

*Claim.*—1st. The rack or ratchet B, formed on the stock A, in combination with the similar and corresponding rack or ratchet C, formed on the plate D, and engaging with and fitting into the rack or ratchet D, as a device for preventing the moveable jaw E, from sliding on the stock A; 2nd. The arrangement and combination with the two racks B, and C, of the eccentric G, and lever F, as a device for keeping the racks B, and C, interlocked or engaged with each other; 3rd. The stock A, when made with the width thereof at H, extended, increased, or greater than at any other part thereof, so as to make the stock stronger at or near H, than elsewhere as described.

No. 2161. GEORGE RAWLE, Bristol, and WILLIAM N. EVANS, Bedminster, Eng., 14th June, 1873, for 5 years: "A Tanning Process." (Un procédé de tannage.)

*Claim.*—1st. In coating the grain side of skins or hides with a protecting coating of grease and oil or other coating capable of protecting such side, from the action of tannin liquor and subsequently submitting the skins so prepared to the action of tannin liquor in a tan pit as described; 2nd. In protecting the grain side of skins and hides from the action of the tannin liquor during the tanning process.

No. 2162. AUGUSTUS D. MARR, Boston, Mass., U. S., 14th June, 1873, for 5 years: "Improvements in Shirts." (Perfectionnements dans les chemises.)

*Claim.*—1st. A folding shirt or garment front or facing A, made or provided with one or more reversible flaps C, D, to fold at the middle and over and button from one side to the other of the front; 2nd. In two or more pieces A, B, C, of cloth arranged as shown in Fig. 2, and connected as described, so as to form a shirt or garment front or facing with one or more reversible flaps C, D, to operate as set forth.

No. 2163. JAMES A. WHELPLEY, Dartmouth, N. S., 14th June, 1873, for 5 years: "Machine for Grinding and Polishing Metal Articles." (Machine à aiguiser et polir la coutellerie.)

*Claim.*—1st. The combination of the two grindstones or polishing wheels F, F, and sliding frames B, B; 2nd. The combination with the grindstones or polishing wheels F, F, and sliding frames B, B, the adjustable rest J, and friction rollers d, d, d, d, d.

No. 2164. AUSTIN D. CABLE & JOHN C. FORD, Montreal, Que., (Assignees of Nathaniel Marshall, 14th June, 1873, for 5 years: "A Double-acting Force Pump." (Une pompe foulante à double-effet.)

*Claim.*—1st. The combination of the hollow rod or tube C, and piston with the cylinder A, containing air chambers, and water chamber, discharge chamber B, and suction pipe A, with valve K; 2nd. In combination with the piston the hollow rod or tube C, with stop C, and provided with openings as described; 3rd. The piston composed of chambers A, and B, divided up respectively by diaphragms H, and K, and having openings G, H, K, and L, washers I, and M, and plate N, all as described.

No. 2165. JAMES ANDERSON, Quebec, Que., 17th June, 1873, for 5 years: "A Truss Bridge." (Un pont à travées.)

*Claim.*—1st. The top chords A, constructed as shown in Fig. 4 with the improved clamps J, in combination with girder iron and truss rods K; 2nd. The bottom chord B, Fig. 10, constructed of a continuous cable wire or round iron and provided with rings B, in combination with prisms C, Figs. 16, 17, and 18, and end bearing blocks H, main bolts K, and clamps J; 3rd. The bottom chord B, Fig. 11, constructed of round iron with raised bands B, and clevis joints and nutted end, in combination with prisms C, Figs. 16, 17 and 18, and bearing blocks H, main bolts K, and clamps J; 4th. The bottom chord B, Fig. 12, constructed of short iron bars and screw nuts B, in combination with prisms C, Figs. 13, 14 and 15, and bearing blocks H, and main bolts K; 5th. The combination washer F, Figs. 24, 25, and 26, composed of cylindrical outer case or cover, vulcanized rubber lining, and rim or cover washer to receive the bolts or chords in the manner set forth; 6th. The end bearing blocks H, Figs. 27 and 28, provided with rollers in combination with bottom chords F, Figs. 10, 11 and 12, and main bolts K; 7th. In shaping the cross girders by means of main bolts K, or other equivalents and bearing piece L, under the prism, in the manner specified; 8th. The application of shearing straps I, Fig. 31 to the bottom chords when composed of flat bars; 9th. The combination of top chords A, bottom chords B, B, clamps J, prisms C, combination washer F, and block H, and bearing pieces L, with the usual portions of a Howe truss bridge as set forth.

