

June 10, 1930.

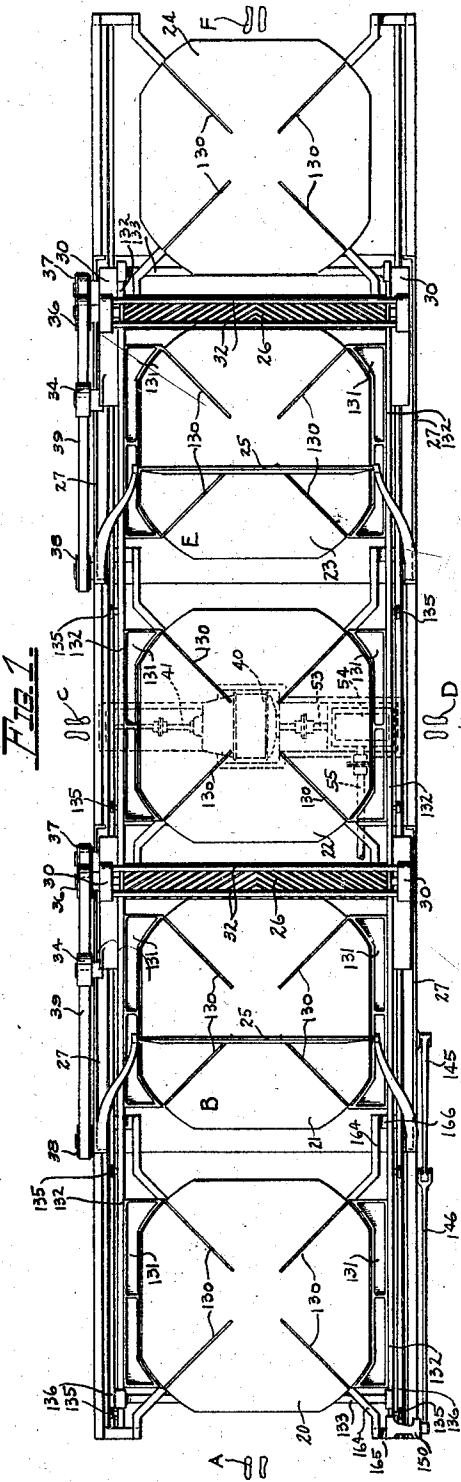
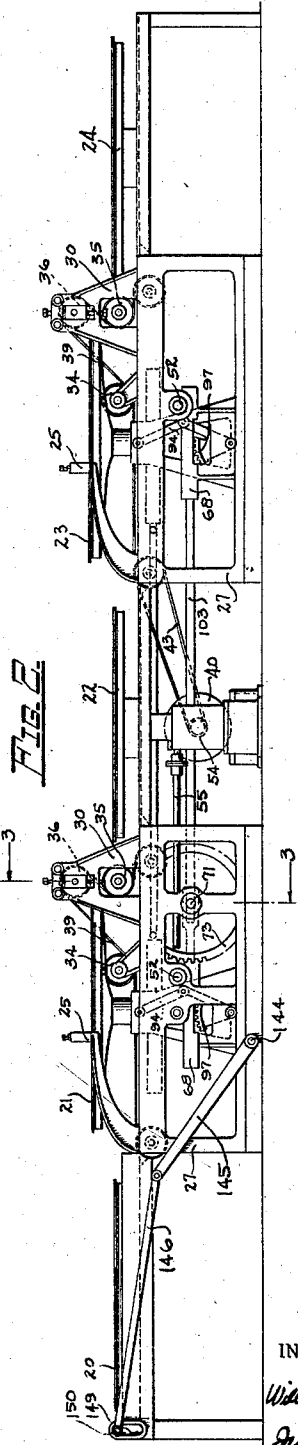
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 1



INDENTOR.

William C. Johnson

Charles French

ATTORNEYS

June 10, 1930.

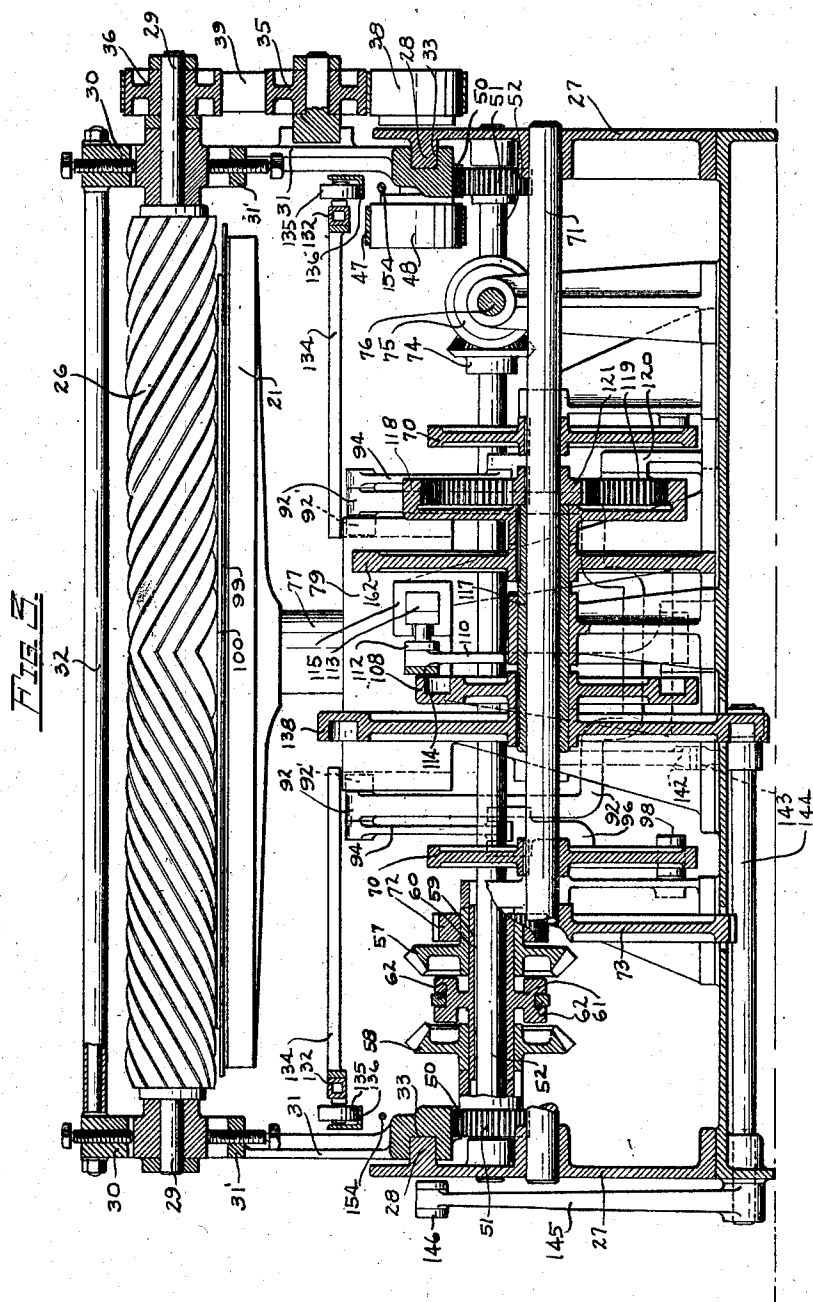
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 2



INDENTOR.
William C. Johnson
 BY *Charles F. French*
 ATTORNEYS

June 10, 1930.

