic supporting devices, the armature or rotary part thereof being supported by a hollow sleeve, which surrounds the axle, uniting the drive wheels, said sleeve being mechanically attached to the drive wheels by link connections, and provided with yielding or elastic bearings between it and the axle, substantially as described. 5th. In a wheeled vehicle, a pair of driving wheels united by an axle, in combination with a hollow sleeve, surrounding the axle, said sleeve having mechanical connection with the rotary part of an electric motor, and the aforesaid driving wheels and elastic or yielding connection between it and the shaft, which joins said driving wheels, substantially as described. 6th. A wheeled vehicle, having a pair of driving wheels united by a shaft, in combination with a hollow sleeve surrounding said shaft, said sleeve being rigidly secured to the rotary part of an electric motor, and connected mechanically to the driving wheels, and provided with one or more elastic bearings between it and the axle, substantially as described. 7th. A wheeled vehicle, having an electric motor, the rotary part of which is connected to the driving wheels by a link connection, and the entire motor sustained against vertical and lateral or longitudinal motion by vertical and lateral springs, substantially as described. 8th. A wheeled vehicle, having an electric motor sustained or supporting by springs, and its armature connected through a two-part sleeve and link connection with the driving wheels, said sleeve having elastic or yielding bearings at each end with the axle which joins the driving wheels, substantially as shown and described. 9th. A wheeled vehicle, having a pair of driving wheels connected by a rigid shaft, in combination with a hollow sleeve surrounding said shaft, said sleeve having spring bearings between it and the shaft, and journal bearings at its opposite ends connected to the body of an electric motor, and additional mechanical connections with the rotary part of said motor and driving wheels, the said motor being sustained or supported by springs, substantially as described. 10th. A wheeled vehicle, having a pair of electric motors sustained from the frame of the vehicle by springs, said motors being mechanically joined together by yielding tie rods, substantially as described.

No. 38,610. Grain Cleaning Machine.

(Tarare-cribleur.)

Harvey Matthew Wadleigh, Stevens Point, Wisconsin, assignee of Joab Clift Fisher, Beloit, Kansas, both of U. S. A., 4th April, 1892; 5 years.

Claim.—1st. In a grain-cleaning machine, the combination, with a stationary casing and a revolving shaft passing longitudinally therethrough, of an agitator-disk secured to said shaft, having spirally-arranged ribs on one side, and series of projecting agitator wings on the other side, substantially as set forth. 2nd. In a grain-cleaning machine, the combination, with a stationary cylinder, of a head consisting of an annular shell with inwardly-projecting retaining-lugs, and a removable ribbed disk having circumferential projections secured to the projections on the annular shell, substantially as set forth. 3rd. In a grain-cleaning machine, the combination, with a stationary scouring-casing, of a revolving shaft passing longitudinally therethrough, and disks mounted on said shaft and connected together solely by series of flat strips spirally disposed, extending at an angle from the periphery of one disk to that of the other disk, and other flat strips forming a fan, substantially as set forth. 4th. In a grain-cleaning machine, the combination, with a stationary-casing, and a revolving shaft passing longitudinally therethrough, of an agitator disk having an extended hub secured to said shaft, a series of agitating-wings projecting radially from said hub, and a series of other agitating-wings radially disposed around the periphery of said disk on the same side as the first-named series of wings and extending to about the outer circular line of the latter, but not in radial line therewith, substantially as set forth.

No. 38,611. Mop Wringer. (*Essoreuse de torchon.*)

Geo. C. Morrill and Edward L. Collins, both of Boston, Massachusetts, and Charles Gifford, Gardiner, Maine, assignees of Arthur McCausland, also of Gardiner, Maine, all of the U. S. A., 4th April, 1892; 5 years.

Claim.—1st. The combination, with a pail or receptacle, of a roller journaled in fixed bearings, a roller journaled in a spring actuated wringing bracket or frame and means for regulating the spring pressure upon said roller-bracket, substantially as set forth. 2nd. The combination, with a pail or receptacle, of a pair of rollers, a shaft, means for rocking the latter and holding it in position, and a bracket or frame carrying one of the rollers and mounted on the shaft, substantialy as set forth. 3rd. The combination, with a pail or receptacle, of a pair of rollers, a shaft, means for rocking and securing said shaft, a bracket carrying one of the rollers loosely mounted on the shaft, and a spring yieldingly connecting the shaft and bracket, substantially as set forth. 4th. The combination, with a pail or receptacle, and a frame therein, of a pair of rollers, one journaled in fixed bearings in the frame, a shaft having a spring coiled thereon, a toothed segment on the shaft, a worm adapted to operate to rock the segment and shaft, and a swinging bracket loosely mounted on the shaft, connected yielding therewith, and having one of the rollers journaled in it, substantially as set forth. 5th. The combination, with a pail, of a frame carried thereon having an opening in one side, and a normally closed yielding gate for closing said opening, substantially as set forth. 6th. The combination, with a pail, of a frame carried thereon, having an opening in one side, of ears on the frame in proximity to said opening, a shaft carried by said ears, a spring encircling the shaft, and secured at one end thereto and at the other end to the frame, and a gate carried by said shaft, adapted to close said opening in the frame, substantially as set forth.

No. 38,612. Harness Tug. (*Mancelle.*)

Joseph W. Roberts, Oberlin, Kansas, U.S.A., 4th April, 1892; 5 years.

Claim. In a hame tug, the combination of a trace clip comprising a rectangular socket having a longitudinal opening to receive a trace, and provided with perforated lugs arranged at one end and disposed at each side and at an intermediate point, and adapted to receive a pintle, the eye having its end twisted and arranged on the recesses formed by said lugs, and enlarged and perforated and hinged to said lugs, and a buckle provided with four loops 11, and having two ways arranged at right angles to each other, one of said ways being sunken or depressed and the other way being formed by elevated portions, whereby one strap is held out of frictional contact with the other and is prevented wearing the same, substantially as described.

No. 38,613. Nut Lock. (*Arrête-écrou.*)

Benjamin Franklin Gram, Cordelia, and William Bard, Columbia, both of Pennsylvania, U.S.A., 4th April, 1892; 5 years.

Claim.—1st. In a nut lock, the combination, with a bolt having a shoulder formed thereon, of a washer having a recessed lug, a spring actuated pawl located in said recess, and a ratchet-faced nut adapted to be engaged by the pawl, substantially as and for the purpose specified. 2nd. In a nut lock, the combination, with a bolt having