

Title: Self propelled fibre harvesting and decorticating machine

Abstract: (Claim 1) 1. A stalk feeding means comprising a frame structure, a conveyor on said frame structure for moving stalks, the direction of the arrow 27.4, and the sprocket 219 to'lj\$ said conveyor including a plurality of spaced apart v- belts, and spaced apart cylindrical _rollers _about which the plurality of v-belts are trained -to form- a surface _ed on the upper surface - thereof, a :shelf fixed to.said frame structure at a location spaced beneath the upper surface bed of the conveyor, and means associated with said 5 shelf for maintaining the V-belts.in: fixed spaced apart position.

Classifications:

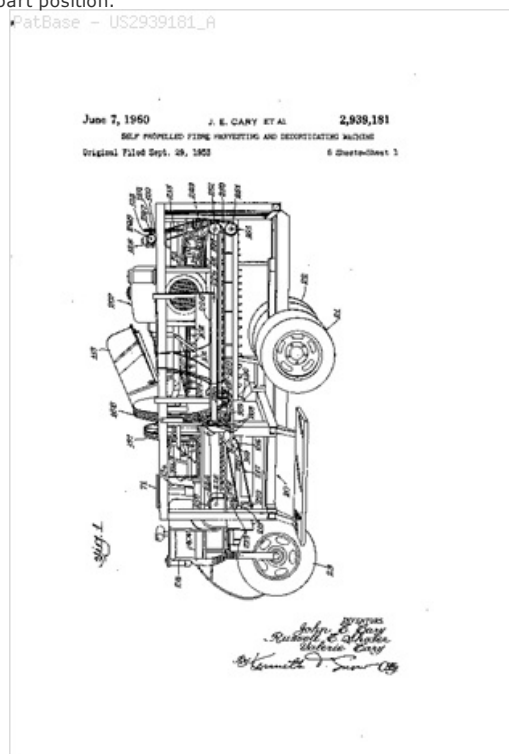
International (IPC 8-9): A01D45/00 A01D45/06 D01B1/10 D01B1/14 (Advanced/Invention)

International (IPC 1-7): A01D45/06

CPC: A01D45/00 A01D45/065 D01B1/10 D01B1/14

European: A01D45/00 A01D45/06B D01B1/10 D01B1/14

US: 19/12 19/30 19/6 198/523 198/635



Family:

Publication number	Publication date	Application number	Application date
BE532174 A	19550329		00000000
FR1112462 A	19560314		19540927
GB767340 A	19570130	GB19540026272	19540910
US2905974 A	19590929	US19530383064	19530929
US2906394 A	19590929	US19560600344	19560726
US2939181 A	19600607	US19560600343	19560726

Priority:

US19530383064 19530929 US19560600343 19560726 US19560600344 19560726

Probable Assignee: JOHN EASTON CARY

Assignee(s): (std): CARY JOHN E ; JOHN EASTON CARY ; RUSSELL EDWARD SHAFER ; SHAFER RUSSELL E ; VALERIE CARY

Inventor(s): (std): VALERIE CARY ; SHAFER RUSSELL E ; CARY VALERIE ; CARY JOHN E

Title: AUTOMATIC HIGH SPEED JUTE RIBBONING MACHINE AND THE PROCESS THEREOF

Abstract: The present invention relates to an automatic machine for the ribboning of fibrous vegetable stems or stalks especially jute comprises of a tip cutting and sorting platform, automatic plant feeder, belt conveyor, roller assembly, self aligning debarking unit, grip assembly, chain conveyor, bark cutting system, ribbon conveying system, waste (root ends) collecting system, stick collection conveyor system, sensor arrangement, PLC controlled system for the control of conveying and roller speed and an automatic process for the said ribboning of fibrous vegetable stems or stalks especially jute.