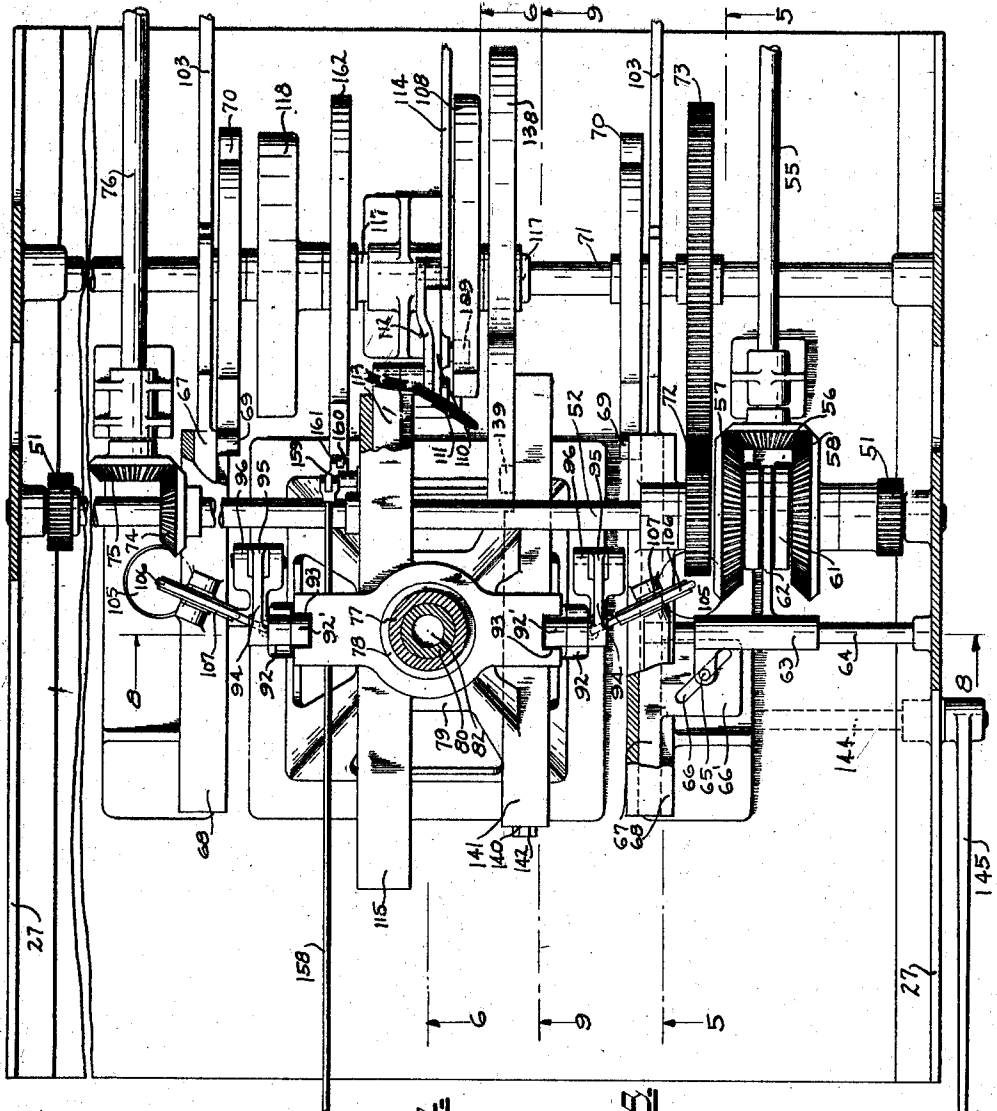
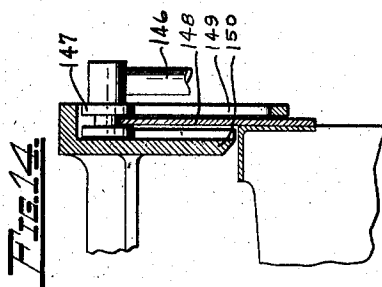
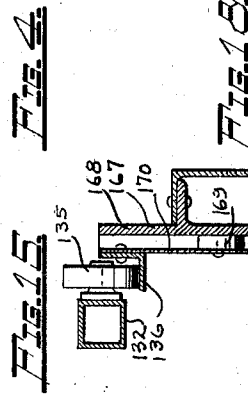
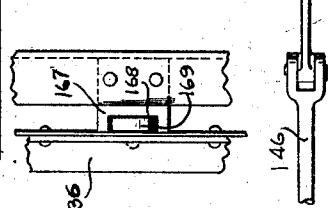
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 3



INVENTOR
William C. Johnson
BY Charles French
ATTORNEYS

June 10, 1930.

