

No. 756,910.

PATENTED APR. 12, 1904.

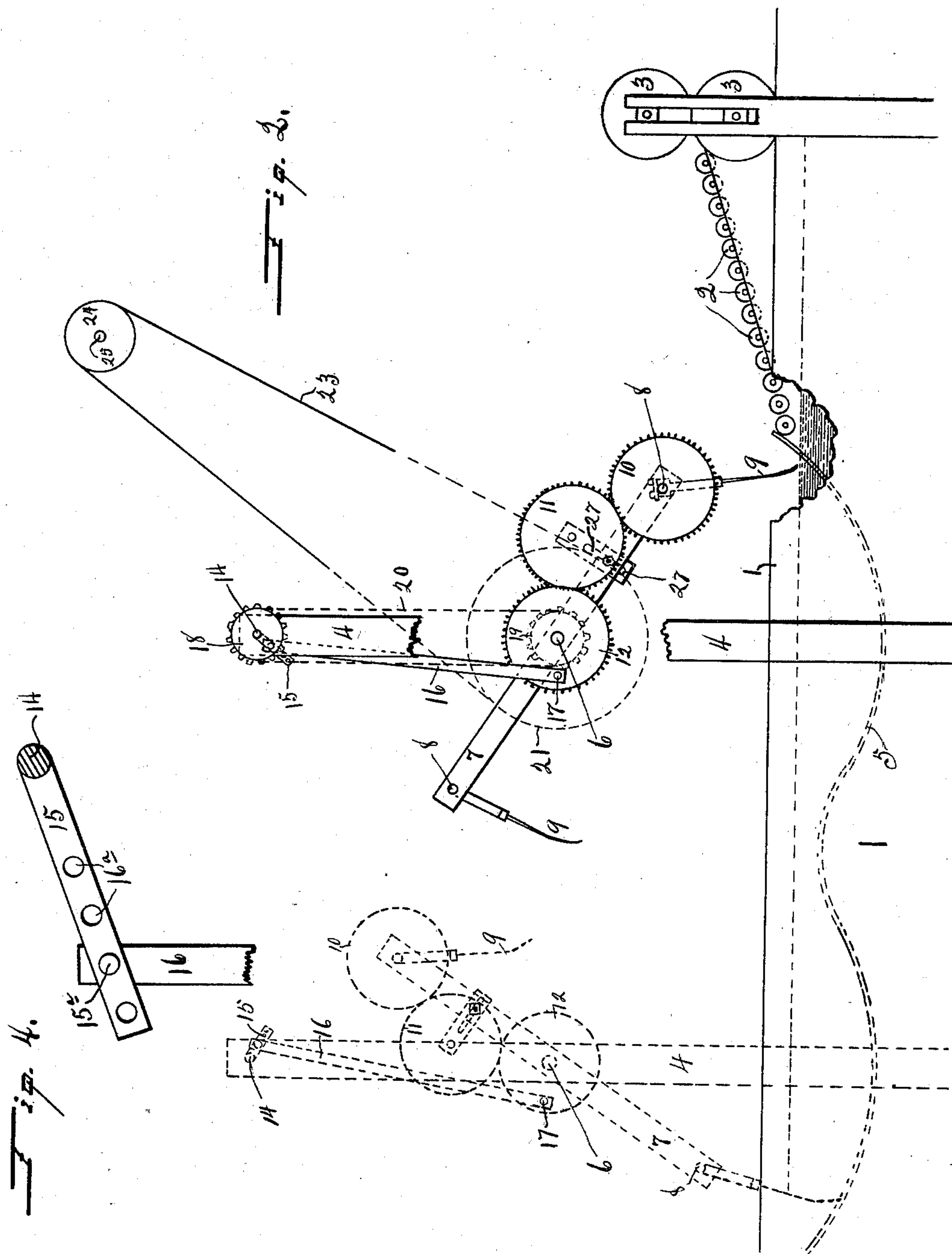
A. P. TATTERSON.

FORGING, ELEVATING, AND CONVEYING MACHINES.

