levers L, forked upright K1, and pivoted levers P and M; 12th. In combination with the plates I, and their supporting projections *f*, *f*1, right and left screws for operating said plates, and the forms F, 13th. The combination of the forms F, of the plates I, right and left screws F1, gears 1, 2 and 3, weighted levers L, pivoted cranks v, and endless chain *c*1, provided with projections for automatically operating or applying pressure to the material in its passage between the jaws, 14th. The combination with the form or forms F, of the plates I, right and left screws F1, gears 1, 2, and 3, weighted levers L, pivoted cranks v, projections 4, endless chain *c*1, provided with ears *s*, chain wheel E, gear C, and driving shaft B1, 15th. The combination with the form F, of plates I, right and left screws F1, gears 1, 2, and 3, levers L, pivoted cranks v, chain *c*1, provided with lugs or ears *s* chain wheel E, gear C, driving shaft B1, and clutch and lever S, 16th. The combination of the presser-plates I, pressure screws F, gears 1, 2, and 3, lever L, forked rod K, levers P and M, lever O1, clutch wheel C1, gear C, chain wheel E, chain *c*1, lug S, and pivoted cranks v; 17th. The combination of clamping jaws R, pivoted ear or lever 7, 8, rods *z*, *z*1, foot lever or treadle O1, with projections 9, 10, for automatic disengagement of the material.

No. 5163. WILLIAM D. EWART, Chicago, Ill., U. S., 10th September, 1875, for 5 years: "Drive-Chain." (Chaîne à traîner.)

Claim.—1st. An open hook C, in combination with the link of a drive chain adapted to be coupled together; 2nd. The combination of the open hook C, and side bar A, made sufficiently small near the end bar B, to pass through the opening of the hook; 3rd. The ribs *d*, made upon the open link of a drive chain; 4th. The link of a drive-chain with an open hook C, cast on a chill in the shape shown; 5th. The coupling hook C, cast on the end-bar of the link of a drive-chain.

No. 5164. LAWRENCE GLYNN, Cambridgeport, Mass., U. S., 10th September, 1875, for 5 years: "Pipe Wrench." (Clé à tuyaux.)

Claim.—The combination of the handle *a*, hook jaw *b*, hinge *c*, and adjustable toothed jaw *d*, *e*, *f*, arranged and secured in a slotted opening through the handle *a*.

No. 5165. HIRAM W. WHITE, Oskalooza, Iowa, U. S., 10th September, 1875, for 5 years: "Guitar Head." (Sommier de guitare.)

Claim.—The hollow spindle D, sliding rod E, knob B, and worm wheel *b*, in combination with the screw key C.

No. 5166. HIRAM W. WHITE, Oskalooza, Iowa, U. S., 10th September, 1875, for 5 years: "Chin-Rest for Violins." (Mentonnière de violon.)

Claim.—1st. The chin-rest A, and attaching-clamp hook C, connected by a set screw B, and working in a threaded socket in the rest A, 2nd. The combination of the supplemental set screw D, with the clamp hook C, attaching screw B, and chin rest A.

No. 5167. HIRAM W. WHITE, Oskalooza, Iowa, U. S., 10th September, 1875, for 5 years: "Chin-Rest for Violins." (Mentonnière de violon.)

Claim.—The chin rest F, with clamp hook H, attached to a shank G, screwed adjustably into the said rest F.

No. 5168. ALEXANDRE MANBRÉ, Penge, Eng., 10th September, 1875, for 5 years: "Process and Apparatus for Breaking Cereals and other Vegetable Substances for the Extraction of Fatty Matter therefrom and the Manufacture of Sugar and the Production of Spirits, &c." (Procédé et appareil de traitement des céréales et autres végétaux pour l'extraction des matières grasses et la fabrication du sucre et des spiritueux, &c.)

Claim.—1st. The removal of fatty matter from cereals and other vegetable substances by distillation; 2nd. The treatment of grain seed, nuts, roots, and other vegetable substances containing fatty and starchy matters by distilling off the fatty matter and converting the starchy matter into saccharine matter in one operation, 3rd The production of a saccharine substance entirely free from fatty matter, 4th. The converting and distilling apparatus constructed with a body *a*, lined with non corrosive metal and provided with the pipe *b*, for the introduction of the material to be heated, the pipe C, for the admission of steam, the distilling pipe *d*.