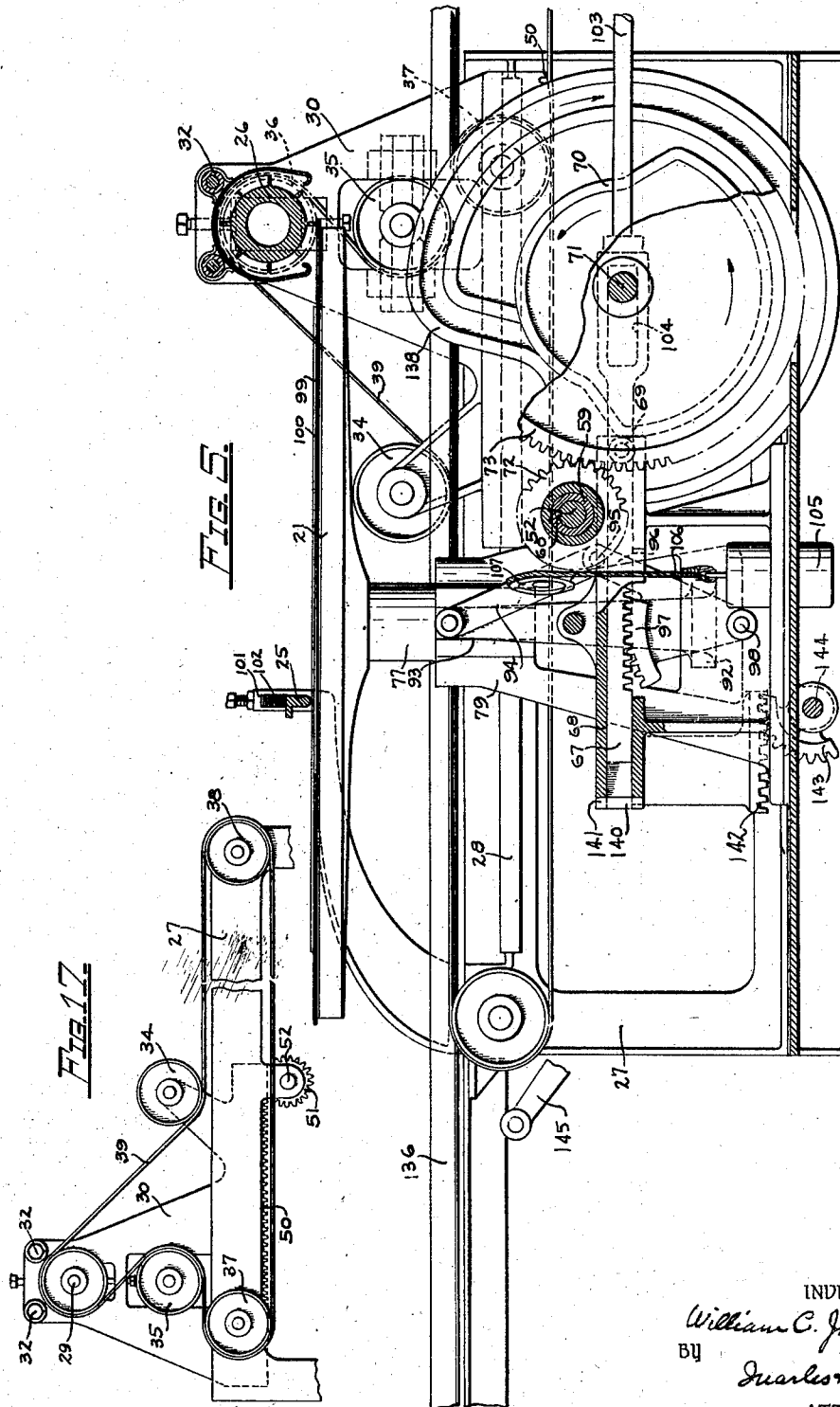
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 4



INVENTOR.

William C. Johnson

BY

Charles French

ATTORNEYS

June 10, 1930.

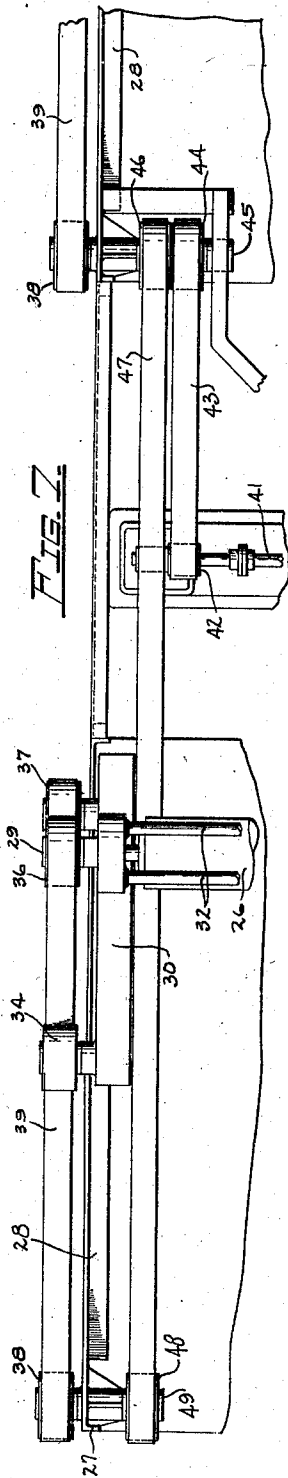
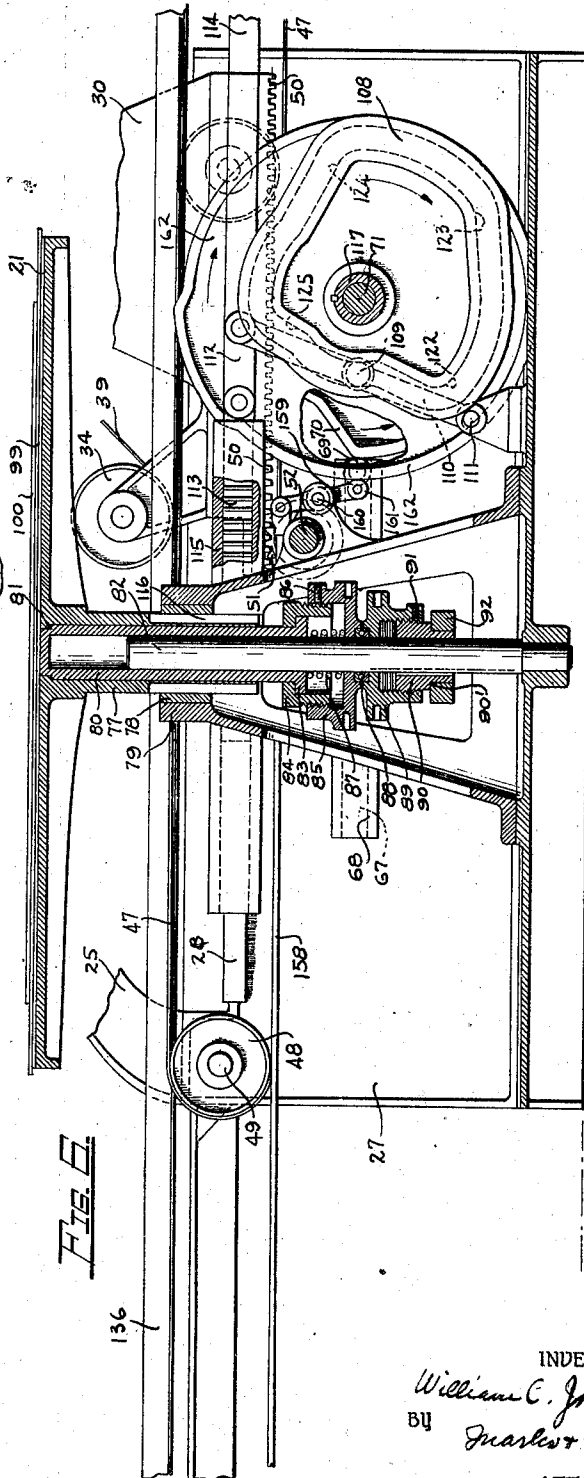
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 5



INVENTOR.

