

No. 19,307. Reed and Hat-Sweat.

(*Jonc et Bourrelet de Chapeau.*)

George S. Bracher, New York, N.Y., U.S., 12th May, 1884; 5 years.

Claim.—1st. As a new article of manufacture, a reed of rattan, or analogous material, impregnated with a filling material, and surface hardened by compression and friction, substantially as and for the purposes specified. 2nd. A method of treating reeds to improve their qualities and appearance, for hat-sweats and other purposes, consisting in colouring, filling, compressing and surface-finishing, substantially as set forth. 3rd. A hat-sweat provided with a reed, dressed and finished with a coating of varnish, and attached to the edge of said hat-sweat without a covering, substantially as set forth. 4th. A hat-sweat provided with a reed dressed and finished with a coating of varnish, without covering except the enclosing stitches, whereby it is united to the sweat, substantially as hereinbefore set forth. 5th. A hat-sweat provided with a reed *a* without covering, and the back strip *p* united to said sweat, but concealed behind the reed, substantially as and for the purposes hereinbefore set forth.

No. 19,308. Apparatus for Cutting Pile Fabrics.
(*Appareil pour Tailler les Tissus à Poil.*)

Charles Coupland, Seymour, Ct., U.S., 12th May, 1884; 5 years.

Claim.—1st. The combination of the straining bars *A*, *A*₁ with the rolls *B*, *B*₁, means for operating said rolls, tension bar *C* arranged with its upper edge substantially in line with the space *a* between bars, supplemental tension bars *b*, *b*₁, *b*₂, etc., arranged behind the bar *C*, a series or system of circular cutters arranged to rotate coincident with the space *a*, means for operating said cutters of rollers, two series of rollers arranged to co-operate with the rolls *B*, *B*₁, drawing the double pile fabric to the cutters, and means for operating said series of rollers, all substantially as and for the purpose herein set forth. 2nd. The combination, with straining bars and means, substantially as described, for drawing the double pile fabric *lo*, and between the same, of a bar carrying a series or system of circular cutters *D*, extending substantially the width of the fabric to be cut, arranged opposite to, or coincident with the space between the said bars, and gears or toothed pinions, attached to the spindles of said cutters, driving gears arranged to co-operate with the gears on pinions aforesaid, and means for transmitting a reciprocating motion to the cutter carrying bar, all substantially as and for the purpose herein set forth. 3rd. The combination of a spindle *I* carrying a circular cutter *D*, with a shell or socket for receiving and supporting the bearing portion of said spindle, a stuffing box at the bottom of said shell or socket, a gear or pinion attached to the lower end of said spindle projected through the stuffing box aforesaid, means for driving the said pinion, and a bar *G*₁ for carrying the cutter in due relation to the double pile fabric to be severed, all substantially as and for the purpose herein set forth. 4th. The combination of a cutter *D* and its carrying spindle *I*, cylindrical as to its lower portion, tapered as to its upper portion, and circumferentially recessed at or near the middle of such cylindrical part, with a shell or socket cylindrical as to the lower, and tapering as to the upper part of its interior, said, and a bar *G*₁ for carrying the cutter on the spindle in due relation with the double pile fabric to be severed, all substantially as and for the purpose herein set forth. 5th. The combination, with the straining bars *A*, *A*₁ and means, substantially as described, for drawing the double pile fabric to, and between the same, of the reciprocating bar *G*₁ carrying a series or system of circular cutters, extending substantially the width of the fabric to be cut, having gears on their spindles, means for reciprocating said bar *G*₁, and provided with a series or system of gears, or toothed wheels, for transmitting a positive or non-slipping rotatory motion to the spindles of the cutters, and means for rotating said shaft, substantially as and for the purpose herein set forth. 6th. The combination of a circular cutter *D* and a spindle tapered at its upper part, with a shell or socket composed of an internally cylindrical flanged sleeve *I*, and a cap *U*, arranged to carry the cutter in due relation with the double pile fabric to be severed, all substantially as and for the purpose herein set forth. 7th. The combination of a cutter and its carrying spindle *I*, circumferentially recessed at or near the middle of its said cylindrical portion and having the thin or thread-like spiral groove *g* above the circumferential recess, with a shell or socket internally cylindrical below and tapered above, and a bar *G*₁ for carrying the cutter on the spindle in due relation with the double pile fabric to be severed, all substantially as and for the purpose herein set forth. 8th. The combination of a cutter and its carrying spindle *I*, a shell or socket for holding the bearing portion thereof, a bar *G*₁ for supporting and carrying the said shell or socket, and a bolt or pin *T*, extended transversely through the bar *G*₁, with its side fitted into a groove or notch formed in one side of the shell or socket, whereby provision is made for retaining the socket securely upon the bar *G*₁, as the latter carries the cutter in due relation with the double pile fabric to be severed, all substantially as and for the purpose herein set forth. 9th. The combination of the spindle *I*, cylindrical as to its lower, and tapering as to its upper portion, provided at or near the centre of its cylindrical part with a circumferential recess, and having at its extremity a screw thread *s*, with a circular cutter *D*, nut *J* and *J*₁, a shell or socket composed of the sleeve *I* and cap *U*, a stuffing box *u* at the bottom of the sleeve *I*, a toothed gear or pinion *n* at the lower projecting end of the spindle, an oil feeding pipe *r*, arranged coincident with the circumferential recess of the spindle, a bar *G*₁ for carrying the circular cutter in due relation with the double pile fabric to be severed, and a bolt or pin *s*, passed transversely through the bar *G*₁, with its sides fitted into a notch or recess formed in the adjacent surface of the sleeve *I*, all substantially as and for the purpose herein set forth. 10th. The combination, with the bar *G*, means for reciprocating said bar, the cutters and the spindles provided with the pinions *m*, of the secondary shaft *n*, supported in bearings connected to the said bar *G*, and provided with gears *m*, through which a rotary motion is communicated to the spindles of the cutters, means for ro-