Classifications:

International (IPC 8-9): D01B1/10 D01B1/14 (Advanced/Invention)

International (IPC 1-7): B65G47/00 B65G49/00 B65G7/00

CPC: D01B1/10 D01B1/14

European: D01B1/10 D01B1/14



Family:

Publication number	Publication date	Application number	Application date
IN00032KO2010 A	20100205	IN2010KO00032	20100114
WO11086564 A1	20110721	WO2010IN00120	20100302

Priority:

IN2010KO00032 20100114

Probable Assignee: GHOSH SADHAN KUMAR

Assignee(s): (std): GHOSH SADHAN KUMAR

Assignee(s): PROF SADHAN KUMAR GHOSH

Inventor(s): (std): GHOSH SADHAN KUMAR

Inventor(s): SADHAN KUMAR GHOSH

Agent(s): GUPTA NILOY KUMAR

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: Improvements in or relating to machines for treating flax or other fibrous plants

Abstract: 12337. [Class 120 (i)] The scutching elements of a flax-treating machine of the Hollier type (Specifications 359,977, 375,834 and 479,218) engage the stalks from above and effect their scutching action while travelling in a path inclined at a substantial angle to the horizontal. (1) General arrangement of machine. (i) The flax c. stalks from a feed table 605 are removed between the grip of upper and lower feed belts 19, 135, across which they extend transversely, channelshaped segments 191 on the upper belt bending the root and seed end portions of the stalks downwardly on each side of the lower belt 135. (ii) While so carried, the stalks are simultaneously combed and progressively scutched at both root and seed ends by devices 163, 165, situated on either side of the conveyer. Following this treatment, (iii) the seed end portions are finally scutched at 167. The stalks are then transferred (iv) to a second conveyer comprising upper and lower belts 25, 137, the upper belt also being provided with channelshaped segments 191 to bend the finally scutched seed ends and partially scutched root ends of the stalks downwardly for treatment at the root ends by (v) a combing device 173 and (vi) a final root-end scutching device 175. The scutched stalks are then delivered from the machine. (2) Conveyers of scutching machine (Figs. 4, 5, 17, 30). The upper and lower feed belts 19, 135, run over free pulleys 15, 139, at their front ends, and the belt 135 projects a short distance in advance of the belt 19. The upper belt is driven by a pulley 17, whereas the lower belt 135 runs freely over a skid 141 and a pulley 143, the lower belt being driven from the upper. Attached to the upper belt 19 is a series of part-overlapping channel-shaped members 191, the downwardly projecting portions of which hold the stalk-ends in a downward direction. The upper run of the lower belt 135 is supported on a slightly downwardly-sloping surface 155 at the head of castings 157 and the lower run of the upper belt 19 is pressed downwardly by a bar 177 supported adjustably by two bellcrank levers. The free pulley 15 is adjustable. After the stalks have been simultaneous combed and partially scutched at both root and seed ends at 163, 165 respectively, and then finally scutched at the seed end only at 167, the stalks are transferred to the grip of two further conveyers 25, 137, similar to conveyers 19, 135, an adjustable transfer-assisting belt 227, furnished with pins, engaging the stalks and moving them over a triangular-nosed plate 221. An adjustable deflector blade 269 may project through the plate 221, so that the length of stalk between the two sets of conveyers may be increased. The conveyer 25 is driven by a pulley 21, co-axial with the pulley 17, both being driven through a worm and worm wheel by an electric motor 107 and retraction gearing 103, and at its near end passes over an adjustable pulley 23. The conveyer 137, driven by the belt 25, runs over free pulleys 145, 147 and a skid 149, and the top run is supported upon the top of castings, similarly to the belt 135. In order to ensure that the finally-treated stalks will leave the channelled members 191 of the belt 25, a stripping belt 115 is fitted which travels in the channelled members of the upper belt and around an adjustable skid member 117 and a stripping finger. While gripped by the belts 25, 137, the root ends are again combed (at 173) and finally scutched at 175. The scutched fibres, supported upon the top of vertical -walls and held thereon and to the projecting lower belt by a flexible finger, are removed by hand. The pulleys 17, 21 are eccentrically mounted so that they may be readily turned when it is required to remove the conveying belts. The speed of the conveyers is controlled by the operator at the delivery end of the machine. The second upper belt 25 is urged toward the second lower belt by a presser plate similar to the bar 177. The transfer-assisting belt is driven from the driving shaft of the pulleys 17, 21 through an Oldham coupling. (3) Combing and partial scutching mechanism for root end of stalks. (Figs. 32, 4, 6.) This mechanism, 163, comprises preliminary combing bars 339, intermediate combing bars 351 and partial scutching bars 357. These bars each carry pins 373 and are moved, remaining parallel throughout their motion, by chains 297, 299, 301 running on sprockets, the sprockets 303, 309, 315 being driven by a shaft through a chain and sprocket from the driving means, on the