

No. 736,160.

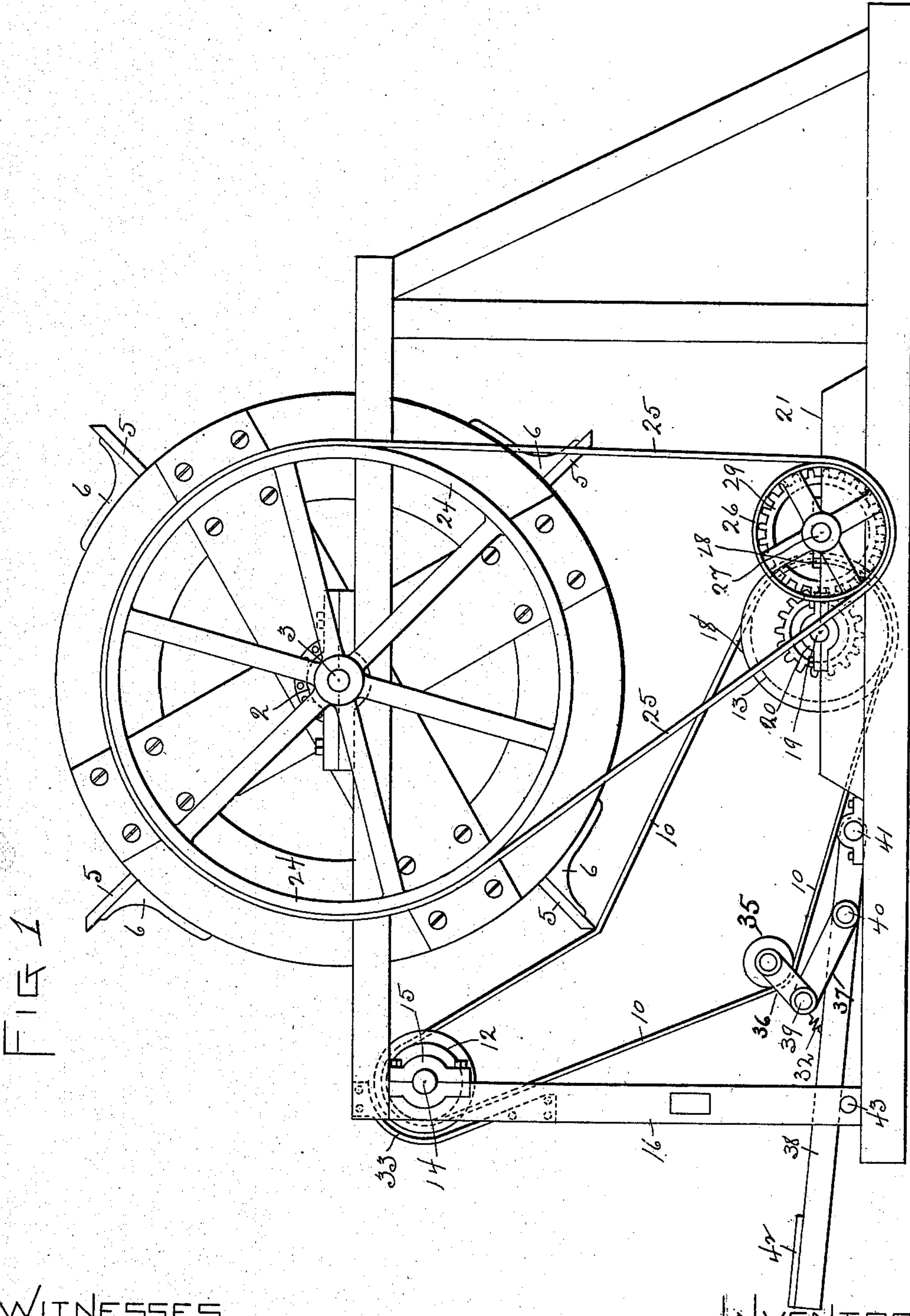
PATENTED AUG. 11, 1903.

C. SHEPARD.
LEATHER FINISHING MACHINE.

APPLICATION FILED AUG. 7, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES
Wm. S. Green
E. M. O'Reilly.

INVENTOR
Chester Shepard
By Mosher & Carter, attys.