APPLICATION FILED FEB. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

M. Maynes

C. Clements

Inventor

Arthur P. Tatterson

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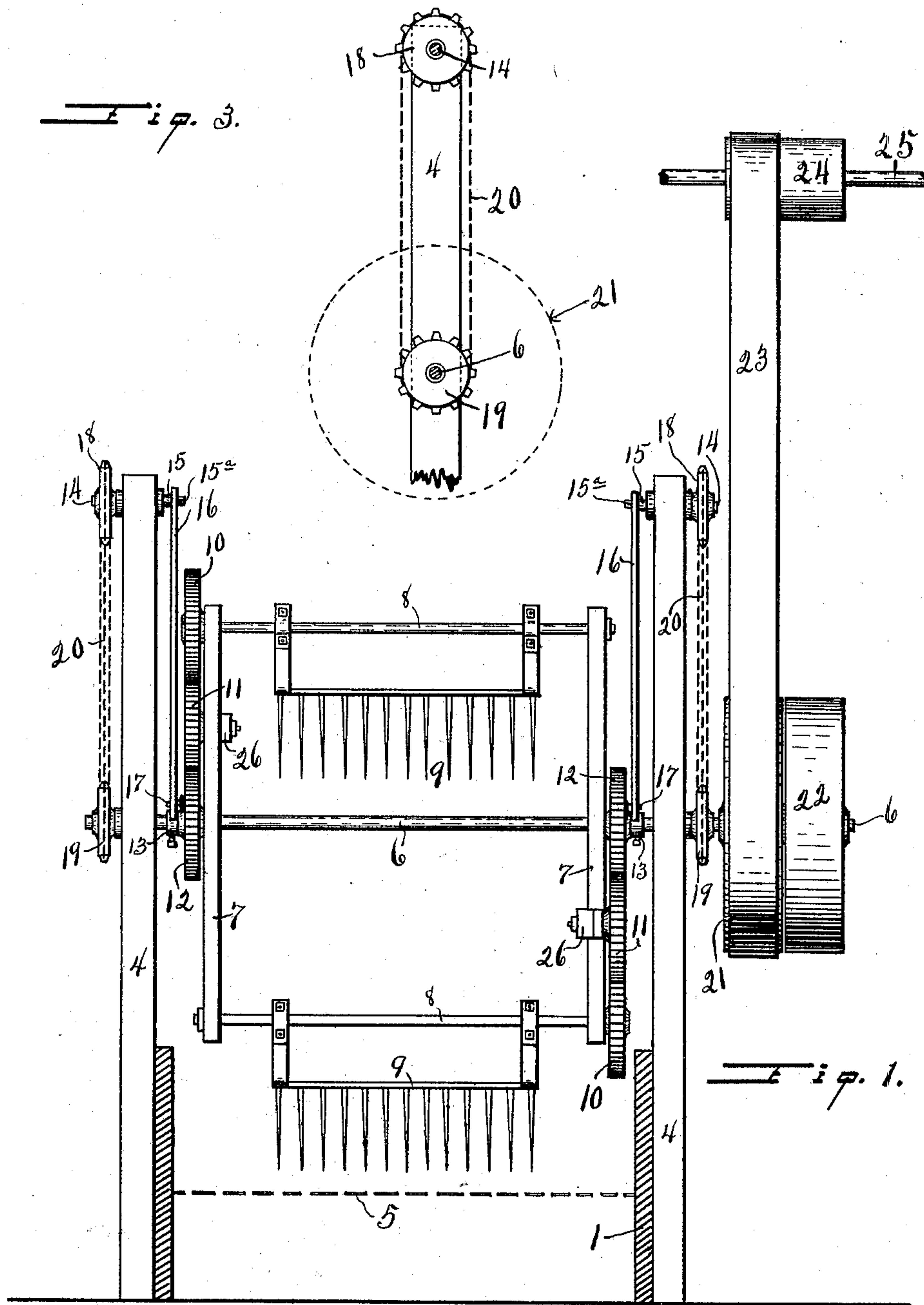
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Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR P. TATTERSON, OF STOCKTON, CALIFORNIA, ASSIGNOR OF ONE-HALF TO GEORGE W. TATTERSON, OF STOCKTON, CALIFORNIA.

FORKING, ELEVATING, AND CONVEYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 756,910, dated April 12, 1904.

