links B, substantially as and for the purpose specified. 2nd. A metal bar A, attached to or forming part of a handle, and having teeth *d* formed on it, in combination with the jaw C connected to the bar A by the links B, and having teeth *e* formed on it, substantially as and for the purpose specified. 3rd. A metal bar A, attached to or forming part of a handle, and having teeth *d* formed on it, and an adjustable sleeve *d* fitted into it, in combination with the jaw C pivotally connected by the links B to the adjustable sleeve D on the bar A, substantially as and for the purpose specified.

## No. 26,156. Dynamo-Electric Machine.

(*Machine Dynamo-Electrique.*)

Royal E. Ball, New York, N.Y., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. In a dynamo-electric machine, the combination, with the cores of the field magnets, of forged iron and frame having hard metal bearings attached thereto for the reception of the armature shaft, substantially as described. 2nd. In a dynamo-electric machine, the combination, with the end frames and cylindrical field magnet cores, of pole pieces grooved to receive the said cores, and secured thereto by means of screws, substantially as described. 3rd. In a dynamo-electric machine, the ends A, A, composed of a flat plate of forged iron, having a central opening for the passage of the armature shaft, and a cast-metal brush screwed into said opening, substantially as described. 4th. In a dynamo-electric machine, the combination of the end frames *a*, *a*, having bearings *b*, *b*, the cores C, C, having a tapered hole at each end, and the pole-pieces F, F, grooved to receive said cores and secured thereto, substantially as described.

## No. 26,157. Type-Writer. (*Graphotype.*)

John Becker, Boston, Mass., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. In a type-writer, the movable index plate, the type carrying segment pivoted thereon, and the operating lever for moving the type-carrying segment, combined with an independent printing lever pivoted to the index plate, and constructed and arranged to bear upon the type segment to print when depressed, substantially as described. 2nd. In a type-writer, the movable index plate, the type-carrying segment pivoted thereon, and the operating lever for moving the type-carrying segment, combined with a printing lever pivoted to the index plate, a lug $c^2$ and an adjusting stop *m* carried by said printing lever, all substantially as and for the purpose set forth. 3rd. In a tppe-writer, the feed-bar, movable index plate mounted thereon, combined with the pivoted printing lever and rocking lever for operating said printing lever, the axial centres of the pivots of said printing lever and rocking lever being at right angles with relation to each other, so that the printing lever may be parallel with, and move back and forth upon the rocking lever, all substantially as described. 4th. In a type-writer, the feed roll and presses combined with the feed-bar, and movable index plate mounted to move laterally and to rotate on said feed-bar and normally bearing upon said presser, said index-plate being so constructed and arranged to support the printing mechanism and its co-operating parts, all substantially as described. 5th. In a type-writer, the index plate and type-carrying segment pivoted thereon, the centering device mounted upon said type-carrying segment, and having a series of holes 4, combined with the printing lever having the centering pin 5 to enter the said holes 4, all as set forth. 6th. In a type-writer, the movable index plate and the type-carrying segment pivoted thereon, combined with the pivoted printing lever, the feed-dog, and feed-bar, and rocking lever, and yielding projection 40 attached to said rocking lever, and a limiting stop for the said projection, all substantially as described. 7th. In a type-writer, a rubber segment provided with projecting type properly spaced, and having the deep grooves or recesses 6 between said type, whereby each type may be operated independently of its neighbors on either side, the said grooves permitting the type operated upon to separate from its neighbors, and thus preserve them from injury and from smearing, the paper being written upon, substantially as described. 8th. In a type-writer, the index plate and type-carrying segment pivoted thereon, the guide-arms *b* and ratchet-toothed feed-bar $a_4$, combined with the sleeve 27 mounted upon said feed-bar, between the guide-arms, and independent inking pads carried by said sleeve, and a pivoted printing-lever, all substantially as and for the purpose set forth. 9th. In a type-writer, the movable index plate and type-carrying segment pivoted to said index plate, and bell carried by the index plate, combined with the rocking lever *f* and bell-hammer attached to one end thereof, substantially as described.

## No. 26,158. Hame Fastener. (*Couplière d'Attelles.*)

Daniel B. Baker, Rising Sun, Ohio, U.S., 7th March, 1887; 5 years.

*Claim.*—The herein described hame-fastener, consisting of the strap 10, provided with the hook 11 and teeth 12, the strap 13 provided with the arms 2 and 3 and hook 14, and the lever 15 pivoted between the arms of the strap 13, and provided with the arms 4 and 5 and pin 6, the said lever receiving the strap 10 between its arms, as set forth.

## No. 26,159. Pulley Sheave. (*Rouet de Poulie.*)

Francis B. Torrey, Bath, Me., U.S., 7th March, 1887; 5 years.

*Claim*—A sheave composed of a metallic rim, having an outer grooved periphery, and an inner cylindrical periphery, and a body of wood, or like material, compressed within the rim, substantially as described.

## No. 26,160. Soldering Tool. (*Fer à Souder.*)

Edward M. Lang, Jr., Portland, Me., U.S., 7th March, 1887; 5 years.

