

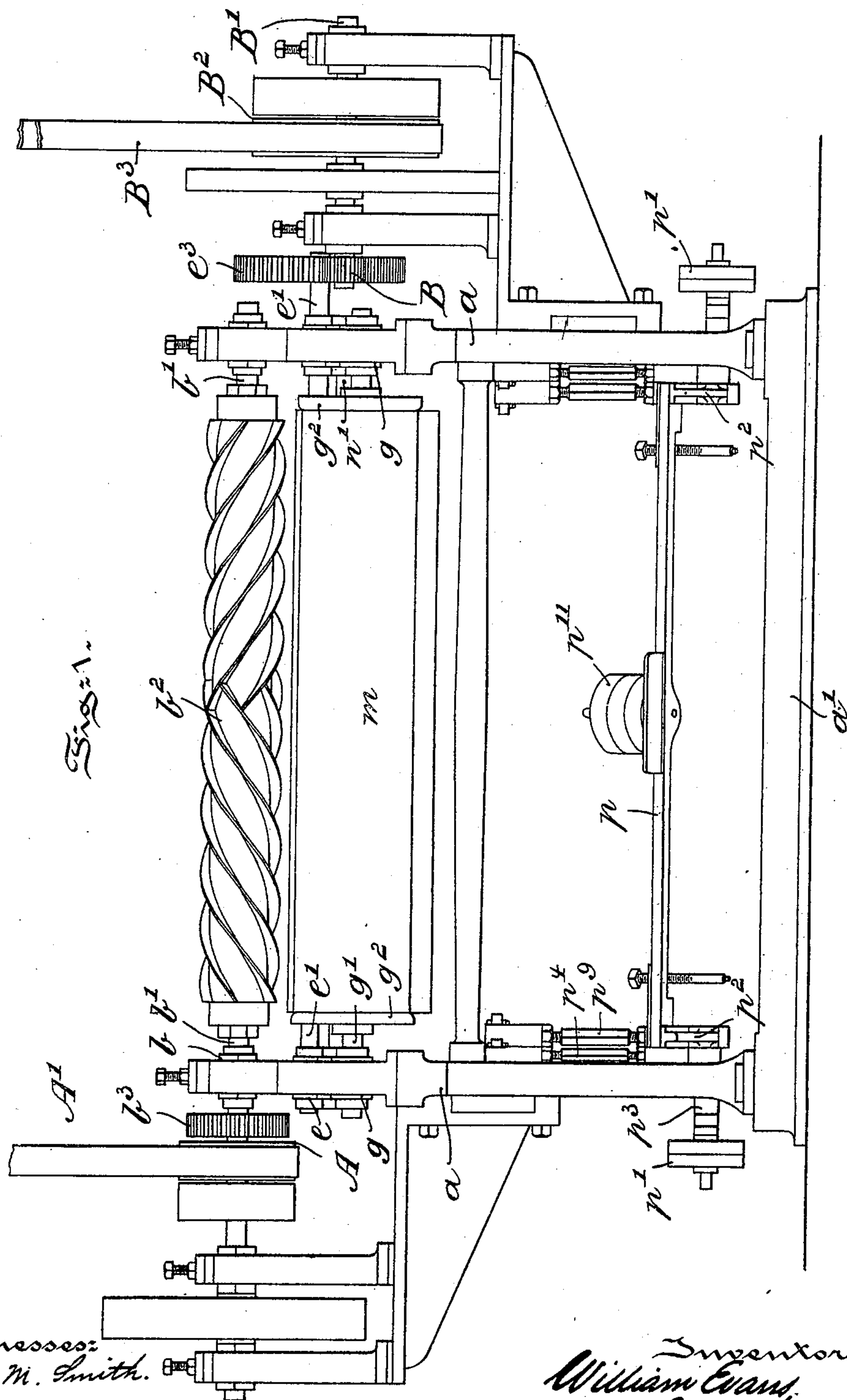
(No Model.)

3 Sheets—Sheet 1.

W. EVANS.
HIDE, SKIN, OR LEATHER MACHINERY.

No. 602,066.

