

No. 762,949.

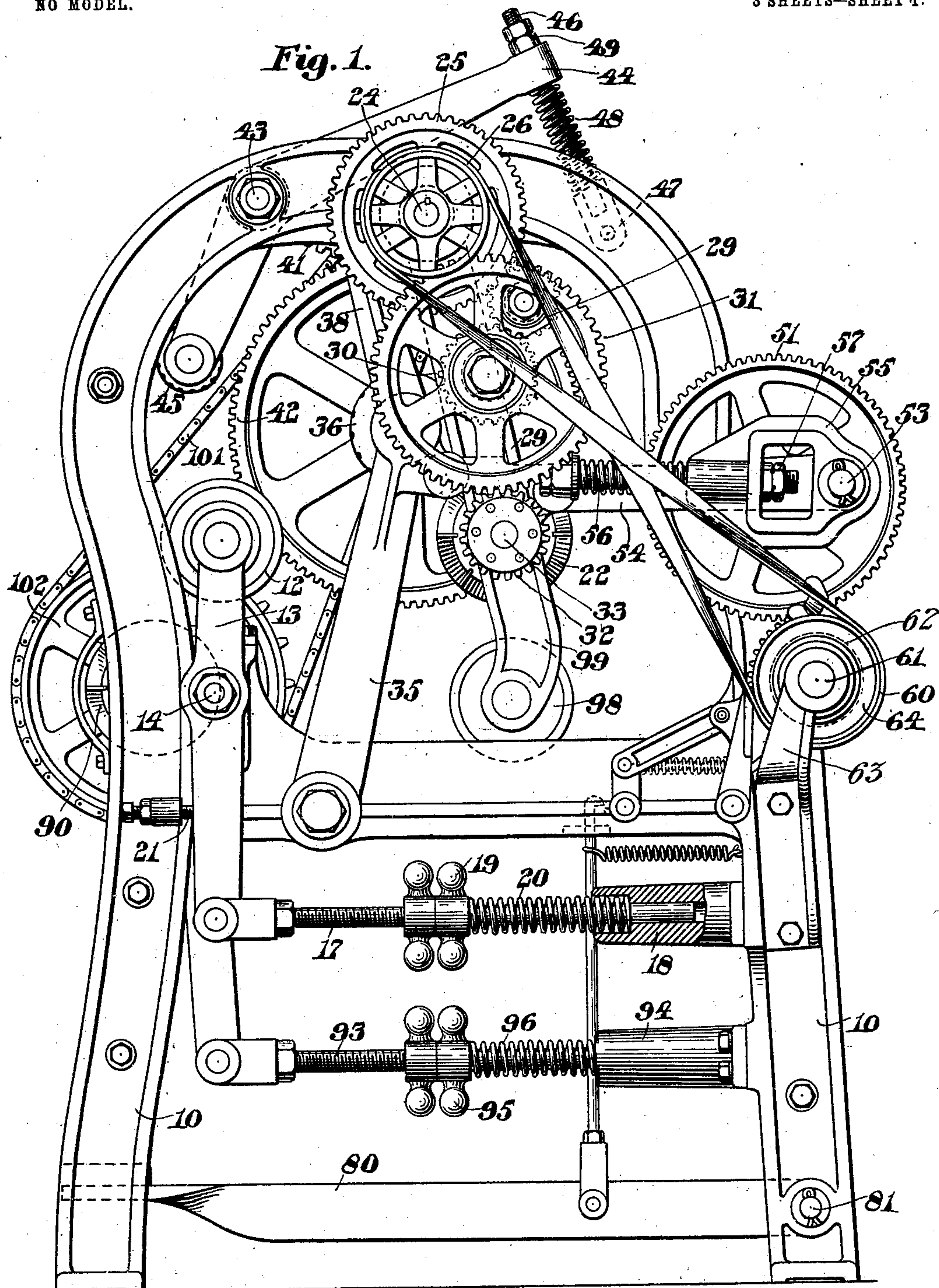
PATENTED JUNE 21, 1904.

