

generate the electric current. 2nd. An electric machine adapted for giving shocks to the person, and provided with magneto-electric devices, and having one handle serving for completing the circuit connected to said devices, and serving as a means for revolving the same, and another handle, and regulating devices connected therewith adapted for increasing or diminishing the current. 3rd. In an electric machine adapted for giving shocks, and provided with magneto-electric devices, a coin-receiver, and a coin-operated unlocking device, a handle connected with, and serving to operate the magneto-electric devices to generate the electric current, combined with means, substantially as described, serving to lock the machine and prevent its operation until the locking device, acted upon by the introduction of a coin, or its equivalent, shall be released. 4th. In an electric machine provided with magneto-electric devices, and with a coin-receiver, and coin-operated devices, the combination of a handle connected with, and serving to operate the magneto-electric device for generating the current, and a locking device serving to prevent such handle being operated until the introduction of a coin, or its equivalent, shall have released the locking device, and another handle, and regulating devices connected therewith, adapted for increasing or diminishing the current and completing the circuit. 5th. In an electric machine provided with magneto-electric devices, and with a coin-receiver, and coin-operated devices, the combination of one handle, connected with and serving to operate the devices for generating the electric current, a locking device serving to prevent such handle being operated until the introduction of a coin, or its equivalent, shall have released the locking device, and another handle, and regulating devices connected therewith, adapted for increasing or diminishing the current and completing the circuit. 6th. In an electric machine provided with magneto-electric devices, and with a coin-receiver and coin-operated unlocking devices, the combination of two handles, connected respectively to the positive and negative wires, one handle being connected with, and serving when released by the agency of a coin to drive the machine for revolving the electro-magnets to generate the current, and the other handle, and regulating devices connected therewith, adapted to increase or diminish the current, and a locking device, substantially as described, which prevents the operation of the machine until said locking device is acted upon and set free by the introduction of a coin, or its equivalent.

No. 30,108. Art or Process of Extracting Aluminium. (*Procédé pour extraire l'aluminium*)

Orlando M. Thowles, Newark, N. J., U. S., 6th November, 1888; 5 years.

Claim—1st. The process of producing aluminium, which consists in mixing aluminium chloride with sodium, producing substances substantially as described, and then heating the mixture in a vessel, or receptacle, and then grinding and washing, substantially as described. 2nd. The process of producing aluminium, which consists in mixing aluminium chloride with sodium producing substances substantially as described, and then heating the mixture in a vessel, or receptacle, substantially as described.

No. 30,109. Process for Producing Sodium or Potassium. (*Procédé de production du sodium ou du potassium*)

Orlando M. Thowles, Newark, N. J. U. S. 6th November, 1888; 5 years.

Claim—1st. The process of obtaining sodium, or potassium, which consists in heating a carbonaceous, or other suitable reducing material, gradually supplying caustic soda, or caustic potash, or other suitable compound of sodium or potassium thereto, and then condensing the vapour evolved, substantially as described. 2nd. The process of obtaining sodium, or potassium, which consists in heating a carbonaceous, or other suitable reducing material, gradually supplying heated caustic soda, or caustic potash, or other suitable compound of sodium, or potassium, thereto, and then condensing the vapour evolved, substantially as described.

No. 30,110. Apparatus for Producing Sodium or Potassium. (*Appareil de production du sodium ou du potassium*)

Orlando M. Thowles, Newark, N. J., U. S., 6th November, 1888; 5 years.

Claim—1st. An apparatus for obtaining sodium, or potassium, consisting of a retort, located in a furnace, and having a supply chute, a side chamber exposed to the heat of the furnace and connecting with the retort in the furnace, and having a regulating door, adapted to adjustably close the connection, and a condenser, substantially as described. 2nd. In an apparatus for obtaining sodium, or potassium, the combination with furnace A having flue A₁ of retort B having chute B₁, with cover B₂, chamber C, having door D, and a condenser E connected with retort B by pipe F having stop-valve F₁, substantially as described.

No. 30,111. Treatment of Metals.

(*Traitement des métaux.*)

William A. Baldwin, Chicago, Ill., U. S., 6th November, 1888; 5 years.

Claim—The process of treating metals, which consists in immersing such metals without fusion in a fused bath of clay, or other like earthy substances bearing alumina, carbonaceous matter, and sodium chloride, the latter being in excess of either of the other substances, substantially as specified.

