

or gas heated in a heater separate from the furnace, and flowing continuously upwards through the falling stream from bottom to top of the oxidizing tower, substantially as specified. 2nd. The combination, with the oxidizing tower, and its adjuncts arranged for operation as described, of a discharge passage leading from the settling chamber at the foot of the tower and dipping into water, as described. 3rd. The combination, with the oxidizing tower, and its adjuncts, arranged for operation as described, of the jets and stream of water for suddenly cooling and splitting up the roasted ore, cleansing the precious metals contained therein and carrying the whole off, as described. 4th. The combination, with the oxidizing tower, and its adjuncts, arranged for operation as described, of the series of settling and condensing chambers for intercepting the vapours and particles carried over by the oxidizing current, as specified. 5th. The herein described oxidizing and sweet roasting furnace constructed and arranged for operation, substantially as specified. 6th. The herein described method of breaking up, and of removing any adherent skin of oxides from, the freshly roasted particles of ore by quenching the hot particles with cold water, in the manner described.

**No. 39,596. Electric Cable. (*Câble électrique.*)**

Theodore Guillaume, Cologne, German Empire, 1st August, 1892; 6 years.

*Claim.*—1st. An electric cable, or strand for the same, consisting of one or more pairs of naked conductors, the conductors constituting each pair being separated by a strip of non-conducting material, the conductors and the intervening non-conducting material being twisted together, substantially as herein described. 2nd. In an electric cable, a strip of non-conducting material twisted about its own axis to form spiral grooves or air channels in which conductors may lie, substantially as herein described. 3rd. In an electric cable, a strip of non-conducting material twisted about its own axis to form spiral grooves or air channels, and provided with a radially projecting part which can be laid over the said grooves or channels for the purpose of closing them, substantially as herein described. 4th. In an electric cable, the combination, with the conductors *a* and *a'*, of the non-conducting strip *b*, substantially as and for the purposes herein set forth.

**No. 39,597. Cultivator. (*Cultivateur.*)**

Sanford Gasser, Trout Creek, Michigan, U.S.A., 1st August, 1892; 6 years.

*Claim.*—1st. In a cultivator, the combination, with the oblong frame work, the axle, the ground wheels, and the sprocket wheel connected to one of the latter, of the pivoted side bars 16, having bearings, the rotatable shaft mounted in the bearings, the curved cultivator teeth radiating from the shaft, a sprocket mounted on the shaft, a chain connecting the same with that of the ground wheel, and means for raising and lowering said side bars, substantially as specified. 2nd. In a cultivator, the combination, with the frame work, the axle, and the ground wheels, of the pivoted side bars 16, having bearings, the rotatable shaft mounted in the bearings, the curved cultivator teeth radiating from the shaft, driving mechanism connecting one of the ground wheels with the rotatable shaft, means for raising and lowering said side bars, and the adjustable standards carrying the wheels 30, substantially as specified. 3rd. In a cultivator of the class described, the combination, with the axle wheels and main frame, of the opposite side bars loosely connected at their front ends to the main frame opposite boxes loosely connected to the side bars and adapted to oscillate and provided with bearings, a transverse cultivator shaft, cultivators mounted thereon and means for operating said shaft, substantially as specified. 4th. In a cultivator of the class described, the combination, with the axle, ground wheels and main frame, of the opposite side bars loosely connected at their front ends to the main frame, the transversely opposite bearing boxes, provided at their opposite sides with trunnions, bearing eyes depending from the side bars and loosely receiving the trunnions, a transverse cultivator shaft terminating in bearing ends mounted in the bearing of the boxes, and means for rotating the shaft, substantially as specified. 5th. In a cultivator of the class described, the combination, with the wheels, axle and main frame, of opposite side bars pivotally connected at their front ends to the frame, opposite bearing boxes mounted for oscillation at the under sides of the side bars, and provided with bearings, a transversely disposed tooth carrying cultivator shaft, means for rotating the shaft, a hand lever pivoted on the main frame, a transverse connecting bar between the two side bars, pivotal connections between the side bars and the ends of the transverse bars, and a chain connected to the lever and to the transverse bar, substantially as specified. 6th. In a cultivator of the class described, the combination, with the wheels, axle and main frame supported on the latter, of the opposite side bars loosely connected at their front ends to the main frame, the opposite bearing boxes loosely suspended and adapted to oscillate under the side bars, the transverse cultivator shaft mounted for rotation in said boxes, the opposite plates secured to the inner sides of the side bars and provided with central recesses and opposite bearing eyes, the transverse bar terminating in the recesses, the pivoting pins passed through the eyes and bar, the lever fulcrumed on the main frame, and the chain connecting the lever and bar, substantially as specified. 7th. In a cultivator of the class de-

scribed, the combination, with the axle, wheels and main frame, of the opposite cultivator has loosely connected at their front ends to the main frame, the transverse bar loosely pivoted at its ends to said bars, the loosely suspended oscillating bearing boxes, the transverse cultivator shaft journaled therein, means for operating said shaft, the front and rear eyes secured respectively near the front and rear ends of the side bars, the diagonally disposed wires, the lever and the chain connecting the lever with the cross bar, substantially as specified.