Patented Apr. 12, 1898.



Witnesses:
Thomas M. Smith.
Richard C. Maxwell.

Inventor:
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(No Model.)

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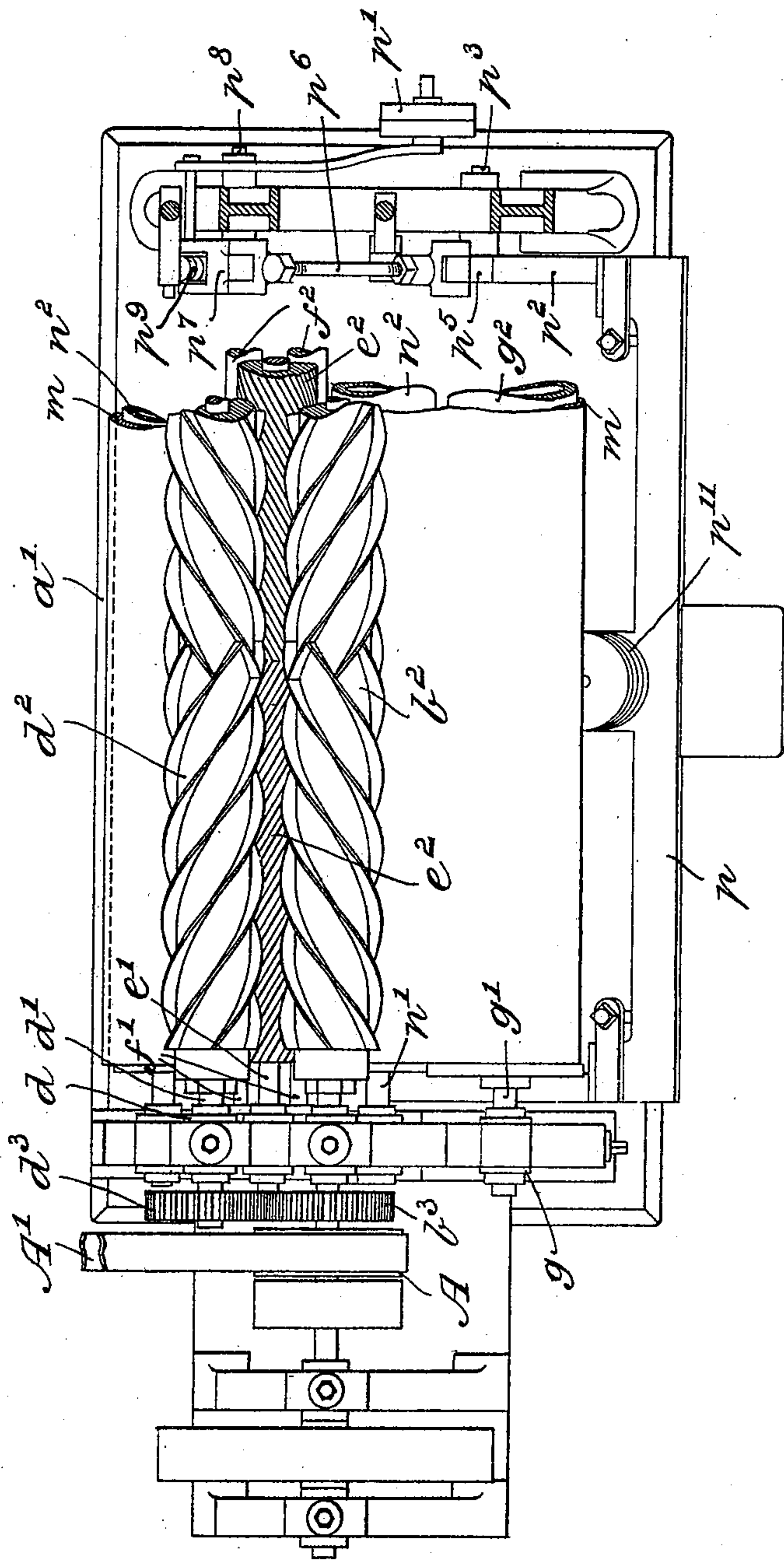
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Fig. 2.