J. H. SEARS.
MACHINE FOR FLESHING HIDES.

APPLICATION FILED SEPT. 25, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

Edna C. Cleveland
Edwin J. Luce

Inventor:

Judah H. Sears,
by Walter E. Lombard
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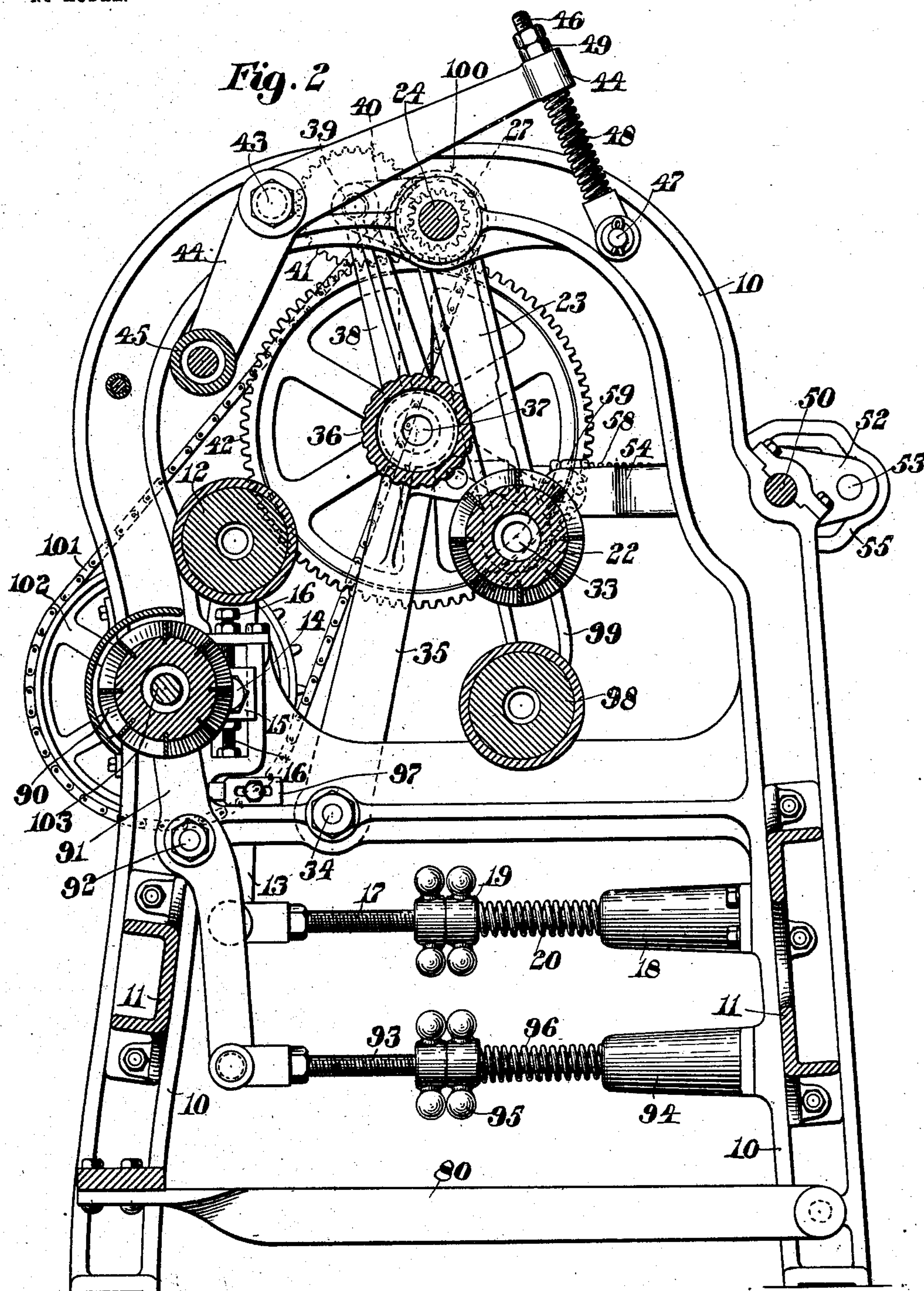
