

In a metal wheel, a band or rim serving as a shield or sand-band for the hub, and provided with a series of projections for retaining the bent portions of the return spokes within the hub, as and for the purpose set forth. 3rd. The herein described wheel comprising a box, telescopic disks secured to the box at each end thereof, a rim, spokes secured to the rim at their outer ends, the inner ends thereof being secured to the disks and held from radial movement by projections upon the disk caused to impinge upon the spokes by overlapping the edge of one disk upon the other, as and for the purpose set forth. 4th. In a metal wheel, disks having fastening devices for engagement with the spokes, the disks being formed of different diameters with the edges of one disk overlapping the other, a perforation through the centre of the disks, an eyelet within the perforation having each end bent to overlap the outer side of the disks, in combination with spokes screwed between the disks, as and for the purpose set forth.

### No. 30,047. Securing Window Blinds to Rollers. (*Arrête-store de fenêtre*)

Henry Northcote, Toronto, Ont., 26th October, 1888; 5 years.

*Claim.*—A window-blind fastener consisting of roll *d*, catch *a*, spring *b* and nut *c*, all formed and combined as and for the purpose hereinbefore set forth.

### No. 30,048. Toe Weight. (*Pesée de sabot*)

Frank W. Floyd, Detroit, Mich., U.S., 26th October, 1888; 5 years.

*Claim.*—1st. A toe weight for horses, consisting of a plate or tenon having its inner surface concaved to fit the convex surface of the hoof, and adapted to be fastened to the hoof by screws, and a weight attached to the plate, or tenon, by a dovetail joint, and further secured by a screw passing through the weight and plate, or tenon, and into the hoof, substantially as and for the purposes described. 2nd. A toe weight for horses, consisting of a plate, or tenon, having its inner surface concaved to fit the convex surface of the hoof, and adapted to be fastened to the hoof by screws, and additionally secured thereto by a spur at its lower end, adapted to be inserted between the hoof and the shoe, and a weight attached to the plate or tenon by a dovetail joint, and held in place by a set-screw passing through the weight and into the plate, or tenon, substantially as and for the purposes described. 3rd. A toe weight for horses, consisting of a plate, or tenon, having its inner surface concaved to fit the convex surface of the hoof, and adapted to be fastened to the hoof by screws, and additionally secured thereto by a spur at its lower end to be inserted between the hoof and the shoe, and a weight attached to the plate by a dovetail joint, the weight and plate being additionally secured by a screw passing through the weight and plate and into the hoof, substantially as described. 4th. In a toe weight for horses, the combination, with a dovetail tenon having its inner surface concaved to fit the convex surface of the hoof, and attached thereto by a screw, and additionally secured by a spur in its lower end adapted to be inserted between the hoof and shoe, of a mortised weight adapted to fit onto the tenon, and a screw adapted to pass through the weight and tenon and into the hoof, substantially as described. 5th. In a toe weight for horses, the combination with the plate, or tenon, *B*, having its inner surface concaved to fit the convex surface of the hoof, and provided at its lower end with the spur *B*, and also provided with screw holes *b*, and elongated opening *b*<sub>1</sub> and bevelled edges *b*<sub>2</sub>, of the weight *C* provided with a recess *c* having its edges bevelled to fit the edges of the plate, or tenon *B*, an orifice *c*<sub>1</sub> and the screw *c*<sub>2</sub> which passes into the hoof, substantially as described. 6th. A toe weight for horses, consisting of a plate having its inner surface concaved to fit the convex surface of the hoof, and secured to the hoof by means of a screw, or screws, and a spur attached to the lower end of the plate and adapted to enter between the hoof and shoe, substantially as described.

### No. 30,049. Washing Machine.

(*Machine à blanchir.*)

Anthony W. Burko, Toronto, Ont., 26th October, 1888; 5 years.

*Claim.*—1st. An auxiliary bottom *B* composed of a series of V-shaped bars connected together by the metal strips *a*, in combination with projections *b* extending inwardly from the sides of the washing chamber, so as to form supports for the auxiliary bottom *B*, as shown. 2nd. A washing chamber having a metallic bottom *B* pressed into the sides of the chamber, so as to form water-tight joints, in combination with an auxiliary bottom *B* composed of V-shaped bars connected together by metal strips *a*, the said auxiliary bottom being supported within the washing-chamber clear of its metal bottom, substantially as and for the purpose specified. 3rd. A convex rubber *C* composed of V-shaped bars *d* connected together by wooden end plates *e*, levers or standards *D* fixed to the end plates *e*, and having slots *f* made in them, in combination with the pivot pins *E*, and hooks *F*, arranged substantially as and for the purpose specified. 4th. A convex rubber *C* composed of V-shaped bars *d* connected together by wooden end plates *e*, and having slots *f* made in them, the pivot-pins *E*, and hooks *F*, in combination with the levers *G* connected to the levers *D* by the handle *J*, and adjustably pivoted upon the pivot-pins *E* passing through longitudinal slots *b*, and forming pivots-supports for the notched dogs *I* pivoted on the levers *G*, substantially as and for the purpose specified. 5th. A washing-machine having a concaved corrugated auxiliary bottom supported within the washing-chamber above its metallic water-tight bottom, in combination with the convex corrugated rubber *C* having standards *D* pivoted in the handle *J*, the ends of which are pivoted on the upper ends of the pivoted levers *G* which are made vertically adjustable, substantially as and for the purpose specified.