other side of the machine, which drives the seed end combing and partial scutching and final scutching mechanisms 165, 167. The casting 279 carrying the mechanism 163 may swivel about hollow spigots 281 (for servicing), the driving shaft for the sprockets extending therethrough. The partial scutching bars 357 are formed in two parts, each carrying a row of scutching pins one part being movable longitudinally by a shogging cam 387, and an aligning cam 385, which are adjustable. The scutching pins are aligned by the cam 385 as they enter the stalks, being thereafter shogged by the cam 387. The combing and scutching bars are carried in the links of the chains by interengaging splines and grooves so that they may be secured in their axes to an adjusted position so to enter the stalks at any required angle. To ensure the entry of the pins among the stalks, a grid 421 is positioned behind the stalks, comprising a series of parallel bars between which the pins move, the grid being carried from the central casting by a link system, so that when the casting 279 is swung outwardly for servicing, the grid 421 will be moved to avoid fouling. The central casting is recessed at 169 to permit movement therein of the scutching pins and a supporting plate for the stalks is fitted to ensure proper entry of the pins into the flax. (4) Combing and partial scutching mechanism for seed end of stalks. (Figs. 5, 6.) This mechanism, 165, is constructed and operates in similar manner to that described for the root end, but is positioned at a slightly lower level and arranged at a slightly greater angle to the vertical. The central casting is recessed at 171 to allow the pins to move near to a stalk-positioning plate, similar to that mentioned above. The pins of both mechanisms 163, 165 are cleared of shive c. by brushes, of which fixed brushes clear the pins of the bars 339, 351 and rotary brushes 505 clear the pins of the bars 357. The rotary brushes 505 are cleared by carding rolls 509 (intermittently rotated), an oscillating blade stirring each carding roll. (5) Final scutching mechanism for seed end of stalks. (Figs. 45, 5.) This mechanism 169 comprises a casting 523 carrying sprockets 527 which drive chains supporting a series of scutching bars 525. The bars include a longitudinally movable portion, i.e., 'fixed and movable portions carrying rows of scutching pins. In their motion with the chains, the bars pass cams, the first of which aligns the pins for entry between the stalks and the second subsequently shogs the bar portions to effect scutching. The casting 523 pivots about spigots 529 through which passes the driving shaft for the sprockets 527, the driving shaft being driven by a variable-speed electric motor 553, through an Oldham coupling. This motor also drives the mechanism 165. The bars 525, which are formed in two lengths connected together by interlocking teeth and grooves, are prevented from rotating during their motion by links 567, the ends of which are pivoted to links on a fourth chain displaced from the others. The bars are carried in their links by interengaging splines and grooves to allow of adjustment about their axes. In a modification, the mechanisms 163, 165 may be driven by a separate motor from that driving the mechanism 167. In a further modification, the shogging cams may be replaced by discs, freely rotating about inclined axes, the discs being driven by the frictional contact of the passing scutching bar. A stalk supporting plate, similar to the plates previously described, is fitted behind the mechanism 167 and a grid similar to the grid 421 is also fitted. The scutching pins are cleared by rotary brushes 572, carried in alignment with the brushes 505, driven from the driving shaft of the sprockets 527. (6) Root end combing mechanism. (Fig. 4.) After the flax stalks have been transferred to the second conveyer 25, 139, the stalks are re-combed at the root end to ensure parallelism. This combing mechanism, 173, is similar to the mechanism 163 in that it comprises preliminary and intermediate combing bars (similar to the bars 339, 351) carried by chains running over sprockets on a casting pivoted to the machine framing. Behind the combs is positioned a grid (similar to grid 421), carried by levers to ensure that when the combing casting is swung forwardly the grid will move to prevent fouling. The bars which effect the final combing are similar to the bars 357 but do not comprise two sections since scutching is not effected. The combing bars are also adjustable on their axes, and the pins are cleared by stationary brushes c as previously described. (7) Root end final scutching mechanism. (Fig. 4.) From the combing mechanism 173, the conveyer 25, 139 moves the stalks to the final root end scutching mechanism 175 which is substantially identical with the seed end final scutching mechanism 167. The mechanisms 173 and 175 are both driven from variable-speed electric motor 595 through shafting including an Oldham coupling. The pins of the scutching mechanism 175 are cleared by rotary brushes c. as previously described. In a modification, the intermediate combing bars 351 may be dispensed with and replaced by straight bars forming a continuation of the scutching bars. The clear

