

consists in having an iron back permanently secured to the front piece which dispenses with the masonry and renders the grate portable.

Claim.—In the combination of the back casting B, with smoke conveying nozzle C, the same permanently attached to the front A, of a parlor grate.

No. 2436. FREDERICK P. THOMPSON, Fredericton, N. B., 11th June, 1873, for 5 years: "A Safety Washer." (Une rondelle de sûreté.)

Claim.—In the washer with an eccentric centre and the loose collar with the fastener, in combination forming safety washer as shown in the annexed plans.

No. 2437. CHARLES A. GREGORY & WALTER M. RICE, Montreal, Que., 11th June, 1873, for 5 years: "A Fire Escape." (Appareil de sauvetage.)

This invention have for its object the production of a cheap and portable fire-escape. Simple in its construction and requiring no practice to operate it

Claim.—In the yoke A, chains and hooks B, and C, and sheave D, in combination with rope E, hook F, or its equivalent, bag L, and sheave M, all contained for transport in case H, as described.

No. 2438. THOMAS C. MORTON, Waterbury, Ct., U.S., Assignee of Jeremiah Stever, Bristol, Ct., U. S., 11th June, 1873, for 15 years: "Picker Motion." (Mouvement de fouet de métier à tisser.)

Relates to an improvement for actuating the picker-staffs of looms the object being to impart to the staff a motion of the same power without regard to the velocity with which the loom is operated, in order to prevent the possibility of the shuttle stopping in its passage across the loom.

Claim.—1st. The levers L, L¹, attached to their respective picker staff, combined with the respective springs N, N¹, and levers P, P¹, and cams to actuate the said levers and springs, 2nd. In combination with the levers L, L¹, their respective springs and levers P, P¹, the bunters S, S¹, to receive the said levers at the completion of their throw

No. 2439. CHARLES A. GREGORY & WALTER M. RICE, Montreal, Que., 11th June, 1873, for 5 years: "Fire Life Preserver." (Appareil de sauvetage.)

Consists in providing a means whereby persons who are situated in the upper stories of a building on fire where all egress is cut off can avail themselves of assistance rendered from below and then escape.

Claim.—1st The box A, having compartments B, C, and D, windlass E, cord F, ball or hook K, and belaying pin L, 2nd. The box A, having compartment B, chamber F, windlass E, cord F, ball or hook K, with or without belt M, 3rd. The combination of a match box D, with a box provided with windlass E, cord F, and ball or hook K, as described.

No. 2440. WILLIAM ELLIS, London, Eng., 11th June, 1873, for 5 years: "Wood Cutting Machine." (Machine à découper le bois.)

Claim.—1st The peculiar construction, application and use of the hollow octagonal (or other suitably shaped) dove-tailed sectional top or longitudinal divider *m*₁, together with the sections *n*₁, of any required pattern applied thereto, 2nd. The application and use of the lower or transverse dividers *e*₁; The oblique slides *c*, in which the veneer knife *u*, descends and the means for causing such descending motion, consisting of shaft *p*₁, worm *r*, wheel *s*, worm *t*, and carrier *u*; 4th. The peculiar means for causing the sectional divider *m*₁, with its embossing or other sections *v*₁, to descend in the oblique standards *b*, consisting of worm *k*₁, wheel *j*₁, and worm *i*₁, actuated from *p*₁, through shafts *f*₁, and *h*₁; 5th. The peculiar means for causing the transverse dividers *e*₁, to ascend at an equal rate to the descent of the sectional divider *m*₁, and the veneer knife *u*, consisting of worm *b*₂, driven by wheel *z*₁, intermeshing with worm *p*₁, and driven by shaft *p*₁, through shafts *r*₁, *u*₁, and *s*₁, properly geared; 6th. The oblique standards *b*, for causing the sectional divider *m*₁, to approach the wood in a direct line with the veneer knife *u*; 7th. The peculiar means for lifting the block into position consisting of receptacles *f*₂, secured to slides *c*₂, worked by worm *b*₂, rotated from shaft *h*₂, through gears *i*₂, and *j*₂, and shafts *u*₂, and *s*₂; 8th. The peculiar means for controlling the same when in position consisting of centres *c*, twin shaft *f*, worms *n*₂, wheel *o*₂, or *p*₂, rotated in either direction from shaft *r*₂; 9th. The peculiar means for regulating the angle of the veneer knife, consisting of worms *w*, *x*, and *y*, worm boxes *a*₁, and carrier *u*, 10th. The peculiar construction for sharpening the same consisting of hollow shaft *u*₂, oil stone *p*₂, boss *z*₂, and worm *o*₂; 11th. The peculiar means for receiving separating and removing the laths, consisting of receivers *A*₃, secured to carrier *u*, and travelling belt *z*₃, all as described and illustrated on the accompanying drawings.