No. 30,112. Combined Metal with Aluminium. (*Métal avec alliage d'aluminium*)

William A. Baldwin, Chicago, Ill., U. S., 6th November, 1888; 5 years.

Claim—The process of combining a metal with aluminium, con-

sisting in first fusing clay, or like substances containing alumina, with carbonaceous matter and sodium chloride, the sodium chloride being in excess of the other substances, fusing the metal to be combined, and introducing the metal thus fused into the said fused mass, substantially as specified.

No. 30,113. Bath for Extracting Aluminium and Alloying with other Metals. (*Bain pour extraire l'aluminium et l'allier avec les autres métaux*)

William A. Baldwin, Chicago, Ill., U. S., 6th November, 1888; 5 years.

Claim. The composition of matter herein described, consisting of sodium chloride, clay, or other earth bearing alumina, and charcoal, the sodium chloride being in excess of the other ingredients, and the whole adapted to be fused and thereby serve as a bath, for the purposes specified.

No. 30,114. Process of and Apparatus for Disintegrating Fibres and Manufacturing Paper Pulp. (*Procédé et appareil de désagrégation des fibres et de fabrication de la pâte à papier.*)

Henry Blackman, New York, N. Y., U. S., 6th November, 1888; 5 years.

Claim—1st. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a suitable vessel under pressure by injecting steam at the bottom of the vessel, causing it to pass through the mass of material and escaping, the resulting vapors from the upper part of the vessel through a contracted opening, whereby a circulation through the mass is maintained under pressure and at a high temperature, and the vaporizable impurities are dissolved, vaporized and expelled. 2nd. The improvement in the art of disintegrating fibrous substances, which consists in boiling them under pressure in a closed vessel, and subsequently introducing steam at the bottom of the vessel, causing it to pass through the mass of material and escaping the resulting vapors from the top, whereby the impurities are first dissolved at a high temperature, and are then vaporized and expelled. 3rd. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, and subsequently boiling them under a partial vacuum and drawing off from the digester the vapors arising therein, whereby the impurities are first dissolved and then vaporized, and carried off. 4th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, drawing off the vapors arising in the digester while introducing steam to maintain the pressure and subsequently boiling in vacuum. 5th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, drawing off the liquor and returning it to the digester, whereby a forced circulation through the mass is maintained, then drawing off the liquor, injecting steam into the mass, and subsequently boiling in vacuum. 6th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, draining off the liquor, whereby the soluble impurities are removed, then injecting steam into the mass, boiling under vacuum, and drawing off the vapors that arise in the digester, whereby the vaporized impurities are carried off. 7th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, and draining off the liquor, then boiling under vacuum, and draining off the liquor, and finally adding fresh water. 8th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure with forced circulation of the liquor through the mass, then drawing off the vapors in the digester while injecting steam to maintain a pressure, then draining off the liquor and subsequently boiling under vacuum, and drawing off the vapors. 9th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, then draining off the liquor, boiling again under vacuum, injecting steam and drawing off the vapors, then draining off the liquor, then introducing water and boiling under pressure, and subsequently boiling again under vacuum. 10th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, and then under vacuum, and finally raising the pressure and blowing out the fibrous matter and liquid into a vacuum chamber. 11th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, and then under vacuum, draining off the liquor, introducing fresh liquor and discharging from the digester passing the fibrous matter and liquid through a grit-separator, and finally drawing them through a pump. 12th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester under pressure, and then under vacuum, draining off the liquor, introducing fresh liquid, raising the pressure and blowing out the fibrous matter and liquid into a vacuum chamber, adding fresh water, washing the fibrous matter through a series of traps in a grit-separator, whereby the heavier particles are arrested and drawing the fibrous matter and liquid through a pump. 13th. The improvement in the manufacture of paper-pulp, which consists in treating fibrous substances in a digester, removing the soluble impurities by boiling, and draining off the liquor, removing the vaporizable impurities by boiling in a vacuum, and drawing off the vapors, then discharging the fibrous matter and liquid from the digester, and subsequently removing the heavier foreign matters by precipitation from the fluid pulp. 14th. The improvement in the art of disintegrating fibrous substances, which consists in boiling them in a digester while circulating steam or liquid through the mass, and from time to time injecting steam into the digester through its outlet, whereby the material adjacent to the outlet is treated homogeneously with the remaining material. 15th. An apparatus for disintegrating fibers, consisting of a digester, a perforated pipe, or pipes, entering the same, and steam, water and chemical pipes connected to said perforated pipe, and provided with valves, combined