

funnel-shaped shell B, B, the inner shell C, E, concentric thereto, the aspirator shell also concentric thereto, and the fan connected at its eye to the upper end of the aspirator, substantially as set forth. 6th. In a separating machine, the combination of an inclosed separating chamber, an aspirator arranged within the separating chamber, and a fan for producing air currents through the aspirator and for producing a vortex within the separating chamber, substantially as set forth.

No. 28,808. Manufacture of Moulds and Matrices for Stereotype Plates. (Fabrication des moules et matrices pour plaques stéréotypes.)

George Eastwood, Kingston-upon Hull, Eng., 4th April, 1888; 5 years.

Claim.—1st. In the manufacture of moulds or matrices for stereotype plates, the use, as set forth, of a facing, composed of sheets of tissue paper, or other like material, pasted together with a composition containing glycerine and a starchy material, substantially in the proportions specified, whereby the sheets are kept in a flexible and elastic state, are prevented becoming too hard before use, are rendered sensitive to moisture, their contraction on application of heat greatly reduced, and the matrix or mould hardened when heated. 2nd. In the manufacture of moulds or matrices for stereotype plates, the use, as set forth, of a backing, consisting of a dry, thick sheet of soft paper, blotting paper, felt or other suitable substance, capable of receiving and retaining an impression, one side of said backing having a coating of a composition containing glycerine and a starchy material, substantially in the proportions specified and for the purpose set forth. 3rd. In the manufacture of moulds or matrices for stereotype plates, the use, in combination, of a facing and a backing, said facing being composed of sheets of tissue paper, or other like material, pasted together with a composition containing glycerine and a starchy material, substantially in the proportions specified and for the purpose set forth, and said backing being composed of a dry, thick sheet of soft paper, blotting paper, felt or other suitable substance, capable of receiving and retaining an impression, one side of said backing having a coating of adhesive material which unites it to the back of the facing, substantially as set forth. 4th. In the manufacture of moulds or matrices for stereotype plates, the use of muslin or other suitable thin textile material between the facing and the blanketting, while said facing is being rolled or pressed, as and for the purpose set forth. 5th. In the manufacture of moulds or matrices for stereotype plates, the process hereinbefore described, which consists in laying upon the type a facing, composed of sheets of tissue paper, or other like material, pasted together, with a composition containing glycerine and a starchy material, substantially in the proportions specified and for the purpose set forth, in then covering the back of the facing with a piece of muslin or other thin textile material, and with a blanketting, in then submitting the whole to rolling or pressing, in then removing the blanketting and the muslin, in then placing upon the back of the facing a backing, consisting of a dry, thick sheet of soft paper, blotting paper, felt or other suitable substance, capable of receiving and retaining an impression, that side of the backing which is placed in contact with the facing, having a coating of adhesive material, in then laying blanketting upon the backing, and in then submitting the whole to rolling or pressing, whereby a matrix is formed, all substantially as set forth. 6th. In the manufacture of moulds or matrices for stereotype plates, the combined use of sand and of an adhesive material to back up the blanks in the matrix, substantially as set forth. 7th. In the manufacture of moulds or matrices for stereotype plates, the combined use of sand and of a composition containing glycerine and a starchy material, substantially in the proportions specified, to back up the blanks in the matrix, substantially as set forth.

No. 28,809. Wind-Motor. (Moulin à vent.)

Alvin T. Winchell, Albion, Mich., U. S., 4th April, 1888. 5 years

Claim.—1st. In a windmill, the combination, with a pinion on the wind-wheel shaft, and a pinion upon the upright shaft, of a gear-wheel, engaging the latter and journaled in the turntable beyond the upright shaft from the wind-wheel shaft, or at right angles thereto, and an intermediate idle gear engaging said first and last named pinions, whereby the tendency to creep is neutralized, substantially as described. 2nd. The combination, with the turntable and wind-wheel shaft, of the gear G on the wind-wheel shaft, and the gear G₁ journaled in the turntable opposite the wind-wheel shaft, and an intermediate idle gear G₂, said gear G₁ engaged with a driving gear on the upright shaft, substantially as described. 3rd. The combination, with the wind-wheel shaft and pinion G loosely journaled thereon, of a clutch K and K₁, and means for throwing said clutch in and out of engagement with said gear G, substantially as and for the purposes described. 4th. The combination, with a wind-wheel shaft and pinion G loosely journaled thereon, said pinion provided with bevelled slots p at its back, of the clutch K and engaging fingers K₁, adapted to enter said slots, the construction being such that the clutch may drive the pinion when the motion of the wind-wheel exceeds that of the pinion, but the pinion may ride past the clutch when its motion exceeds that of the wind-wheel, substantially as described. 5th. The combination, with the wind-wheel shaft, of a drive pinion G, a clutch for throwing it in or out of gear, and a pumping rod engaged with the wind-wheel shaft by an eccentric, the construction being such that the driven shaft F and the gear mechanism may be thrown into or out of engagement with the wind-wheel without stopping the action of the pump rod, substantially as and for the purposes described.

No. 28,810. Ratchet Drill-Stock.

(Boîte à foret à rochet.)

Corydon H. Wilmoth, Terre-Haute, Ind., U. S., 4th April, 1888; 5 years.

