

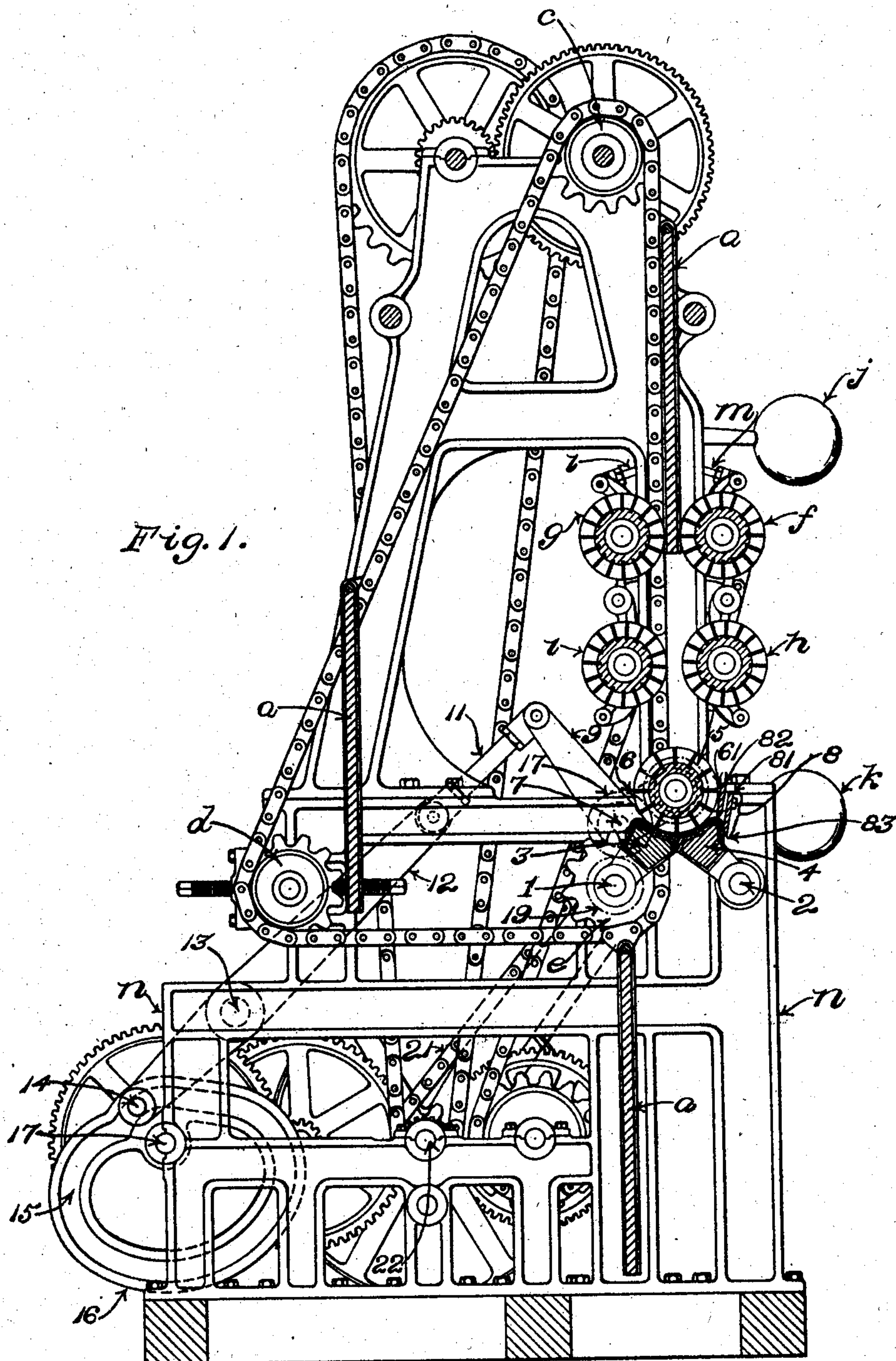
No. 795,990.