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Fig. 4.

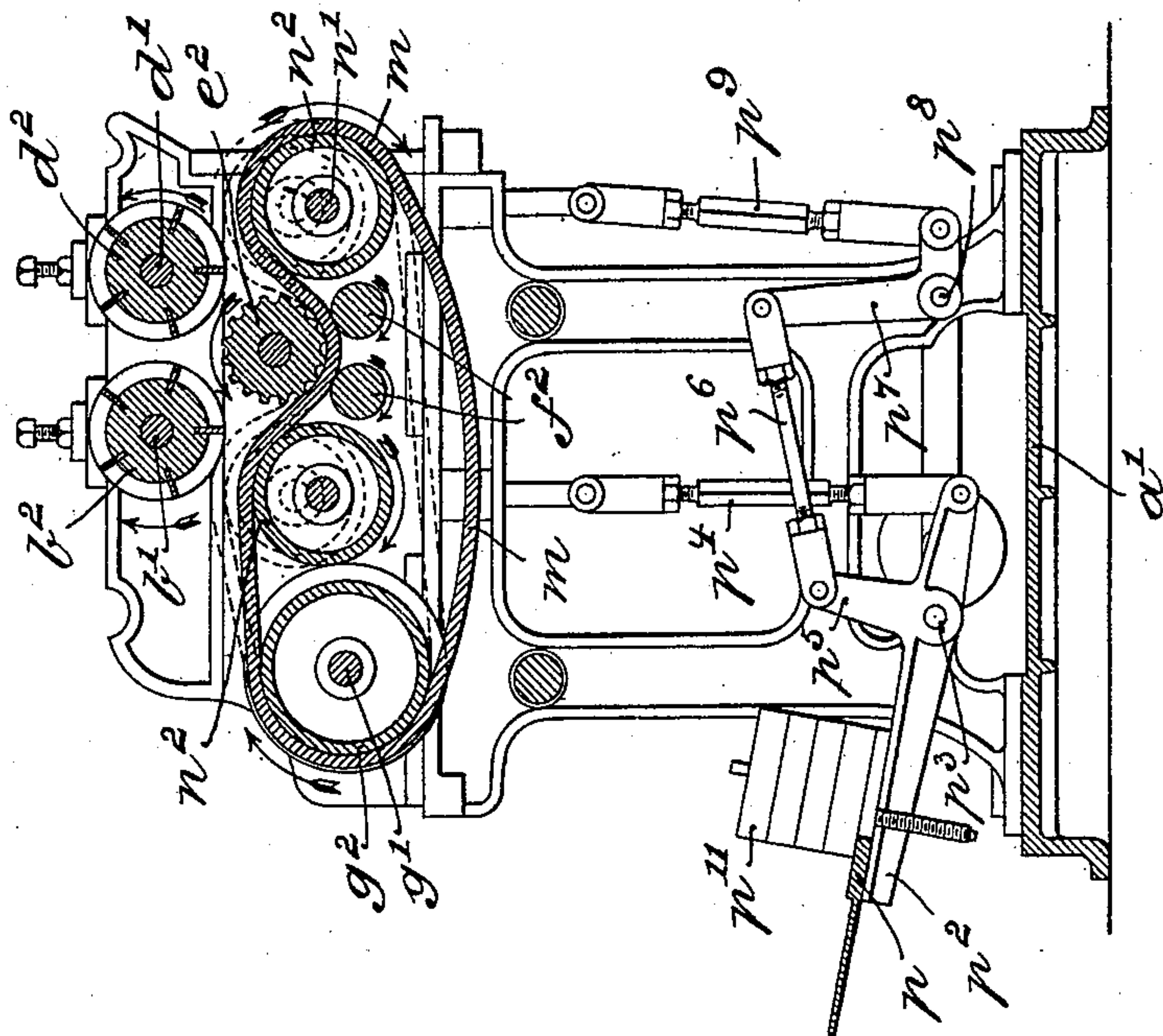