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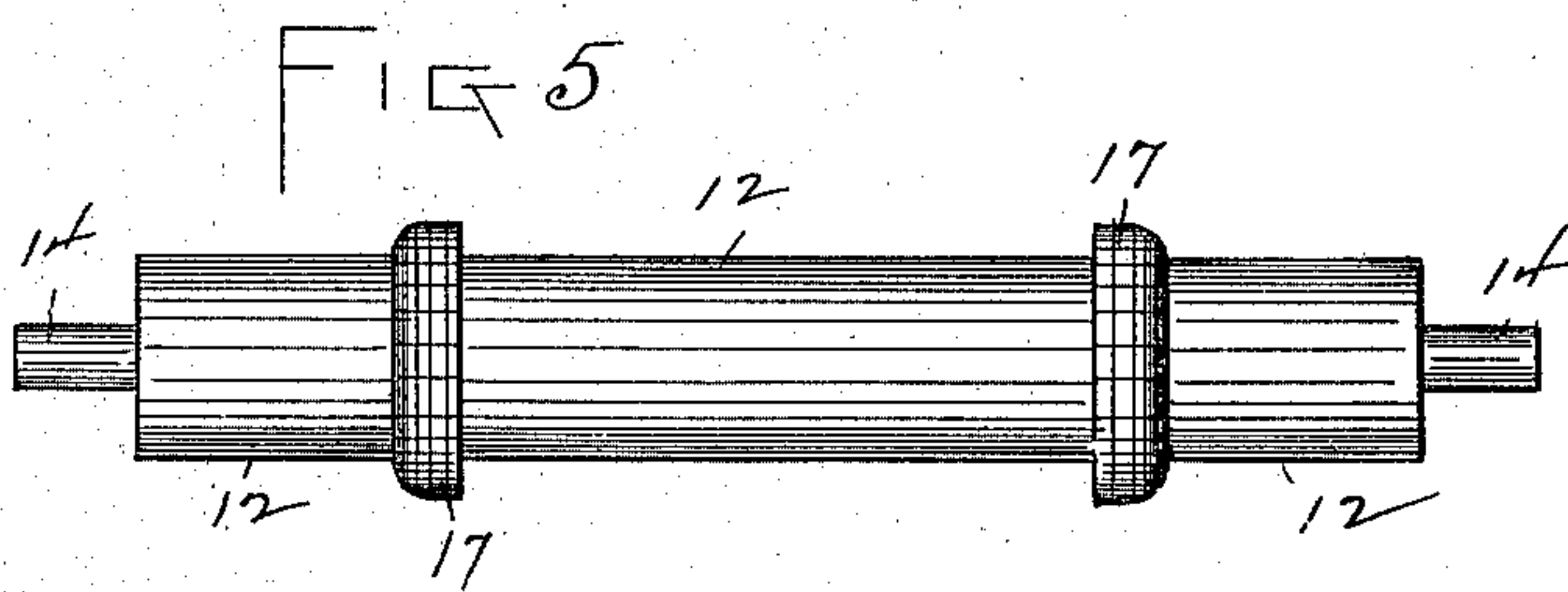