PATENTED AUG. 1, 1905.

H. W. LE FAVOR.
LEATHER WORKING MACHINE.

APPLICATION FILED AUG. 16, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Oscar F. Hill
Alvin Tarr

Inventor:

Harry W. Le Favor
by Machod, Calver & Raudall
Attorneys.

No. 795,990.

PATENTED AUG. 1, 1905.

H. W. LE FAVOR.
LEATHER WORKING MACHINE.
APPLICATION FILED AUG. 16, 1904.

2 SHEETS—SHEET 2.

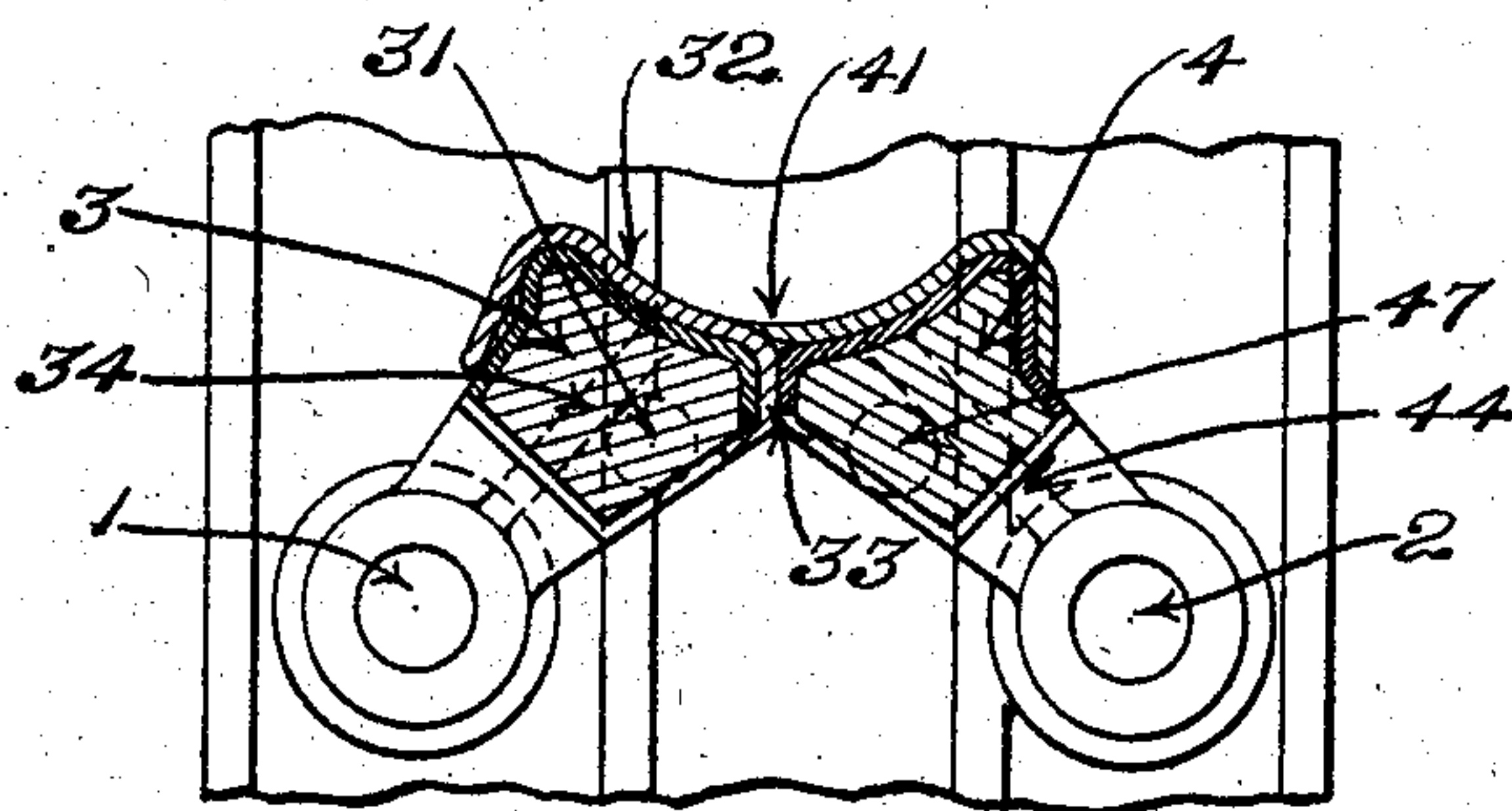


Fig. 2.