*Claim.*—1st. The combination of a soldering tool and a ring of metal having a shoulder upon the inner wall thereof, substantially as described. 2nd. As a device for soldering the covers of cans, the combination of a ring of metal, having on its interior wall a shoulder slightly smaller than the wall of the can to be soldered, and a circular soldering tool, the diameter of which is such as to allow its free rotation within the shoulder. 3rd. The combination of the standard *e*, lever or arm *g*, spring *f*, table *h* and ring *a*, as and for the purposes described. 4th. The combination of the table *h*, standard *e*, arm *g* and ring *a*. as and for the purposes set forth. 5th. The combination of the table *h*, standard *e*, arm *g*, ring *a* and rotary table *k*, substantially as described.

## No. 26,161. Car Coupler. (*Attelage de Chars.*)

Patric McEntee and August Richter, Montgomery, Minn., U.S., 7th March, 1887; 5 years.

*Claim*—1st. In an automatic car-coupler, the draw-head with mortice *e*, flange *f*, notches *g*, space B, pin *c*, swinging block G, pivot arms H and pull *a*, all combined and operating substantially as described. 2nd. In an automatic car-coupler, the combination of the pin *c* and chain ring swing block G, pivot arms H, pull *a*, combined with the draw-head A, mortice *e*, flange F, notches *g* and link D, all arranged and operating substantially as set forth and described.

## No. 26,162. Methods of Obtaining Compounds of the Rarer Metals from the Earths for use as Incandescence Bodies for Illuminating Purposes. (*Mode d'Obtenir des composés des métaux rares dans leur Terre pour Servir de corps Incandescents pour l'Eclairage.*)

Carl A. Von Welsbach, Vienna, Austria, 7th March, 1887; 5 years.

*Claim.*—1st. The method, substantially as herein described, of treating cerite, orthite and similar minerals containing cerium, didymium and lanthanum, with hydrochloric acid in the cold for effecting the separation of the said metals. 2nd. The method, substantially as herein described, of separating the cerium from the minerals, referred to in the preceding claim, by treating the chloride solutions thereof with oxalic acid, heating the oxalates obtained to redness, and treating the resulting oxides with nitric acid, whereby the cerium is obtained in the form of a nitrate solution. 3rd. In combination with the method for the separation of cerium from minerals containing cerium, didymium and lanthanum, referred to in the preceding claim, the separation of the didymium and lanthanum contained in the lye after separation of the cerium by evaporating the lye and treating the residue with nitric acid and ammonium nitrate, whereby ammonium double nitrates of the said metals are obtained in the form of crystals, substantially as herein described. 4th. The method, substantially as herein described, of treating zirconium for the removal of all traces of iron therefrom, consisting in first heating the zirconium to a white heat under free admission of air, and then, after finely pulverizing the same, treating it for several days with hydrochloric acid. 5th. The method, substantially as herein described, of producing zirconium in a form suitable for an incandescence body, by first converting the zirconium into a sulphate, and after treating with ammonia, dissolving the same in nitric acid, thereby obtaining a precipitate which, when digested with ammonia and dissolved in nitric acid and evaporated, produces zirconium nitrate. 6th. The method, substantially as herein described, of separating a zirconium compound from a solution of zirconium in nitric acid, by means of sulphate of ammonia, whether this be present in the solution from previous processes, or be subsequently added.

## No. 26,163. Porpoise Weir. (*Parc à Marsouin.*)

Octave Ouellet, Quebec, Que., 7th March, 1887; 5 years.

*Réclame.*—Une nouvelle méthode de pêcherie du marsouin consistant d'une série de barrières en combinaison d'un essieu A, de perches B, de dormants C fixés au sol par des chevilles, des crampons D, des flottes en liège E, le tout fonctionnant tel que décrit. 2o. Une pêcherie au marsouin avec série de barrières, fil de fer F, crochets en bois H, freins K, le tout combiné et fonctionnant ensemble tel que ci-dessus décrit pour les fins indiquées.

## No. 26,164. Vehicle Wheel. (*Roue de Voiture.*)

Miles M. Gray, Eureka Springs, Ark., and James N. Bartlow, St. Louis, Mo., U.S., 7th March, 1887; 5 years.

*Claim.*—The combination, in a wheel, of the socket *a*, the cap C having a nut, collar and tenon, and the flanged triangular metallic block D, all operating in unison for the expansion of the wheel by turning the cap C, substantially as shown and set forth.

## No. 26,165. Car-Coupler. (*Attelage de Chars.*)

James W. Atwood, Jonathan K. Atwood, Lisbon, and James C. Mitchell, Lancaster, N.H., U.S., 7th March, 1887; 5 years.

*Claim.*—The combination of the coupling pin B, provided with the cam extending down its front and slotted as described, and having the part to act against a link, straight and inclined as explained from the top of the mouth of the draw-bar when the pin is down, with the draw-bar head chambered to receive such pin, and having the pin chamber closed where above the mouth of the draw-bar, and with a pin extended through the draw-bar head and the slope of the cam, all being substantially as set forth.

## No. 26,166. Wooden Cards and process of Manufacturing the same. (*Carte et procédé de fabrication de carte de bois.*)

Romeyn B. Hough, Lowville, N.Y., U.S., 7th March 1887; 5 years.

*Claim.*—1st. As a new article of manufacture, a flexible card composed of wood having its impression receiving face formed of the cross-grain of the wood, substantially as described. 2nd. A card composed of a flexible cross-section of wood, having a smooth and