**No. 39,598. Bed Pan, Commode, Etc.**

(*Vase-de-toilette, latrine, etc.*)

Elizabeth Phillips, No. 4 Upper Bedford Place, Russel Square, Middlesex, England, 1st August, 1892; 6 years.

*Claim.*—1st. A sanitary pan for the use of invalids and others, provided with a movable air tight or close fitting cover fitted with a glazed aperture, substantially as herein shown and described and for the purpose stated. 2nd. A sanitary pan for the use of invalids and others, provided with a movable seat and a movable air tight or close fitting cover fitted with a glazed aperture, substantially as herein shown and described and for the purpose stated. 3rd. A sanitary pan for the use of invalids and others, provided with a movable air tight or close fitting cover fitted with a glazed aperture and an aperture closed by a spring valve, substantially as herein shown and described and for the purpose stated. 4th. A sanitary pan for the use of invalids and others, provided with a movable air tight or close fitting glazed cover and an additional movable slide or cover immediately below the glazed cover, substantially as herein shown and described and for the purpose stated.

**No. 39,599. Lifter and Lock for Skylights.**

(*Appareil pour élever et serrure de lucarnes.*)

Wm. Trebilcock, Central City, Colorado, U.S.A., 1st August, 1892; 6 years.

*Claim.*—1st. A lifter for skylights, transoms, &c., consisting of an apertured bracket, a notched lifting bar connected to the skylight and arranged for lateral movement in the aperture in the bracket, a locking lever for engaging said notched lifting bar to hold it from downward movement, a spring actuated locking bar pivoted to the lower end of the lifting bar and projected through the aperture in the bracket, said spring bar formed with notches arranged to engage the bracket and hold the lifting bar from upward movement, and means for raising the lifting bar and unlocking the locking lever from said lifting bar, substantially as and for the purpose described. 2nd. The combination, with the bracket A, having an aperture *a'*, as shown, and the guide pulley H, mounted thereon, of the notched lifting bar B, the spring actuated locking arm C, adapted to engage the notched bar B, the spring bar D, arranged to operate in the aperture *a'*, and hold the bar B in engagement with the arm C, and the lifting cord G, secured to the lower end of the bar B, passed over the pulley H, and down to within easy reach of an operator, substantially as and for the purpose described. 3rd. The combination, with the bracket A, formed with an aperture *a*, the shaft I, mounted thereon, provided with a pulley H, and notched disc K, and the spring locking arm C, having a spring member L, arranged for engagement with the notched disc, of the bars B and D, operating in the aperture *a*, and notched as shown, the bar D, pivoted near its lower end to the bar B, the angle lever pivoted in the bar B, and arranged to engage the bar D, the operating cord G, secured at one end to the lever F, its free end passed over the pulley H, and extended down, as shown, all arranged substantially as and for the purpose described.

**No. 39,600. Shoe Slugging Machine.**

(*Machine alimentaire de clous pour chaussures.*)

Solomon Marcella Cutter, Quebec, Canada, 1st August, 1892; 6 years.

*Claim.*—1st. In a shoe slugging machine, the combination, with the slug driver, slug supply, the movable raceway provided with slug releaser at its lower end, of the slug receiving throat or guide tube properly diminished in height to allow the nose of the raceway carrying the slug to project in and locate the slug directly over the throat and in the axis of the driver, and having a bearing plate at one side thereof, and a combined reciprocating detent and holder, the former operating the slug releaser and the latter acting in conjunction with said bearing plate to hold the slug during the withdrawal of the raceway, as set forth. 2nd. In a shoe slugging machine, the combination, with the slug driver, the partly formed slug receiving throat or guide tube, and means for supplying slugs thereto, of a work feeding awl adapted to enter the stock at a point out of line with said throat, to move to within the axis of said throat and be withdrawn from said stock and complete the formation of said throat, and means for actuating said awl, as set forth. 3rd. In a shoe slugging machine, the combination, with the slug driver, slug supply, the movable raceway provided with the slug releaser at its lower end, and the diminished slug receiving throat or guide tube having an upwardly projecting bearing plate at one side thereof, of the combined reciprocating detent and holder working above said throat, as and for the purposes set forth. 4th. In a shoe slugging machine, the combination, with the slug driver, slug supply, the