

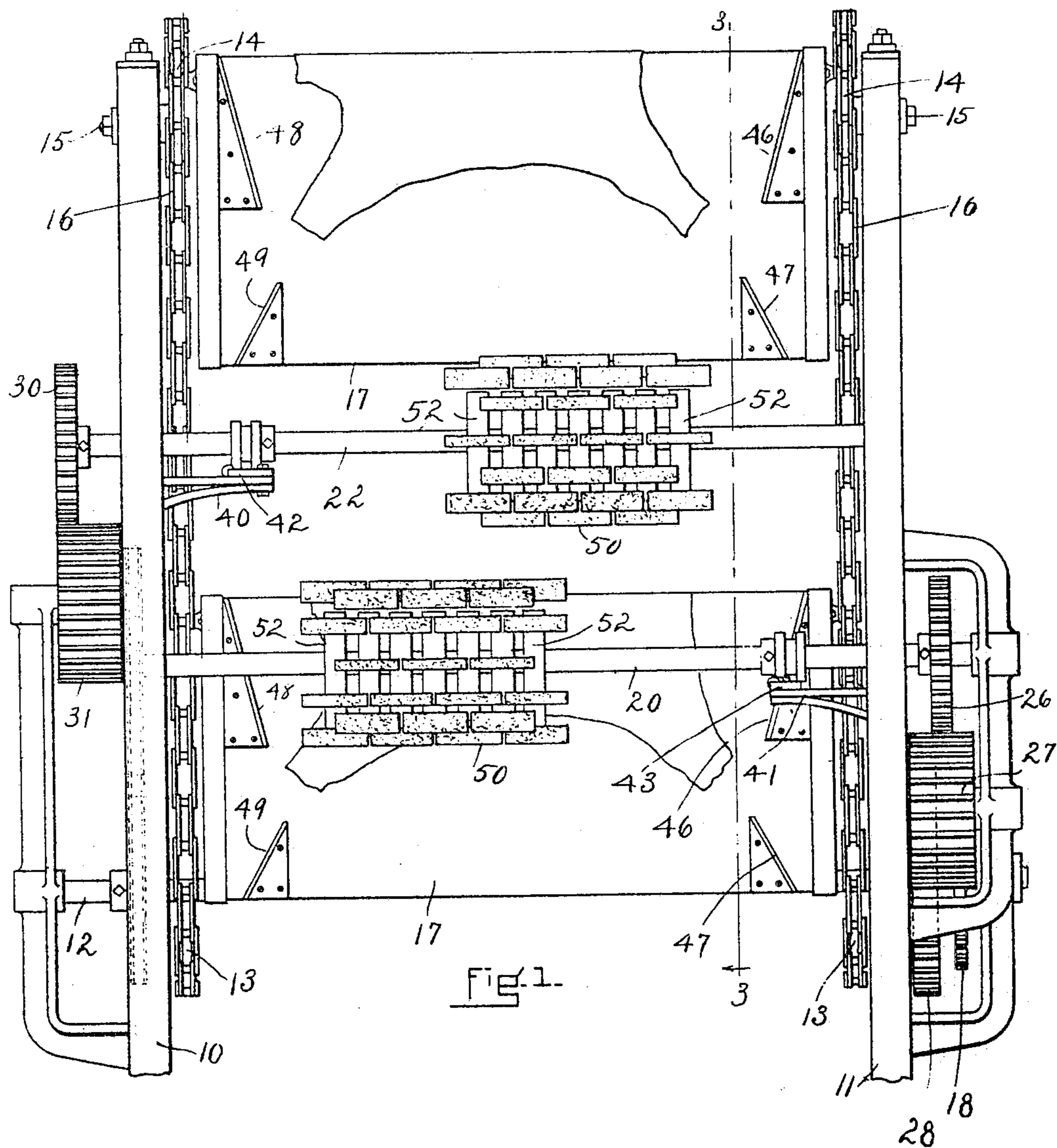
No. 798,678.

