below each grinding roll for the purpose described. 7th. In a pulverizing or similar apparatus, the combination with a grinding

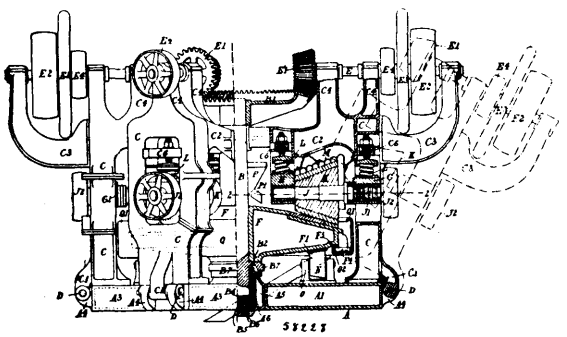
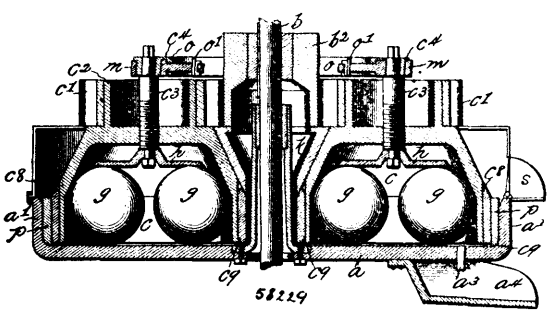


table having an overhanging circumferential lip F^3 and an annular groove F^5 in its underside, of a trough such as Q with a lip Q^2 extending up into the groove F^5 from the trough, for the purpose described. 8th. In a pulverizing or similar apparatus having conical grinding-rolls, the combination with a central shaft B, of a hopper P encircling and fixed to the same, for the purpose described. 9th. In a pulverizing or similar apparatus, a housing or splasher placed above a grinding roll and having corrugations or baffle-projections presented towards the roll, substantially as and for the purpose described. 10th. In a pulverizing or similar apparatus, movable guide blades R arranged spirally over the table, substantially as and for the purpose described. 11th. In a pulverizing or similar apparatus having conical grinding-rolls, the combination with guide blades of mechanism for reciprocating them above the table, for the purpose described. 12th. In a pulverizing or similar apparatus, the combination with a conical table F of guide blades so slung or otherwise supported as to be movable in a direction approximately parallel with the grinding surface, for the purpose described. 13th. In a pulverizing or similar apparatus, the combination with guide blades such as R, of an eccentric B^7 or cam in operative connection with the shaft B, for the purpose described. 14th. In a pulverizing or similar apparatus, the combination with a foot-step bearing of circulation, lubricating apparatus such as U, U^1, U^2, for the purpose specified. 15th. In a pulverizing or similar apparatus, the combination with the shaft B and foot-step bearing, of a lip B^8, for the purpose described.

No. 58,229. Ore Crusher. (*Machine à broyer le minerai, etc.*)



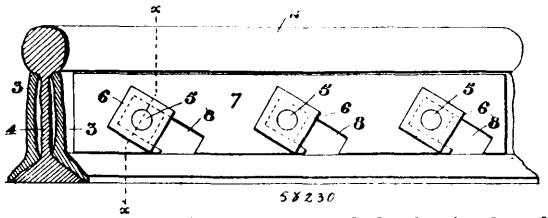
Jacob C. Wiswell, West Medford, Henry B. Wells, Boston, and Henry G. Dillaway, Quincy, all in Massachusetts, U.S.A., 1st December, 1897; 6 years. (Filed 22nd April, 1896.)

Claim.—1st. In an ore crushing and pulverizing machine, a pan, balls resting upon the pan, hollow inverted rolls supported upon the balls, and means for rotating the rolls on their own axes, and also causing the n to travel about the pan in a circular path simultaneously, as described. 2nd. In a machine of the character described, a pan, balls resting upon the pan, hollow inverted rolls supported upon the balls, a wedge cone bearing upon the upper surfaces of the rolls, and means for rotating the balls and rolls, as and for the purposes set forth. 3rd. In a machine of the character described, a pan, balls resting upon the pan, hollow inverted rolls supported by the balls, and means for revolving the balls within the rolls, rotating the balls on their own axes and causing the rolls and balls to travel about the pan all simultaneously, as set forth. 4th. In combination, pan *a*, balls *g* resting thereon, dics *h* resting on the balls, spindles c^3 carrying disc *h*, rolls *c* carried bypindles c^3, gears c^1 b^2 driving rolls *c*, wedge cone *k* bearing upon rolls *c* and supporting gear b^2, ring *o*, and elastic connections between the ring and spindles c^3, all as and for the purposes set forth.

