

gas burner A and a carburetted-vessel C, whereby the heat from the gas flame will be communicated by the heater to the inlet pipe to heat the gas before entering the carburetted-vessel, for the purpose set forth. 5th. The combination, with a gas fixture, comprising a heating pipe or chamber in which the gas is heated by the illuminating flames previous to its entering the carburetted-vessel, for the purpose of melting and vaporizing the hydrocarbon contained therein, and a carburetted-vessel having a single opening and detachably suspended from the fixture at said opening, substantially as described. 6th. The combination of the fixed pipe B, the heater D and tubular casing E, the burners A and the carburetted-vessel C having an opening or neck G, and detachably suspended from the casing at said opening, substantially as described. 7th. The combination of the fixed pipe E, the heater D and tubular casing B attached to said pipe, the burners A supported by said tubular casing, and the carburetted-vessel C having a single opening or neck G, and detachably suspended from the casing at said opening, substantially as described.

#### No. 25,335. Manufacture of Paper Bags and Machinery Therefor. (*Fabrication des Sacs de Papier et Appareil pour cet objet.*)

Robert Kilgour and Joseph Kilgour, Toronto, Ont. (Assignees of Felix W. Lembach, Clarence A. Wollo and Edward H. Brunner, Bethlehem, Penn., U.S.), 11th November, 1886; 5 years.

**Claim.**—1st. The mode, herein described, of making a tube with tucked-in sides, said mode consisting in pasting one or both edges of a longitudinally moving sheet or web of paper, forming vertical tucks in said web at proper distance apart, gradually flattening and bending inward said tucks, and finally folding over and securing the edges of the web, all substantially as specified. 2nd. The combination, in a machine for making paper tubes or paper bags, of mechanism for longitudinally feeding a web or sheet of paper and pasting one or both edges of the same, as it is fed, a former, constructed substantially as described, whereby vertical tucks are first formed in the web and then flattened and bent inward, and folding devices, whereby the opposite edges of the web are caused to overlap each other, and complete the tube, all substantially as specified. 3rd. The combination, in a paper-bag machine, of devices for feeding a tube, a longitudinally-moving rod and plate for distending and folding back the mouth of the tube, and laterally-moving plates for spreading and folding the tucked-in sides of the tube, whereby the primary fold of the bag-bottom is formed, all substantially as specified. 4th. The combination, in a paper-bag machine, of devices for feeding a tube a rod and plate for distending and longitudinally folding the mouth of the tube, side-folders for acting on the tucked-in sides of the tube, a plate for transversely creating two primary folds of the bottom and folders for binding down and securing the flaps formed thereby, all substantially as specified. 5th. The within-described former for tucking the web of paper, said former comprising the plate *a* with rib *a*, the plate *b* with flange *b*, and the intervening block *d*, with inclined and under-cut edges, all substantially as set forth. 6th. A former, having slots merging gradually from a V-shape at one end of the former into single contracted and inwardly inclined slots at the other end of the former, as specified. 7th. The combination of tube-feeding and severing devices, the presser-plate, the distending-rod, two pairs of hinged plates *f*, and means whereby said plates are folded and unfolded and carried laterally from and toward the tube, all substantially as specified. 8th. The combination of a presser-plate *b*, arms *h* pivoted to said plate *b*, and hinged plates *f* carried by said arms *h*, as set forth. 9th. The hinged folding plates *f*, each having a bevelled inner end, whereby, when the plates are unfolded, said inner ends are adapted to the internal triangular flaps formed in the bag-bottom, all substantially as set forth. 10th. The combination of the hinged plates *f* and their carriers, with hooked rods *e* for folding and unfolding said plates *f*, as set forth. 11th. The combination of the pressing-plate *b* and means for reciprocating and for elevating and depressing the same, the hinged plates *f*, the pivoted arms *h* carrying the same, the cranked rods *g*, the cam-plates *g* and the springs *g*, as set forth. 12th. The combination of the plate *b*, guided rods *c*, cams *m*, links *ci*, arms *pi*, rock shaft *v* and means for vibrating the latter, as set forth. 13th. The combination of tube-feeding devices, a table A having an opening therein, rolls G, G<sub>1</sub>, adjacent to said opening, a plate F, and means whereby the plate is first moved vertically to crease the tube, and then longitudinally to tuck the fold between the rolls G, G<sub>1</sub>, as set forth. 14th. The combination of a table, having an opening therein, a paste trough and roller, a blade F, and mechanism whereby a combined vibrating movement over the paste-roller, and a vertical reciprocating movement through the opening are imparted to the said blade, as described. 15th. The combination of the table A, having an opening therein, the yielding table B, the plate F, having a combined vertical and vibrating movement, the rollers G, G<sub>1</sub>, the pivoted folding arms H, H, and means for operating said blade rollers and arms, as set forth. 16th. The combination of the plate F and its bar P, the shaft W having an arm *u* to which said bar is hung, the fulcrum-block *u* and spring *u*, and means for vibrating the shaft *u*, as set forth. 17th. The combination of the pivoted folding arms H, the spindles of which have slotted arms *u*, the arms *u* adapted to the slots of the arms *u*, the rock-shaft *u*, having an arm *u* with segmental slot, and the shaft *u* having a crank-pin *u* adapted to said segmental slot, as set forth. 18th. The combination of the plate F, of the tube-forming device, with the bending fingers *e* beneath the plate, and the spring-pressure roller *e* above the same, whereby the tucks are confined and prevented from being drawn out by the action of the fingers *e* in forming the final folds of the tube, as specified.

#### No. 25,336. Steam Power for Bundling Wood. (*Machine à Vapeur pour Fagoter de Bois.*)

Darwin A. Greene, New York, N. Y., U. S., 11th November, 1886; 5 years.