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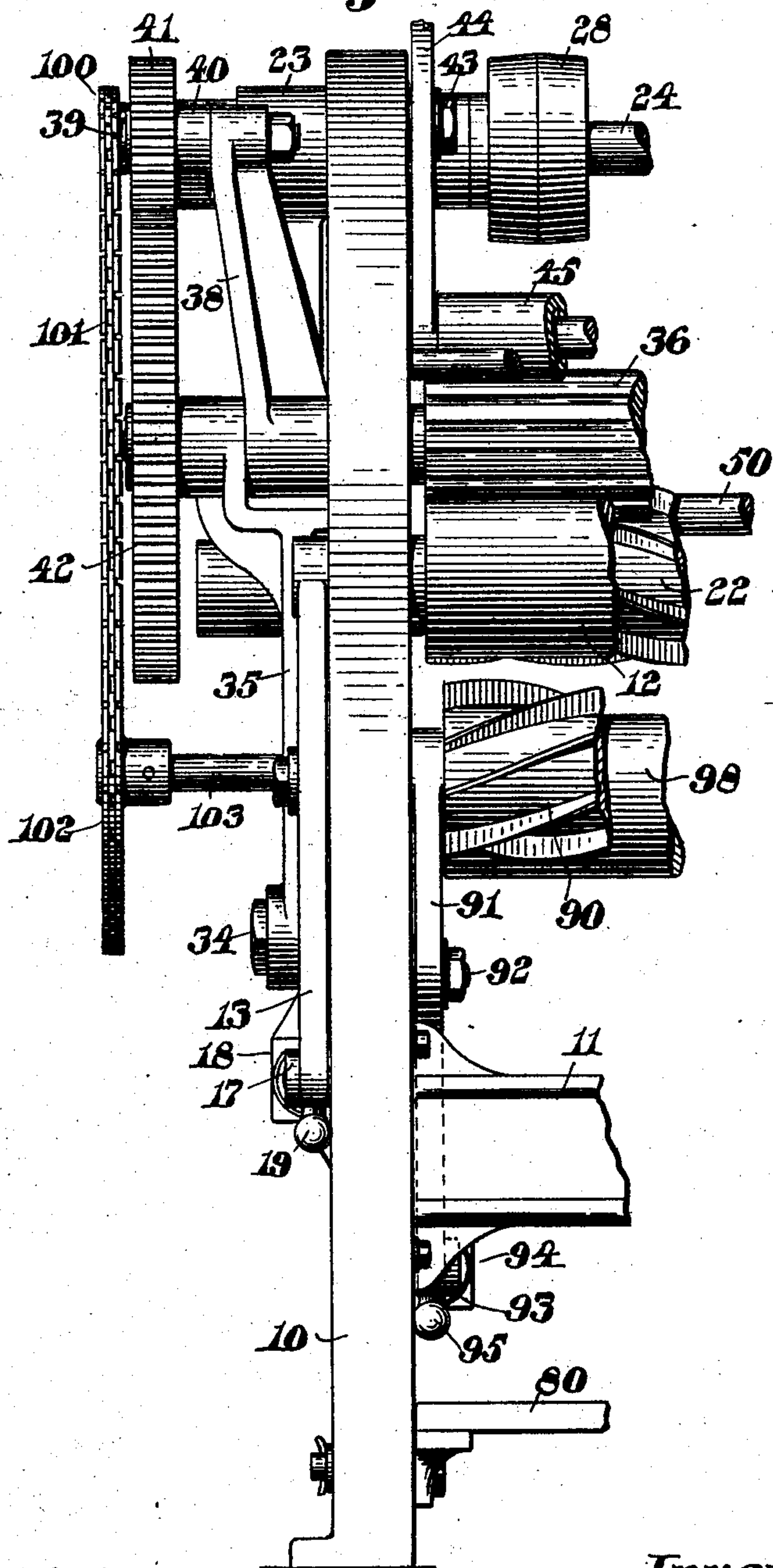
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JUDAH H. SEARS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO J. H. SEARS COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