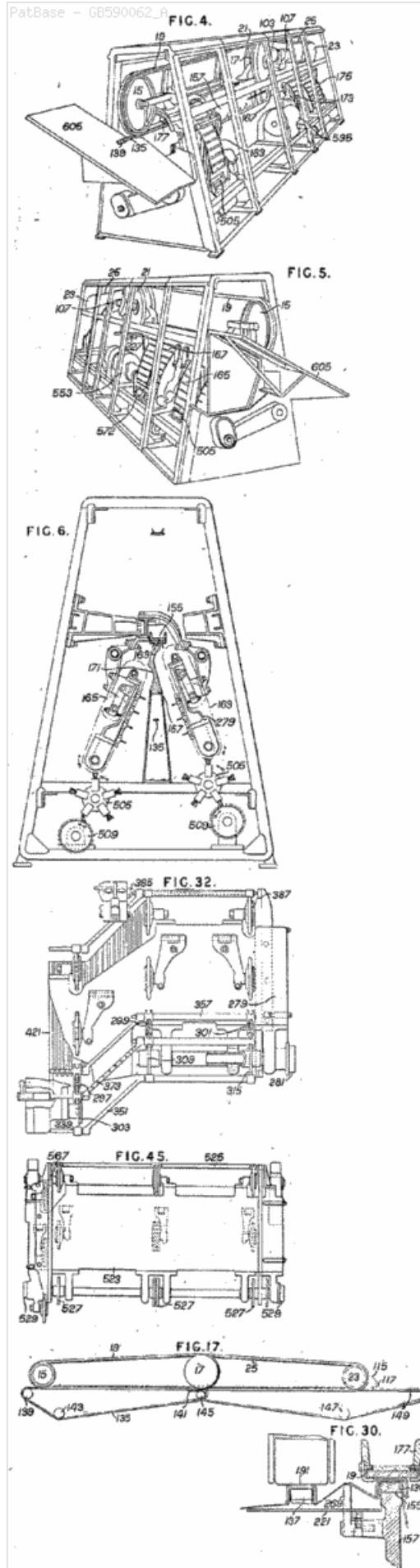
Classifications:

International (IPC 8-9): D01B1/14 (Advanced/Invention);
D01B1/00 (Core/Invention)

International (IPC 1-7): D01B1/36

CPC: D01B1/14

European: D01B1/14



Publication number	Publication date	Application number	Application date
 GB590062 A	19470708	GB19440012337	19440628

Probable Assignee: FRED RICKS

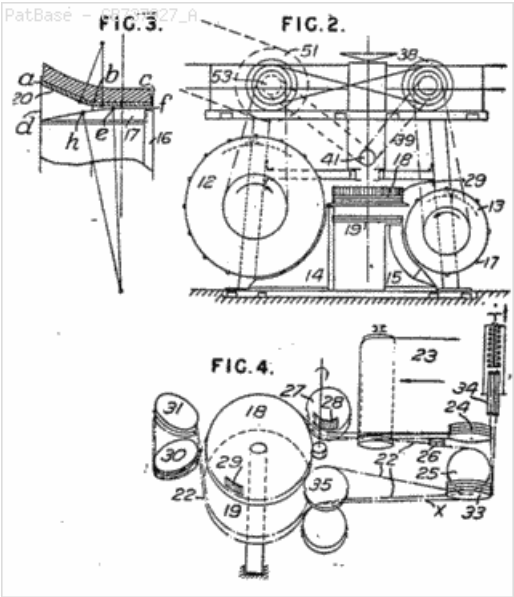
Assignee(s): (std): FRANK COLEMAN CHOICE ; FRANK ROFFEY ; FRED RICKS ; JOHN WILLIAM PRATT ; BRITISH UNITED SHOE MACHINERY