William C. Johnson
BY Mark & French

ATTORNEYS

June 10, 1930.

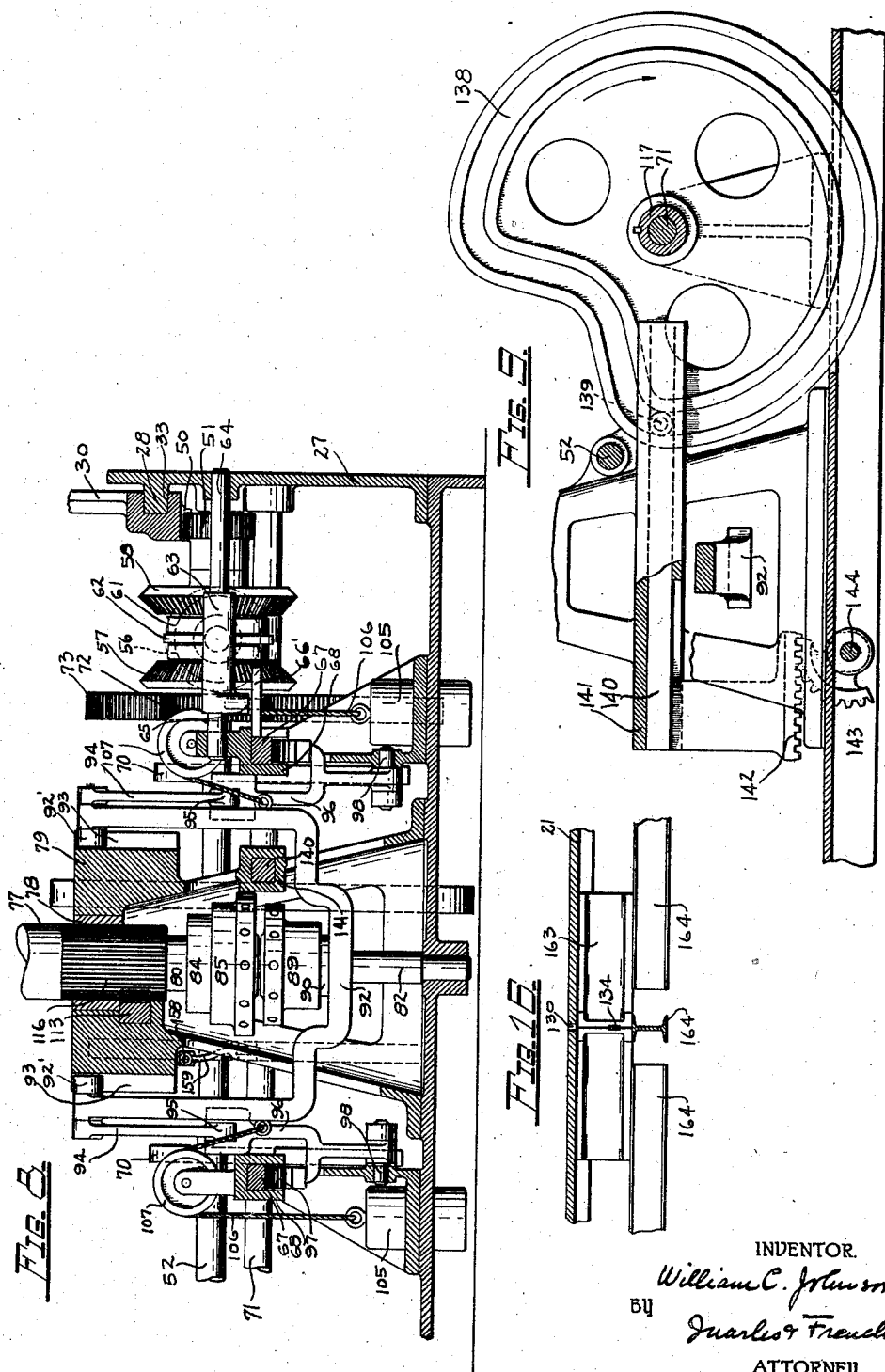
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 6



INVENTOR.
William C. Johnson
BY *Charles French*
ATTORNEY.

June 10, 1930.

