

edges of one blade of each pair being reversed to the cutting and trailing edges of the adjacent blades, substantially as described. 5th. A single propeller provided with a series of blades, whose cutting and trailing edges are reversed one to the other, and disposed upon approximately the same plane at their point of juncture with the hub, and at different planes at the tips or ends of the blades, substantially as described. 6th. A single propeller provided with a series of blades, whose cutting and trailing edges are reversed to the other, and disposed around a hub in such relation thereto that a single plane that is perpendicular to the axis of the propeller will cut through, all of the blades, substantially as described. 7th. A single propeller having a series of blades, one edge of which is formed of straight curved lines, and the other edge in the form of a curved line, an ogee or cyma, the cutting and trailing edges being reversed on each alternate blade, substantially as described.

#### No. 25,954. Sleigh Knee. (*Courbe de Traineau.*)

August Doll and Laurence S. Beits, Lena, Ill., U. S., 9th February, 1887; 5 years.

**Claim.**—The combination, with the knee C having flanges I, I, adapted to embrace a runner, and provided at its upper end with the horizontal flanges E, E, O, O, of the beam A resting on said horizontal flanges and formed with vertical grooves A, the rave B resting on the beam and the bolts F, F, passing through the rave, and the flanges O, O, and lying in the grooves A, and binding together, the knee, the beam and the rave, substantially as shown and described and for the purpose set forth.

#### No. 25,955. Manufacture of Boxes and Apparatus connected therewith. (*Fabrication des Boîtes et Appareil pour cet objet.*)

Jean Scherbel, (assignee of Teodor Remus), Dresden, Germany, 9th February, 1887; 5 years.

**Claim.**—1st. The apparatus for forming grooves in cardboard and other box material, consisting of circular cutters c and c, mounted in holders b and b, which are relatively adjustable, in combination with a feed roller e, substantially as set forth. 2nd. The apparatus for forming grooves in cardboard and other box material, consisting of circular cutters c and c, mounted in adjustable holders b and b, in combination with an intermediate cutter d and with a feed roller e, substantially as set forth. 3rd. The apparatus for forming grooves in cardboard and other box material, consisting of the pressing rollers f, f, and the intermediate cutter d mounted in holders b, b, and in combination with a feed roller e, substantially as set forth. 4th. A clawlamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth which are bent so as to form claws, substantially as shown in the drawings. 5th. A clawlamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth which are bent so as to form claws, such strip being bent to an angle along the middle, substantially as shown on the drawings. 6th. A clawlamp for edges and corners of boxes, consisting of a strip of sheet metal formed with edge teeth, which are bent so as to form claws, the strip being also formed with slots, substantially as shown in the drawings. 7th. The mode of manufacturing the hereinbefore described clawlamps, consisting in, first stamping out teeth along one edge of a blank of the width of two clawlamp blanks, then shifting the blank laterally, then stamping out teeth along the opposite edge, and simultaneously stamping the blank through in the middle with a serrated out, then pressing or rolling each serrated blank first into the section Fig. 27, and then into the section, Fig. 31 or 35, substantially as set forth. 8th. The apparatus for stamping out two serrated blanks from a double blank, consisting of the serrated anvil dies or cutters A and B, having an intermediate space of the form of the serrated blank to be formed, a serrated stamp or punch corresponding to the form of such space, and stops E and D, substantially as set forth. 9th. The apparatus for affixing the clawlamps consisting of an angled anvil A for supporting the two sides of the box, and a hammer B having a corresponding V or saddle groove, and provided with sliding plates C, and spring D, substantially as described with reference to Figs. 36, 37 and 38. 10th. The apparatus for affixing the clawlamps and clinching the claws or teeth, consisting of an angled anvil A having plates E recessed therein and supported by springs, and a hammer B having a corresponding V or saddle groove, and provided with sliding plates C, and springs D, substantially as described, with reference to Figs. 36, 37, 38, 40 and 41. 11th. The improved manufacture of metal-bound boxes by means of cardboard grooving and clawlamp, stamping, bending and affixing machinery, substantially as herein described and shown.

#### No. 25,956. Cut-Off Valve for Steam Engines. (*Soupape de Dénivelle pour Machines à Vapeur.*)

Delano H. Dugar, Cedartown, Ga., and Arthur Pinder, Anniston, Ala., U.S., 9th February, 1887; 5 years.

**Claim.**—1st. The combination of a cylindrical valve-casing having the distributing ports at one side, and having a channel communicating with the live steam chamber at the diametrically opposite side, a hollow valve fitting within the casing and having distributing ports registering with the ports of the casing, and having perforations registering with the channel communicating with its interior, and a cut-off valve having a semi-cylindrical face formed with distributing channels or apertures registering with the apertures in the hollow valve, and bearing against the apertured inner surface of the said valve, as and for the purpose shown and set forth. 2nd. The combination of a live steam chamber, an exhaust chamber, a cylindrical valve casing placed between the chambers, and having at its lower side a live steam port, and an exhaust port, and a steam port into the cylinder, and having at its upper side a live steam channel, a hollow cylindrical valve fitting in the casing and having two steam ports, and an exhaust aperture registering respectively with the steam