Assignee(s): BRITISH UNITED SHOE MACHINERY CO LTD ; THE BRITISH UNITED SHOE MACHINERY COMPANY LIMITED

Title: Improvements in or relating to decortivating apparatus

Abstract: 737,927. Decortivating fibrous leaves. BONOMO, P. Dec. 1, 1953 [Sept. 4, 1952], No. 22288/52. Class 120(1). Decortivating apparatus for sisal c. leaves comprises two rotary beaters 12, 13, a pair of rope wheels 18, 19 disposed between beater drums 12, 13 one above the other for rotation about a common axis, a single endless conveyer rope or band 22 and a plurality of pulleys around which and rope wheels 18, 19, rope 22 passes to grip one end of each leaf against the upper wheel 18 while the other end is decorticated by drum 12 and then to grip the decorticated end against the lower wheel 19 while the untreated end falls into position to be decorticated by drum 13. In an embodiment rope 22 is made of metal, e.g. steel or phosphor-bronze, and is disposed as shown in Fig. 4. Leaves fed along a conveyer 23 are gripped at the butt ends between three strands of rope 22; two strands pass from a pulley 24, and the third from a pulley 25 under a guide roller 26. The leaves are conveyed by the rope between upper rope wheel 18 and a wheel 27 where the butt ends are crushed between toothed crowns 28, 29 on the wheels. As the leaves pass around wheel 18 their tips are scutched by beater drum 12, Fig. 2, acting against a saddle member 14. The first two strands of rope pass from wheel 18 to lower rope wheel 19 via wheels 30, 31, while the third strand passes around wheel 18 and a pulley 35. The leaves are thereby released from wheel 18 and their tips gripped by the two rope strands passing around wheel 19 where the butt ends are decorticated by beater drum 13 and saddle 15. The two rope strands convey the fully decorticated leaves to an outlet point X; one of the two strands then passes around pulley 25 and the other, together with the third strand from pulley 35, passes around a pulley 33, over a tension pulley 34 back to pulley 24. Each drum 12 or 13 is provided with an end ring 16, Fig. 3, and L-shaped knives 17 each having a tapered end-engaging portion d-h, a curved crushing portion h-e, and a straight decortivating portion e-f. The co-operating saddle has two surfaces a-b, b-c, tangential to the corresponding ropewheel; each saddle may be a block of cast-iron faced with a lining 20 of bronze and provided at its top with a replaceable wearing piece of stainless steel. Drums 12, 13 may be independently driven by motors 51, 38 respectively, Fig. 2, rope wheels 18, 19 and conveyer 23 being driven from a shaft 41 which is in turn driven through a clutch and a belt 39 from motor 38; alternatively all the parts can be driven from a single motor 51 or from a shaft 53 driven from an outside power source.

Classifications:
International (IPC 8-9): D01B1/10 (Advanced/Invention);
D01B1/00 (Core/Invention)
International (IPC 1-7): B21J5/00 D01B1/36
CPC: D01B1/10
European: D01B1/10



Family:

Publication number	Publication date	Application number	Application date
GB737927 A	19551005	GB19520022288	19520904

Priority:

GB19520022288 19520904

Probable Assignee: PRIMO BONOMO
Assignee(s): (std): PRIMO BONOMO

Title: DECORTICATING APPARATUS

Abstract: 1. In straw decortivating apparatus having means for breaking the straw to loosen the nexible hast fiber from the shive normally combined therewith and thereby produce a heterogenous mixture of hast fiber and loosened shive an horizontal cleaner and transfer means for transferring freely and loosely said mixture to said cleaner without scutching or cutting of the bast fiber, said cleaner being adapted for tumbling and separating said mixture of bast fiber and shive so that the shive can be discharged to waste and the hast fiber collected for use, said cleaner comprising a conical housing having smooth inner walls free of fiber scutching elements and a reticulated bottom for discharge of said shive, a rotor extending centrally and longitudinally through said housing, a plurality of separate, elongated, blades mounted on said rotor from one end to the other at relatively widely spaced locations and extending in close proximity to the inner walls of said housing but without contact therewith, said blades having generally smooth, dull edges and ends and upon rotation serve to bloom or disentangle the mixture of best fiber and shive so that the shive is separated out through said reticulated bottom of said housing and the bast ilber is liberated without cutting or scutching and may be removed from the housing and collected for use.

Classifications:

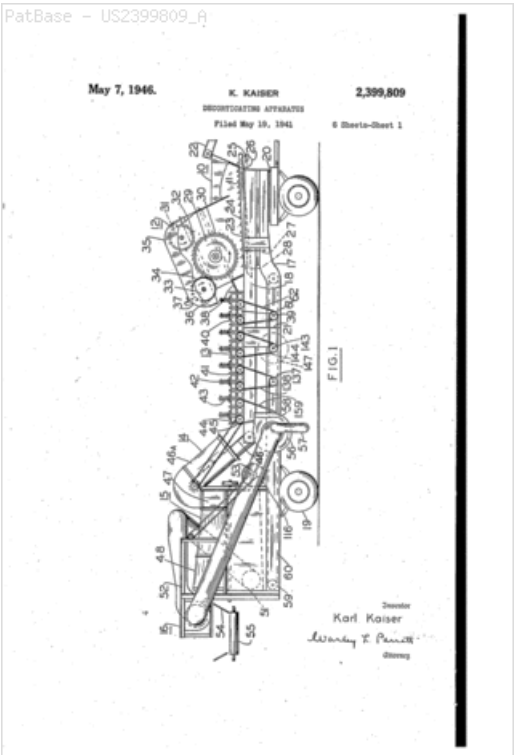
International (IPC 8-9): D01B1/14 (Advanced/Invention);
D01B1/00 (Core/Invention)

International (IPC 1-7): B27J7/00

CPC: D01B1/14

European: D01B1/14

US: 19/30 19/31 19/90



Family:

Publication number	Publication date	Application number	Application date
US2399809 A	19460507	US19410394048	19410519

Priority:

US19410394048 19410519

Probable Assignee:

CALIFORNIA CENTRAL FIBRE CORP

Assignee(s): (std):

CALIFORNIA CENTRAL FIBRE CORP

Inventor(s): (std):

KARL KAISER

Inventor(s):

KAISER KARL

Title: Method of and apparatus for abstracting fibrous material from fibre-bearing plants

Abstract: 15125. [Class 78 (i)] [Also in Group IX] Feed conveyers for supplying stalks and other fibrous material to decortivating rollers comprise upper and lower endless belts 347, 329, the upper stretch of belt 329' being resiliently supported at 354 and the supporting rollers 349, 363, 364 being provided with resilient suction cups 352. The shafts 371, 372 of the rollers 363, 364 are supported on rocking cradle bars 370 carried by a shaft 367. The feeding belts 347, 329 and the first-stage decortivating rotor 397 and kneading head 404 are driven in co-ordination with each other and with the conveyer belts 443, 444 which transfer the treated material to a second-stage decortivating device. The belts 443, 444 are provided with bridge members 447 supporting shoes 500, 501, each of which includes a strip of stiff resilient material adapted to grip the fibres XX as shown.