No. 5169. JOHN COMMINS, Charleston, S. C., U. S., 10th September, 1875, for 15 years: "Fire Kindler." (Allumoir de feu.)

Claim.—1st. A kindling material composed of lumps or pieces of coal, coke or charcoal coated with an inflammable composition, 2nd. A kindling material composed of lumps or pieces of coal, coke or charcoal coated with a solution of rosin and gum turpentine, charcoal dust, coal dust and saw dust, 3rd. A kindling material in which charcoal dust and coal dust are used as a coating upon lumps or pieces of coal.

No. 5170. ABEL F. SKIDMORE and ENOS MOORE, Litchfield, Mich., U. S., 10th September, 1875, for 5 years "Hoop Machine." (Machine à cercles.)

Claim.—1st. The shuttle B, provided with knives C, and oscillating knives D, 2nd. The knife D, operated by spring, for bevelling the ends of the hoops in combination with the guide T, 3rd. The arm N, rod P, elbows O, arms Q, pawls R, R, and springs S, S, S1, in combination with the ratchet wheels K and feed roller F.

No. 5171. ISAAC C. RICHARDSON, Nashua, N. H., U. S., 10th September, 1875, for 5 years: "Steam Heating Apparatus." (Appareil de chauffage à la vapeur.)

Claim.—1st. The radiators N, composed of the concentric chambers O, O, separated by annular air spaces P, P, and held in position by flanged and grooved rings R, R, and the transverse angled flue S, combined with the tubes M, T, and boiler B; 2nd. The tubes G, and D, arranged and combined with the tank C, and boiler B; 3rd. The float H, and bent hollow stem I, attached to its bottom, in combination with the tank C, and chamber F.

No. 5172. ELI B. WHITE, Arkona, Ont., 10th September, 1875, for 5 years: "Barrel or Circular Box." (Baril ou boîte circulaire.)

Claim.—A barrel or cylindrical box composed of two sheets of wood A, B, cylindrically made; the grain of the wood diagonal, and with respect to each other transversely; and the intermediate sheet of wood *z*, cylindrically made, with the fibre running longitudinally with or without the strip D or other fastening.

No. 5173. HENRY WAUDBY, Toronto, Ont., 13th September, 1875 (Extension of Patent No. 603), for 5 years: "Machine for making Stove-pipe Stones." (Machine à faire des douilles de tuyaux de poêles en pierre.)

Claim.—1st. The general arrangement of the sides A, B, C, D and E, 2nd. The cylindrical shaped metallic sheet G, which in combination with the wooden cove F, forms the cove for the stove-pipe hole, the said metallic sheet G, being so made that it may be withdrawn from the casting.

No. 5174. EDWARD BIDDLE, Carlin, Nev., U. S., 14th September, 1875, for 5 years: "Hydraulic Jack." (*Cric Hydraulique.*)

Claim.—The rectangular-tube A1, A2, ram B, piston C, and screw C1.

No. 5175. JOHN RICE, Black Brook, N. B., 14th September, 1875, for 5 years. "Roller Hoisting Apparatus for Saw-mills." (Appareil à élever les fendeurs de scieries.)

Claim.—The combination of the hoisting drum or axle C, chain E, and wheel D, with the pressure roller A, the wheel D, being geared with a friction drum I, arranged to connect and disconnect at will.

No. 5176. JOHN REGAN, Ottawa, Ont., 14th September, 1875, for 5 years: "Framings and Moulds to make Wells, Cement Pipes, Drains, &c." (Moulinets et moules pour faire les puits, tuyaux en ciment, drains, &c.)

Claim.—1st. The combination of the centred frame A, and the stone corbel B, with the formation for core C, and the core D, to build a spring well or other well, and make its cement pipes, 2nd. The combination of the float F, the core G, the junction core H, and the formation for core I, to make cement pipes, drains and sewers, and the junctions and shafts thereof; 3rd. The construction of said cement pipes and pipe drains, sewers, shafts and smelt trenches made also of cement or cement and concrete.

No. 5177. JAMES B. CLARK, Plantsville, Ct., U. S., 14th September, 1875, for 5 years. "Dies for Heading and Squaring Bolts." (Estampe pour entêter et écarrir les boulons.)

Claim.—The combination of the stationary holding die *g*, with the movable shaping die *c*, and heading die.