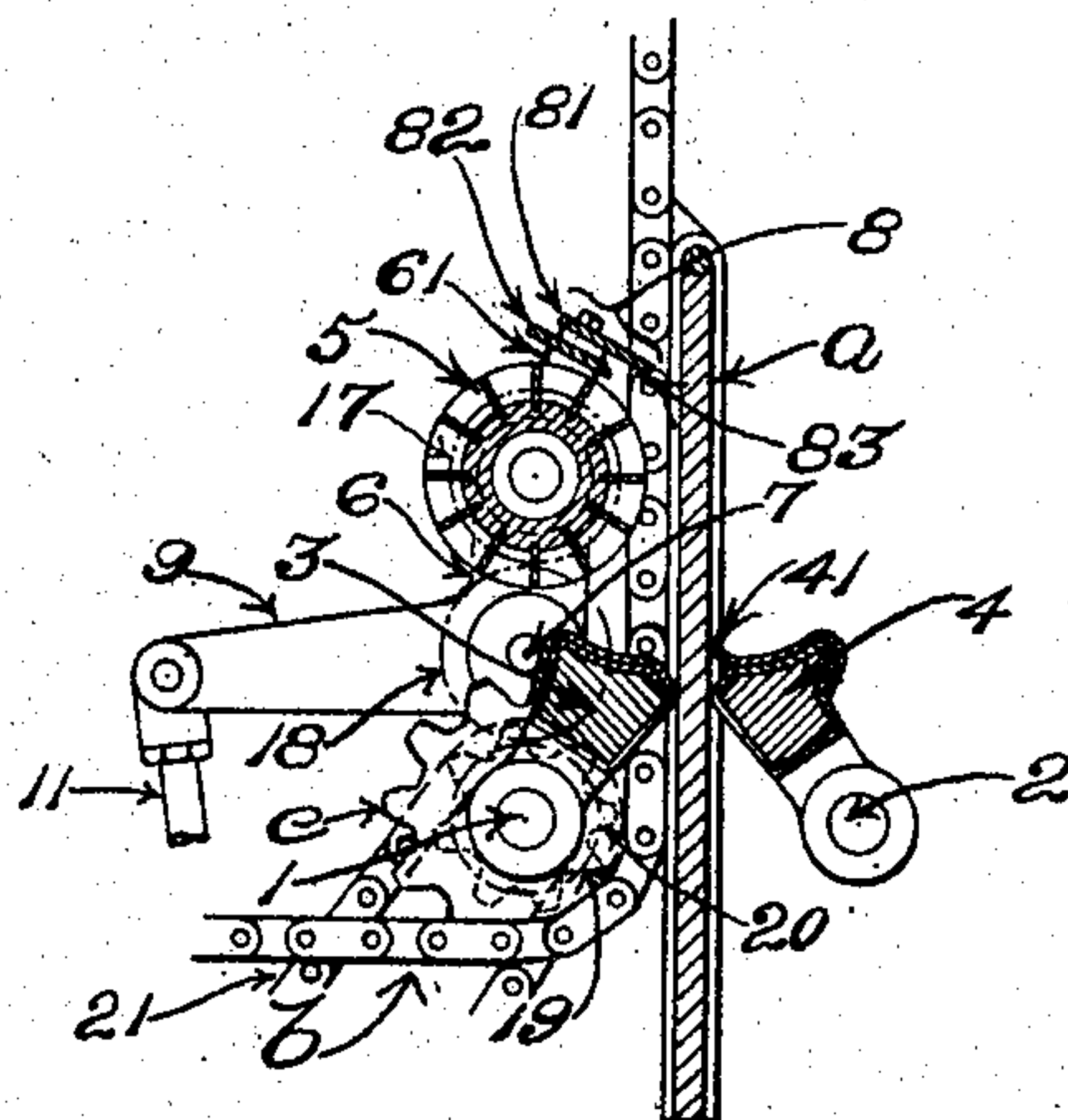


Fig. 3.

Witnesses:
Oscar F. Hill
Aline Farr

Inventor.
Harry W. Le Favor
by Macleod, Calver & Maudall
Attorneys.

UNITED STATES PATENT OFFICE.

HARRY W. LE FAVOR, OF SALEM, MASSACHUSETTS, ASSIGNOR TO
VAUGHN-ROOD MACHINE COMPANY, OF PEABODY, MASSACHU-
SETTS, A CORPORATION OF MAINE.

LEATHER-WORKING MACHINE.

No. 795,990.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed August 16, 1904. Serial No. 220,979.

To all whom it may concern:

Be it known that I, HARRY W. LE FAVOR, a citizen of the United States, residing at Salem, in the county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Leather-Working Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to machines for treating hides, skins, &c., especially for performing the operations of putting-out, unhairing, and setting. Its object is to provide a simple and efficient machine for the purposes specified which shall treat the entire surface of the hide at a single operation.

Heretofore hides have been frequently treated in machines of the general character of that shown in the patent to Franklin J. Perkins, No. 746,144, dated December 8, 1903, and of the type generally known as "serial-table putting-out machines." In these machines no difficulty has been experienced in working the portions of the hide which lie along the sides of the work-table, but great difficulty has been found in satisfactorily working the portion of the hide which lies over and about the end of the table. My present invention provides a simple and efficient machine for treating this portion as well as the sides of the hide at the same operation.

In the drawings, Figure 1 is a vertical section of a putting-out machine embodying my invention. Fig. 2 is a detail of the pad. Fig. 3 is a detail showing the parts in a different position.

Referring to the drawings, the character *a* indicates the serial work-tables, upon which the skins or hides are thrown to be worked. These tables or supports are carried by the endless belt *b*, running over the sprocket-wheels *c*, *d*, and *e*. On each side of the line of movement of the tables are placed two pairs of operating-rolls *f g* and *h i*, having helical blades of the well-known form. These operating-rolls are pressed against the skin or hide upon the tables by means of the well-known weighted levers *j* and *k* and toggles *l* and *m* and serve to work the sides of the hide or skin on the work-support as it passes between the pairs of operating-rolls. The operating-rolls, endless belt, and other moving parts are given proper motions in the well-known manner.

All of the parts of the machine so far described are old and form no part of my invention. It is therefore unnecessary to describe these parts with greater particularity.

