be bars B and stirrers D E1, of the crossbars E, said bars E being being need to prevent contact between the suspended hides and the ad stirrers.

No. 14,448. Improvements on Force Pumps.

(Perfectionnements aux pompes foulantes.) Tark E. Collver, Simcoe, Ont., 18th March, 1882; for 5 years. Glaim.—The combination of a single double acting force pump winder with the entrance valves D D and discharge valves E E, blaced near the top and bottom of the cylinder at opposite sides.

No. 14,449. Improvements in Pottery Moulding Machinery. (Perfectionnements dans les appareils à façor ner la poterie.)

William H. Parsons, Montreal, Que., 18th March, 1882; for 5 years-

Claim.—1st. The mode of supporting the cores or insides parts the vessel to be made of clay of other plastic material and the bits baped cores G H, with collapsing staves. 2nd. The combina-bits of the two forcing cylinders, to prevent the waste of power being splied under the large piston to lift it. 3rd. The arrangement of the tangound cranks and levers for locking up and disengaging the subound disengaging the selection of t

No. 14,450. Improvements on Paper-Safes.

(Perfectionnements aux serre-papier.) (Perfectionnements and serve perfection, and serve perfection, and the serve perfection of the serve p

10. 14,451. Improvements on Eave Troughs.

(Perfectionnements aux gouttières.) William F. Moulton, Burlington, Vt. U. S., 18th March, 1882; (Ex-tension of Patent No. 7255.)

No. 14,452. Improvements on Harrows.

(Perfectionnements aux herses.)

Archibald Campbell, Woodville, Ont., 21st March, 1882, for 5 years.

Claim.-Ist. A harrow tooth A having a perforated head. 2nd. A harow tooth A having a perforated head and provided with a fasten-tharow tooth A having a perforated head and provided with a fasten-tharow tooth A fasten be combination of the bull B with harrow tooth a having a perforated head, wedge key C and screw D. 4th. The screw D. 5th. The combination of the bull B, with harrow teeth A A a steved thereon, and wedge key C.

No. 14,453. Improvements on Floating Docks and Pontoons. (Perfectionnements aux cales sèches et aux pontons.)

nements aux currs (order of the second seco

No. 14,454. Improvements in Telephones. (Perfectionnements dans les téléphones.)

(Perfectionnements wath and a contrast of the candian Telephone Company, Montreal. Que., (Assignee of Thomas A. Watson, Everett, Mass., U.S.,) 21st March, 1882; for market and the combination of a diaphragm

Anomas A. Watson, Everett, Mass., U.S., Jass Match, 1997, 1998, 19

No. 14,455. Improvements on Artificial Hands. (Perfectionnements aux mains artificielles.

aritytetetee. , Bowes, Pinkerton, Ont., 21st March, 1882; for 5 years.

Cheim.-Ist. In an artificial hand, the hooked plate F and hook d, here an easy matching in one piece and affixed to an artificial arm cas-there are also made in one piece and affixed to an artificial arm cas-hooked plate f and plate G / pivoted to the plate F d to form here. 2nd. In an artificial arm, the operating lever I attached to an artificial arm, the operating lever I rade adjustable in two matching of which is provided with the slots *i*: and screws o to be an artificial arm, the operating lever I rade adjustable in two matching of which is provided with the slots *i*: and screws o to be an artificial arm, the operating lever I rade adjustable in two matching of which is provided with the slots *i*: and screws o to be adjusted by the adjustable slotted sleeve; j. 5th. In com-tender with an artificial arm, of the grain binding nippers J and the artificial arm, the spring H. 7th. In an artificial arm, the adjust f blaced to one side of the centre of the line of the arm. 8th. Claim.

G, hot k d, hook f, spring H, operating lever I, frame B, casing A, sleeve j, frame D D τ .

No. 14,456. Improvements in Electric Lamps. (Perfectionnements aux lampes electriques.)

Joseph Olmsted, Montreal, Que., 21st March, 1882; for 5 years.