PATENTED SEPT. 5, 1905.

L. J. HIRT.  
LEATHER TREATING MACHINE.

APPLICATION FILED DEC. 29, 1902.

3 SHEETS—SHEET 1.



WITNESSES.

E. Batchelder  
P. W. Pizzetti

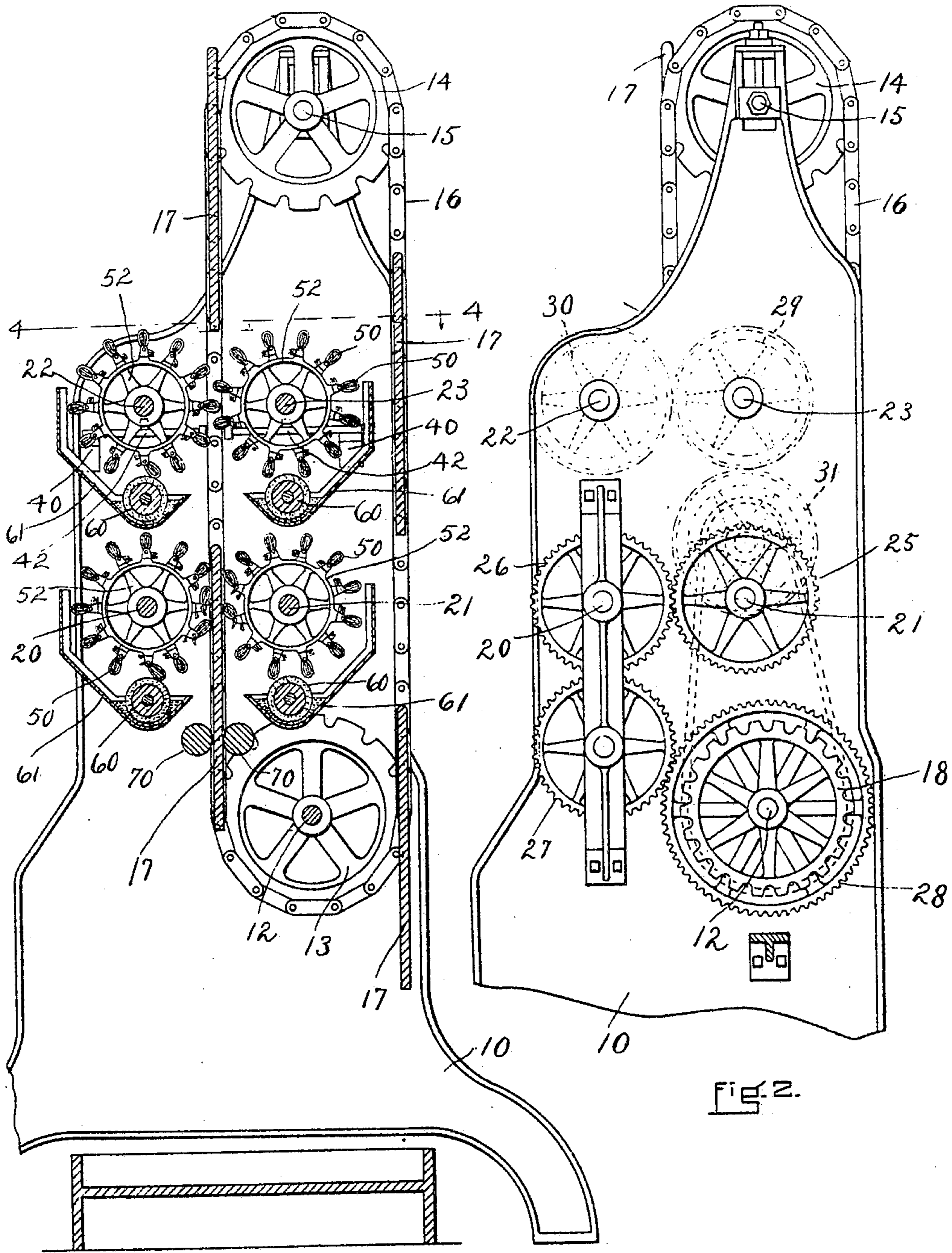
