

Claim.—1st. In combination with the revolving cutter and wheels B acting the same, the blade F and handle A; 2nd. In combination with the cutting mechanism constructed as described, the gauge G attached to the handle.

No. 8282. Improvements on Pumps. (*Perfectionnements aux pompes.*)

Peter H. Green, Heepeler, Ont., 4th January, 1878, for 5 years.

Claim.—1st. The compound pump handle comprising toothed segments A A' meshing into each other, and operated by one or two handles D D', as may be required, each of the segments A A' having a smaller toothed segment a a' cast on its side, the teeth of which smaller segments a a' meshing into corresponding teeth on the sides of the pump rod B, by which means a parallel and frictionless motion is produced; 2nd. The auxiliary cylinder C with piston C', operating therein for attaching to any ordinary pump.

No. 8283. Apparatus for the Manufacture of Cotton Warp. (*Appareil de fabrication de la chaîne de coton.*)

Moses L. Hitchcock and John Bergin, Cornwall, Ont., 4th January, 1878, for 5 years.

Claim.—1st. In combination with the warp beam of a slasher or warp sizing machine, a dividing roll placed in immediate proximity thereto; 2nd. In any slasher or warp sizing machine, the combination of the warp beam D, double comb G and cases H H.

No. 8284. Gaseous Fluid and Apparatus for Motive Power Purposes. (*Fluide gazeux et appareil-moteur à gaz.*)

Robert M. Marchant, London, England, 4th January, 1878, for 5 years.

Claim.—1st. The production of a gaseous mixture of air, steam and water by pumping air into a pump supplied with steam and water, and the pumping forward of the said mixture of air, steam and water, so that it may be utilized for motive power purposes; 2nd. The air pump H, and pipe I, in combination with the exhaust steam pipe G, water inlet pipe F, pumps A B C and outlet pipe P.

No. 8285. Improvements on Metal Cans. (*Perfectionnements aux boîtes métalliques.*)

George Brown, John Hamilton and Frederick Massey, Montreal, Que., 5th January, 1878, for 5 years.

Claim.—1st. A can A having a chimb B, of extended length beyond the head or cover D, and having portions of the chimb forming clasps F; 2nd. The clasps F, formed out of the chimb of the can A, in combination with the head or cover D.

No. 8286. Automatic Car-coupling. (*Attelage automatique de wagons.*)

Frank Gibford, Newton, Iowa, and Urnah Gibford, New York, U.S., 5th January, 1878, for 5 years.

Claim.—1st. The barbed draw head consisting of the rectangular stem a and the triangular plates b, removably secured thereto; 2nd. The draw bar, having the angular channelled head a' and the bevelled heel a'; 3rd. The combination with the laterally vibrating draw-bar C, the master-lever G and the chain g, of the top lever H, its chain h, the angular side-lever M and its chain K; 4th. The combination with the draw-bar C and its stirrup D, of the U-shaped spring S secured at one end to said stirrup and bearing against the draw-bar.

No. 8287. Improvements on Clothes' Pins. (*Perfectionnements aux épingles américaines.*)

Albert G. Cummings and Jonathan R. Talcott, North Williston, Vt., U.S., 5th January, 1878, for 5 years.

Claim.—1st. A clothes' pin provided with a series of notches on the inside of the prongs, for the reception of different sized clothes-lines; 2nd. A clothes pin provided with a series of bevelled notches on the inside of the prongs, having the sharp angle b and blunt angle c.

No. 8288. Improvements on Locomotive and Portable Engines. (*Perfectionnements aux machines locomotives et portatives.*)

Loftus Perkins, London, Eng., 9th January, 1878, (Extension of Patent No. 1962), for 5 years.

No. 8289. Improvements on Marine and Stationary Engines. (*Perfectionnements aux machines de navigation et fixes.*)

Loftus Perkins, London, Eng., 9th January, 1878, (Extension of Patent No. 1977), for 5 years.

No. 8290. Improvements on Bedstead Fasteners. (*Perfectionnements aux ferrures de couchettes.*)

Augustin Lemay, Ottawa, Ont., 9th January, 1878, for 5 years.

Claim.—1st. The hook piece C having the hooks c with the slopes d, dowells b and slotted screw holes a; 2nd. The eye piece D having the dowells f and hook-dowells g.

No. 8291. Improvement on Steam Engine Valves. (*Perfectionnement des soupapes de machines à vapeur.*)

Hugh Fairgrieve, Hamilton, Ont., 9th January, 1878, (Extension of Patent No. 1961), for 5 years.

No. 8292. Improvements on Ribbon Clips.

(*Perfectionnements aux serre-ruban.*)

David W. Copeland, Theresa, and William A. Nichols, Evans' Mills, N.Y., U.S., 12th January, 1878, for 5 years.

Claim.—1st. The clip A formed of wire bent to form a parallelogram having at one end a hook B to receive the opposite end, in combination with a roll of narrow textile fabric or ribbon; 2nd. The clip A has vign rollers G; 3rd. The clip A provided with a cam lever H.

No. 8293. Process and Apparatus for Treating Refractory Ores. (*Procédé et appareil de traitement des minerais réfractaires.*)

Henry F. Howell, Sarnia, Ont., 12th Jan., 1878, (Re-issue of Patent No. 7294)

Claim.—1st. The air chamber G surrounding the retort; 2nd. The combination with the air chamber G, of the air and steam pipes M and N.