Joseph Olmsted, Montreal, Que., 21st March, 1882; for 5 years. Claim.—1st. The combination, in an electric lamp, with the gravi-tating carrier, of a swinging frame, one or more gear wheels carried thereby and meshed with the said carrier, a stationary detent for in-tercepting the tilting of the frame at a predetermined point, an elec-tro-magnet and movable armature in conjunction with one of said wheels by the action of which the feed and adjustment of the car-bons is effected. 2nd. The combination, in an electric lamp, with the gravitating carbon carrier, of a swinging frame, one or more gear wheels carried thereby and meshed with the said carrier, a stationary detent for intercepting the tilting of the frame at a predetermined point, a magnet in the main circuit and a pivoted or swinging arma-ture therefor wound with fine wire forming a part of a shunt or de-rived circuit, in conjunction with one of said wheels and by the movement of which, caused by the varying attraction of the magnet, the feed and adjustment of the carbon is effected. 3rd. In an elec-trice lamp, an electro-magnet having its helix composed of wire form-ing the main circuit ard its armature wound with a wire forming a shunt of high resistance, the direction of winding being such as to render the poles of the armature of the same magnetic polarity as that of the opposing poles of the magnet. 4th. The combination, in an electric lamp, of an electromagnet in the main or arc circuit, and an electric magnet in a shunt or derived circuit, arranged to prevent similar poles to the magnet in the main magnet of an electric lamp, of a spring oircuit closer and armature attached thereto, the said circuit closer being arranged to maintain a short circuit about the lamp when not attached by the magnet. the lamp when not attached by the magnet.

No. 14,457. Improvements on Ore Grinding and Amalgamating Machines. (Perfectionnements aux machines & triturer et amalgamer les minerais.)

Thomas A. Readwin, London, Eng., 21st March, 1882; for 15 years.

Thomas A. Readwin. London, Eng., 21st March, 1882; for 15 years. Claim.--Ist. In a machine for grinding and amalgamating ore, wherein a pestle is caused to rotate about its own axis and to roll obliquely on the inner surface of a circular pan, by an arm carried by a driven vertical spindle, the combination, with said spindle, of hardwood or asbestos bearings and water as a lubricant. 2nd. In a machine for grinding and amalgamating ore, wherein a pestle is caused to rotate about its own axis and to roll obliquely on the inner surface of a circular pan, by an arm carried by a driven vertical spin-dle, the combination, with said arm and the pestle body, of a hard steel or phosphor bronze pestle axis, so fixed in said pestle body that it can be shifted endwise to compensate for wear, or removed when requisite for renewal or otherwise. 3rd. In a machine for grinding and smalgamating ore, a pan formed with an internal recess at its bottom, in combination, with a hard metal cup to contain mercury for use in the amalgamating process, said cup being such as can be easily removed and renewed. 4th. In a machine for grinding and amalgamating process, a tapping hole for withdrawing matters from said serew and a wire or equivalent fastening device passing through said serew and a wire or equivalent fastening device passing through said serew and a wire or equivalent fastening device passing through said serew and a wire or equivalent fastening device or sponts q and machine for grinding and amalgamating ore, the combination, with pans 6, pestles q and means for operating the same, of a trough 7, serew feeder m, chutes or sponts q and means for regulating the quantity of ore delivered in a siven time to each pan. 6th. In a machine for grinding and amalgamating ore, the combination, with pans 6, pestles q and means for operating the same, of a trough 7, serew feeder m, chutes or sponts q and means for regulating the quantity of ore delivered in a siven time to each pan. 6th. In a machine for grin

No. 14,458. Improvements on Electric Lamps. (Perfectionnem. nt; aux lampes électriques.)

William M. Thomas and Samuel W. Skinner, Cincinnati, Ohio, U.S., 21st March, 1882; for 5 years.

Within M. Holmas and Samuel W. Sainler, Chechnact, Onlo, U.S., 21st March, 1882; for 5 years. Claim.—Ist. In combination with an electro-magnetic helix, con-nected at one end with the positive wire from the generator, and constituting the terminus thereof, one or more conductors which travel on naked tracks on the external peripheries of the convolu-tions of the helix, and have electrical connection with the positive electrode and mechanical attachment to the suction core. 2nd. In combination with an electrical connection with the positive electrode and mechanical attachment to the suction core. 2nd. In combination with an electrical connection with the positive elec-trode and direct mechanical attachment, by means of adjustable fastening R to the suction core. 3rd. In the described combi-nation, the stationary negative electrode j of refractory metal, the stationary electro-magnetic coil or helix C, constituting the terminus of the positive electrode j of refractory metal, the station or more conductors U that traverse naked tracks e upon the pheripheries of the coil convolutions, and which have elec-trical connection with the positive electrode and direct mechanical attachment to the suction core. 4th. In combination with the electro-magnetic helix C c, the shifting conductors U, the positive electrode N and the suction core K, the adjustable counterpoise O PQ.