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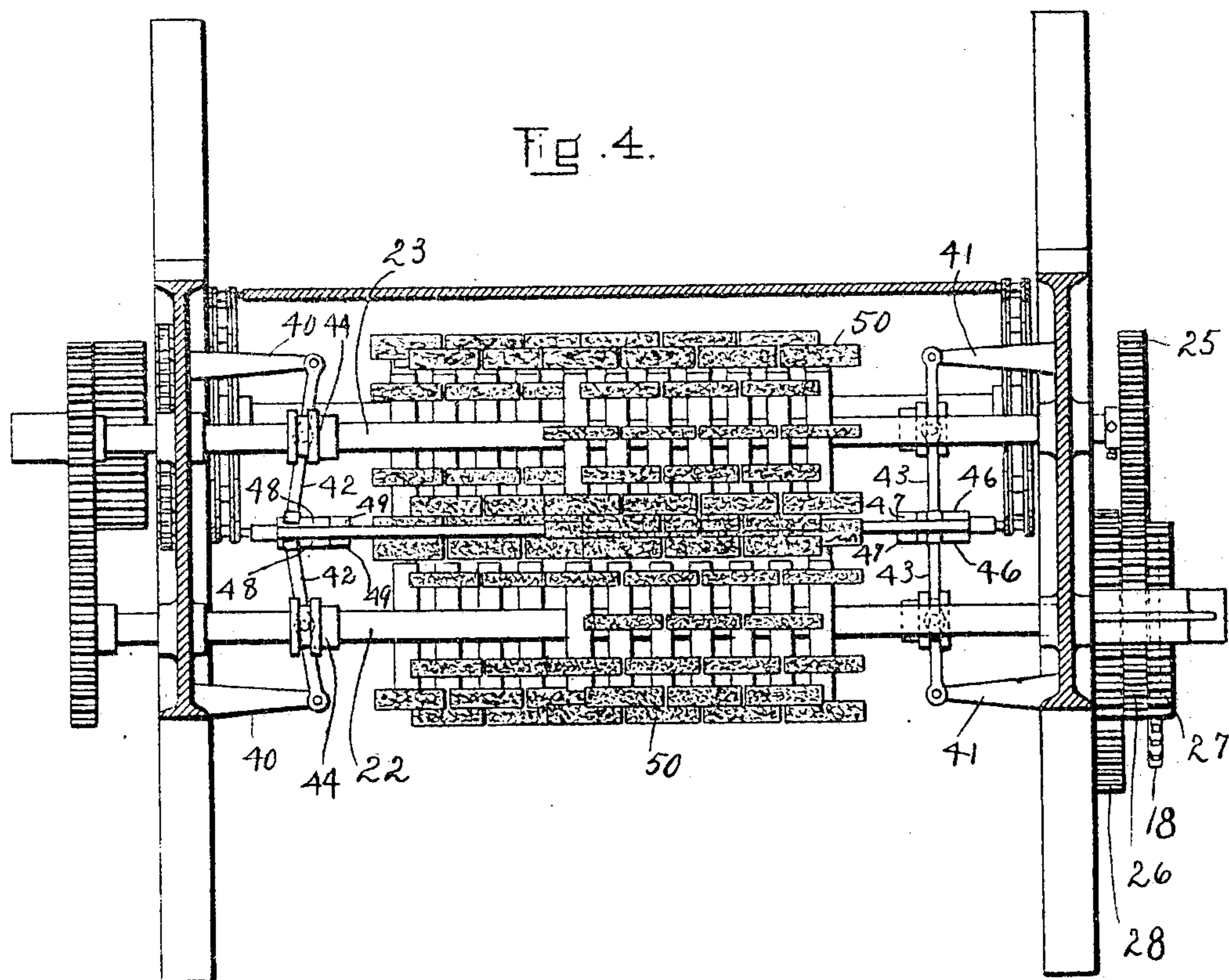
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APPLICATION FILED DEC. 20, 1902.