**Claim.**—1st. In a wood-bundling machine, the combination, with a steam-actuated piston having a horizontal plano, as at C<sub>1</sub>, of a lever

pivoted to two toggles, the one pivoted stationarily to the frame and the other to the movable wood-carrying cradle, the said lever carrying a friction-roller, which rides upon the plane surface of the piston, as set forth. 2nd. The combination, with the piston, the lever and toggles, as described, of the cradle J, the stationary trap A, and a right and left screw U, arranged between the cradle and toggles, to adjust the throw of the cradle, as set forth. 3rd. The combination, with the piston, having a horizontal arm, and with the lever U and toggles, as described, of an adjustable threaded vertical pin U, operating through the arm of the piston, and an elastic stop W arranged to stop the descent of the piston, yielding, as set forth. 4th. In a bundling machine, as described, the cradle J having lower semicircular contour and sides curving outwardly and upwardly, and the adjustable straps A, A<sub>1</sub>, having semicircular upper contour with sides curving outwardly and downwardly, combined and arranged as shown, to compress and release laterally, as well as vertically, as herein specified. 5th. The combination, with the compressing-cradle J, the cylinder and piston, and suitable connections between said parts, substantially as shown, of the oscillating valve M, arranged at the lower end of the cylinder and adapted to control the supply of steam thereto, the cross-bar N rigid with the valve stem, crank-levers P<sub>1</sub>, P<sub>2</sub>, links Q<sub>1</sub>, Q<sub>2</sub>, connecting said levers with the cross-bar N, and treadles Q<sub>1</sub>, Q<sub>2</sub>, for operating the crank levers to admit or exhaust steam at will, as and for the purposes specified. 6th. In a wood-bundling machine, substantially as described, the combination, with the cradle J, of the curtains formed by the parts J<sub>2</sub>, J<sub>1</sub>, adjustably secured together by screw and slot connection, and pivoted at J<sub>1</sub> to the sides of the cradle to exclude dust and dirt from the working parts, as set forth. 7th. In a bundling machine, as described, the combination, with the guide A<sub>1</sub> and yielding stop W recessed in the cylinder head of the piston C, of having a horizontal arm, an adjustable pin working through said arm and against said stop, a cradle J, a lever and toggles, as described, transmitting power from the piston to the cradle, and a right and left screw U arranged between the cradle and toggle to adjust the throw of the cradle, as herein set forth.

#### No. 25,337. Hammer. (*Marteau.*)

Christopher J. Grellner, St. Louis, Mo., U. S., 11th November, 1886; 5 years.

**Claim.**—1st. The combination, of the wedge and nail, the wedge being made in one part, with a groove or opening, and an incline at the lower end of the groove or opening, and the nail securing said wedge in the handle, substantially as set forth. 2nd. In combination with a hammer, having an eye therethrough, and a handle inserted in said eye, of a grooved wedge driven into the handle, and a nail inserted in said groove, substantially as and for the purpose set forth. 3rd. In combination with a grooved wedge and nail, the wedge being made in one part with an opening at the lower end of the groove, the bottom of the opening being inclined and the nail having an inclined surface, substantially as shown and described for the purpose set forth. 4th. The combination of the wedge and nail, the wedge having a groove semicircular in shape in transverse section, and an opening at the lower end of the groove, with an incline F, and the nail being semicircular in transverse section and having an incline H at its lower end, substantially as and for the purpose set forth. 5th. The combination of the wedge having a groove in opening F and projection I, the opening F being inclined at its bottom, and the nail provided with an inclined inner end, substantially as and for the purpose set forth.

#### No. 25,338. Cross-Cut Saw. (*Scie de Travers.*)

Silas Toles, St. Thomas, Ont., 11th November, 1886; 5 years.

**Claim.**—1st. The combination of a pair of cutters B and C, cutting both sides of the kerf and being bevelled on opposite sides, separated by a throat or slot, as E, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of drag teeth, with the cutters B and C, cut upon a steel plate, substantially as and for the purpose hereinbefore set forth.

#### No. 25,339. Nut Lock. (*Arrête-Ecrou.*)

Richard T. Sylvester, Rosenfeld, Man., 11th November, 1886; 5 years.

**Claim.**—1st. A nut lock, composed of a sheet or band of metal forming the bent or bowed out body A, the shoulders B bent at an angle from the body, and the flanges C bent at an angle from the shoulders and having formed in them the slots E and concave edges F, as shown and described. 2nd. In the above described nut lock, the slots E formed in the body A and in the shoulders B, substantially as herein shown and for the purpose set forth.

#### No. 25,340. Running Gear for Vehicle.

(*Train de Voiture.*)

David S. Anderson, McGrawville, N. Y., U. S., 11th November, 1886; 5 years.

**Claim.**—1st. The combination of the body of a vehicle, the side bars secured to the rear axle and having their forward ends connected by cross-pieces connected to the forward axle, and springs, consisting of rearwardly-curved portions and of upwardly curved eyed portions, having their forward lower ends secured respectively to the rear axle or rear ends of the side bars, and to the cross-pieces connecting the said bars and having their upwardly-projecting upper ends respectively secured to shackles projecting from the sides of the body to the rear of the centre of the load and to the forward end of the body, as and for the purpose set forth. 2nd. The combination of the body of a vehicle, side bars secured at their rear ends to the rear axle, and connected at their forward ends by cross-pieces connected to the front axle, rear springs consisting of rearwardly-curved portions and upwardly-projecting eyed upper ends and secured at the lower ends to the rear ends of the side bars between the said ends and the rear axle, and secured at the upper ends to shackles projecting laterally from the sides of the body to the rear of the centre of the load, and forward springs consisting of rearwardly-curved portions and up-