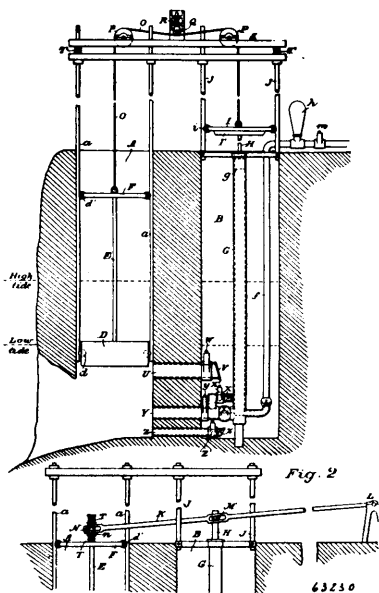


the ordinary wire, and extending the full length of said primary wire between lamps, and provided within the bulb with cathode terminals one or both of which is coincident with the pole or poles of the electro magnets, substantially as and for the purpose described. 3rd. An electric X-Ray lamp comprising a vacuum bulb with two cathode terminals, and one or more electro magnets wrapped to form induction coils having each one pole within the bulb and provided with a light emitting surface as described, said induction coil having a central core, a helix connecting with a primary wire, another helix connecting with the secondary wire, the end of said secondary helix being connected to the core of the induction coil and forming the cathode terminal, substantially as and for the purpose described. 4th. An electric X-Ray lamp comprising a vacuum bulb with two cathode terminals, one or more electro magnets wrapped to form in duction coils having each one pole within the bulb and provided with a light emitting surface as described, said induction coil having a central core, a helix connecting with a primary wire extending between lamps, another helix connecting with a secondary wire wound around the primary wire and extending with it between lamps, the end of said secondary helix being connected to the core of the induction coil and forming the cathode terminal, substantially as and for the purpose described.

No. 63,230. Wave Power Pump.

(*Pompe actionnée par les vagues.*)



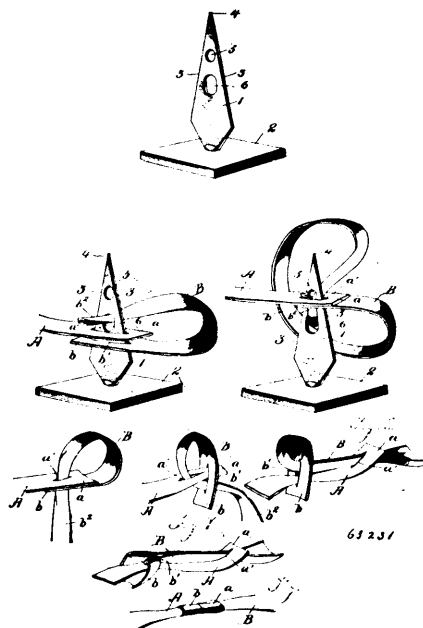
John Edward Armstrong and William Armstrong, both of Santa Cruz, California, U.S.A., 10th June, 1899; 6 years. (Filed 30th September, 1898.)

Claim.—1st. In a wave power pumping apparatus of the character described, independent vertical wells, one of which has a passage connecting it with the sea front, a guided float adapted to rise and fall in said well by the movement of the waves, a pump mechanism fixed in the second well and connections between the float and the pump plunger whereby the two are actuated in unison. 2nd. In a wave power pumping apparatus of the character described, independent vertical wells, one of which has an open connection with the sea front and a guided float adapted to rise and fall therein, a pump fixed in the second well, connections between the float and pump plunger whereby the movements of the float are communicated to the plunger, and passages connecting the float and pump well whereby water is admitted to the latter to supply the pump. 3rd. In a wave power pumping apparatus of the character described, independent vertical wells, one of which has direct connection with the sea and a guided float adapted to rise and fall therein by the movement of the waves, a pump fixed in the other well, connections between the float and the pump plunger, a supply pipe or passage connecting the two chambers at a point above the bottom having a valve opening inwardly into the pump chamber whereby water supplied by the rise in the outer chamber is prevented from returning. 4th. In a wave power pumping apparatus of the character described, independent wells, one of which has an open communication with the sea, and a guided float adapted to rise and fall therein by the action of the waves, a pump fixed in the other wall, connections between the float and the pump plunger, an inlet pipe connecting the two chambers above the bottom, a valve whereby water is admitted from the float to the pump chamber and prevented from returning therethrough, a second pipe at the bottom of the pump chamber having an outwardly opening valve, and controlling gates whereby the water may be retained in the well and discharged to flush and clean the latter. 5th. In a wave power pumping

apparatus of the character described, independent wells, one of which has an open connection with the sea and a guided float adapted to rise and fall within the well by the movement of the waves, a pumping mechanism fixed in the other well, gate-controlled passages between the two for the admission of water to the pump well and the discharge therefrom, a gated inlet pipe connecting the pump with its own well, and a second pipe connecting the pump directly with the outer well and having a controlling gate. 6th. In a wave power pumping apparatus of the character described, independent wells, one of which has an open communication with the sea, a guided float adapted to rise and fall therein by the movement of the waves, a pump fixed in the second well, a connection between the pump plunger and the float whereby the two act in unison and passages admitting water into the pump chamber, a discharge pipe leading upwardly from the pump and having an air chamber approximately equal to the capacity of the pump whereby pressure caused by sudden movements of the pump is relieved. 7th. In a wave power pumping apparatus of the character described, independent vertical wells, one having an open connection with the sea and a guided float adapted to rise and fall by the movement of the waves, a pump fixed in the other chamber, connections between the float and the pump plunger whereby the two act in unison and elastic interposed springs whereby sudden movements of the float are taken up and the action upon the connections is compensated.

No. 63,231. Rag Sewing Needle.

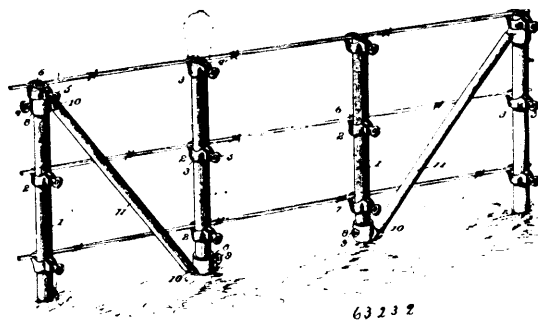
(*Aiguille à coudre les guenilles.*)



Walter R. Caldwell, Amherstburg, Ontario, Canada, 10th June, 1899; 6 years. (Filed 30th January, 1899.)

Claim.—1st. A rag sewing needle comprising a blade, having its sides tapered to a point, and a plurality of openings of different sizes formed therein in vertical alignment, said openings being adapted to receive rag strips of varying sizes and texture, and a suitable handle secured to the lower end of said needle, substantially as described.

No. 63,232. Fence. (*Clôture.*)



Edwin Carlos Emerton and William Lucius Godfrey, both of Post Mills, Vermont, U.S.A., 10th June, 1899; 6 years. (Filed 16th March, 1899.)