No. 26,072. Excavator. (*Fouilleur.*)

Cyrus Howard, Pittsburg, Penn., U.S., 26th February, 1887; 5 years.

Claim.—1st. The combination of two or more wheels journalled in an excavator frame, chains mounted on the said wheels, a guide-rail located nearly parallel with the chains, and a series of scoops pivoted at their upper edges to the chain, and provided each with a shoe or roller to engage the said rail, the relative position of the rail, the chains, the pivotal attachments of the scoops, and the shoe or roller being such as described, whereby the scoops are carried with their bottoms slanting rearward with the edge of the bottom dragging on the ground while gathering earth, for the purpose specified. 2nd. An excavator scoop, hung by the upper edge of its back with its bottom slanting rearward to its edge, and provided with sides having curved edges extending from the said upper edge of the said rear edge, and curved as low as the latter, substantially as shown and described. 3rd. The combination of two or more wheels journalled in an excavator frame, chains passing around the wheels, scoops attached to the chains in position to carry their bottoms nearly radially around the wheels, and a spout slanting upward and away from the machine, nearly tangent to one of said wheels in the path of the delivery of the said scoops, substantially as shown and described, whereby earth thrown loose in the air by the scoops will be guided, as described. 4th. The combination of two or more wheels, journalled on an excavator frame, chains passing around the wheels, scoops pivoted at their upper edges to the said chains and elastic connections between adjacent scoops, substantially as shown and described.

No. 26,073. Washing Machine. (*Laveuse.*)

James W. Wilkinson and Charles McCall, St. Marys, Ont., 26th February, 1887; 5 years.

Claim.—1st. The combination of the handles *b*, with the corrugated or notched board J, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the spring *c*, with the cross-bar *e*, and the handles *b*, substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the standards *f*, and grooved wood *g*, with tub *a*, substantially as and for the purposes hereinbefore set forth. 4th The combination of the cross-bar *e* and rollers *h*, attached with the tub *a* by means of slot *i*, substantially as and for the purposes hereinbefore set forth. 5th. The combination of the handles *b*, with *c*, *e* and *f* attached thereto, with the rollers K, substantially as and for the purposes hereinbefore set forth.

No. 26,074. Machine for Lifting Railway Tracks. (*Machine à Lever les Voies de Chemins de Fer.*)

Gaven Rainnie, Saint John, N.B., 26th February, 1887; years.

Claim.—1st. The combination of cast-iron frame A, the ratchet-teeth *a*, *a*, and the slots F, F, and F_1, F_1, with common claw bar D, pall C, C, pin E, E and the steel pin G, used in conjunction substantially as and for the purpose hereinbefore set forth. 2nd. The combination of iron frame A, and oval top H, used in conjunction substantially as and for the purpose hereinbefore set forth. 3rd. The combination of the iron frame A, and handle I, substantially as and for the purpose hereinbefore set forth.

No. 26,075. Waggon Tongue Tip. (*Embrassure de Timon de Voiture.*)

Henry Dunning, Wellington, Ont., 26th February, 1887; 5 years.

Claim.—A pole-tip, consisting of the strap A, provided with an eye C, having a break F, strap D, having a plain end to contract the break, and an eyelet G having a broken circumference H, and fitting within the eye, whereby a concentric movement of the eyelet will open and close the break in the eye, and admit and retain the neck-yoke ring, as set forth.

No. 26,076. Folding Canopy Top for Carriages. (*Courverture en Dais Brisé pour Voitures.*)

Roswell F. Krause. Chicago, Ill., U. S., 26th February, 1887; 5 years.

Claim.—An improvement in folding canopy tops for carriages, consisting of the two-part top C, D, hinged together at J, and combined with a suitable lock L, with the long braces E jointed to the goose neck Q, and to the back portion C of the top at I, and the upper brace H jointed to the brace E at O, and the compound brace F, T. G jointed to the back side of the brace E at N, and to the back arm P, as and for the purpose specified.

No. 26,077. Nosing or Winding on Motion for Self-Actuating Spinning Mules and Twiners. (*Bobineuse pour Mule-Jenny à Filer et Retordre Automatique.*)

James Carter, Stalybridge (assignee of Richard Leach, Oldham,) Eng., 26th February, 1887; 5 years.