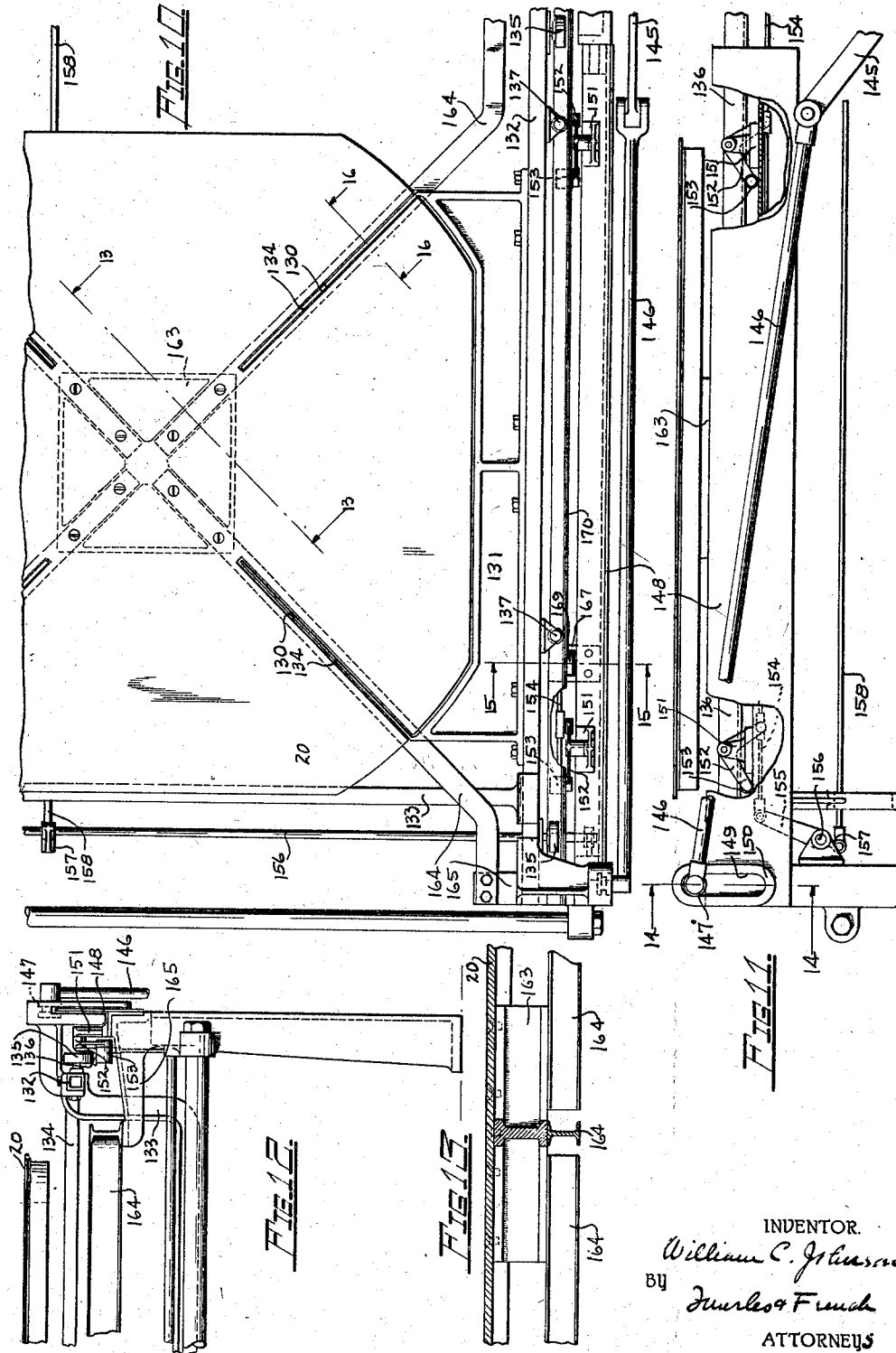
W. C. JOHNSON

1,763,359

APPARATUS FOR SETTING OUT LEATHER

Filed Sept. 26, 1928

7 Sheets-Sheet 7



INVENTOR.
William C. Johnson
BY
Dwight & French
ATTORNEYS

UNITED STATES PATENT OFFICE

WILLIAM C. JOHNSON, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO MACHINERY DEVELOPMENT COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN

APPARATUS FOR SETTING OUT LEATHER

Application filed September 26, 1923. Serial No. 308,530.

The invention relates to apparatus for setting out leather upon a setting-out board so that the leather may be dried as set out on said board.

In the application of Charles P. Vogel and Albert C. Vogel, Serial No. 191,413, filed May 14, 1927, for leather-working machine, now Patent No. 1,715,582, dated June 4, 1929, a semi-automatic machine is disclosed for the setting out of leather upon a setting-out board wherein the operator actuates mechanism for bringing the hide and the board to an operative position relative to the pressing and stretching means and manually shifts the table to different positions during the setting out process. The present invention provides for cutting down the manual operations of the above described machine and for automatically bringing the hide and board to operative position and for automatically turning the table during the setting out operation.

A further object of the invention is to provide an arrangement of mechanism and method of operating the same whereby production is further increased by setting out a hide on one side of the board and then setting out another hide on the other side of the board with a minimum amount of handling.

The invention further consists in the several features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings Fig. 1 is a plan view of apparatus embodying the invention and showing the preferred arrangement thereof;

Fig. 2 is a side elevation, general view of the apparatus shown in Fig. 1;

Fig. 3 is a vertical sectional view through one of the setting-out units, taken on the broken line 3—3 of Fig. 2;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3, parts being broken away;

Fig. 5 is a detail vertical sectional view taken on the broken line 5—5 of Fig. 4, parts being broken away and parts being shown in section;

Fig. 6 is a detail vertical sectional view taken on the broken lines 6—6 of Fig. 4;

Fig. 7 is a detail view showing the roller drive;

Fig. 8 is a detail sectional view taken on the line 8—8 of Fig. 4;

Fig. 9 is a detail vertical sectional view taken on the line 9—9 of Fig. 4;

Fig. 10 is a plan view of one of the supporting tables and the board feed mechanism associated therewith, parts being broken away;

Fig. 11 is a side view of said table and mechanism, parts being broken away and parts being shown in section;

Fig. 12 is a detail end elevation view of one of the tables and its associated mechanism;

Fig. 13 is a detail sectional view taken on the line 13—13 of Fig. 10;

Fig. 14 is a detail sectional view taken on the line 14—14 of Fig. 11;

Fig. 15 is a detail sectional view taken on the line 15—15 of Fig. 10;

Fig. 16 is a detail vertical sectional view taken on the line 16—16 of Fig. 10;

Fig. 17 is a detail elevation view to show the drive arrangement for the pressing and stretching roller;

Fig. 18 is a detail elevation view of the track guide.

Before going into a detailed description of the operating mechanisms involved, it is thought that a clearer understanding of the apparatus and the preferred method of arranging and operating the same will be had from a general explanation, as referred particularly to Figs. 1 and 2 of the drawings.

With the arrangement herein shown an operator A places a setting-out board on the first table or assembly support 20 and spreads out a hide upon the board. As hereinafter described, the board with the hide thereon is then lifted from the table and carried to table 21 of the first setting-out apparatus B, where the hide is automatically set out on the board and thereafter delivered to a table 22. Operators C and D quickly slick down such portions of the shanks as may need attention, turn the board over and

then one operator places another hide on the top side of the board, which is then carried to table 23 of the second operating unit E where this hide is automatically set out and thereafter delivered to table 24, from which it may be removed in any suitable manner, as by an operator F, who slicks out such portions of the shanks as need attention before taking the board off said table. The automatic movements of the operating units are timed to synchronize with the feed of the material thereto and the operators work in time with these movements, with the result that increased production is obtained at a low labor cost, it being further noted that operators A and F might be replaced by suitable automatic machinery, if desired.

The operating units B and E are practically identical, the main drive going to the first unit B which in turn times the second unit E so that a detailed description of unit B will suffice for both units.