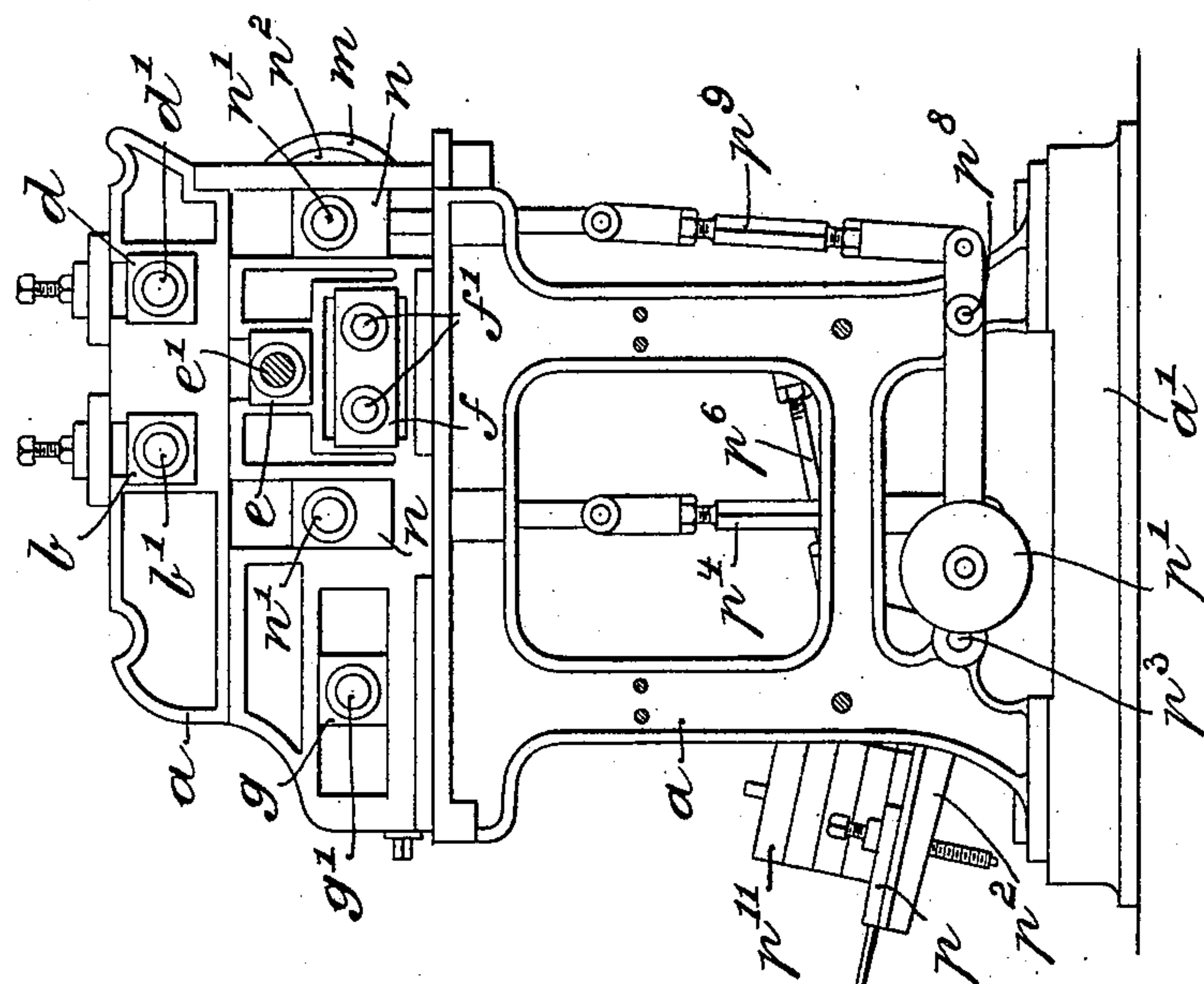


Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA.