tating said shaft, a collar *k* fast upon the shaft *n*, cheeks *K*₁ and the bracket *l*, depending from the bar *G*₁, substantially as and for the purpose herein set forth. 11th. The combination, substantially as described, of a series or system of sharpening devices, corresponding in number with the cutter, with a series or system of circular cutters extending substantially the width of the fabric, and a bar arranged to carry the said cutters in due relation with the double pile fabric to be severed, and means for operating the said cutters, all substantially as and for the purpose herein set forth. 12th. The combination, with a reciprocating bar *G*₁ and the circular cutters carried on said bar *G*₁, in due relation to the double pile fabric to be severed, of a shaft supported in suitable bearings upon said bar *G*₁, sharpening devices provided on said shaft, and which, by the rotation of the said shaft, are brought at intervals upon the circumferential or edge portions of the rotary cutters, and means for actuating the said shaft, the cutters and the bar *G*₁, all substantially as and for the purpose herein set forth. 13th. The combination, with the reciprocating bar *G*₁ and the circular cutters carried by said bar, in due relation with the double pile fabric to be severed, of two shafts *K*₂ and *K*₃ supported in bearings upon the said bar *G*₁, means whereby said shafts are geared together for simultaneous rotation in opposite directions, each shaft being provided with sharpening devices, which, by the rotation of the two shafts, are brought at intervals upon the opposite upper and lower edge portions or edges of the rotary cutters, and means for actuating the cutters, the bar *G*₁ and the shafts *K*₂ and *K*₃, all substantially as and for the purpose herein set forth. 14th. The combination, with the bar *G*₁, means for reciprocating said bar, the cutters carried by said bar and means for rotating the same, of the standards *u*, and the two parallel shafts *K*₂ and *K*₃, the latter having its end projected and formed with a longitudinal spline *u*₁, gear wheels connecting said shafts, the pinion *u*₁₁, the yoke *u*₁, the wheel *D*₁ and means for operating said wheel gearing, substantially as described, for connecting the pinions *u*₁₁ with the wheel *D*₁, and sharpening devices attached to the shafts *K*₂ and *K*₃, adapted to be applied at intervals to the upper and lower circumferential portions or edges of the rotary cutters by the rotation of the said shafts, substantially as and for the purpose herein set forth. 15th. The combination, with circular cutters and means for rotating the same, of arc-shaped sharpening blocks *m*^{*}, springs for supporting said blocks, shafts carrying said blocks and means for rotating said shafts, all substantially as and for the purpose herein set forth. 16th. The combination, with circular cutters arranged to act in due relation with the double pile fabric to be severed, of sharpening devices composed of an adjustable block *b*^{*}, an adjusting screw bolt *f*^{*}, a spring *K*^{*}, an arc-shaped sharpening block *m*^{*}, and a shaft carrying the said parts and arranged in relation with the cutters to bring the sharpening block in contact with the cutters during a portion of the revolution of said shaft, means for actuating said shaft and the cutters, and means for transmitting movement from one to the other of the shafts *K*₂, *K*₃, all substantially as and for the purpose herein set forth. 17th. The combination, with a circular cutter and its spindle, means for operating said spindle and straining bars, across which the double pile fabric may be strained in opposite directions, of the brace *β*₃, with the block *b*^{*}, spring *K*^{*}, block *m*^{*}, shaft *K*₃, means for connecting blocks *b*^{*} to the said shaft, and means for actuating said shaft, all substantially as and for the purpose herein set forth. 