## IN VENTIONS PATENTED.

Note.-Patents aregranted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

## No. 37,480. Furnace. (Fournuise.)

John Galt, Toronto, Ontario, Canala, 29th September, 1891; 5 years.
Claim.-1st. A sterm or water heating furnace consisting of sections, with means for uniting them and providing circulation of water or steam from section to section, said sections being provided with a fire-chamber in the upper part thereof, with a stratum of water above and around the same, and flues situated beneath said chambers for conducting heated products of combustion theref rom through said section to the outlet, substantially as described. 2nd. A steam or water heating furnace consisting of sections, adapted to circulate water or steam from the base to the top of each sections and from section to section, said sections being provided with a fireohamber in the upper part thereof, with a stratum of water surrounding the same, and flues situated beneath said ohamber for conducting heated products of combustion therefrom through said sections to outlet at the base of the furnace, substantially as described.

No. 37,481. Means tor Preventing Incristation in Steam Boilers. (Moyen d'émpêcher les incrustations dans les chaudieres a vapeur.)
John Draner. Alfred Holmgren, and John Barnes, all of Brooklyn, New York, U.S.A., and Andrew Houston Morier, of Glasgow, Scotland, 29th September, 1891 ; 5 years.
Claim.-1st. The hereinbefore described composition composed of the ingredients and in about the proportion set forth. 2nd. The hereinbefore described mode of coating stoan boilers and tubes by first mixing with the water contained in the boiler bi-chloride of mercury and then placing therein mercury, the substances being subjected to heat and steam pressure in the boiler. 3rd. The hereinbefore described mode of coating metal surfaces with which the water and steam in a boiler come in contact, consisting of the introduction of bi-chloride of mercury and a composition of mercury and metallic sodium, the whole being subjected to heat and pressure in the boiler. 4th. The ineans for coating the surface of iron and steel, consisting of mercury, bi-chloride of mercury and metallic sodium, used substantially in the manner and for the purposes set forth. 5th. The combination, with water in a steam boiler, of meroury, bi-chloride of mercury, and metallic sodium or salt, the whole being subjected to heat to receive proper temperature and steam pressure, for the purpose and substantially in the manner set forth.

No. 37,482. Process for Facilitating the Reproduction of Lithographic Pictures, Designs, etc. (Procéde pour faciliter la reproduction des images, dessins, etc., lithographiques.)

Walter H. Cottingham, Montreal, Quebec, Canada, assignee of Louis Bertling, London, England, 29th September, 1891; 5 years.
Claim.-1st. The herein described method or process of preparing lithographic transfers, consisting in first taking an impression from the stone upon transfer paper such as hereinabove described, and then dusting over the impression thus obtained a fine transfer powder composed essentially of the ingredients above specified. 2nd. The transfer composition composed of a mixture of two powders, one of which consists essentially of spermaceti, sperm oil and charcoal, melted together, cooled and crushed or ground, and the other of which consists essentially of resin and lamp black, or similar material melted together, cooled and crushed or ground.
substantially as set forth. 3rd. The improved transf er paper con sisting of printing paper, having applied thereto coatings of a strong solntion of boiled starch and a coating of solution of gum arabic in which a small quantity of sugar has been dissolved, substantially as described. 4th. The improved transfer ink, consisting essentially of matton suet, bee's wax white curd soap, shellac, vegetable black middle litho varnish and spermaceti, substantially as set forth.

No. $\mathbf{3 7}, 483$. Metal Loop for Harnesses, etc. (Support métallique pour loupes de harnais.)
Edmund Menry Gulledge, Oakville, Ontario, Canads, 1st October, 1891: 5 years.
Claim.-As an artiole of manufacture, a harness loop comprising a loop at the lower and attached to a raised shoulder, or integral, and to a flat-ssupporting plate, which is provided with crew or rivet holes or malleable rivets cast upon the plate, for fastening the said article upon a harness or saddle, substantially as and for the purpose hereinbefore set forth.

## No. 37,484. Die for Forging Car Coupler Hooks. (Matrice pour forger les crochets des attelages de chars.)

John Green, William L. Holman, and John McCord, all of Renovo, Pennsylvania,,U.S.A., 1st October, 1891 : 10 years.
Cluim.-1st. In dies for forging car coupling hooks, a lower die in two parts each having suit:ble cavities therein and one of said part movable from the other in combination with an upper die, 2nd. In dies for forsing ear coupling hooks, a lower die in two parts having suitable cavities theroin separated at an angle to the horizonta plane of the die, and one of said parts movable from the other in combination with an upper die. 3rd. In dies for forging car coupling hooks, a lower die in two separable parts each having suitable cavities therein and means for separating said parts in combination with an upper die. 4th. In dies for forging car coupling hooks, a lower die in two parts having suitable cavities, and one of said parts hinged to the other in combination with an upper die. 5th. In dies for forging car coupling hooks, a lower die in two parts having suitable cavities, and one of said parts hinged to the other in combination with suitable means for raising one of said parts to release the forging and an upper die. 6th. In dies for forging car coupling hooks, a lower die in two purts having suitable cavities, and one of said parts hinged to the other in combination with a tripping mechanism for raising one of said parts to release the forging and an upper die. 7th. In dies for forging car coupling hooks, a lower die in two parts having suituble cavities, and an angular line of separ ation between said parts a hinged joint, a lever, and a pin for rais ing one of said parts of the die, and an upper die. 8th. A lower die having suitable cavities therein, and an anvil on one end of the die in combination wavities therein, and an anvil ontone endities, and a in combination with an upper dio hang with the anvil on the low hamie surface at one end er die. 9th. A two part lower die having an anguiar wall and a con cave seat on one part, an angular wall and a convex surface on the other part, and said parts movably connected, and a transverse and a laving a transverse and a longitudinal cavity.

## No. 37,485. Artificial Foot. (Allonge-pied.)

John Linkert and Henry Arland, both of Hamilton, Ontario, Canada, 18 t October, 1891 ; 5 years.
Claim.-1st. In an artificial foot, the combination of the straps $F$ F, with the heel piece A, and the instep piece B, as desoribed. 2nd. In with artificial foot, the combination of the strap $G$. with the instep piece B, and the beel piece A, in the manner herein described, and piece B, and the beel piece A, in the manner herein described, and
as and for the purposes set forth. 3rd. In an artificial foot, the combination of the strap $\mathrm{G}^{2}$, with the parts B , and C , as described, combination of the strap $\mathrm{G}^{2}$. With the parts B, and C, as described,
and as and for the purposes bereinbefore set forth. 4th. In an artiand as and for the purposes hereinbefore set forth. 4th. In an arti-
ficial foot, the strap $\mathrm{a}^{3}$, in combination with the parts C , and D , as ficial foot, the strap $\mathrm{G}^{3}$, in combination with the parts , and ase as
described, and as and for the purposes hereinbefore set forth. 5th.