No. 58,230. Nut-Lock. (*Arrête-écrou.*)

John W. KaVear, Charles E. Gibbs and Ernestine Simms, all of Decatur, Georgia, U.S.A., 1st December, 1897; 6 years. (Filed 6th September, 1897.)

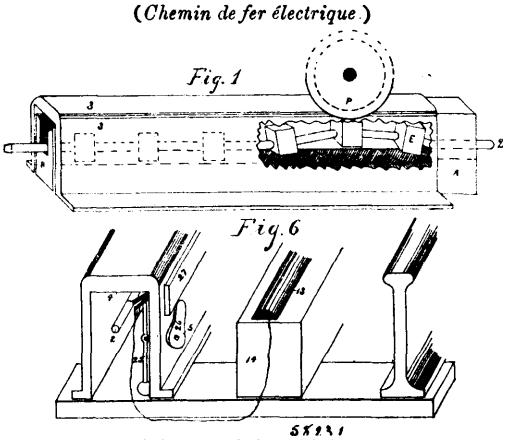
Claim.—1st. In a nut-lock, the combination with a bolt, of a nut thereon having a rectangular shoulder or extension thereon, and a



locking plate having a diagonally arranged slot therein adapted to be passed around the rectangular extension on said nut. 2nd. In a nut-lock, the combination with a bolt, of a nut thereon having a rectangular shoulder or extension upon one side thereof, and a locking plate having a diagonally arranged slot therein with parallel sides and an open lower end adapted to be passed around the extension on said nut, substantially as and for the purpose described. 3rd. The combination with a rail and a fish-plate, of a plurality of bolts for securing the fish-plate to said rail, nuts upon said bolts having rectangular shoulders or extensions upon their inner surfaces and a locking plate having a series of diagonally arranged slots therein, having paralled sides and open at their lower ends, the said plate adapted to be inserted between the inner surface of the main part of said nut and the outer surface of said fish-plate, with the slots therein embracing the rectangular extensions on said nuts, and the upper edges of said plate engaging the under side of the head of the rail, substantially as and for the purpose described. 4th. The combination with a rail and a fish-plate, of a plurality of bolts for securing the fish-plate to said rail, nuts upon said bolts having rectangular shoulders or extensions upon their inner surfaces, and a locking plate having a series of diagonally arranged slots therein, having paralled sides and open at their lower ends, the said plate adapted to be inserted between the inner surface of the main part of said nut and the outer surface of said fish-plate, with the slots therein embracing the rectangular extensions on said nuts, and the upper edges of said plate engaging the under side of the head of the rail, the said extensions being thicker than said locking plate, substantially as and for the purpose described.

No. 58,231. Electric Railway.

(*Chemin de fer électrique.*)



Addison Norman, William McCabe, Willis Jones and William B. Taylor, all of Toronto, Ontario, Canada, 1st December, 1897; 6 years. (Filed 6th November, 1896.)

Claim.—1st. In an electric railway, the combination of a supporting rail, upon which the cars run, the rail being formed in sections, which are insulated from each other, and with a central cavity, a main conductor mounted within the cavity of the said rail, insulating supports for the conductor, also arranged within the cavity, and means for bringing the main conductor and the sections of the rail into electric engagement successively, substantially as set forth. 2nd. In an electric railway, the combination of a supporting rail upon which the cars run, the rail being formed in sections, which are insulated from each other, and with a central cavity, one end of each section being reduced in size and extended beyond the bearing face of the car wheel, whereby the said sections telescope one into the other, a main conductor mounted within the cavity of the rail, insulating supports for the conductor, and means for bringing the conductor and rail sections successively into electric connection, substantially as set forth. 3rd. In an electric railway, the combination of a supporting rail upon which the cars run, the rail being formed of sections of substantially inverted U-shape in cross section, a main conductor mounted within the cavity formed within the rail, insulating supports for the conductor also mounted in the said cavity, and means for bringing the conductor and the rail sections suecessively into electric connection, substantially as set forth. 4th. In an electric railway, the combination of a main con-