Application filed February 14, 1903. Serial No. 143,413. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR P. TATTERSON, a citizen of the United States, residing at Stockton, in the county of San Joaquin and State of California, have invented a new and useful Improvement in Forking, Elevating, and Conveying Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of machinery used principally for washing wool and other analogous materials, and has for its object the furnishing of an implement which will automatically agitate, convey, and elevate wool and other analogous materials during the process of washing or similar operations. This I accomplish by the peculiar construction, novel combination, and adaptation of parts illustrated in the accompanying drawings and referred to by number and fully described herein and particularly pointed out in the claims hereunto annexed.

Referring to the accompanying drawings, Figure 1 represents an elevation of my machine with the tub or vat shown in cross-section. Fig. 2 is a side elevation of the same, showing its position on the tub or vat, the driving-pulley being shown in dotted lines and the post being broken away so as to show the mechanism more clearly. Fig. 3 is a detached detail view of the sprockets 18 and 19. Fig. 4 represents a detail view of the crank, showing the adjusting-holes in the same.

Similar figures of reference indicate corresponding parts in the several views.

1 represents a suitable tub or vat, such as is used for washing wool and other analogous materials, which may be of any suitable pattern and provided with the usual feed-rolls 2 and wringer or squeeze rolls 3 at one end thereof.

As the above are old in this class of machinery, I will not enter into a detailed description thereof.

The bottom of tub 1 may be provided with a false or perforated bottom 5, either straight or curved, as shown; but this does not vitally affect my invention.

I erect a post 4 on each side of and rigidly attach them to the tub or vat 1, to which posts 4 my invention is attached or journaled. The main shaft 6 is arranged laterally over the tub or vat and is journaled in the posts 4. Two arms 7 are rigidly attached at suitable locations parallel to each other on the shaft 6. These arms 7 are attached near their centers to said shaft, so as to protrude in opposite directions from said shaft 6. Each end is calculated to carry a shaft 8, whose description and functions are identical and which operate alternately by reason of being on opposite sides of the shaft 6. These shafts 8 are arranged parallel to the shaft 6 and are each adapted to carry a fork or rake 9, which is rigidly attached to it between the arms 7. A train of gears controls the action of each fork 9.

10 represents a gear or similar wheel rigidly attached to one end of the shaft 8, preferably outside of the arm 7. The gear 10 is engaged, controlled, and operated through the medium of an idler 11 by a similar gear-wheel 12, which is of equal diameter to and has the same number of teeth as the gear-wheel 10. This gear-wheel 12 is loosely journaled on the shaft 6 and is held in the desired location longitudinally on the said shaft 6 by a suitable collar 13 on one side and the arm 7 on the other. The idler 11 is journaled on a bracket 26, which is attached to the arm 7 and may be adjusted thereon by means of a slot 27, with which it is provided.

A shaft 14 is suitably journaled in the post 4 near the top thereof and has a crank 15 rigidly attached thereto, said crank 15 being provided with a series of holes 16^a therein for the adjustment of the crank-pin 15^a, so as to regulate the throw of the crank. A pitman-arm 16 has an opening in one end to receive the pin of the crank 15, and the other end is adapted to engage a pin 17, rigidly inserted in the side of the wheel 12 at a suitable distance from its center, for the purposes hereinafter set forth.

The shaft 14 has preferably a sprocket-wheel 18, rigidly attached to its free end. Said wheel 18 has a number of teeth equal to that of a similar sprocket-wheel 19, which is rigidly attached to the shaft 6 and designed to communicate motion to the wheel 18 by means of a sprocket-chain 20.

The shaft 6 is provided with a driving-pulley 21, rigidly attached thereto, and a loose pulley 22 of any approved pattern. These are driven by a belt 23 from power-pulley 24 on the main shaft 25.

The principal feature of my invention is the maintaining of the forks 9 in a rigid depending position at all times while being rotated around the main shaft 6 and the ability to vibrate or oscillate said forks at will.