No. 2441. THEOPHILUS NEWBOLT & WILLIAM MINSER, Salisbury, Mo., U.S., 11th June, 1873, for 5 years: "Waggon Tongue Holder." (Tuteur de limonier.)

Claim.—In the punctured plates *a*, *a*¹, each having a semi-tubular portion B, at top hinged together, to receive the neck yoke, and interposed rubber or leather D, punctured to receive the tongue secured by compression of the plates flatwise by inserted screw bolts F, the whole arranged and combined for the purpose set forth.

No. 2442. CEVEDRA B. SHELDON, New York, U. S., 11th June, 1873, for 15 years: "A Furniture Castor." (Une roulette de meuble.)

Claim.—1st A socket for a castor ball formed of two concentric sheet metal cups, the inner one B, having the circumferential enlargement F, at the base and the cavity or bent portion H, at the top; 2nd. The combination of the elastic lining E, with the sheet metal cups of the castor; 3rd. A castor with a fastening screw combined with the cup-shaped nut J, and the leg; 4th. The fastening screw attached to the cup D, and having two threads of different pitch and fastened to the nut J, and the leg; 5th. The ball holding cup E¹, secured in the cavity of the trunk frame by means of the clips on tongues H¹, struck from the metal plate lining of the cavity and bent over the rim of said cup as represented in figures 1st, 2nd, and 3rd; 6th. In combination with a castor a casing composed of two or more parts, one of which is attached to a stand or bracket and the other to the fastening or screw plate, with friction balls between the two as shown in figures 1st, 2nd, and 3rd; 7th. The friction balls K¹, arranged in the annular groove L, formed between the inner side of the cup G², and the turned out flange of the cup D¹, as represented in figures 1st, 2nd, and 3rd; 8th. The socket plate E³, provided with the extension F³, for the spindle combined with the balls D³, spindle C³, brackets A³, and the socket lining G³, as represented in figures 1st, and 2nd; 9th. The socket case or lining G³, constructed of a plate in the form represented in figures 3rd; 10th. A castor wheel composed of two parts formed up of sheet metal and fastened together by rivets or by a tube K³, as represented in figures 2nd, and 4th; 11th. The socket E⁴, F⁴, provided at the top with the screw G⁴, and at the bottom with the annular recess J⁴, in combination with standards A⁴, spindle C⁴, and balls D⁴, as represented in figure 1st, 12th. The combination of the washer H⁴, with the socket H⁴, F⁴, and screw G⁴, as represented in figure 1st

No. 2443. JAMES B. JOHNSON, Portland, Me., U. S., 11th June, 1873, for 10 years: "A Steam Pump." (Une pompe à vapeur.)

Claim.—1. In so constructing the outer pump casing that both ends of the pump barrel throughout its whole stroke are within said forcing chamber and subject to pressure on both ends and all around it alike. 2nd. In sinking the pump heads J, K, within the moving barrel thereby displacing nearly all air therefrom. 3rd. In making the space greater between ports M, M, in pump barrel H, than the distance between abutment L, L; 4th. In casting the lug N, for working pump barrel H, on its outer end, that said barrel can be removed on taking off outer head of pump; 5th. In making the abutment rings so that by slacking up set screws d, d, d, they can be taken out, and be refitted to pump barrel should they ever require it. 6th. The combination of the several parts as described.

No. 2444. JOSEPH PENNEY, Grand Rapids, Mich., U.S., 11th June, 1873, for 5 years: "Machine for Splitting Hoop Poles." (Machine à fendre le bois feuillard.)

Consists of two sets of self-adjusting friction rolls operating in planes at right angles to each other to feed the poles against an oscillating knife, thereby enabling the machine to handle either round poles or half round splints.

Claim.—1st In combination with the knife O, the friction rolls described for feeding the pole, and the centring rolls M, N, operating in the manner described; 2nd. In combination with the splitting knife O, the sockets r, r¹, and their set screws for adjusting the knife, as described.

No. 2445. DAVID BARKER, Northfleet, Kent, Eng., 11th June, 1873, for 5 years: "Manufacture of Artificial Fuel." (Fabrication de combustible artificiel.)

This invention has for its object the utilization of coal and other carbonaceous substances when in a state of powder or fine division, so as to produce a solid and smokeless fuel especially adapted for smelting iron and other metals.

Claim.—1st In the manufacture of fuel by treating carbonaceous substances and combining with them the solution of sulphate of alumina or chloride of alumina preferably with mucilage required to give the fuel cohesion; 2nd. The use of the solution of sulphate of alumina or of chloride of alumina in combination with carbonaceous matters prepared in the manner and for the purpose set forth.