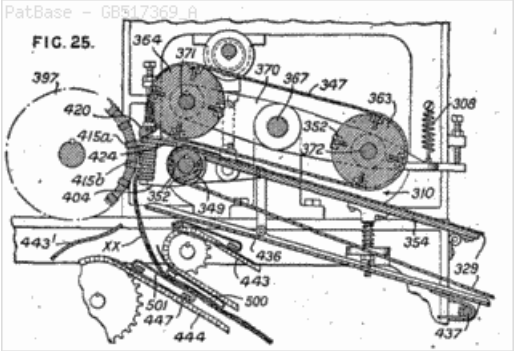
Classifications:

International (IPC 8-9): D01B1/10 (Advanced/Invention);

D01B1/00 (Core/Invention)

CPC: D01B1/10

European: D01B1/10



Family:

Publication number	Publication date	Application number	Application date
GB517369 A	19400129	GB19380015125	19380520

Priority:

GB19380015125 19380520

Probable Assignee:

FREDERICK PERCY GARDNER

Assignee(s): (std):

FREDERICK PERCY GARDNER

Title: Improvements relating to the treatment of plants to obtain fibres therefrom

Abstract: 199,346. Tropical Fibre Corporation, (Assignees of Lowry, G. A.). June 17, 1922, [Convention date]. Breaking and scutching apparatus.-Leaves, stalks, stems, and other portions of fibrous plants, particularly those of the bromelia family, or banana or plantain trees, or musa textilis, are submitted to a crushing and scraping action and then to a shredding or cleaning action. The two apparatus may be used independently or successively, the material being placed in a trough and cut into suitable lengths intermediate of the two apparatus, and the whole treatment being continuous. The crushing and scraping apparatus comprises three crushing rollers 16, 17, 18, Fig. 11, the upper one being mounted in spring-controlled sliding bearings 19, which also have a slight lateral play. A scraper 25 clears the roller 16 and guides the material to the nip of the rollers 17, 18. The scraper is controlled by a spring 28 and is provided with a hole to allow expressed juices to run off. The material passes from the rollers over a pivoted spring-supported concave apron 32 and is acted upon by a rotary scraper 37 with radial blades 30. An extension 36 of the apron 32 acts as a scraper for the roller 17. The material may pass from the rollers between two rotary intermeshing scrapers, the blades of the upper scraper being adjustable radially to vary the action. As an alternative, the lower scraper may be mounted in pivoted arms and pressed towards the upper one by springs. The edges of the blades of the scrapers may be convex in shape to separate laterally the fibres over which the blade moves. The material delivered from one or more of these apparatus is placed in a trough and severed into the desired lengths by a suitable cutter. This material is then placed on the table M, Fig. 2, of the shredding and cleaning apparatus and is passed forward to a device comprising a series of spaced-apart discs 55, round the edges of which are blades 58 with curved penetrating points. A carrier chain 60, Fig. 4, with pins 61 upon which the leaves 62 are impaled moves over one side of the table M and carries the leaves forward in a diagonal direction to the discs 55. The leaves are thus fed forward in the direction of their length and at the same time given a lateral travel. The leaves are maintained in their correct position, whilst being operated upon, by upper spiked chains 64, 65. These chains pass over sprockets carried by pivoted arms 67 supported by spring rods 68. The slack is taken up by spring-controlled shoes 70. The fibres may be held up against the discs 55 by a rotary fan device 74. The blades on the discs are cleaned by a brush 75. If one portion of the leaf and c. has been shredded and it is desired to treat the remaining portion, the leaf may be wrapped round a rod 80, Fig. 8, and inserted in a clamp comprising a U-shaped portion 78 with hooks 79 at each end of the arms.

Classifications:

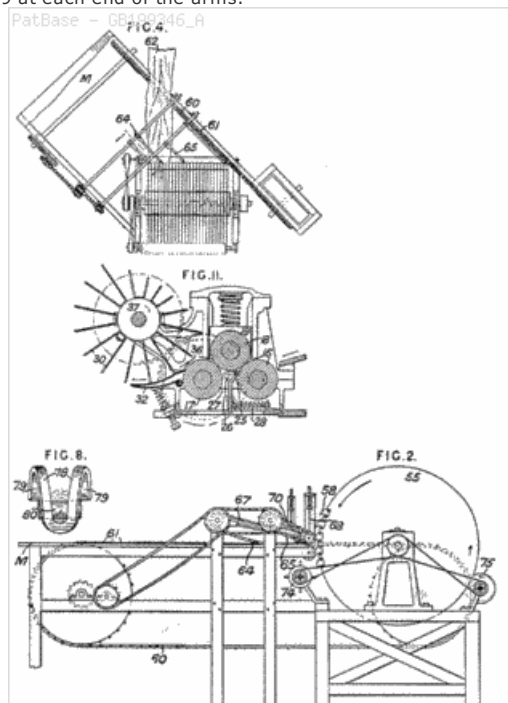
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D01B1/00 (Core/Invention)