In order that the portion of the hide or skin which lies over the end of the work-support may be thoroughly worked or put out, I provide the following mechanism, which operates upon the skin or hide prior to the time when it is taken up by the table and before it passes between the two pairs of operating-rolls mentioned above. This mechanism consists, essentially, in an auxiliary operating-tool 5 and a work-support or pad, upon which the skin or hide is placed for the preliminary operation. This pad is composed of two halves 3 and 4 and pivoted at 1 and 2 to suitable portions of the frame *n* of the machine. When the work-table *a*, attached to the endless belt *b*, reaches a point such that the end of the work-table strikes the under side of the two halves 3 and 4 of the pad, (see Fig. 3,) it forces the two halves to swing about their pivots 1 and 2 and open up or separate, thus allowing the work-table to pass through and upward between the pairs of operating-rolls *f g* and *h i*. As the table passes between the two halves 3 and 4 of the pad it picks up the skin from the pad and carries it upward to be treated by the other operating-rolls. When the work-table has passed between the halves 3 and 4 of the pad, they fall back into place by reason of their weight and are ready to receive another hide or skin. The halves 3 and 4 of the pad are made up of a foundation of wood or metal covered with felt and leather or other suitable materials, as may be desired, to form a slightly-yielding surface upon which the hide may be supported during the preliminary working operation. The upper face of the two halves 3 and 4 of the pad when the halves are in the position shown in Fig. 1 conforms to the periphery of the auxiliary operating-tool 5, so that a skin or hide which is thrown over the pad may be suitably worked by the auxiliary operating-tool 5, which is suitably supported upon a pair of arms 6, pivoted at 62 to the frame of the machine. The auxiliary operating-tool 5 rotates in the direction indicated by the arrow in Fig. 1. In order that the skin or hide may be perfectly supported throughout the entire surface of the two halves 3 and 4 of the pad, I make the leather covering of the half 4 as

shown in Fig. 2, with its inner edge skived off thin, so that a flap 41 is formed, which rests upon the proximate portion of the half 3 when the halves are in the operative position. The other half 3 is completely covered with the leather over the top and side next to the half 4, as shown at 32 and 33. After the hide has been treated the operating-tool is moved to another position, as will be hereinafter later described. Considerable pressure is exerted upon the two halves 3 and 4 of this pad by the operating-tool 5, and if no support other than the pivots about which they move were provided they might become wedged together, so that they would not separate readily when necessary. I have, therefore, provided projections 31 and 47, attached to the frame of the machine, which engage the ribs 34 and 44 on the ends of the halves 3 and 4, as shown in Fig. 2, and take the pressure applied to the hide-supporting pad, thus obviating all danger of the parts becoming wedged. In order that the skin may not slip upon the pad during the process of working, I provide a clamp 8, which is attached to an extension 61 of the arm 6. This clamp 8 is made up of a pair of clamp-bars 81 and 82. The clamp-bar 82 is bolted directly to the ends of the extensions 61 on the arm 6 and has a rounded lower edge which holds the hide firmly against the upper surface of the half 4 of the hide-supporting pad. The other clamp-bar 82 has its surface slightly beveled, as shown at 83, and this surface presses the hide against the back side of the half 4 of the hide-supporting pad. By the use of the two clamp-bars 81 and 82 the hide is held in two places against the pad and all danger of slipping is avoided.

In order that the operating-tool 5 may be out of the path of the work-table when it is no longer in use, I provide a lever-arm 9, fast to the shaft 7, upon which are mounted the two arms 6, which carry the operating-tool 5. This arm 9 is connected by a link 11 to one end of a cam-lever 12, which is pivoted at 13 to the frame *n* of the machine. The lower end of the cam-lever 12 is provided with a roller 14, which travels in the slot 15 of the cam 16, fast upon the shaft 17. The slot 15 in the cam 16 is so laid out that the operating-tool 5 is held out of contact with the hide on the pad and out of the path of movement of the work-table for a time sufficient to allow the operator to place a fresh hide upon the pad, when the operating-roll is lowered by the cam to its operative position, where it is held for a sufficient length of time to work the hide, when it is again lifted by the cam to permit the movement of the next work-table up between the halves of the pad and to permit the operator to place upon the pad the next skin or hide.

In order that the operating-tool 5 may be given the proper rotation necessary to work

the skin, a gear 17 is placed upon the end of the shaft of the operating-tool and meshes with another gear 18, loose on the shaft 7, about which the operating-tool 5 revolves when it is moved upward out of its operative position. The gear 18 in turn meshes with gear 19 on the shaft 1. The gear 19 has a sprocket 20 on its hub, and the two are loose on the shaft 1 and are driven by a chain 21 from a sprocket on the main shaft 22 of the machine. By this means driving apparatus for the operating-tool is provided, so that the operating-tool is kept in motion no matter what position it is in with regard to the shaft 7, about which it revolves.