### No. 30,050. Means of Generating and Superheating Steam. (*Moyens de produire et surchauffer la vapeur.*)

Alexander Young, Honolulu, Hawaiian Islands, 26th October, 1888; 5 years.

*Claim.*—1st. The herein-described method of superheating exhaust steam from the higher pressure cylinders of compound engines before it enters the lower pressure cylinders, or superheating the steam or vapor from the coils of multiple effect evaporators before it enters the next coils in order, utilizing for this purpose the heat of combustion gases on their way to the chimney. 2nd. For operating, in the manner set forth in the preceding claim, the combination of a series of boiler compartments in one or more of which steam is generated, and in the other, or others, of which exhaust, or spent steam, or vapor of one pressure, or of several degrees of pressure, is superheated by the hot gases resulting from the combustion of fuel in the generating boiler, or boilers, the whole constituting a graduated boiler arranged and operating substantially as described. 3rd. The combination of a graduated boiler, such as is referred to in the preceding claim, with a compound engine, or with a multiple effect evaporating apparatus, substantially as described.

### No. 30,051. Spring Bed Bottom.

(*Sommier élastique.*)

Stewart Grafton, Weston, Ont., 26th October, 1888; 5 years.

*Claim.*—In a spring bed bottom constructed with cross-bars *A*, Ar, springs *B*, cross-bar *C*, the combination of the unperforated slats *D*, staples *d*, cord *H*, staples *d*<sub>2</sub>, and eyes *h*, hooks *I* and staples *d*<sub>1</sub>, the whole constructed and arranged and operating substantially as set forth.

### No. 30,052. Belt Fastener. (*Agrafe de Courroie.*)

Timothy Gingras, Buffalo, N.Y., U.S., 29th October, 1888; 5 years.

*Claim.*—In combination with the contiguous sections of a belt, the staples *C* having their points passed through contiguous parts of said sections, and then bent back into or through the same on opposite sides of the body of each staple, substantially as set forth.

### No. 30,053. Belt Fastener. (*Agrafe de Courroie*)

Timothy Gingras, Buffalo, N.Y., U.S., 29th October, 1888; 5 years.

*Claim.*—1st. A belt fastening, consisting of a staple, having its ends bevelled inward from the outside, but their inner faces left vertical, and having the right edge of one end and the left edge of the other end also bevelled, the other edges of said ends being left vertical, in order that the points of the staple may be on opposite sides of its middle longitudinal line, as set forth. 2nd. A staple, having its ends bevelled on the outside, and the right edge of one end and left edge of the other bevelled also, and further provided with the additional slants *b*, forming blunt points, substantially as set forth.

### No. 20,054. Combined Chair, Fish-Plate and Rail Coupler. (*Coussinet, échisse de chemin de fer et accoupleur de rail combinés.*)

Willard Wilt, Eureka, California, U.S., 29th October, 1888; 5 years.

*Claim.*—The improved railway chair and fish-plate described, consisting essentially of a single piece of metal, having a base increased in thickness, as shown, and the vertical branches forming the fish plates, reduced so as to allow them to yield laterally and embrace the web of rails of various thickness, substantially as specified.

### No. 30,055. Portable Frog or Car Replacer. (*Rail de raccordement portatif pour remettre sur la voie les chars de chemins de fer.*)

William O. Cooke, Chicago, Illinois, U.S., 29th October, 1888; 5 years.

*Claim.*—1st. A portable frog or car replacer, provided with a shoulder for raising blind wheels, substantially as described. 2nd. In a portable frog or car replacer, the combination of piece *A*, having shoulder *E*, with piece *B* secured thereto, substantially as described. 3rd. In a portable frog or car replacer, the combination of piece *A*, having shoulder *E* and lug *F*, with piece *B* having lug *F*<sub>1</sub>, the lug fitting into the grooves in the sides of the rail, and preventing the frog from tilting or tipping, substantially as described.

### No. 30,056. Steam Generator.

(*Générateur de vapeur.*)

Edward E. Roberts, Red Bank, N.J., U.S., 29th October, 1888; 5 years.

*Claim.*—1st. The combination, with a steam and water drum, and pipes depending at opposite ends thereof and on opposite sides of the fire-box, the pipes at each end having a cross connection, by which they communicate with the drum of the distributors *C*<sub>2</sub>, each connecting the depending pipes which are on the one side of the fire-box, and the coils *E* springing from the opposite distributors alternately forming the crown of the fire-box, and communicating at their upper ends with the drum, substantially as herein described. 2nd. The combination, with a steam and water drum, and pipes depending from the ends thereof, of hot water distributors, each connecting the depending pipes which are on one side of the generator, upright coils connected at their lower ends with the distributors and at their upper ends with the drum and forming the crown of the fire-box, and dry or superheating coils arranged transversely to the planes of the upright coils and on opposite sides of the fire-box, leaving the coils which form the crown of the fire-box fully exposed to the fire, substantially as herein described. 3rd. The combination, with a base or foundation, of the stand pipes *C* supported thereon and the steam and water drum, the pipes at each end of the drum being connected by a cross-pipe which connects with and supports the drum, the horizontal distributors connecting the stand-pipes which are on opposite sides of the generator, the grate arranged between said distributors, and the upright coils *E* leading from the dis-