18th. The combination, with circular cutters arranged to act in due relation with the double pile fabric to be severed, of a shaft arranged parallel with said cutters and radially bored to receive bolts *f*^{*}, the said bolts *f*^{*} constructed with flanges *g*^{*}, and squared ends *j*^{*}, blocks *b*^{*}, adjustable by means of the bolts *f*^{*}, arc-shaped sharpening block *m*^{*} connected with the blocks *b*^{*}, springs *k*^{*}, a bar *v*^{*} attached to the shaft, to retain the bolts *f*^{*} by bearing against the flanges of the bolts *f*^{*} and means for actuating the cutters and shaft, all substantially as and for the purpose herein set forth. 19th. The combination of the following elements, to wit: straining bars, across which the parts of the double pile fabric may be strained in opposite directions, rolls arranged to draw under tension the said fabrics across the said straining bars, a series or system of circular cutters, a series or system of sockets, for receiving the bearings of the spindles of the cutters and provided with stuffing boxes at their lower ends, a reciprocating bar constructed to carry said sockets and cutters, and means, substantially as described, for actuating the said parts in unison, substantially as and for the purpose herein set forth. 20th. The combination of the following elements, to wit: straining bars, across which the parts of the double pile fabric may be drawn in opposite directions, rolls for drawing said parts in opposite directions across said bars, tension bars for resisting the traction of the aforesaid rolls to duly strain the double pile fabric as it is drawn over the straining bars, a series or system of circular cutters, extending substantially the width of the fabric, carried by spindles of length greater than the diameter of the cutters, and means, substantially as described, for actuating the said parts in unison, substantially as and for the purpose herein set forth. 21st. The combination of the following elements, to wit: straining bars, across which the parts of the double pile fabric may be strained in opposite directions, to present the pile under tension to the action of the cutters, a series or system of circular cutters provided with gears for driving the same with a positive or non-slipping motion, sharpening devices for maintaining uniformly keen edges upon the said cutters, a bar arranged to carry the said cutters and gears, and means, substantially as described, for actuating the said parts in unison, substantially as and for the purpose herein set forth. 22nd. The combination of the following elements, to wit: straining bars, across which the parts of the double pile fabric may be drawn in opposite directions, means, substantially as described, for carrying or adjusting the space between the said straining bars, a series or system of circular cutters extending substantially the width of the fabric arranged opposite, and parallel with the centre of said space, means, substantially as described, for straining the parts of the double pile fabric in opposite directions across the straining bars, and means, substantially as described, for simultaneously rotating the cutters, each upon its own axis, and reciprocating said cutters as a series or system, all substantially as and for the purpose herein set forth. 23rd. The combination of straining bars *A*, *A*₁, with vertical guides for controlling the vertical movement thereof, means, substantially as described, for directing the vertical movement thereof, means, substantially as described, for adjusting and retaining the said straining bars at varied distances from each other as required by the exig-