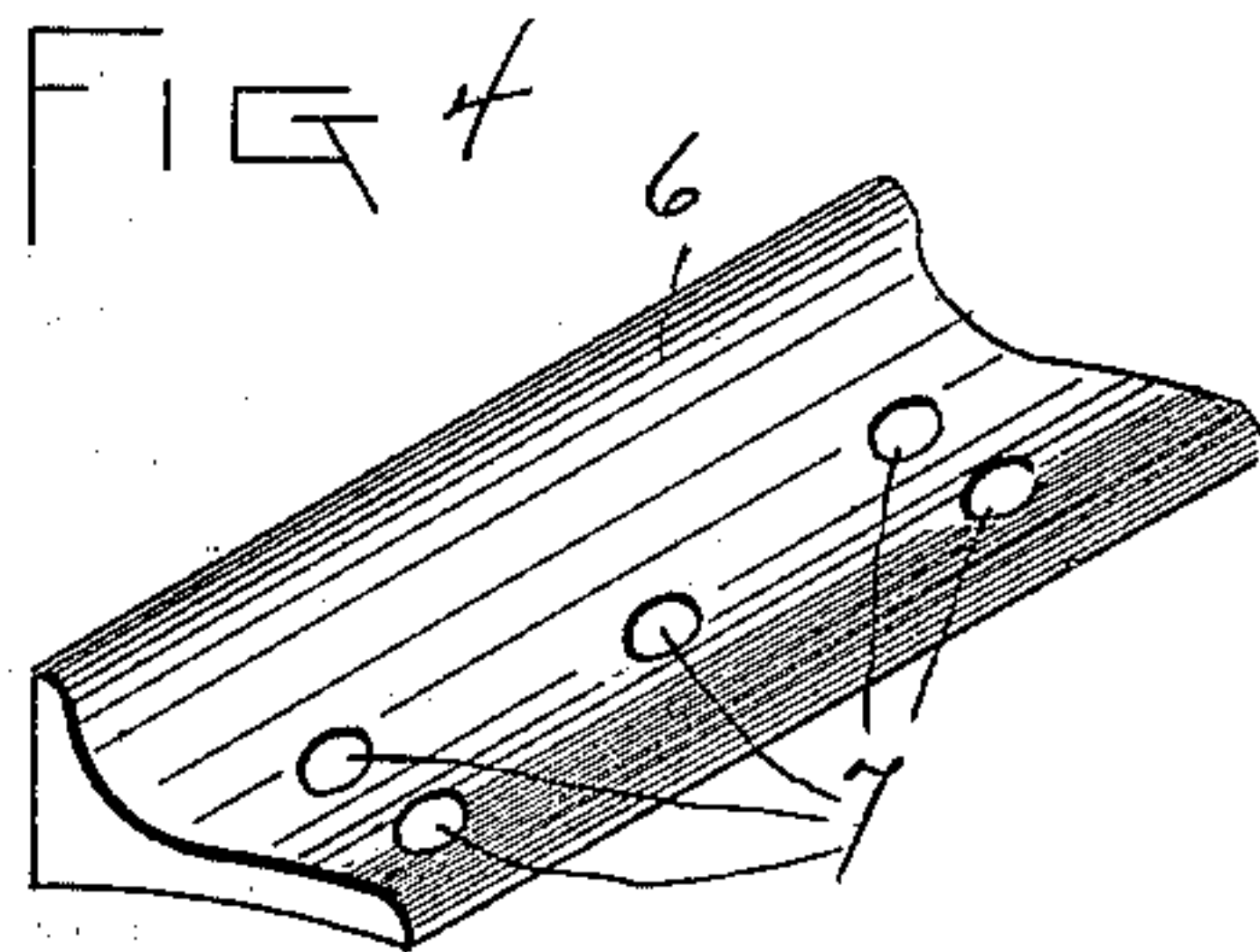
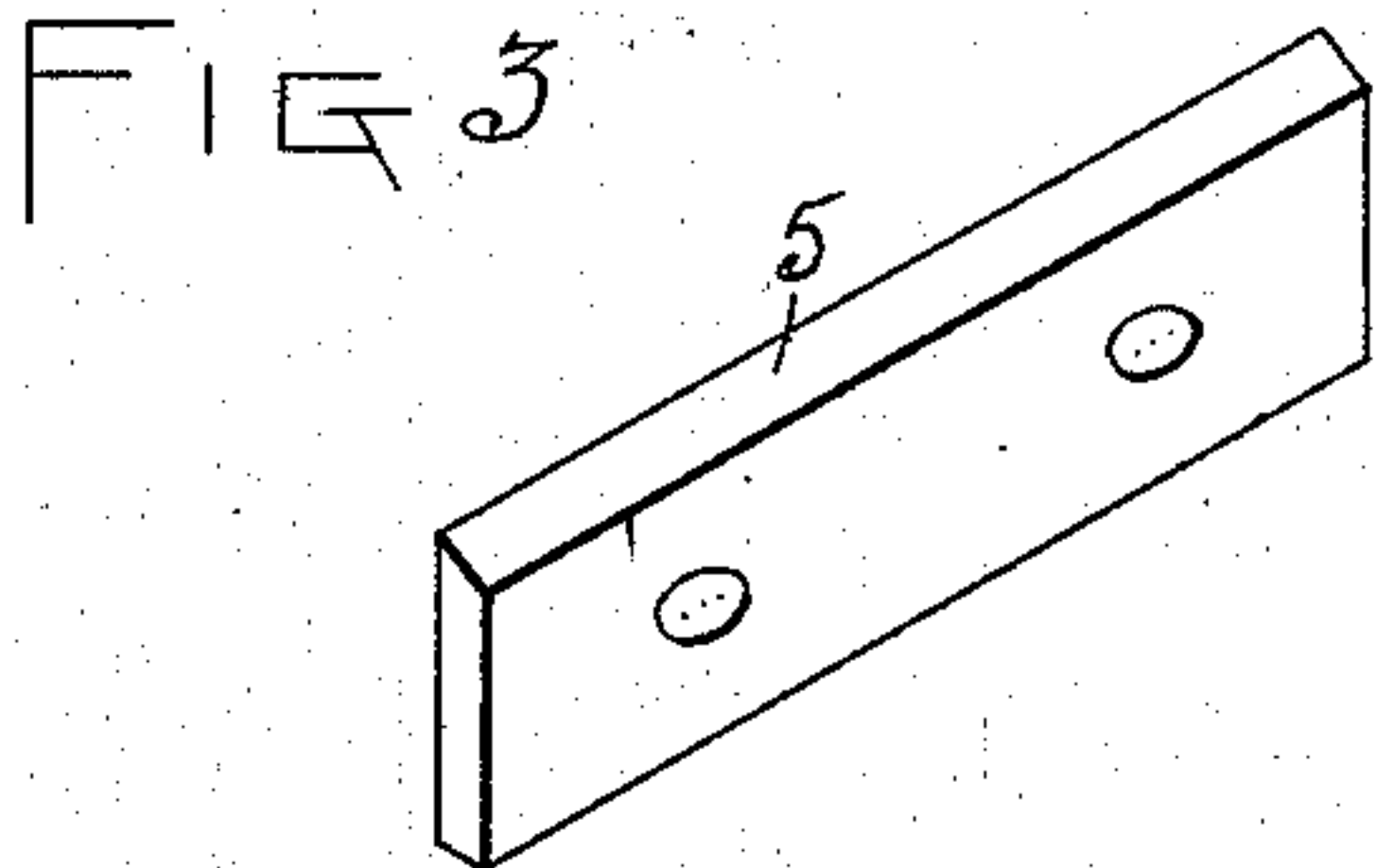