No. 2166. GEORGE H. HUME, Paola, Ka., U. S., 17th June, 1873, for 5 years: "Portable Fence and Stock Pen." (Clôture portative et parc à bétail.)

*Consists* in the manner of connecting the panels of a portable fence which are constructed with slats and wires with the supporting trestles and in the method of connecting the corner panels.

*Claim.*—1st. An improved corner joint for fence panels consisting of the horizontal rail F, provided with battens A1, A2, A3, and fastening pin C; 2nd. The trestles B, applied between the adjoining ends of the panels and inserted fastening pin C, passing through the same for bracing the fence; 3rd. The combination of the rails F, stiles A, A, wires D, and pins d, arranged as set forth for constructing a portable fence panel as specified.

No. 2167. SAMUEL W. COZZENS, Milwaukee, Wis., U. S., 17th June, 1873, for 5 years: "Back Support of Chairs and other Seats." (Des chaises, bancs et autres sièges.)

*Claim.*—1st. A back support C, consisting of springs D, and E, and for use in connection with chairs, stools and other seats; 2nd. In combination with the above claim, the back support C, constructed to support a person's back each side of the spinal column as described.

No. 2168. JOHN R. BLAKESLEE, Youngstown, Ohio, U. S., 17th June, 1873, for 5 years: "Machine for Making Forged Nuts." (Machine à faire les noix forgées.)

Relates to the arrangement of two shears or cutters each having a V-shaped cutting-edge operated upon by any suitable driving mechanism in such manner as to advance towards each other in a straight line in such respect to the seat or die as to form two sides of the same whereby a nut cut or severed from a bar in said seat will be of hexagonal shape.

*Claim.*—The combination of the reciprocating pointed cutters D, D, and the seat or die E, the latter composed of two straight and two oblique sides, with a discharge opening beneath as described.

No. 2169. DANIEL M. LAMB, Strathroy, Ont., 17th June, 1873, for 5 years: "Art of Producing Water-proof Gum." (Art de faire de la gomme hydrofuge.)

*Claim.*—The art or process of producing water proof gum from flax-seed or other seeds possessing similar properties by maceration, straining and subsequent inspissation.

No. 2170. GEORGE W. BALLARD, Coldwater, Mich., U. S., 17th June, 1873, for 5 years: "A Spring Bed Bottom." (Un fond de lit à ressorts.)

*Claim.*—1st. The double helical spring B, when the bale thereof has formed in it the eye b; 2nd. The slat C supported across the end of the frame b; the springs D; 3rd. The construction and arrangement of the frame A, springs B, and slat C, C.

No. 2171. WILLIAM M. MARSHALL, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "A Shade." (Un abat-jour.)

*Claim.*—1st. The body A, with its internal face constructed of plates or pieces of silvered mica; 2nd. The plates or pieces of silvered mica secured to the body A, by means of the top and bottom flanges a, b, a, and operating as set forth.

No. 2172. ALBERT H. MERSHON, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "A Gas Heater." (Fourneau à gaz.)

*Claim.*—1st. The gas heater constructed of a metallic body having a face in connection with perforations in and corrugations on said face, so as to form a heating surface on the front or toward the apartment; 2nd. In combination with a gas heater mechanism for obtaining hot water and steam as set forth.

No. 2173. JOHN CHARTON, Philadelphia, Penn., U. S., 17th June, 1873, for 5 years: "Shaft Coupling." (Ajustage des axes.)

*Claim.*—1st. A covered coupling consisting of the clamps formed in the body A, and the portions D, E, in connection with tightening screws, wedges or bolts; 2nd. The conical screws, wedges, or bolts, and the conical openings, in connection with the clamps C, and body A; 3rd. A coupling adapted to receive and hold the ends of shafting of varying diameters; 4th. The clamps divided transversely so that one pair or set is independent of the other; 5th. The auxiliary clips or fastenings H; 6th. The body cored or separated to form the segment of a circle which is divided at a connection with the transverse division at G.