MACHINE FOR FLESHING HIDES.

SPECIFICATION forming part of Letters Patent No. 762,949, dated June 21, 1904.

Application filed September 25, 1903. Serial No. 174,576. (No model.)

To all whom it may concern:

Be it known that I, JUDAH H. SEARS, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machines for Fleshing Hides, of which the following is a specification.

This invention relates to improvements in hide-working machines, and has for its object the production of a machine in which the superfluous flesh may be removed from the hides by one knife-cylinder while another knife-cylinder is operating upon the opposite side for the purpose of unhairing the same.

It consists in certain novel features and arrangements of parts, which will be readily understood by reference to the description of the drawings and to the claims to be hereinafter given.

Of the drawings, Figure 1 represents a right-hand view of a machine embodying the features of this invention. Fig. 2 represents a central vertical section of the same, and Fig. 3 represents a front elevation of the left end of same.

Similar characters designate like parts throughout the several figures of the drawings.

To support the working portion of the machine, a main frame is preferably provided made up of end frames 10 10 and tie-bars 11. At the front or feed side a bed-roll 12, preferably provided with a covering of rubber or like material, is mounted in the ends of the levers 13, pivoted at 14 to boxes 15, having a vertical adjustment in the frames 10 by means of the adjusting-screw 16. The lower ends of the levers have pivoted thereto the threaded rods 17, having bearings at the rear of the machine in brackets 18. The rods 17 have mounted thereon adjusting-nuts 19, between which and said brackets 18 are interposed spiral springs 20, which tend to force said levers 13 against the adjustable stops 21, Fig. 1, to limit the inward movement of the bed-roll 12, but permit the same to yield outwardly when cooperating with the knife-cyl-

inder 22, which is mounted in a pair of arms 23, pivoted to the upper end of the machine, and is preferably provided with spiral cutters. The tension of the springs 20 may be regulated by adjusting the nuts 19 on the rods 17. At the pivot of said arms 23 is located a shaft 24, having secured to one end a gear 25 and a pulley 26, while on the other end is secured a pinion 27. Intermediate of the side frames 10 a driving-pulley 28 (shown only in Fig. 3) is mounted upon said shaft 24 to drive the same. The gear 25 meshes with an intermediate gear 29, mounted on one of the arms 23, which in turn meshes with a gear 30, on a hub of which is mounted a gear 31, which meshes with a gear 32, secured to the knife-cylinder trunnion 33 for the purpose of revolving the knife-cylinder at a high rate of speed.

To the frames 10 at 34 are pivoted a pair of arms 35, in the upper ends of which is mounted a feed-roll 36, preferably corrugated, on the left trunnion 37 of which is mounted a radius-arm 38, pivoted at 39 to a second radius-arm 40, the other end of which is pivoted to the driving-shaft 24. A gear 41 is mounted on the pivot 39 of the radius-arms 38 40 and meshes with and is driven by the gear 27 on the driving-shaft 24, which motion is transmitted to a gear 42 on the shaft 37 for the purpose of revolving the feed-roll 36 and causing the hide to be fed when said roll is in position to coact with the bed-roll 12.

At 43 are pivoted levers 44, having mounted in one end thereof a supporting-roll 45. In the other end of said levers are mounted rods 46, pivoted to the frames at 47 and provided with a coil-spring 48, the tension of which may be regulated by means of the nut 49 on said rod 46. This roll 45 and the bed-roll 12 serve as a substantially stationary but slightly-yielding support over which the hide is thrown to receive the fleshing treatment to be hereinafter described.

At the rear of the machine is mounted a shaft 50, having secured to one end thereof a gear 51 and on the other end a crank 52, each being provided with a crank-pin 53, which is

connected by a link 54 to a knife-cylinder arm 23. A half-revolution of the crank 52 will cause the knife-cylinder to be moved toward the bed-roll 12, and the completion of the revolution of said crank 52 will cause said knife-cylinder to be moved away from said bed-roll into its non-operating position. The crank-pins 53 are also provided with a bearing 55 for the free end of the rods 56, pivoted to the feed-roll arms 35. The rods 56 pass freely through bearings 55 and are provided at their inner ends with nuts 57, which limit the movement of the arms 35 toward the hide-supporting rolls. The limitation of this movement may be varied by an adjustment of the nuts 57. About said rods 56 are coiled spiral springs 58 between said bearings 55 and nuts 59, adjustable on said rods 56, thereby permitting the feed-roll to yield when coacting with the hide-supporting rolls 45 and 12. The gear 51 meshes with a gear 60, mounted upon a shaft 61, having an enlarged portion 62 and mounted in bearings 63. Upon the enlarged portion 62 is mounted a pulley 64, connected by a belt 65 to the pulley 26 on the shaft 24, by which motion is transmitted to said pulley 64 to cause it to continually revolve while the machine is in use.