HIDE, SKIN, OR LEATHER MACHINERY.

SPECIFICATION forming part of Letters Patent No. 602,066, dated April 12, 1898.

Application filed August 9, 1897. Serial No. 647,525. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing in the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hide, Skin, or Leather Machinery, of which the following is a specification.

My invention has relation to a machine for fleshing, cleansing, or working hides, skins, or leather and for analogous purposes, and in such connection it relates particularly to the construction and arrangement of such a machine.

The principal objects of my invention are, first, to provide a machine having two working rolls or cylinders provided with fixed bearings and an endless traveler-apron upon which the hide, skin, or leather to be worked is supported, and also having coacting instrumentalities for presenting successive portions of the traveler-apron in operative position with respect to the said roll or rolls, whereby the hide, skin, or leather may be worked from end to end at one operation, successively, by each working roll or cylinder; second, to provide in a machine of the character described two working rolls or cylinders having fixed bearings and gripping and feeding rolls arranged below and between the working rolls or cylinders and also having fixed bearings, an endless apron traveling between the gripping and feeding rolls and over two vertically-movable rollers, and means for moving said rollers to bring the apron into working position with respect to the working rolls, and, third, to provide in such a machine, in conjunction with the working rolls, the gripping and feeding mechanism, the endless apron and the vertically-movable rollers upon which the apron is supported, and a treadle mechanism adapted to simultaneously raise and lower the supporting-rollers.

My invention, stated in general terms, consists of a machine for treating hides, skins, or leather, constructed and arranged in substantially the manner hereinafter described and claimed.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the ac-

companying drawings, forming part hereof, in which—

Figure 1 is a front elevational view of a machine embodying main features of my invention. Fig. 2 is a top or plan view of the same, partly broken away. Fig. 3 is an end elevational view with the gearing and driving-pulleys removed, and Fig. 4 is a central vertical sectional view of the machine.

Referring to the drawings, *a* represents the end standards or framework of the machine, suitably mounted upon and supported by a base *a'*. At the top of the framework *a* are arranged adjustable blocks *b* and *d*, forming bearings, respectively, for the shafts *b'* and *d'* of the two working rolls or cylinders *b²* and *d²*, which may be slating, fleshing, or other suitable rolls or cylinders. Below the bearings for the rolls *b²* and *d²* and in the framework *a* are arranged the blocks *e*, forming the bearings for the shaft *e'* of a grip-roller *e²*, which grip-roller rotates between the two rolls *b²* and *d²*, as indicated in Fig. 4.

The shafts of the rolls *b²* and *d²* each carry a gear-wheel *b³* and *d³*, meshing with each other, one of the shafts *b'* being positively driven by the driving-pulley *A*, connected by a belt *A'* with a suitable source of power. The shaft *e'* of the grip-roller *e²* carries a gear-wheel *e³*, meshing with a pinion *B*, carried by the counter-shaft *B'* and driven by a pulley *B²*, which is connected by belt *B³* with a source of power, all substantially as shown in Fig. 1. It will therefore be understood that the rolls *b²* and *d²* are positively driven in opposite directions and that the grip-roller is positively driven in a direction opposite to that of the roll *b²*, as indicated by the arrows in Fig. 4. Below the grip-roller *e²* are arranged two feeding-rollers *f²*, having their shafts *f'* rotating in suitable bearing-blocks *f*, supported by the framework *a* of the machine. At the front of the machine is supported a relatively large roll or drum *g²*, the shaft *g'* of which rotates in bearings *g*, supported by the framework of the machine. Over the drum *g²* is located an endless apron *m*, of rubber, leather, or other suitable material, upon which the hide, skin, or leather to be treated is adapted to be supported. This apron *m* is passed below the grip-roller *e²* and above the feed-rolls *f²*, and