3 SHEETS—SHEET 3.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

LOUIS J. HIRT, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO THE  
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SETTS, A CORPORATION OF MAINE.

## LEATHER-TREATING MACHINE.

No. 798,678.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed December 29, 1902. Serial No. 136,924.

*To all whom it may concern:*

Be it known that I, LOUIS J. HIRT, of Brook-  
line, in the county of Middlesex and State of  
Massachusetts, have invented certain new and  
5 useful Improvements in Leather-Treating  
Machines, of which the following is a specifi-  
cation.

This invention has relation to machines for  
treating hides, skins, and leather, relating  
10 more particularly to that type of machines in  
which a plurality of work tables or supports  
is mounted upon an endless carrier and suc-  
cessively presented to the action of working  
members which perform the desired functions  
15 with relation to the work. The particular  
form of the members depends upon the exact  
nature of the treatment to which the hide or  
skin is to be subjected.

A skin is usually irregular in shape and is  
20 provided with four elongated leg portions  
and with a neck portion, and in machines of  
the character referred to the skin is folded  
over the end or edge of each support so as to  
lie against the two sides thereof, said skin  
25 being folded along a line connecting the neck  
portion with the tail portion. Therefore in  
order to properly treat the skin, whether it be  
in the operation of putting out, seasoning, or  
otherwise, it is desirable that the skin should  
30 be properly stretched in lines at an angle  
acute to the edge over which the skin is folded.

This invention has for its object the pro-  
vision of a machine in which the operating  
members during their engagement with the  
35 work will properly stretch the skin and re-  
move wrinkles therefrom. To this end the  
operating members are preferably movable  
in lines longitudinal of the skin or of the edge  
over which the skin is folded, and inasmuch  
40 as the skin support or table moves relatively  
thereto the result of the combined motion is  
that the skin is stretched and the shank or  
leg portions are laid flat upon the table freed  
from wrinkles. In order that this action may  
45 be accomplished upon both ends of the skin,  
the machine illustrated upon the accompany-  
ing drawings as an embodiment of the inven-  
tion is provided with two members for each  
face of the table, said members being oppo-  
50 sitely movable. Any desired mechanism may  
be employed for accomplishing the movement  
of the said members laterally of the path of  
movement of the tables, although on the ac-

companying drawings a mechanism suitable  
for the purpose is illustrated.

Referring to said drawings, Figure 1 rep-  
resents a front elevation of the machine em-  
bodying the invention, the lower portion  
being broken away. Fig. 2 represents an  
end elevation of the same with the bearing-  
60 bracket removed. Fig. 3 represents a longi-  
tudinal vertical section on the line 3 3 of Fig.  
1. Fig. 4 represents a section on the line 4 4  
of Fig. 3.

On the drawings, 10 11 represent end stand-  
ards in which is journaled a transverse shaft  
12, having driving-sprockets 13. Similar in-  
dependent sprockets 14 14 are mounted on  
stud-shafts 15, placed in adjustable bearings  
or boxes at the upper ends of the standards,  
70 as shown. Stretched between the sprockets,  
13 and 14 are endless chains 16, which con-  
stitute an endless carrier for a plurality of  
two-faced tables or supports 17. Each table  
or support may be made of impervious ma-  
75 terial if the working members be adapted for  
applying seasoning to the skin, or the tables  
may be covered with cushioning material if  
the members are adapted to put out the skin.  
The operative end or edge of each table is  
80 rounded so that the skin or hide may be folded  
thereover to lie against the two faces or sides  
thereof.

The shaft 12 may be driven by any suitable  
means. As shown in Fig. 2, it is equipped  
85 with a sprocket-wheel 18, to which power may  
be applied by means of a sprocket-wheel from  
a counter-shaft.