port and the live steam port of the valve casing, and with the steam port and exhaust port, in its lower portion, and having in its upper portion, apertures registering with the live steam channel, and a cut-off valve having a semi-cylindrical face formed with a steam channel and with an exhaust recess, and rocking against the apertured lower portion of the inner surface of the hollow valve, as and for the purpose shown and set forth. 3rd. The combination of a valve casing, cylindrical in shape, and having a steam port and a live steam port and exhaust port in its lower side, and a live steam channel in its upper side, with a cylindrical valve having ports registering with the ports of the valve casing, and having a groove or recess in the space between the ports registering with the live steam port and the steam port of the casing, as and for the purpose shown and set forth. 4th. The combination of a cylindrical valve chamber having steam port and live steam port and exhaust port in its lower side, and having a live steam channel in its upper side, a hollow cylindrical valve fitting in the valve chamber, and having steam and exhaust ports registering with ports of the valve chamber, and having apertures in its upper side registering with the live steam channel, an axial valve-stem having a wing at one side formed with a groove in its outer edge provided with springs and a semi-cylindrical cut-off valve having channels in its cylindrical face, registering with the ports of the hollow valve, and having a recess in its back receiving the wing of the valve stem with the springs bearing its bottom, as and for the purpose shown and set forth. 5th. The combination of a live steam chamber, an exhaust chamber, a cylindrical valve casing placed between the chambers and having a steam port into the steam cylinder and a live steam port, and an exhaust port at the sides of the steam port, and provided with a live steam channel at a point opposite to the steam port, a hollow cylindrical valve fitting in the casing, and having steam ports registering with the steam port and with the live steam port, and having an exhaust aperture registering with the steam port and with the exhaust port and formed with apertures registering with the live steam channel, and with a longitudinal groove or recess in the space between the steam ports, an axial cut-off valve stem having a laterally projecting wing formed with a longitudinal groove in its outer edge, provided with springs, and a semi-cylindrical cut-off valve having a curved steam channel registering at its apertures with the steam ports of the hollow valve, and an exhaust recess registering with the exhaust aperture of the hollow cylinder, and having a longitudinal recess in its back of the wing of the valve stem with the springs bearing against the bottom of the same, as and for the purpose shown and set forth.

#### No. 25,957. Trough for Watering Horses.

(*Auge pour Abreuver les Chevaux.*)

Arthur Cornellier, Berthier, (en haut), Que., 10th February, 1887; 5 years.

**Réclame.**—Un auger A, unique ou disposé en série, muni d'un couvercle M, des ouvertures a, b et c, en combinaison avec le tuyau alimentaire T, T, T, et le tuyau d'égout s, s, et les robinets correspondants R et V, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

#### No. 25,958. Hoisting Sling.

(*Nacelle Monte-Charge.*)

Robert E. Walsh, New York, N. Y., U. S., 10th February, 1887; 5 years.

**Claim.**—A hoisting-sling consisting of a net having eyes D at its corners, ropes B attached at one end to the sides of the net and passed through the eyes D, and attached at their other ends to the ends of the net, and the supporting ropes C, connected by means of eyes to the ropes B at the ends of the net, the supporting ropes C being adapted to draw the ropes B through the eyes D and to purse the sling, all combined to operate substantially as set forth.

#### No. 25,959. Paper Box. (*Boîte de Papier.*)

Joseph T. Crow, Jersey, N. J., U. S., 10th February, 1887; 5 years.

**Claim.**—1st. The herein-described box, constructed from a blank consisting of a rectangular strip, cut and scored to form the sides, ends, paste-flap, double bottom, and rectangular end flaps of the box, substantially as and for the purpose set forth. 2nd. The herein-described paper box, constructed from a blank consisting of a rectangular strip, cut and scored to form the sides, ends, double bottom rectangular end flaps, top flaps, and top folds of the box, substantially as and for the purpose set forth. 3rd. A blank for paper boxes, cut and scored to form sides 20 and 21, ends 22 and 23, bottom portions 24 and 25, end flaps 26 and 27, and a paste-flap 28, substantially as described.

#### No. 25,960. Pantaloon Stretcher.

(*Forme de Pantaloon.*)

Otis B. Benton, Cleveland, Ohio, U. S., 10th February, 1887; 5 years.

**Claim.**—1st. In a trousers stretcher, a clamp, consisting of a base piece, and a top piece removably secured to the base piece, and having journals on which it is adapted to turn when the clamping is effected, substantially as set forth. 2nd. In a trousers stretcher, a pair of clamps, in combination with a connecting bar, and pawl and ratchet mechanism for adjusting one of the clamps on the bar, substantially as set forth. 3rd. In a trousers stretcher, pawl and ratchet mechanism for adjusting the clamps in relation to each other, and a foot-rest on one of the clamps for depressing it, substantially as set forth. 4th. In a trousers stretcher, a clamping piece provided with a handle to rotate said piece on its axis, substantially as described. 5th. In a pantaloon stretcher, a clamp having a slightly increasing depth of space between the clamping pieces from about the middle toward the ends thereof, substantially as set forth. 6th. In a pantaloon stretcher, a clamp in which one of the clamping pieces has a working surface, tapering slightly from about the centre towards the ends, and the working surface of the other piece is