What I claim is—

1. In a machine of the character described, in combination, an auxiliary operating-tool for working a skin or hide, and a two-part pad for the support of the skin or hide during its working by the auxiliary operating-tool.

2. In a machine of the character described, in combination, an auxiliary operating-tool for working a skin or hide, and a pad composed of two parts supported on pivots and adapted to be moved about the said pivots and out of the path of movement of the work-tables when necessary.

3. In a machine of the character described, in combination, a table or work-support, means to move it, operating-tools for working the sides of the skin or hide upon the table, an auxiliary operating-tool, and a two-part pad to support the skin or hide during the engagement with the auxiliary operating-tool.

4. In a machine of the character described, a table or support for a skin or hide movable in an endless path, means to move it, operating-tools for working the sides of the hide located on opposite sides of the path of movement of the said table or support, an auxiliary operating-tool for working a portion of the hide, and a two-part pad to support the skin or hide during its engagement with the auxiliary operating-tool.

5. In a machine of the character described, in combination, the table or support for the hide or skin, means to move it, operating-tools for working the sides of the hide or skin, an auxiliary operating-tool, a two-part pad for the support of the skin during the working by the auxiliary operating-tool, and means adapted to move the auxiliary operating-tool from the path of movement of the table or support after the preliminary working operation.

6. In a machine of the character described, in combination, a table or work-support movable in an endless path, means to move it, operating-tools to work the sides of the skin or hide upon the table, an auxiliary operating-tool, a pad composed of two halves pivoted on opposite sides of the path of motion of the said table or work-support, and means adapted to move the auxiliary operating-tool out

of the path of movement of the said table when the table is passing between the halves of the said pad.

7. In a machine of the character described, in combination, a table or work-support movable in an endless path, operating-tools to work the sides of the skin or hide upon the table, an auxiliary operating-tool, a pad composed of two halves pivoted on opposite sides of the path of motion of the said table or work-support, means adapted to move the auxiliary operating-tool out of the path of movement of the said table when the table is passing between the halves of the said pad, and a clamp to hold the skin from moving during the working by the auxiliary operating-tool.

8. In a machine of the character described, in combination, a table or work-support movable in an endless path, operating-tools to work the sides of the skin or hide upon the table, an auxiliary operating-tool, a pad composed of two halves pivoted on opposite sides of the path of motion of the said table or work-support, means adapted to move the auxiliary operating-tool out of the path of movement of the said table when the table is passing between the halves of the said pad, and a clamp cooperating with one of the halves of the said pad to hold the skin from moving during the working by the auxiliary operating-tool.

9. In a machine of the character described, in combination, a table or work-support movable in an endless path, operating-tools to

work the sides of the skin or hide upon the table, an auxiliary operating-tool, a pad composed of two halves pivoted on opposite sides of the path of motion of the said table or work-support and adapted to be displaced from their operative position by the movement of the table or work-support, a cam movable in response to the movements of the rest of the machine, and connections between the cam and the said auxiliary operating-tool whereby the said tool is moved from the path of the said table when the table is passing between the halves of the said pad.

10. In a machine of the character described, in combination, means for working the various portions of a skin or hide, a divided work-support or pad for supporting the skin or hide while a portion of it is being worked, and a work-table for supporting the skin or hide while the remainder is being worked.

11. In a machine of the character described, in combination, operating-tools for working the various portions of a skin or hide, a longitudinally-divided work-support or pad for supporting the skin or hide while a portion of it is being worked and serial work-tables for supporting the skin or hide while the remainder is being worked.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY W. LE FAVOR.

Witnesses:

ALBERT W. TOWNE,
HARRY M. WILKINS.