The Canadian Patent Office Record

Vol. XIII.—No. 3. MARCH, 1885. Price in Canada $2.00 per An. United States - $2.50 "

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INVENTIONS PATENTED.

NOTE—Patents are granted for 15 years. The term of years for which the fees have been paid, is given after the date of the patent.

No. 21,053. Process, Method and Means for Cutting and Pressing Rags, &c. for Paper Stock. (*Procédé, Mode et Moyens de Tailler et Presser les Chiffons, &c. pour la Pâte à Papier.*)

Lemuel Coburn, Jehiel C. Coburn, Worcester, and Charles F. Taylor, Springfield, Mass., U.S., 7th February, 1885; 5 years.

Claim.—1st. A rag-cutting machine having two sets of cutters, one adapted to cut the rags across the cut of the other, in combination with a means to feed the material to the first set, and from the first to the second set. 2nd. A rag-cutting machine having two sets of cutters, one adapted to cut across the cut of the other, in combination with a positive feed, whereby the rags, after stripping, are conveyed and presented to the second cutters in such manner that the second cut is across the stripping cut. 3rd. The method of dressing rags for paper stock by machinery consisting of first stripping the rags by passing between cutters, then cross-cutting the strips by passing between cutters. 4th. The method of stripping rags, consisting of passing them through a gang of cutters. 5th. In a rag-cutting machine, a gang of rotary cutters or shears adapted to strip the rags, substantially as shown. 6th. A rag-cutting machine having two sets of cutters, one adapted to strip and the other to cross-cut the rags, in combination with a means to convey the rags from the first to the second cutter without turning the rags in the passage, substantially as shown. 7th. A rag-cutting machine having one or more sets of stripping-cutters and one or more sets of cross-cutters, and provided with a means to convey the rags from the strippers to the cross-cutters, substantially as shown. 8th. In a rag-cutting machine, a stripping device located above a feed apron, adapted to convey the strips to a cross-cutting device, substantially as shown. 9th. The cutters I, H, in combination with cutters O1, P, and a means to convey the material from the first to the second cutter, substantially as shown. 10th. An improved cutter for cutting rags, constructed of chilled iron, substantially as shown. 11th. A rag-dressing or cutting machine having rotary cutters whose axes are on approximately the same horizontal plane, whereby the material may be dropped directly to the shearing edges, substantially as shown. 12th. A rag-cutting machine having rotary cutters of large diameter, whereby the shear angle is so reduced that the material will not be forced away from the cutting edges, substantially as shown. 13th. In a machine for cutting rags and other materials, the combination of two or more series of rotating discs, said discs being arranged or mounted on adjacent shafts in alternating order, for interacting and shearing against each other, substantially in the manner described. 14th. In a machine for cutting rags and other materials, the combination of two or more series of rotating discs, having teeth or serrations about their peripheries, said discs being arranged or mounted on adjacent shafts in alternating order, for interacting and shearing against each other, substantially in the manner described. 15th. The combination, with the rotating shafts, of the disc-cutters mounted in alternating order and adjustably retained between the collars and nuts *h*111, whereby the shearing angles of the several discs or cutters can be set together with greater or less force, as and for the purpose set forth. 16th. The combination, with the series of rotating cutters and their supporting shafts, of a series of clearers *i, j*, located intermediately between the respective cutters, for forcing the severed material from the teeth thereof, substantially as hereinbefore set forth. 17th. A cutter or disc for rag-cutting machines, formed or punched from sheet metal, notched or serrated about its periphery. 18th. The combination, as hereinbefore described, of the cutter-cylinders composed of the interacting toothed cutters or discs mounted on rotating shafts, in the manner described, the clearer-bars or fingers arranged between said cutters, the travelling apron and the gears, for the purposes set forth. 19th. In a rag-cutting machine, a spiral-bladed revolving knife, in combination with a fixed knife and a means to feed the rags, substantially as stated. 20th. The combination of a spiral-bladed revolving knife, a fixed knife, a feed apron and guide, operating substantially as shown. 21st. The spiral-bladed knife O1, fixed knife P, feed roll M, a feed apron and guide, constructed and operating substantially as shown. 22nd In a rag-dressing machine, the combination of a spriral bladed cutter O1, fixed knife P, feed apron L, feed roll and guide springs *n*, all constructed and operating substantially as shown.

No. 21,054. Non-Detaching Automatic Cut-off for Steam Engines. (*Soupape de Détente Automatique Fixe pour Machines à Vapeur.*)

John B. Pritchford and William T. Garratt, San Francisco, Cal., U. S., 7th February, 1885; 15 years.

Claim.—1st. In a steam-engine valve-gear, an equalizing arm or lever swinging on the crank or rocker-arm pin of a rotary valve, at a point between its two ends, one end being connected to, and receiving motion from an eccentric, and the other end being connected to, and receiving motion in an opposite direction from a cam. 2nd. In a steam-engine valve gear with two rotary steam inlet-valves, an equalizing lever or arm swinging or pivoted upon a pin between its two ends, one end being attached by non-detaching connections to the eccentric, and the other end being attached by non-detaching connections to a cam. 3rd. In a Corliss Engine valve gear with two steam valves, two levers swinging on pins between their two ends attached to separate rotary valve-stems operating valves at each end of the cylinder, one end of each lever being connected with an eccentric with non-detaching connections, and the other end of each lever being connected and moved from a cam by non-detaching connections, and the other end of each lever being connected and moved from a cam by non-detaching connections, both valves being operated by the same eccentric and one cam. 4th. An engine valve-gear having two main steam inlet-valves controlled by the action of one eccentric for the admission of the steam, and one cam for cutting off the steam without having separate cut-off valves, by means of swinging evers pivoted at or near their centers on the valve-stems, with one of their ends attached to the eccentric, and the other ends attached to the cam, all connections having hold of the valve and non-detaching, substantially as described. 5th. A reversible engine valve-gear with two steam inlet-valves, operated by two eccentrics through a link motion, connected to one end by swinging levers upon the valve stems, while the other ends of the levers are connected to links which receive motion from a cut-off cam. 6th. A reversible engine with two steam inlet-valves, operated by eccentrics to run in either direction, with a reversible cut-off motion operated by one cam, all the connections retaining hold of the valve and being non-detaching. 7th. An engine with swinging levers, as described, connected to an eccentric and a cam, the cam being moved on the shaft by the toothed racks engaging in the pinion for the purpose of making the cut-off automatic. 8th. The device with a cam set on the engine shaft to cut off at a given point.

No. 21,055. Car-Coupling. (*Accouplage de Chars.*)

Richard W. Thomas and Jesse Roberts, Slatington, Penn., U. S., 7th February, 1885; 5 years.

Claim.—1st. In a self-coupling for cars, the combination, with a chambered draw-head, of a lug *g*, having a guiding groove and an inclined plane *i*, in combination with the spring-actuated coupling-block, movable in a passage through the upper part of the draw-head, and constructed with a flaring arch *b*, and bevelled legs *l, l*, substantially in the manner and for the purposes described. 2nd. The combination of the draw-bar, a guiding lug *g*, on the floor thereof, between its flaring mouth and a rear chamber B, and a vertically movable spring-actuated coupling block, arched as described.