The general operation of each unit is as follows: The board with the hide thereon is fed onto table 21 or 23 and raised by the raising of said table until the hide is clamped between the table and a clamping bar 25 which is disposed at one side of one dimension of the hide. The rotating, pressing and stretching roller 26 at that time engages the hide and moves forwardly from the mid section of the hide along one dimension thereof to set out this half of the hide. The table then lowers and is turned end for end, that is, through one hundred and eighty degrees is raised up to clamping position with bar 25 which is now disposed on the other side of the center of the same dimension of the hide. The rotating, pressing and stretching roller 26, as before, engages the hide and moves forwardly from the mid section of the hide along this dimension to set out the other half of the hide. The table then lowers and is given a quarter turn forwardly and is then raised until the hide is clamped between the table and the clamping bar 25, which is now disposed to one side of the other dimension of the hide. The pressing and stretching roller 26, as before, engages the hide and moves forwardly from the mid section of the hide along this other dimension to set out this half of the hide. The table then lowers and is given a one-half turn backwardly, raised to a clamping position, and the other half of this dimension is set out, after which the table is lowered, turned a quarter turn backwardly and ready for the next hide. Thus, it will be noted that the hide is set out by the roller acting on the two dimensions of the hide. For example, the roller first sets out each half of the hide while moving widthwise thereof along the entire length of the hide and then sets out each half of the hide while moving lengthwise thereof along the width of the hide. By these

operations the hide, which is in moist condition is set out upon the board and generally adhesive is used between the hide and the board, applied in any suitable manner, generally by dipping the hide in adhesive before putting it on the board. As a result practically the entire surface of the hide is set out, but in some instances portions of the flanks may need to be smoothed down and this is quickly done by one of the operators C or D, with a slicker, and, as previously noted, the board is turned over, another hide put on the board and the next unit E acts to set out this hide thereon, which is then delivered to operator F, who slicks out any of the few portions of the flanks which may need attention and removes the hide from the apparatus.

Referring to Figs. 1 and 3, each of the units B and E includes a frame 27 provided with ways 28. The pressing and stretching roller 26 has its shaft 29 journaled in bearings in a reciprocating carriage 30, including uprights 31 and 31' and tie bars 32. Each upright 31 or 31' has a channel groove 33 fitted to slide on the ways 28. The upright 31 has pulleys 34 and 35 mounted thereon in line with a pulley 36 on the shaft 29 and spaced pulleys 37 and 38 on the frame and a belt 39 runs over these pulleys, see Figs. 1, 2, 5, 7 and 17. By this arrangement the roller 26 is continuously rotated as the carriage or frame 30 moves back and forth. An electric motor 40, mounted below the table 22, has a drive shaft 41 carrying a pulley 42 connected by a belt 43 to a pulley 44 on a shaft 45 upon which the pulley 38 associated with the second unit E is mounted. This shaft also carries a pulley 46 connected by a belt 47 to a pulley 48 mounted on a shaft 49 carrying the pulley 38 of the first unit B.

The lower portions of the uprights 31 and 31' are formed or provided with racks 50 meshing with gears 51 on a shaft 52 journaled in the frame 27. A drive shaft 53 of the motor 40 is connected through suitable speed reduction gearing 54 to a shaft 55, Figs. 1 to 4, inclusive. This shaft has a bevel gear 56 continuously in mesh with bevel gears 57 and 58 loosely mounted on a sleeve 59 slidably mounted but keyed by key 60 to the shaft 52. This sleeve carries a clutch disk 61 which has clutch jaw faces positively engageable with intermeshing faces on the gears 57 and 58. Moving the sleeve 59 so that disk 61 engages gear 57 causes the shaft 52 to rotate and through the racks 50 moves the carriage 30 in one direction, while the reverse movement takes place when clutch disk 61 engages gear 58. The clutch disk 61 has an annular groove in which works a shifter fork 62 having a shaft portion 63 mounted on a fixed shaft 64, see Figs. 4 and 5. An arm on portion 63 carries a pin 65 working in an inclined slot 66 in an extension 66' of one rack 130

bar 67 mounted in a guide case 68, said bar carrying a roller 69 engaging one of the cams 70 mounted on a shaft 71. This shaft 71 is continuously driven, in the same direction always, by a gear 72 affixed to the hub of gear 57 and meshing with a gear 73. The cam 70 acts to intermittently shift the rack bar 67 at the end of each half cycle of the machine and said bar, through the slot 66, pin 65 and shifter fork 62, acts similarly to shift the disk 61, with the result that the roller 26 of the unit B is reciprocated back and forth relative to the table 21. The shaft 52 of the first machine carries a bevel gear 74 meshing with a bevel gear 75 on a shaft 76 which is connected by similar bevel gearing to the shaft 52 of the unit E so that its roller carriage is moved in unison with the roller carriage of unit B.

Referring to Fig. 6, the table 21 has a tubular portion 77 slidably and rotatably mounted in a bearing 78 in a pedestal 79. A hollow shaft 80 is mounted in said tubular portion and at its upper end has a flange 81 or other suitable means to raise and lower with said table. Shaft 80 is slidably mounted on a fixed shaft 82 and has an annular flange 83 engaged by an inwardly flanged unit 84 having adjustable, threaded engagement with a cap-nut 85 to which it is locked in adjusted position by set-screw 86. A spring 87, whose tension is adjusted by adjustment of nuts 84 and 85, is interposed between the nut 85 and flange 83 and permits a yielding movement of the table. The whole assembly above described may turn on shaft 82 and upon ball-bearings 88 which are supported upon a cap-nut 89 surrounding shaft 82 and having adjustable, threaded engagement with a sleeve-nut 90 to which it is locked in adjusted position by a set-screw 91. The adjustment of nuts 89 and 90 relative to each other determines the setting of the table relative to the roller 26. The nut 90 has a shouldered tubular end 90' mounted in a yoke 92. Referring to Figs. 5 and 8, the arms of the yoke 92 extend up through openings in the pedestal and carry rollers 92' mounted in vertically disposed guide slots 93 therein. The shafts for these rollers are each connected to a link 94 which is pivotally connected at its other end 95 to an arm 96 formed as a part of a segmental gear 97, each gear being pivoted on a stud shaft 98. Each gear meshes with the teeth of the rack bars 67. Each of these bars, as previously described in connection with one of them, carries a roller 69 engaging the cam 70 on the shaft 71 which cams act to alternately raise and lower the table 21 in the same timed relation as the reciprocation of the carriage. Thus, when the roller 26 travels forwardly or toward the left, as viewed in Fig. 5, the table 21 is lowered and as said roller starts on its movement to the right the table is raised. In raising the setting-out board 99 the hide 100 thereon is

clamped between the table and the clamping bar 25 which is slidably mounted in a guide frame 101 and yieldingly urged against the work by springs 102 at each end. The raising and lowering of the table of the second unit takes place in the same way and the drive for its rack bars 67 is accomplished from the cam 70 by rods 103 connecting said bars and apertured at 104 to clear the shaft 71. The weight of each table is preferably partially counterweighted by means of counterweights 105, each connected by a cable 106 running over a pulley 107 to one of the arms of the yoke 92, see Figs. 5 and 8.