Two pairs of working members are em-  
ployed for treating the skin on each side or  
90 face of the table or support. In the illus-  
trated embodiment of the invention these  
members are adapted for supplying seasoning  
to the skin and rubbing it thereinto; but it  
will be understood that the invention is not  
95 limited to the particular form of members  
which has been illustrated. Each working  
member, as shown, consists of a plurality of  
operative blades or edges supported upon  
shafts. 20 21 22 23 indicate the shafts upon  
100 which the members are mounted. These  
shafts are journaled in the side standards 10  
11 and are actuated by gearing from the shaft  
12, the gearing being so arranged that the  
shafts 20 21 and the shafts 22 23 are driven  
105 in opposite directions, whereby the move-

ment of the blades during their operative stroke is opposite to the direction of movement of the tables or supports.

Briefly described, the mechanism for rotating the shafts 20 21 comprises the intermeshing gears 25 26, the gear 27 intermeshing with the gear 26, and a gear 28 on a shaft 12 driving the gear 27. For rotating shafts 22 23 the gearing includes the two gears 29 30, which intermesh, as illustrated in dotted lines in Fig. 2, and the gear 31, which is driven by sprocket mechanism from the shaft 12, as indicated in dotted lines in Figs. 1 and 2.

The shafts 20 to 23, inclusive, are longitudinally movable, and therefore in order that the gearing may constantly intermesh the gears 31 and 27 are axially elongated, as shown in Fig. 1, so that the gears 26 and 29 may be moved axially relatively thereto without being disengaged during the reciprocatory movement of the shafts 20 to 23, inclusive. For the purpose of actuating the said shafts any suitable mechanism may be employed. A simple form is illustrated upon the drawings, comprising cams on the work tables or supports adapted to engage and actuate levers in operative engagement with collars on the said shafts. Having reference to Figs. 1 and 4, it will be observed that fulcrumed on brackets 40 41, projecting inward from the standards 10 and 11, are levers 42 42 43 43. The levers 42 are engaged with collars 44, fast on the shafts 22 23. The inner ends of said levers 42 43 are adapted to be engaged by cams on the two faces of the tables or supports. A suitable shape for said cams is shown in Fig. 1. The cams for the levers 42 are mounted near one edge of the table, while those for the levers 43 are mounted at the opposite edge. The cams for effecting the operative outer stroke of the shafts 20 21 are indicated at 46, and those for returning the shafts to initial position are indicated at 47. The cams for reciprocating the shafts 22 23 are indicated at 48 49, respectively. The cams are so formed as to engage the collars 44 to reciprocate the shafts to the proper extent and at the proper speed.

The blades which constitute the several working members are indicated at 50. Each blade where it is adapted for use in a seasoning mechanism is covered with cushioning material, as indicated. Each working member comprises, in addition to the blade, a drum or other equivalent device upon which the blades are mounted to revolve. As shown, however, each drum is formed in sections 52, secured to the shaft on which they are mounted so as to rotate therewith. The blades constituting each working member break joint, as shown. In addition the blades of one working member (as that carried by shaft 23) overlap the blades forming the working member on the shaft 22. Arranged in this manner, the overlapping blades serve to properly en-

gage and treat the skin lying upon the end of the table.

The mechanism for supplying seasoning material to the working members is shown only in Fig. 3, it being omitted from Figs. 1, 2, and 4 to prevent confusion and to permit simple illustration. The mechanism comprises in each case a roll 60, journaled so as to be partially submerged in a bath of seasoning material contained within a receptacle 61. The rolls 60 are so arranged that during the rotation of the working members the blades 50 thereof may engage with the roll and be more or less impregnated with the seasoning material, so that they may properly apply it to the skin on the table and rub it thereinto. As indicated in Fig. 3, the blades 50 are capable of yielding when they strike the hide.