motion is frictionally imparted to said apron by the grip-roller e^2 and transferred by said apron to the feed-rolls. On either side of the grip-roller e^2 the apron m is supported by a
 5 vertically-movable roller n^2 , the shaft n' of each of which rotates in a vertically-movable box or bearing n , adapted to be raised and lowered in the frame a of the machine, preferably by a suitable treadle mechanism. The
 10 treadle mechanism consists of a platform p , suitably counterweighted, as at p' and p'' , and supported by the lever-arms p^2 . Each arm p^2 is pivoted, as at p^3 , in the side frames a of the machine, and the free end of each arm is
 15 connected by an adjustable link p^4 with the box n of one of the rollers n^2 . Each arm p^2 is also provided with an extension p^5 , connected by an adjustable link p^6 with an angle-lever p^7 , pivoted, as at p^8 , in the frame of the
 20 machine. The free end of each angle-lever is connected by an adjustable link p^9 with the box n of the other roller n^2 .

From the above description it will be understood that when the platform p is depressed
 25 the links p^4 and p^9 are elevated and raise the boxes n of the rollers n^2 , and when the platform is elevated the links are lowered and the boxes n and rollers n^2 are also lowered.

The operation of the machine is as follows:
 30 The treadle p is normally in raised position and the rollers n^2 in lowered position, as shown in Fig. 4. Upon the traveling apron m is placed the hide, skin, or leather to be treated, and when the forward end of the hide is
 35 caught between the grip-roller e^2 and the apron m the treadle-platform p is depressed and the rollers n^2 thereby elevated to bring two portions of the apron into working relationship respectively with each working roll
 40 or cylinder b^2 and d^2 . The cylinder b^2 first operates upon the hide, which is drawn along by the grip-roller until it is presented to the second cylinder d^2 , which again operates upon the hide from end to end. The hide is thus
 45 operated upon from end to end successively by the rolls b^2 and d^2 at one operation and is therefore twice acted upon in traveling through the machine. The first roll b^2 will first remove all the inequalities, and the sec-
 50 ond roll d^2 will thereafter finish the hide, skin, or leather.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

55 1. In a machine of the character described, two or more finishing-rolls having fixed bearings, an endless traveler-apron upon which the hide, skin or leather is supported and nor-

mally at rest, a friction-roll for driving said apron and means for simultaneously bringing
 60 said apron into close contact with respect to said friction-roller and operative position with respect to said finishing-rolls, whereby said apron is set in motion and the hide, skin or
 65 leather at one operation acted upon from end to end successively by each finishing-roll, substantially as and for the purposes described.

2. In a machine of the character described, two finishing-rolls, an endless apron supporting the work, a gripping-roller located below
 70 and between the finishing-rolls, two feed-rolls between which and the grip-roller the apron is adapted to travel, two rollers each arranged on either side of the grip-roller below the
 75 apron said grip-roller adapted to actuate said apron when said rollers are raised and means for raising said rollers to bring successive portions of the apron into operative position with
 80 respect to the rolls, substantially as and for the purposes described.

3. In a machine of the character described, an endless apron, a grip-roller and feed-rollers between which the apron is adapted to be frictionally operated, a stationary drum
 85 around which the apron travels, two vertically-movable rollers upon which the apron is supported arranged respectively on either side of the gripping and feeding rollers, said
 90 grip-roller adapted to actuate the apron when said rollers are raised, and a treadle mechanism for simultaneously raising and lowering the supporting-rollers, substantially as and for the purposes described.

4. In a machine of the character described, a plurality of finishing-rolls, the bearings
 95 whereof are fixed to prevent vertical movement of the rolls, a traveler-apron located below and normally out of operative position with respect to all the rolls, a plurality of
 100 presser-rollers or their equivalents arranged beneath the apron, and each located under corresponding finishing-rolls, and means for successively raising the presser-rollers to present portions of the traveler-apron in operative
 105 position with respect to each succeeding finishing-roll, whereby the work may be operated upon from end to end successively by the finishing-rolls at one operation, substantially as and for the purposes described.

In testimony whereof I have hereunto set
 110 my signature in the presence of two subscribing witnesses.

WILLIAM EVANS.

Witnesses:

J. WALTER DOUGLASS,
 THOMAS M. SMITH.