International (IPC 1-7): D01B1/24

CPC: D01B1/10

European: D01B1/10



Family:

Publication number	Publication date	Application number	Application date
GB199346 A	19231129	GB19220024557	19220911

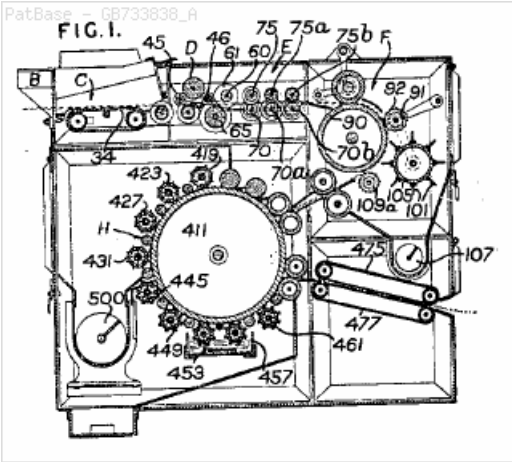
Probable Assignee: TROPICAL FIBRE CORP

Assignee(s): (std): TROPICAL FIBRE CORP

Title: Improvements relating to the separation of fibers from bast-fiber stalks

Abstract: 733,838. Decorticating apparatus. BOBKOWICZ, E. July 28, 1953, No. 20937/53. Class 120(1). Fibre is separated from bast stalks by splitting the stalks longitudinally, laying the split portions side by side with the bark all facing in one direction, flexing the split portions and, while flexed, cutting the wood core transversely at intervals without cutting the bark, and subsequently picking the wood pieces from the bark. As shown, a vibrator unit B pushes stalks into compartments of a divider unit C, each compartment forming a narrowing chute which delivers one stalk at a time onto a conveyor belt 34 whence the stalks are fed side-byside to a cutting unit D. In unit D, driven rollers 45, 46 feed each stalk between channels in the surfaces of co-operating rollers 60, 65, a knife 61 mounted in the middle of the channel of roller 60 splitting the stalk longitudinally. The stalk then passes between further mating rollers 70, 75, 70a, 75a and 70b, 75b of a flattening unit E; rollers 70, 70a, 70b have wedge surfaces of increasing bluntness which turn the halves of the split stalk until they are disposed with the bark downwards and wood upwards. In this condition the stalks are flexed around a drum 90 of a cutting and stripping unit F where the wood core is cut at intervals by the chisel edges 92 of a rotary cutter 91, the edges of the blades being spaced from the drum surface so as not to cut the bark. The cut wood is picked off by plates 101 on a rotary cylinder 105 and by a chisel-edged roller 109a, and is removed by a screw conveyor 107. The bark then passes around a knurled drum 411 of a scrubbing unit H where spiked or scraper-edge rollers 419, 423, 427 and 431 scrape the gummy material from the bark and liberate the fibres which are then scrubbed by brushing rollers 445, 449, 453, 457 and 461. Each scraping or brushing roller comprises scraping or brushing elements running axially of the roller, and, located between such elements, axial perforated pipes through which water is projected onto the bark. The solids detached by the scraping rollers are removed by a screw conveyor 500. The scrubbed fibre is discharged in web form between belts 475, 477.

Classifications:
International (IPC 8-9): D01B1/10 (Advanced/Invention);
D01B1/00 (Core/Invention)
International (IPC 1-7): D01B1/14
CPC: D01B1/10
European: D01B1/10



Family:

Publication number	Publication date	Application number	Application date
GB733838 A	19550720	GB19530020937	19530728

Priority:

GB19530020937 19530728

Probable Assignee:

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Assignee(s): (std):

BOBKOWICZ E

Assignee(s):

EMILIAN BOBKOWICZ