Claim.—1st. In a ratchet drill-stock, the combination of a shaft having a socket adapted to hold a tool, a handle having a bearing in

which the shaft rotates, an operating lever pivoted on the shaft and having a ratchet-and-pawl connection therewith, which operates to turn the shaft when the lever is moved in one direction only, a cog-wheel mounted on the shaft so as to turn thereon and having a ratchet-and-pawl connection therewith, and intermediate connecting mechanism connecting said cog-wheel and said operating lever, whereby the wheel and the shaft are turned in the same direction as at first during the return movement of the operating lever, substantially as specified. 2nd. In a ratchet drill-stock, the combination of the drill-shaft having the recessed collar C, one or more pawls pivoted to the collar in said recess, the cog-wheel arranged to turn on the shaft and having on one side ratchet-teeth which engage said pawl or pawls, the ratchet-wheel secured to the shaft, the handle having a bearing in which the shaft rotates, the operating lever arranged to turn on the shaft and carrying a pawl which engages said ratchet-wheel, and the toothed lever pivoted to the handle and to the operating lever, all arranged to co-operate substantially as and for the purpose specified. 3rd. In a ratchet drill-stock, the combination, with the interiorly screw-threaded shaft having a socket adapted to hold a tool, the handle having a bearing in which said shaft is arranged to rotate, and the operating lever having a ratchet and pawl connection with the shaft of the notched wheel W, mounted on the screw, so as to turn therewith, rod X, spring Y, lever Z, all substantially as and for the purpose specified.

No. 28,811. Bag and Method and Machinery for making the same. (Sac et mode et machine de fabrication des sacs.)

William H. Kerr, Durham, N. C., U. S., 4th April, 1888; 5 years.

Claim.—1st. A bag making machine consisting of the following elements in combination, viz. a pair of lips or folders to turn the edges of the fabric inward upon the body, a pair of stitching mechanisms arranged to stitch the folded edges, a cutter to sever from the hemmed sheet a portion sufficient to produce one bag, a folding blade and guides to fold the severed portions midway between, and parallel with, the two hems, and a second pair of stitching mechanisms to stitch the sides of the hemmed and folded goods. 2nd. In a machine for making bags, the combination of two stitching machines and mechanisms for imparting motion simultaneously and equally to both guides or folders, for turning both edges of a fabric before it reaches said machines, a cutter for severing the fabric, a folding plate moving in a plane at right angles to the travel of the fabric during the hemming operation to fold the severed portion, and a second pair of stitching machines in a plane, at right angles to the first pair, for stitching the severed portion at right angles to the first lines of stitching. 3rd. In a bag machine, the combination of four sewing machines arranged in pairs, the first pair being arranged to stitch the two edges of a strip of goods simultaneously, and the second pair being arranged to stitch a severed section of said fabric in lines at right angles to the stitching of the first pair. 4th. In a bag machine, the combination of two pairs of sewing machines and an intermediate folder, the first pair of machines having their needle bars arranged to work vertically, the folder arranged to rise vertically beneath the goods stitched by the first pair and serving to fold the same between the two lines of stitching, and to carry the folded goods to the second pair of sewing machines, and said second pair having their needle-bars arranged to work in horizontal planes. 5th. The combination, in a bag machine, of a bed or table, folders or lips for turning over the edges of the fabric traversing said table, two sewing machines adapted to simultaneously stitch the two folded edges, and an intermittently-acting knife or cutter adapted and arranged to sever from the hemmed fabric the amount of goods required for the formation of one bag. 6th. In a bag machine, the combination of a bed or table, folding guides or lips adapted to turn or fold the edges of a fabric passing over said table, two stitching mechanisms adapted and arranged to stitch the folded edges, an intermittently acting cutter to sever from the hemmed goods, a portion suitable for the formation of one bag, and an intermittent feeding device located between the stitching mechanisms and the cutter, and arranged to act only when the cutter is at rest, whereby the material is carried beneath the cutter but is prevented from moving while the cutter is acting. 7th. In combination with a bed or table and with a stitching mechanism provided with the usual feed-dog, feed-rolls actuated through connection with the stitching mechanism and operating synchronously and equally with the feed-dog, whereby long or heavy material may be drawn past the stitching mechanism without undue strain upon the feed-dog. 8th. In combination with a stitching mechanism and with a cutter, a feeding roll located between the cutter and the stitching mechanism, the cutter and feed-roll being adapted to operate alternately, and the stitching mechanism to act continuously, and a take-up device located between the feed-roll and the stitching mechanism and serving to take up the stitched material accumulating between the feed-roll and stitching mechanism, while the feed-roll is at rest and the cutter is in action. 9th. In combination with a stitching mechanism and an intermittently acting cutter, a feed-roll located just in rear of the stitching mechanism and adapted to act in unison with the feed-dog thereof, a second feed-roll located just in advance of the cutter and adapted to operate in alternation therewith, and an automatic take-up device located between the two feed-rolls and serving to draw the goods taut between them, while one is in action and the other at rest. 10th. In a bag machine, the combination, with a cutter, of yielding presser-plates movable with the cutter to and from the supporting bed, said plates serving to hold the material while the cutter acts upon it, and to prevent its being lifted by or with the cutter. 11th. In combination with a fixed bed and a cutter movable to and from the same, yielding presser-plates movable with the cutter, and a folding plate arranged to rise through an opening in the bed and to pass between the presser-plates, to fold the severed material at right angles to the edge of the cutter. 12th. In a bag machine, the combination of a supporting-bed, a cutter, a pair of presser-plates to hold the material upon the bed while acted upon by the cutter, a stitching mechanism above the presser-plates, and a folding plate adapted and arranged to pass between the opposing faces of the presser-plates, to fold the goods lying beneath them and to carry the same in a folded condition to the stitching mechanism. 13th. In a bag machine, the combination, with an intermittently acting feed-