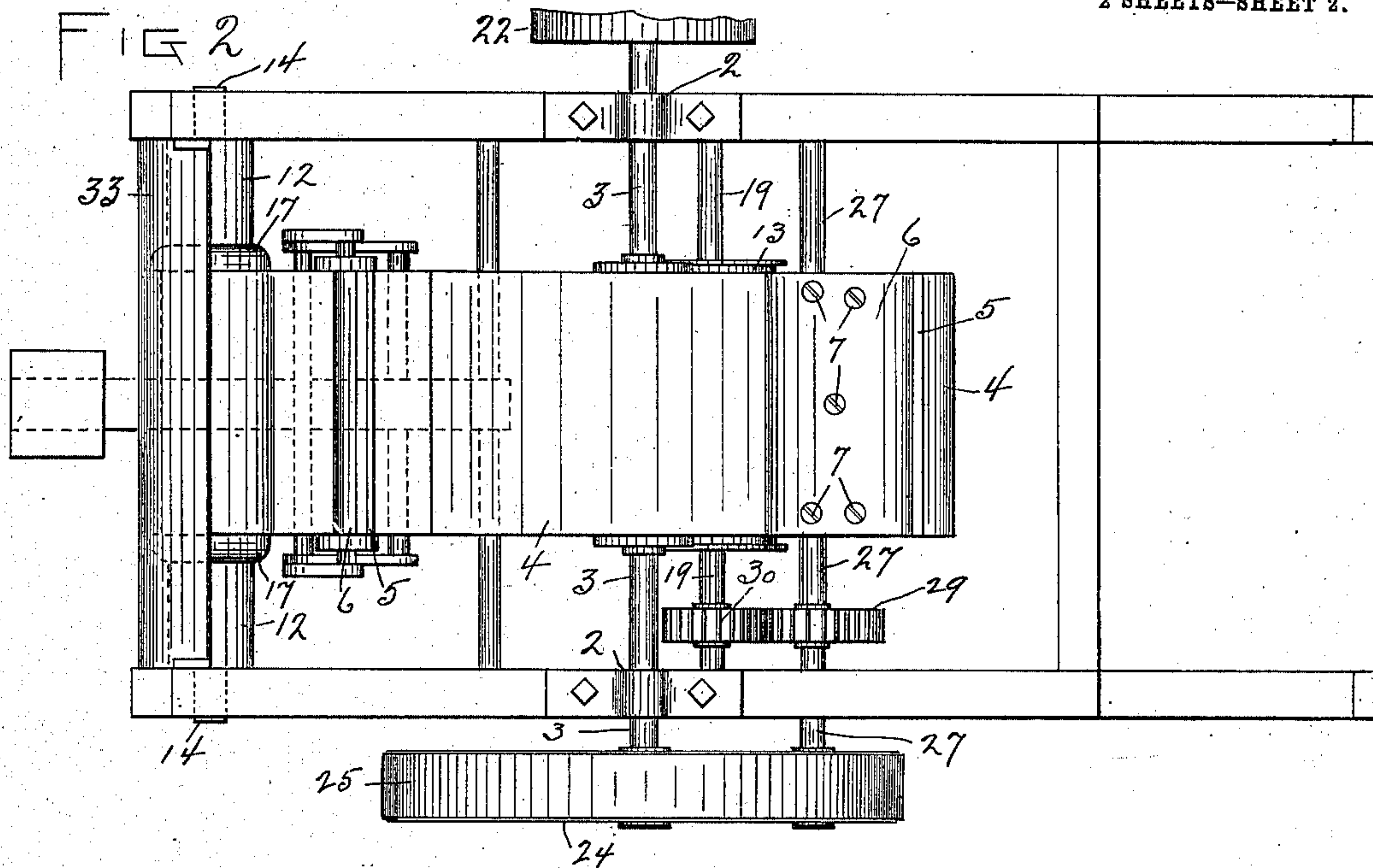
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2 SHEETS—SHEET 2.