The machine thus far described is the same as that which is shown in Letters Patent No. 736,278, issued August 11, 1903, to W. E. Lombard and E. T. Luce, and the clutch and starting mechanism connecting the enlarged portion 62 with the treadle 80 used in this machine is the same as that which was described in the aforesaid patent. In order, however, to facilitate the work upon the hides and operate upon both sides, at the same time accomplishing the removal of the superfluous flesh from one side while the hair is being removed from the other, a second knife-cylinder 90 is mounted beneath the bed-roll 12 in the end of a pair of arms 91, pivoted at 92, said arms 91 having pivoted to their opposite ends threaded rods 93, having bearings at the rear of the machine in brackets 94. The rods 93 have mounted thereon adjusting-nuts 95, between which and said brackets 94 are interposed spiral springs 96, which tend to force said levers 91 against the adjustable stops 97 to limit the inward movement of the knife-cylinder 90, but permit the same to yield outwardly when coöperating with the bed-roll 98, mounted in an extension 99 to the levers 23, pivoted upon a shaft 24, upon which is mounted a sprocket-wheel 100, connected by a sprocket-chain 101 to a sprocket-wheel 102 upon a shaft 103, upon which is mounted the knife-cylinder 90 and by which said knife-cylinder is revolved at a speed suitable for unhairing, which is considerably less than the speed of the fleshing-cylinders 22.

The operation of the machine is as follows: The various parts of the mechanism being in the position shown in the drawings, a hide is

taken by the operator and thrown over the upper hide-supporting roll 45, so that its center is somewhat below the bed-roll 12. The operator then places his foot upon the treadle, depressing the same, which causes the shaft 50 to make a half-revolution, whereupon the crank 52 will move the feed-roll 36 into a position intermediate the supporting-rolls 45 and 12, causing the hide to be gripped thereby and fed outwardly. The same movement causes the fleshing-cylinder 22 to be moved into coöperating position with the bed-roll 12 and the bed-roll 98 into coöperating position with the knife-cylinder 90, thereby causing both sides of the hide to be operated upon by knife-cylinders while being fed outwardly by means of the feed-roll 36. When one side of the hide has been fleshed, the operator depresses the treadle 80 to remove the feed-roll 36, fleshing-cylinder 22, and bed-roll 98 to the rear, permitting the operator to remove the hide from the supporting-rolls 45 and 12 and reverse the hide and place the opposite end upon the hide-supporting rolls, so that the unfleshed and unhaird portions may be subjected to the action of the knife-cylinders to complete the operation.

By producing a machine in which the fleshing and unhairing may be accomplished at the same time a great saving is made both in time and labor, which it is obvious is of great advantage.

Having thus described my invention, I claim—

1. The combination of three pairs of pivoted arms, a knife-cylinder and bed-roll mounted in the free ends of one pair of said arms, a knife-cylinder mounted in the free ends of another pair of arms, a bed-roll mounted in the free ends of a third pair of arms, means for moving said arms so that each knife-cylinder will coöperate with its coacting bed-roll, and means for feeding a hide between said knife-cylinders and bed-rolls.

2. The combination with a knife-cylinder and bed-roll, of a pair of pivoted arms, a bed-roll and knife-cylinder mounted in the free ends of said arms, means for moving said arms so that said bed-roll and knife-cylinder will coöperate with the first-mentioned knife-cylinder and bed-roll, and means for moving a hide between said knife-cylinders and bed-rolls.

3. The combination of a yieldable knife-cylinder, a bed-roll, a pair of pivoted arms, a bed-roll and knife-cylinder mounted in the free ends of said arms, means for moving said arms so that said bed-roll and knife-cylinder will coöperate with the first-mentioned knife-cylinder and bed-roll, and means for moving a hide between said knife-cylinders and bed-rolls.

4. The combination of a knife-cylinder, a yieldable bed-roll, a pair of pivoted arms, a bed-roll and knife-cylinder mounted in the

free ends of said arms, means for moving said arms so that said bed-roll and knife-cylinder will coöperate with the first-mentioned knife-cylinder and bed-roll, and means for moving a hide between said knife-cylinders and bed-rolls.