No. 8294. Machinery for Obtaining Printing Surfaces. (*Machine pour produire des planches à imprimer.*)

George P. Drummond, Ottawa, Ont., 12th January, 1878, for 5 years.

Claim.—1st. The art of obtaining surfaces for printing reading matter from, by first detaching the letters of the subject matter from paper, or other suitable material, having the letters punched, impressed, or matriced and printed thereon, or embossed thereon, and then by attaching them to an elastic band or surface, from which they are removed and formed into a solid matrix or relief mould, from which a stereotyop or an electrotype may be obtained; 2nd. In the art of obtaining surfaces for printing reading matter from, a composing machine having reels of creased ribboned paper, or other suitable material, each piece of which is matriced and printed, or embossed throughout its extent with one letter, and collectively all the letters of the alphabet, punctuation points, figures or signs, and having fingering keys, by means of which the letters of any desired reading matter may be rapidly brought forward under a pair of scissors, and cut from the ends of the ribbons and attached to an elastic band; 3rd. The combination of the fingering keys b b', by the knee attachment 59 and the hammer j, with the sustaining catch h and the drop levers; 4th. The combination of the drop lever g with the ribboned, creased, matriced, punched and printed paper 10, by the parallel slide p, the draw spring Q and the channel guide n; 5th. The combination of the channel guide n, the channel 48 and the ribboned, creased, matriced, punched and printed paper 10; 6th. The combination of the check spring pawl Z, and the punched guiding holes 60 in the ribboned paper; 7th. The combination of the drop lever g, dropped, and the combinations of claims 4, 5 and 6 with the revolving eccentric C and the vibrating arm d and cross bar u, for the purposes of feeding in the ribboned, creased, matriced, punched and printed paper; 8th. The combination of the ribboned, creased, matriced, punched and printed paper 10, the channel 48 (advance) and feeding pawl J; 9th. The combination of the revolving eccentric C, the vibrating lifting arm u and cross bar t, with the drop lever g, dropped, the shear levers s r, the double shears 7 and 6, and the ribboned, creased, matriced, punched and printed paper; 10th. The combination of the sticking pad 4 with the double shears 7 and 6, the elastic band coated with an adhesive material, and the ribboned, creased, matriced, punched and printed paper; 11th. The combination of the drop lever g, dropped and advancing, the feed arm e, its cross bar X containing the adjusting set screws, with the feed wheel 43, by the lever 50, and the feeding and check friction pawls 40 and 45; 12th. The combination of the feed wheel 43 with the belt wheel 44, connected with the band feed wheel 31 and the elastic band W; 13th. The combination of the set screws in the bar X, with the matriced and printed letters in the ribboned paper adjusted thereto; 14th. The combination of the feed arm e and cross bar X and 11, with the slide bar Y and the secondary shears 6; 15th. The combinations, positions and operation of the matriced, printed, creased and punched ribbon paper 10, channel 48, stationary spring pawl 3, main shears 7, second ary shears 6 and elastic band W; 16th. The parallel movement, rocking bars and arms L K and 54, for their respective purposes; 17th. The combination of the elastic band W, the subject matter attached thereto in the shape of matriced, printed and creased letters, the swinging adjusting platform 19 20, the drop press 18 and the matrix basis 15; 18th. The combination of the table 13, the lever 25, the pawl 26 and the matriced and printed letters; 19th. The combination of the press 18, the tissue paper 30, and the matrices formed into a moulding surface; 20th. The combination of the dropping arm 5, foot lever 24, guide arms 16 and 17, and the drop press 18; 21st. The combination of the ribboned paper reels 21 or 22, having creased ribbon paper thereon, and the subject matter upon the elastic band; 22nd. The combination of the adjustable feed wheel 55, the pawl 26, the widening slot 58, for the purposes of producing various feeds to the table 13; 23rd. The manner of forming the matrices into a solid moulding surface; 24th. The combination of the oven 23, with the matriced subject matter, for the purpose of adjusting in its removal from the band and consolidation on the matrix basis; 25th. In the composing machine, the combination of the bolt 42 and slot 54 with the ribboned paper, matriced, printed and punched, for the purpose of increasing the feed proportionately throughout, so as to adapt this machine for larger matrix letters, or for letters suitable for obtaining printing surfaces, for reading matter by photo-mechanical process.

No. 8295. Improvements in Steam Generators. (*Perfectionnements dans les générateurs de vapeur.*)

Charles Tyson, Philadelphia, Pa., U.S., 12th January, 1878, for 5 years.

Claim.—1st. In a pipe steam generator, the use of a supplemental pressure equal to the working pressure of the motor, induced by an air chamber, hydrant, or equivalent, to automatically feed water to the generating pipe during the operation of the motor, so that upon the stoppage of the motor subsequent generation of steam shall expel the water from the generating pipe, and thus further generation of steam be prevented whilst the motor is at rest; 2nd. In a pipe steam generator, the combination of a water supply D, pumps D, air chamber A, generating pipe B' and furnace C.

No. 8296. Improvements on Fanning Mills. (*Perfectionnements aux tarares-cribleurs.*)

John Bennett, Belleville, Ont., 12th January, 1878, for 5 years.

Claim.—1st. The handle J, conical screw H and rack G, in combination with