WITNESSES
Wm S Greer
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UNITED STATES PATENT OFFICE.

CHESTER SHEPARD, OF JOHNSTOWN, NEW YORK, ASSIGNOR OF TWO-THIRDS TO J. LEBENHEIM & SONS, A FIRM, AND JAMES B. REID, OF GLOVERSVILLE, NEW YORK.

LEATHER-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 736,160, dated August 11, 1903.

Application filed August 7, 1902. Serial No. 118,803. (No model.)

To all whom it may concern:

Be it known that I, CHESTER SHEPARD, a citizen of the United States, residing at Johnstown, county of Fulton, and State of New York, have invented certain new and useful Improvements in Leather-Finishing Machines, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a side elevation of my improved machine for finishing leather. Fig. 2 is a top plan view of the same. Fig. 3 is a plan view of one of the peripheral knives detached from the fleshing-wheel. Fig. 4 is a view in perspective of one of the knife-holding blocks detached. Fig. 5 is a plan view of the guide-roll detached for supporting the upper portion of the belt.

The main frame 1 of the machine is provided with bearings 2, adapted to support the shaft 3 rotary therein. Mounted upon the shaft is the fleshing-wheel 4, which may be of any known form and is provided with four peripheral knives 5. The knives are severally detachably secured to the block 6 by screws or in any known manner. The blocks 6 may be made integral with the periphery of the wheel or detachably secured thereto, as by means of screws 7. (Shown in Fig. 2.)

10 is a belt passing around the upper guide-roll 12 and the lower guide-roll 13.

The upper guide-roll has end journals 14, rotary in bearings 15, secured to the upright 16 in the main frame, also the guide-flanges 17 for guiding the belt.

The lower guide-roll has the guide-flanges 18 and shaft 19, rotary in bearings 20, secured to blocks 21 on the base of the main frame.

Movements may be communicated to the fleshing-wheel in any known manner, as by

a belt-pulley 22, shown partly broken away and secured to the main axle 3. The wheel is also provided with the flange 24, which forms a pulley for the belt 25, passing around pulley 26, secured on the shaft 27, rotary in bearings 28 on blocks 21. The shaft 27 is also provided with a gear 29, fixed thereon and meshing with gear 30, fixed on shaft 19.

The relative sizes of the pulleys 24 and 26 and of the gears 29 and 30 are preferably such that the peripheral speed of the guide-roll 13 will be practically the same as the peripheral speed of the projecting ends of the knives 5.

The operation of the device is as follows: The work to be treated—as, for example, a hide of leather—is held upon the upper side of the belt in a position to be engaged by the knives successively as the fleshing-wheel is rotated. The knives serve to scrape off and remove from the flesh side of the leather any portions of flesh, fat, or other foreign substances thereon, and the belt, engaging with the other side of the leather, from which the hair has been previously removed, serves to plush its surface or impart thereto a luster. To assist in holding the work or hides in a stationary position while being operated upon by the knives and the belt, I provide at the upper corner of the frame a rest 33, secured at each end to the sides of the frame, and preferably made semicylindrical in form to partially inclose the belt and belt-supporting guide-roll. The upper edge of the work or leather to be operated upon is held by the operator upon this rest, the lower portion of the work extending down into the path of the knives, so as to be simultaneously engaged on its opposite sides by the knives and belt. By changing the position of the hide or leather after a knife has passed out of engagement with it and before the next knife has come into engagement every portion of the hide can be treated by both the knives and the belt until it has been uniformly cleaned on its flesh side and plushed or lustered on the hair side. As hides or leather to be thus treated vary in texture and strength, it is desirable to vary the pressure between the belt and the knives to adapt it