Referring to Figs. 4 and 6, the table-turning mechanism includes a grooved cam 108 engaged by a roller 109 carried intermediate the ends of a lever 110 pivoted at 111 and operatively connected at its upper end by a link 112 to a rack bar 113 of the first unit and by a link rod 114 to a similar rack bar of the second unit. Each rack bar 113 is mounted in a guide case 115 formed as part of the pedestal and engages a long gear 116 formed as a part of the tubular portion 77 of the table. Referring to Figs. 3 and 4, the cam 108 is keyed to a hollow shaft 117 loosely mounted on the shaft 71 and having an internal gear 118 keyed thereto meshing with an idler gear 119 journaled on a shaft carried in a fixed bracket 120 and meshing with a gear 121 keyed to the shaft 117. This gearing provides a four to one reduction between the shafts 71 and 117. The four turning movements previously referred to are carried out by a single revolution of the cam 108. Referring to Fig. 6, when the cam 108, moving in a clockwise direction, moves from the position shown to a position where the part 122 passes by the roller, the rack 113 is moved to turn the table one hundred and eighty degrees. Thereafter the part 123 passes the roller and the rack 113 is moved to turn the table further through ninety degrees. Then the part 124 passes the roller and the rack moves back to turn the table back one hundred and eighty degrees and thereafter the part 125 passes the roller and the rack moves back the remaining ninety degrees to bring it back to the starting point, these turning movements taking place at the time the table is in its lowered position and the dwells in the cam hold the table against turning during the periods the table is in a raised position. Thus the pressing and stretching roller 26 makes four passes over the hide during the time the cam 108 makes one complete revolution and acts as previously described to set out the hide on the board.

The mechanism for progressively feeding the board and the hide or hides thereon through the machine will now be described.

In Fig. 1 it will be noted that each table has two sets of radially disposed slots 130 and

at each side of each table there is a frame member 131, which frame members are all connected by bars 132 running the length of the machine and by cross tie bars 133 at the front end and near the delivery end of the machine to form a carrier unit. Referring to Figs. 3, 9 to 13, inclusive, and 16, a finger 134 projects inwardly from each end of each frame member and works under, through and above one of the slots 130. The bars 132 carry rollers 135 at spaced intervals running on the horizontal portions of tracks 136 extending the length of the machine and rollers 137 at spaced intervals running on the vertical portions of the track 136, to prevent side thrust. The carrier unit is intermittently reciprocated during the time the fingers 134 are above or below the tables by means of a grooved cam 138 mounted on the shaft 117 and having a roller 139 working therein carried by a bar 140 slidably mounted in a guide 141 and having a rack extension 142 meshing with a segmental gear 143 on an oscillatory shaft 144 which carries a lever 145 connected by a link 146 to a grooved roller 147 which, to relieve side thrust, rides on a fixed rail 148 and works in a vertically disposed slot 149 in a bracket 150 secured to the front end portion of the carrier. The fingers 134 are raised and lowered intermittently by the raising and lowering of the tracks 136. At suitable intervals along the machine, on each side, brackets 151 are mounted and a bell crank lever 152 is pivotally mounted in each bracket. One arm of each lever 152 carries a roller 153 engageable with the underside of the track and the other arm is operatively connected to a rod 154 extending lengthwise of the machine. The rod 154 on each side of the machine is connected by a crank arm 155 to a shaft 156 which carries a lever arm 157 connected by a link 158 to a lever 159 pivoted at 160 and carrying a roller 161 engaging a cam 162 on the shaft 117 (see Figs. 4 and 6).

In connection with the rollers 69, the uncounter-weighted weight of each setting-out table acts through the mechanism associated therewith to hold said rollers against the cams 70 and, in connection with the cam 162, the weight of the tracks and the carrier units associated therewith acts to hold the roller 161 in engagement with said cam.

The supports for the stationary tables 21, 22 and 24, as shown in Figs. 10 and 13, include a central casting 163 which, in each instance, is secured to inwardly extending channel bars 164 that connect at their outer ends to brackets 165 and 166, respectively secured to the main frame of the machine, the fingers 134, as shown in Fig. 16, working above these bars.

To properly guide the tracks 136 in these up and down movements there are provided at suitably spaced intervals along the ma-

chine, brackets 167, shown in Figs. 10, 15 and 18. Each bracket 167 is provided with a vertically disposed slot 168 in which a roller 169 works, the roller being carried on a plate 170 secured to the track 136.

With the above described feeding mechanism, when the tracks 136 are raised by the cam 162 the fingers 134 of each unit of the carrier move up through the slots 130 in the table with which that unit is associated and above said table, thereby moving the setting-out board previously deposited thereon upwardly above the table. The cam 138 then acts through the mechanism previously described to turn shaft 144 and lever 145 and through link 146 move the carrier toward the delivery end of the machine until the fingers 134, initially associated with table 20, register with slots 130 in the next table 21 and the other fingers of each unit correspondingly register with the slots in the tables of the next unit. Then the tracks 136 lower and the fingers 134 move down through the slots in the tables, depositing the setting-out boards in their new positions and then, in lowered position, move back to their original position, ready for the next feeding cycle. Thus the feeding mechanism advances the setting-out board with the hide or hides thereon step by step from one table to another until the setting-out board, with the hides set out on opposite sides thereof, is delivered by the last unit of the feed carrier from the table 24. The upward movement of the fingers 134 through the tables takes place at the time the tables 21 and 23 are being lowered on the completion of the last working pass of the rollers 26, it being noted that the total lift of these tables to bring them into operative position relative to the rollers 26 is greater than the lift of the fingers 134 so that clearance between the rollers 26 and the boards on the carrier permits the movement of the carrier. As soon as the table lowers past the height of the raised fingers the carrier moves forward or toward the right, as viewed in Fig. 1, at which time the table is being turned through its last ninety degree movement to bring it to its initial position. Then, as the tables 21 and 23 are raised, the fingers 134 are lowered so that the setting-out boards, with the hides thereon, are in position on the tables when the tables are raised to hide clamping position at the time the rollers 26 are just starting to move toward the right, it being noted that this action of the feeder takes place at the time the rollers 26 are moving toward the left on their non-working stroke.

It will be noted that these pressing and stretching rollers 26 are provided with a plurality of spiral blades 171 which are arranged somewhat like the teeth of herringbone gears, with the result that when those blades rotating in a counter-clockwise direction engage

the hide and the carriage 30 moves toward the right, as viewed in Fig. 1, the hide is progressively stretched both in a forward and lateral direction of the advancing roller throughout the entire dimension of the hide, which may be either widthwise or lengthwise, depending upon the position of the table.