The operation of my improved machine is as follows: The wool or other material to be operated upon is placed in the tub in the usual manner, and motion having been given to the shaft 25 and pulley 24 the belt 23 is guided so as to engage the pulley 21, when the different parts will be set in operation. As the shaft 6 revolves the arms 7 are rotated, together with the shafts 8, around said shaft 6. The pitman-arm 16 holds the cog-wheel 12 in a comparatively stationary position while the idle wheel 11, which engages the same, is caused to revolve. The wheel 10, engaging the idler 11, is given a reverse motion, which by reason of its rotation around the shaft 6 causes it to maintain the fork 9 continuously in any given position at all points in its rotation around the shaft 6. Thus it will be seen that as the fork 9 passes over the shaft 6 and descends into the tub 1 it engages the wool or other material in the tub and forces the same forward through the liquid and elevates said wool to the feed-rolls 2, on which the fork-load is deposited by reason of its own weight, which causes it to slide from off the tines of the fork 9. The sprocket 18 is designed to make the same number of revolutions as the shaft 6, which causes the crank 15 to occupy stated positions in its revolution at desired stated positions of the fork 9 in its rotation around the shaft 6. As the crank 15 descends the fork 9 is given a forward movement, as shown in Fig. 2, and as the crank 15 takes its upward turn the fork 9 is given a rearward movement. Thus by adjusting the crank 15 with relation to the position of the fork 9, which it controls, said fork will reach out at the beginning of its stroke and draw the material along as it advances until the feed-rolls 2 are reached, when the crank 15 will have continued to revolve until it assumes a downward position and the fork 9 pressed forward by means of the connecting-gears, as shown in Fig. 2. By adjusting the arm 16 in the holes 16^a in the crank 15 the oscillation of the fork 9 may be increased or diminished; but in no case should the distance from the pin 15^a to the center of

shaft 14 equal or exceed the distance from the pin 17 to the shaft 6.

When it is desired for the material operated upon to remain in the liquid a given length of time or for any other reason a long tub is used, my machines may be used tandem, as shown in dotted lines in Fig. 2, when one machine will carry the wool or other material along and the succeeding machine will catch it, and the operation will continue until the end of the tub is reached.

A great many features which enter into a complete machine of this character are old and which I have neither shown nor described, having shown and described such old parts only as are necessary to illustrate their connection with my invention.

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

1. In a machine of the class described, the forks 9 rigidly secured to the shafts 8, which are pivoted in the ends of the arms 7, the shaft 6 rigidly secured to the center of the arms 7 and journaled transversely of the tub or vat 1, a train of gears journaled on the shaft 6 and rigidly secured to the shaft 8 and means of securing the main gear of the train of gears against continuous and complete rotation, all substantially as shown and described.

2. In a machine of the class described the combination with a washing tub or vat having feed and squeeze rolls of the shaft 6 journaled in the post transversely of the tub or vat, the arms 7 rigidly secured to the shaft 6, the shafts 8 pivoted in the ends of said arms 7 and having the forks 9 rigidly secured thereto, the gear-wheel 10 rigidly secured to one end of the shaft 8, the gear-wheel 12 loosely journaled on the shaft 6, the idler-wheel 11 adaptably journaled on the arm 7 and adapted to engage both gear-wheels 10 and 12, the pin 17 rigidly inserted in the side of the wheel 12, the pitman-arm 16 adapted to engage the pin 17 and the crank 15; said crank 15 secured to the shaft 14 which is journaled in the top of the post 4, the sprocket 18 rigidly secured to the shaft 14, the sprocket 19 rigidly secured to the shaft 6, the sprocket-chain 20 adapted to engage both sprockets 18 and 19, and means for imparting motion to the shaft 6, all substantially as shown and described and for the purposes set forth herein.

3. A series of forks journaled in a revolving frame, which carries a train of gears adapted to control said forks and maintain the same in a depending position during the entire revolution of the frame aforesaid, all substantially as shown and described.

4. In a machine of the class described the means for oscillating a fork in a revolving frame, comprising a train of gears, journaled on the arm of the frame, one of which is

adapted to engage the fork by means of a shaft, a pitman engaging another of the train of gears, a pitman wheel or crank engaging said pitman and means for operating said pitman-wheel simultaneously with the revolution of the frame aforesaid all substantially as shown and described.

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10 5. In a machine of this class, a main shaft journaled transversely of a suitable tub or vat, having arms rigidly attached in their centers at right angles thereto, forks rigidly mounted on shafts, journaled in each end of said arms, a train of gears engaging said fork-shafts journaled on the side of the arms aforesaid,

means for adjusting said train of gears on 15 said arms, the pitman 16 engaging the initial gear of the train of gears whereby the forks are oscillated to and fro while being rotated around the main shaft, and means for operating the pitman all substantially as shown and 20 described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR P. TATTERSON.

Witnesses:

M. HAYNES,

GEO. W. TATTERSON.