to the strength of the work and secure the requisite pressure to secure the most efficient effort. As a means for varying this pressure I provide a belt-tightener and means for operating the same, consisting of an idle roll 35, connected at each end by links 36 and 37 and pivotal rods 39 and 40 with the treadle 38, pivoted at 41 upon the main frame. The pivotal rod 39 is also yieldingly connected with the treadle by means of the spring 32.

Should it be desired to increase the pressure between the belt and knives, it is only necessary to press with the foot upon the platform 42 of the treadle, which draws the belt downward to the position shown in Fig. 1.

Normally the treadle is depressed until it engages the cross-rod 43, supported in the uprights of the main frame, and any slight variation in the thickness of the leather will be allowed to pass between the knives and belt by the yielding nature of the spring 42, which would allow the idle roller to raise and lengthen the belt; but should the leather being operated upon be of a tender nature, necessitating less pressure between the knives and belt, then the foot is lifted on the treadle until the tension is sufficiently reduced to permit the operation of fleshing and lustering to proceed without danger of injury to the leather. I am thus able simultaneously and with a single machine to treat the opposite sides of the leather to remove objectionable matter from the flesh side and at the same time impart a luster finish to the hair side.

The rest 33 is stationary and has no pressure function to force the work into engagement with the knives of the fleshing-wheel, as has been heretofore practiced. The sole function of the rest is to assist the operator in holding the work back against the combined draft or pull of the moving fleshing-wheel and luster-imparting belt when one of the knives of the fleshing-wheel is in engagement with the work. The knives of the fleshing-wheel being at a considerable distance apart there is an appreciable interval of time between the contact of the successive knives with the work. This intermittent engagement of the fleshing-wheel with the work permits the operator to easily change the position of the work relatively to the wheel, either to pull it back in a direction opposed to that of the knives and luster-belt or sidewise to present any desired part of the work to the knives for renewed or additional treatment. It is to be borne in mind that the moving belt has a double function—namely, that of imparting a luster to one side of the work as it slides along that side while the work is comparatively or quite stationary and that of yieldingly pressing the opposite side of the work against the fleshing-wheel.

It should be observed that the knives are a considerable distance from each other and project from the periphery of the wheel so far that they would materially vary the slack or tension of the belt if the belt-tightener mechanism was not provided with the compensating-spring 32, which connects the rod 39 with the treadle. This spring not only serves to compensate for different thicknesses of the material operated upon, but also for this variation in tension caused by the peripheral projection of the knives.

By providing means for imparting to the belt and knives practically the same speed damage to the belt by the knives is prevented when the material being operated upon is withdrawn from between the belt and knife-wheel.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a leather-finishing machine, the combination with a fleshing-wheel having peripheral knives; of a cooperative plushing-belt movable across the path of the knives; means for actuating the belt and knives at practically the same rate of speed; and a stationary work-support, substantially as described.

2. In a leather-finishing machine, the combination with a fleshing-wheel having peripheral knives; of a cooperating luster-imparting belt movable across the path of the knives, means, common to the belt and wheel for imparting a practically uniform speed to the belt and knives, and a stationary rest for the work between the knives and belt, substantially as described.

3. In a leather-finishing machine, the combination with a fleshing-wheel having peripherally-projecting knives; of a cooperative luster-imparting belt movable with a varying slack and tension along a segment of the paths of the several knives; means for actuating the belt and knives; and means for automatically varying the slack and tension of the belt where it is directly cooperative with one of the knives, substantially as described.

4. In a leather-finishing machine, the combination with a fleshing-wheel having peripherally-projecting knives; of a cooperative luster-imparting belt movable with a varying slack and tension along a segment of the paths of the several knives; and a yielding, treadle-actuated belt-tightener, whereby the slack and tension can be harmonized both automatically and by foot-power, substantially as described.

In testimony whereof I have hereunto set my hand this 31st day of July, 1902.

CHESTER SHEPARD.

Witnesses:

F. S. SEXTON,

F. T. RIGHTMYER.