The operation of the machine will be readily understood. The carrier presents the tables successively to the members, and as it passes upward between the two lower members the latter are moved in one direction by the engagement of the cams 46 with the levers 43. The upper working members are moved in the opposite direction by the engagement of the cams 48 with the levers 42. After each pair of members has operated upon the work and has by a movement diagonal to the faces properly stretched the leg portions of the skin they are returned to initial position by the cams 47 49 engaging the levers 43 42. To steady the tables as they are passing between the lower working members, the rolls 70 70 may be employed, as shown in Fig. 3.

Having thus explained the nature of the invention and described a way of constructing and using the same, although without attempting to set forth all of the forms in which it may be made or all of the modes of its use, I declare that what I claim is—

1. A leather-treating machine comprising a work-support, a rotary working member having its axis of rotation substantially parallel with the surface of said support, and mechanism for effecting a relative movement of said support and said member both longitudinally and transversely of said support, the direction of the working movement being away from the point where the treatment of the piece of leather begins, whereby a stretching effect will be produced.

2. A leather-treating machine comprising a two-faced support over one edge of which the work may be folded, a working member on each side of said support, and mechanism for effecting a relative movement of the working members and said support in lines at an inclination to said edge of said support and diagonal to the face of said support.

3. A leather-treating machine comprising a work-support having a flat face adapted to receive the work; a rotary working member having its axis of rotation substantially parallel with the surface of said support, and mechan-

ism for effecting a relative movement of said member and said support in a plane parallel to said face and in lines diagonal thereof, the direction of the working movement being away from the point where the treatment of the piece of leather begins, whereby a stretching effect will be produced.

4. A leather-treating machine comprising a work-support having a face adapted to receive the work, a rotary working member having its axis of rotation substantially parallel with the surface of said support, mechanism for moving the work-support, mechanism for moving the working member laterally relatively to the path of movement of the work-support, and means for rotating said member in a direction to cause its working surface to travel in a direction opposite to the direction of movement of the work-support.

5. A leather-treating machine comprising a support having a work-receiving face, a rotary working member having a plurality of blades or edges to successively engage and treat the work, and mechanism for effecting a relative movement of the entire working member and said support in lines diagonal to said face and in planes parallel to said face.

6. A leather-treating machine comprising a support having a work-receiving face, a rotary working member having a plurality of blades or edges to successively engage and treat the work, mechanism for actuating said blades, and mechanism for effecting a relative movement of the entire working member and said support in lines diagonal to said face and in planes parallel to said face.

7. A leather-treating machine comprising a support having a work-receiving face, a pair of independently-movable bladed working members mounted to rotate on axes substantially parallel with said support and adapted to treat the work on the said face, mechanism for effecting a relative movement of said support and said members, and means for moving said members in opposite directions.

8. A leather-treating machine comprising a two-faced work-receiving table, two pairs of

oppositely-disposed bladed working members between which the support is adapted to be received, mechanism for effecting a relative movement of said support and said members, and mechanism for moving the members of each pair in opposite directions in lines transverse to the lines of the first-mentioned movement.

9. A leather-treating machine comprising a two-faced work-receiving table, two pairs of oppositely-disposed bladed working members between which the support is adapted to be received for effecting a relative movement of said support and said members, mechanism for moving the members of each pair in opposite directions in lines transverse to the lines of the first-mentioned movement, and mechanism for actuating said members to bring the blades thereof successively to working position.

10. A leather-treating machine comprising a series of work-supports, each having a flat face, an endless carrier for said supports, a rotary working member having a plurality of blades or edges, said members being movable on an axis transverse to the path of movement of the supports, mechanism for rotating said member, and mechanism for moving said member axially.

11. A leather-treating machine comprising a series of work-supports each having a flat face, an endless carrier for said supports, a rotary working member having a plurality of blades or edges covered with material for applying seasoning to the work, each member being movable on an axis transverse to the path of movement of the supports, mechanism for rotating said member, mechanism for moving said member axially, and means for supplying seasoning to said member.

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

LOUIS J. HIRT.

Witnesses:

M. B. MAY,  
GEORGE D. HALL.