With the above described apparatus, the operator A places a board on the table 20 and spreads a moist hide on said board during the time that the unit B is working on another hide. Then this board and hide are moved by the carrier to the unit B at the time the setting-out board, with the hide that has just been set out by unit B, is moved by the carrier to table 22. While unit B is operating to set out the second hide the operator A is getting another board and hide in feeding position and operators C and D are slicking out such portions of the first hide as need attention and turning the board and placing another hide thereon. Thereafter, while the third board, with the hide thereon, is moving to unit B, the second board, with its hide set out thereon, is moving to table 22 and the first board, with the set out hide on the bottom and another hide on the top, is moving to unit E. Thereafter unit B sets out the hide on the third board while unit E sets out the second hide on the first board while operator A is preparing the fourth board and operators C and D are working on the third board. In the next feeding movement the first board with hides set out on both sides thereof is placed on table 24 and finished by operator F and removed from the machine while another hide and board is being prepared for the apparatus by operator A and the fourth board, with the hide thereon, is receiving attention from operators C and D. Thus five setting-out boards with the hides thereon are in process through the machine at every cycle thereof.

As the general operation of each of the operating units B and E has been previously described and as a detailed explanation of the roller drive, the feed of its carriage, the raising and lowering and turning of the tables has been given, further description is deemed unnecessary.

I desire it to be understood that this invention is not to be limited to any particular arrangement or construction of parts except in so far as such limitations are included in the claims.

What I claim as my invention is:

1. In an apparatus of the character described, the combination with supporting means for a setting-out board and hide, of means for successively applying pressure to the hide while on the setting-out board progressively along one entire dimension and then along the other dimension while simul-

taneously stretching the hide in both directions.

2. In an apparatus of the character described, the combination with supporting means for a setting-out board and hide, of means for successively setting out half sections of the hide along one entire dimension and then setting out half sections of the hide along its other entire dimension while simultaneously stretching the hide in both directions.

3. In an apparatus of the character described, the combination with a support for a setting-out board and hide, a stretching and pressing roller engageable with the hide, means for rotating said roller, power driven means for moving said support relative to said roller whereby said roller may be engaged with or disengaged from the hide, and means for clamping the hide engageable therewith when the roller engages the hide and disengaged therefrom when the roller is free of the hide.

4. In an apparatus of the character described, the combination with a support for a setting-out board and hide, a stretching and pressing roller engageable with the hide, means for rotating said roller and moving it relative to said support, power driven means for moving said support relative to said roller whereby said roller may be engaged with or disengaged from the hide, power driven means for shifting said support to present different portions of the hide to the roller for working, and means for clamping the hide engageable therewith when the roller engages the hide and disengaged therefrom when the roller is free of the hide.

5. In an apparatus of the character described, the combination with a supporting table, means for raising and lowering said table, means for holding a hide against slippage in the raised position of said table, a pressing and stretching roller engageable with the portion of the hide presented for working, means for rotating said roller, means for causing relative feeding movement between the roller and that portion of the hide presented for working, and means for intermittently turning said table in timed relation to said feeding movement for presenting different portions of the hide for working.

6. In an apparatus of the character described, the combination of devices for respectively setting out a hide on each side of a setting-out board, a feeding station between said devices, a feeding station for the first device, and power-actuated means for progressively and intermittently carrying the setting-out board with a hide thereon from the feeding station for the first device to the first device, then to the second feeding station and, with the hides thereon, to the sec-

ond device and delivering said board with the hides thereon from the second device.

7. In an apparatus of the character described, the combination of devices for respectively setting out a hide on each side of a setting-out board, a feeding station between said devices, a feeding station for the first device and a delivery station for the second device, and power-actuated means for progressively and intermittently carrying the setting-out board with a hide thereon from the feeding station for the first device to the first device, then to the second feeding station and, with the hides thereon, to the second device, then to said delivery station and then away from said delivery station.

8. In an apparatus of the character described, the combination of a setting-out device including a support provided with slots, pressing and stretching means for setting out the hide on the setting-out board while on said support, an assembly support provided with slots, a carrier including board-carrying fingers working under, through and above said slots, and means for reciprocating said carrier and raising and lowering the same relative to said supports whereby the board with the hide thereon is transported from said assembly support to said second named support of said machine and thereafter removed from said support.

9. In an apparatus of the character described, the combination of a setting-out device including a support provided with slots, pressing and stretching means for setting out the hide on the setting-out board while on said support, a carrier including board-carrying fingers working under, through and above said slots for depositing the board upon said support and removing it therefrom after the setting out operation.

10. In an apparatus of the character described, the combination of a pressing and stretching roller, means for rotating said roller, a yieldingly mounted table for receiving the setting-out board with the hide thereon, a yieldingly mounted clamping means cooperating with said table to hold the board and hide to prevent slippage of the hide relative to said board, and means for moving said table and roller relative to each other for pressing and stretching the hide on said board.

11. In an apparatus of the character described, the combination of a pressing and stretching roller, means for rotating said roller, means for reciprocating said roller, a table adapted to be raised and lowered and turned about its axis, power driven means for raising and lowering the table, and power driven means for intermittently turning said table to bring different portions of the hide on the setting-out board into contact with said roller.

12. In an apparatus of the character de-

scribed, the combination of a pair of setting-out devices, each including a pressing and stretching means, and supporting means for bringing the hide on the setting-out board to a working position, means for raising and lowering said supporting means and turning the same, and a single set of timing members for the last named means of both devices.

13. In an apparatus of the character described, the combination of a pair of setting-out devices, each including a pressing and stretching means and supporting means for bringing the hide on the setting-out board to a working position, and means for raising and lowering said supporting means and turning the same including a single set of cams for both devices.

14. In an apparatus of the character described, the combination of a pair of setting-out devices for respectively setting out a hide on each side of a setting-out board, a feeding station between said devices, and means for progressively and intermittently removing a board with the hide thereon from the first device and delivering it to said feeding station and then delivering said board with hides on both sides thereof to the second device.

15. In an apparatus of the character described, the combination of a supporting frame, a supporting means for the setting-out board with the hide thereon, a reciprocating carriage, a pressing and stretching roller mounted on said carriage and movable into engagement with said hide to set it out on said board, and means including a belt drive between said roller and frame for continuously rotating the roller as said carriage reciprocates.

16. In a machine of the character described, the combination of a supporting table for a setting-out board and hide-clamping means cooperating with said table to hold said hide against slippage, means for yieldingly supporting said table, means for varying the height of said table, means for raising and lowering said table, means for turning said table, and pressing and stretching means engageable with the hide to set the same out on the board with the table in elevated position.

In testimony whereof, I affix my signature.
WILLIAM C. JOHNSON.

CERTIFICATE OF CORRECTION.

Patent No. 1,763,359.

Granted June 10, 1930, to

WILLIAM C. JOHNSON.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 5, line 65, claim 4, after "other" insert "entire"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 22nd day of July, A. D. 1930.

(Seal)

**Wm. A. Kinnan,
Acting Commissioner of Patents.**