Claim.—1st. The combination, with the connected parts, of the ordinary radial arm *d* and quadrant *b*, winding on chain *e*, and shaper bar *g*, of the arm *h* and stud e^1 carried by it, the chain *i*, scroll *k*, ratchet *l* and pulley *m*, the parts *k*, *l* and *m* being connected together and rotating on a stud attached to the quadrant *b*, the pawl *q* acting on the ratchet *l*, the finger *t*, guides *s* and *o* for the chain *n*, and the adjustable fixing *p* upon the shaper rod *g*, all arranged and operating substantially as and for the purpose hereinbefore described and illustrated by Figs. 1 and 3. 2nd. The combination, with the parts of the ordinary radial arm *d*, and quadrant *b*, winding-on chain *e* and shaper bar *g*, of the arm *h* and stud e^1 carried by it, the chain *i*, scroll *k*, ratchet *l* and pulley *m*, the parts *k*, *l*, and *m* being connected together and rotating on a stud carried on a bracket *r* from the framing, the pawl *q* acting upon the ratchet *l*, the chain *n*, guides *o*, the flanges or projections b^1 secured upon the quadrant *b* to act upon the chain *n*, and the adjustable fixing *p* upon the shaper rod *g*, all operating substantially as and for the purpose hereinbefore described and illustrated by Figs. 2 and 3 of the drawings. 3rd. The combination of a chain *n*, or its equivalents, connected with the shaper mechanism and with the pulley cam or snail, or their equivalents, a ratchet and pawl, or their equivalents, and a chain *i*, substantially as and for the purpose hereinbefore described and illustrated by the drawings. 4th. The combination of a chain *n*, or its equivalent, connected with the shaper mechanism and with the pulley cam or snail, or their equivalents, a ratchet and pawl, or their equivalents, a chain *i* and lever *h*, substantially as and for the purpose hereinbefore described and illustrated by the drawings. 5th. The arrangement and combination of the mechanism, where the winding-on chain operates upon an ordinary cylindrical winding-on drum, so that the strain of the winding-on chain will come upon the ratchet and pawl, or its equivalent, and so that the connection going to the copping rail will act to turn the ratchet, when the quadrant is going out, substantially as hereinbefore described and illustrated by the drawings.

No. 26,078. Process of Decorating Walls, Ceilings, etc. (*Procédé pour Orner les Murs, Plafonds, etc.*)

Henry McDonnell, John J. Mallon and George W. Clark, Jacksonville, Ill., U.S., 28th February, 1887; 4 years.

Claim.—The process of forming and applying an unbroken covering to walls or ceilings, or other surfaces, which consists in separating the paper into pieces of convenient size for handling, reducing said pieces of paper to a pulpy condition by soaking in liquid, impregnating or coating the pulpy substance with an adhesive mixture, and while it is soft and pliable spreading it on the walls, ceiling, or other surfaces, and working it into configurations, as desired, by the hands or hand-tools, so as to form a continuous and unbroken sheet, and then coloring and beautifying the same, substantially as described.

No. 26,079. Steam Pipe Connection between Railway Cars. (*Joint de Tuyau de Vapeur entre les Chars de Chemins de Fer.*)

Julius R. Drodzewski and John Kolb, Erie, Penn., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination in steam-pipe connections between railway cars, of flexible coils of pipe, one of the ends of which coils is adapted to be connected to the heating or steam-conducting pipes of the cars, and the others to pipes extending to a coupling-joint between the ends of the cars, substantially as and for the purpose set forth. 2nd. In steam pipe connections between railway cars, the combination of a coil of pipe, one end of which communicates with the heating pipes of the car, and the other with pipe extending to the coupling joint, with a telescopic joint in said connecting pipe between the coil and the coupling joint, substantially as and for the purpose set forth. 3rd. In steam pipe connections between railway cars, the combination of a coupling joint F, telescopic joints G and G_1 and the connecting pipes B and B_1, with the coils C and C_1, substantially as and for the purpose set forth.

No. 26,080. Harrow. (*Herse.*)

Riley Cox, Boise City, I.T. U.S., 28th February, 1887; 5 years.

Claim.—1st. In a sulky harrow, the combination of the sulky, provided with a frame extended forwardly and inclined downward from its axle, the harrow, the connections between said harrow and frame, and means for elevating said harrow with relation to its sulky, substantially as set forth. 2nd. A harrow, comprising a section having its front end bar or beam arranged at an angle to its length, and a second section having its front beam or bar arranged at an angle to its length, and lapped against the inner side bar of the first section, and having its outerside bar extended forward and lapped against the front bar or beam of the first section, and a hinge connection between said sections, substantially as set forth. 3rd. A harrow, formed with two sections fitted and hinged together, one of said sections having its front beam arranged at an angle to the line of draft, and the other section being provided with a beam extended forward and lapped in front of the other section, substantially as set forth.

No. 26,081 Engine Valve. (*Soupape de Machine.*)

James Ferguson, Bridgewater, Mass., U. S., 28th February, 1887; 5 years.

Claim.—1st. The combination of the steam engine cylinder A^1, provided with steam ports *a*, *a*, the valve cylinder E placed within the steam chest, provided with a longitudinal bore having passages *e*, *e* formed within it, each of which expands transversely outward from its shallowest part on one side of the bore adjacent to strut e^2 around the same, and leads into its steam port on the other side, and has its opening into such bore unobstructed in the path of the steam entering it therefrom laterally, and the balanced valve V formed with a connecting stem v^1, and two heads *v*, *v*, of the length to cover said passages, and uncover the same simultaneously by its reciprocation, substantially as described. 2nd. The combination of the steam engine cylinder A^1, provided with steam ports *a*, *a*, and exhaust port, the valve cylinder E placed within the steam chest, provided with a longitudinal bore having passages *e*, *e*, and an intermediate passage e^4 formed within it, each of which expands transversely outward from its shallowest part on one side of the bore, and adjacent to its strut around the same, and leads into its steam port on the other side, and has its opening into such bore unobstructed in the path of the steam entering it therefrom laterally, and the balanced valve V formed with a connecting stem v^1 and two heads *v*, *v*, of the length to cover the passages *e*, *e*, and uncover the same simultaneously by its reciprocation, substantially as described. 3rd. The combination of the head *v*, of the balanced valve V, the expansible packing ring *r* surrounding the same, provided with slot r^2, the segment r^3 cover-