5. The combination with a pair of separated supporting-rolls, of a feed-roll movable toward and from a position between said supporting-rolls, a knife-cylinder, a pair of pivoted arms, and a knife-cylinder and a bed-roll mounted in the free ends of said arms and respectively movable toward and from one of said supporting-rolls and the first-mentioned knife-cylinder.

6. The combination with a pair of separated supporting-rolls, of two pairs of pivoted arms, a feed-roll mounted in the free ends of one pair of arms, a knife-cylinder and a bed-roll mounted in the free ends of the other pair of arms, means for moving said feed-roll toward and from a position between said supporting-rolls, a knife-cylinder, and means for moving the first-mentioned knife-cylinder and bed-roll toward and from one of said supporting-rolls and the other knife-cylinder.

7. The combination with a pair of yieldable separated supporting-rolls, of a knife-cylinder, a pair of pivoted arms, a feed-roll mounted in the free ends of said arms above said pivot and movable toward and from a position between the supporting-rolls, a second pair of pivoted arms, and a knife-cylinder and bed-roll mounted in the free ends of said arms below said pivot and movable toward and from one of the supporting-rolls and the first-mentioned knife-cylinder.

8. The combination with a pair of separated supporting-rolls, of a feed-roll coacting therewith, a knife-cylinder, a pair of pivoted arms, a knife-cylinder and a bed-roll mounted in the free ends of said arms, and a crank for moving the knife-cylinder and bed-roll toward and from one of said supporting-rolls and the first-mentioned knife-cylinder.

9. The combination with a bed-roll, of a knife-cylinder, a pair of pivoted arms, a knife-cylinder and a bed-roll mounted in the free ends of said arms, and a crank for moving the knife-cylinder and bed-roll toward and from the first-mentioned bed-roll and knife-cylinder.

10. The combination with a bed-roll, of a knife-cylinder, two pairs of pivoted arms, a feed-roll mounted in the free ends of one pair of arms, a knife-cylinder and a bed-roll mounted in the free ends of the other pair of arms, and means for moving said feed-roll and knife-cylinder and bed-roll toward and from

the first-mentioned bed-roll and knife-cylinder and into and out of position to coact therewith.

11. The combination with a pair of knife-cylinders and a pair of bed-rolls, of means for feeding a hide between said knife-cylinders and bed-rolls so that said knife-cylinders operate upon opposite sides of said hides, and means for revolving said knife-cylinders at different speeds.

12. The combination of three pairs of pivoted arms, a knife-cylinder and a bed-roll mounted in the free ends of one pair of said arms, a knife-cylinder mounted in the free ends of another pair of arms, a bed-roll mounted in the free ends of the third pair of arms, means for moving said arms so that each knife-cylinder will coöperate with its coacting bed-roll, means for feeding a hide between said knife-cylinders and bed-rolls, and means for revolving said knife-cylinders at different speeds.

13. The combination of a yieldable knife-cylinder, a bed-roll, a pair of pivoted arms, a bed-roll and knife-cylinder mounted in the free ends of said arms, means for moving said arms so that said bed-roll and knife-cylinder will coöperate with the first-mentioned knife-cylinder and bed-roll, means for moving a hide between said knife-cylinders and bed-rolls, and means for revolving said knife-cylinders at different speeds.

14. The combination with a bed-roll and knife-cylinder, of a pair of pivoted arms, a knife-cylinder and bed-roll mounted in the free ends of said arms, means for moving said arms so that said knife-cylinder and bed-roll will coöperate with the first-mentioned bed-roll and knife-cylinder, and means for feeding a hide between said knife-cylinders and bed-rolls so that both sides thereof will be operated upon for the purpose of fleshing and unhairing the same.

15. The combination with a knife-cylinder and bed-roll, of a pair of pivoted arms, a bed-roll and knife-cylinder mounted in the free ends of said arms, means for moving said arms so that said bed-roll and knife-cylinder will coöperate with the first-mentioned knife-cylinder and bed-roll, means for moving a hide between said knife-cylinder and bed-roll, and means for revolving said knife-cylinders at different speeds.

Signed by me at Boston, Massachusetts, this 21st day of September, 1903.

JUDAH H. SEARS.

Witnesses:

WALTER E. LOMBARD,
EDNA C. CLEVELAND.