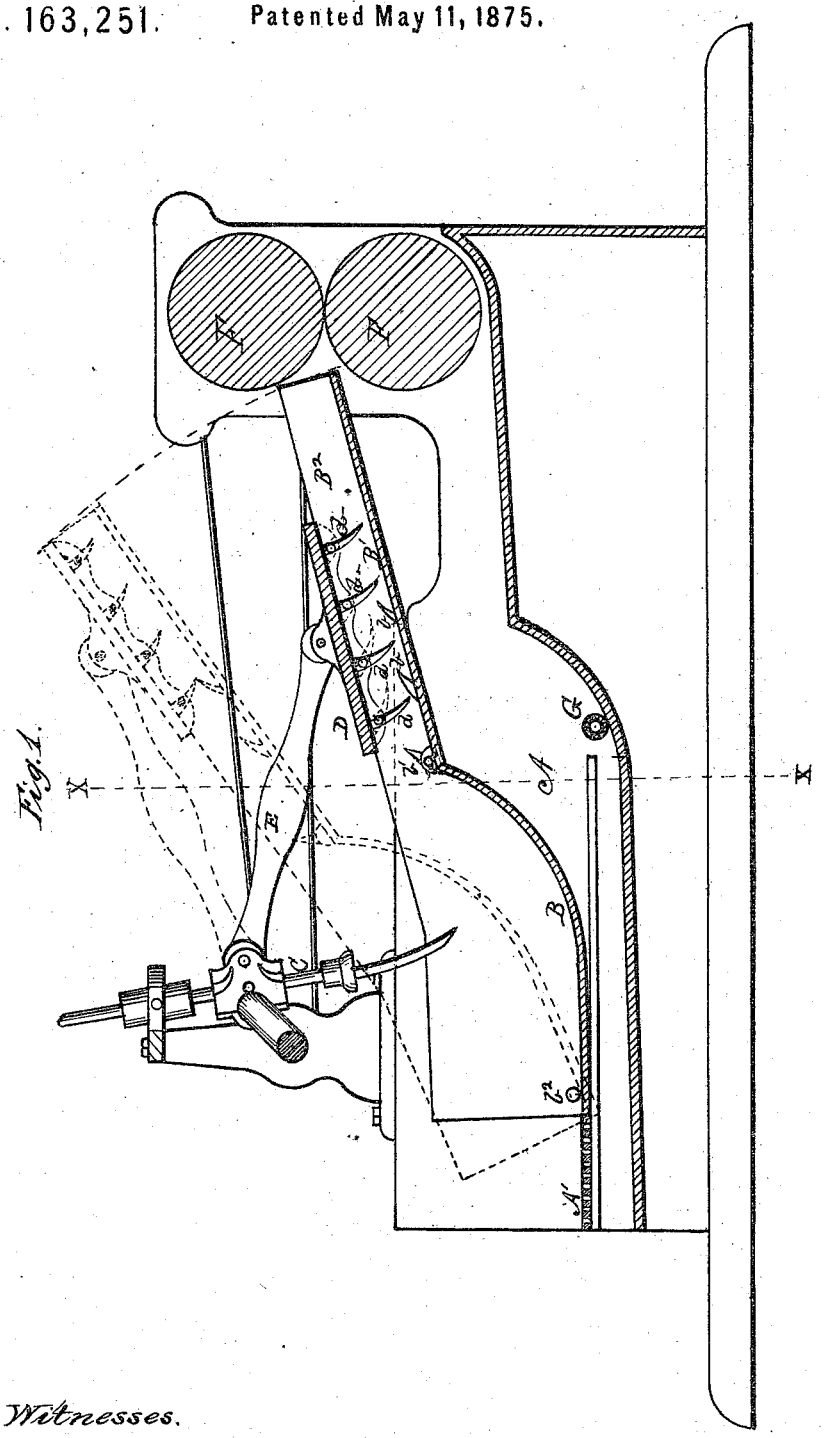
2 Sheets--Sheet 1.

J. K. PROCTOR & C. R. LINDSAY.

Wool-Washing Machine.

No. 163,251. Patented May 11, 1875.



Witnesses.
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THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

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J. K. PROCTOR & C. R. LINDSAY.

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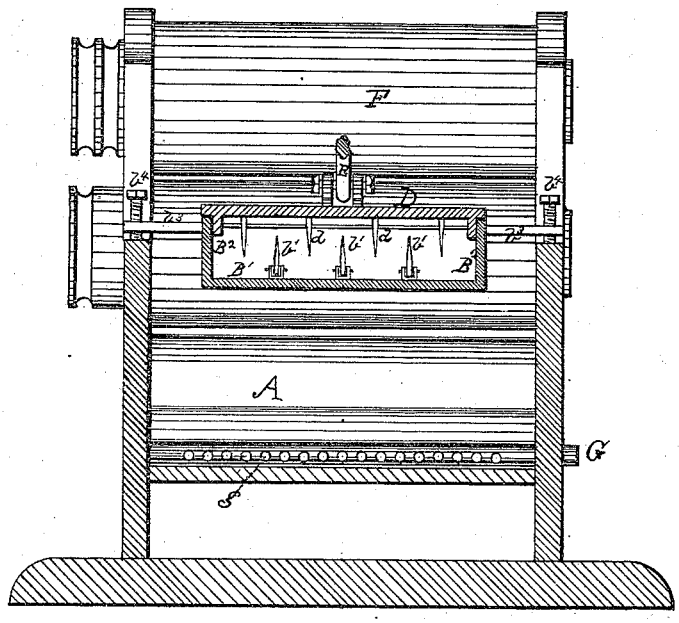

Fig 2

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UNITED STATES PATENT OFFICE.

JOSIAH K. PROCTOR AND CHARLES R. LINDSAY, OF PHILADELPHIA, PENNSYLVANIA; SAID LINDSAY ASSIGNOR TO JAMES SMITH & CO., OF SAME PLACE.

IMPROVEMENT IN WOOL-WASHING MACHINES.

Specification forming part of Letters Patent No. **163,251**, dated May 11, 1875; application filed October 9, 1873.

To all whom it may concern:

Be it known that we, JOSIAH K. PROCTOR and CHARLES R. LINDSAY, of the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Wool-Washing Machines; and we do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a longitudinal, and Fig. 2 a cross, section of the machine, the latter view being taken in the line *x x* of Fig. 1.

The nature of our invention consists in the peculiar construction and combination of parts, as hereinafter set forth, having reference particularly to the following points:

First, to hinging the chute or incline so that the same may be adjusted at any necessary angle or inclination, or raised out of the way to permit easy access to the bowl for the purpose of cleaning the same; secondly, to making the lower row of teeth on the incline or chute hinged or pivoted, so that they will yield when the wool is forced over them by the fork, but will rise and enter the wool should it slide backwardly, said hinged or pivoted teeth being on or above the surface of the bottom of the chute, and not below the same or working through openings therein; thirdly, to providing means for speedily cleansing the bowl, said means consisting of a pipe or pipes, whereby the bowl may be flooded with water, which is drawn off through the central opening or valve in the mud-well.

Referring to the accompanying drawing, A is the bowl, having a perforated false bottom, A′, and a curved incline or chute, B. C is one of a series of forks mounted and operated as described in our patent of November 26, 1872, No. 133,481. The chute B is provided with rigid pins *b*, below which is a series of hinged or pivoted pins, b^1. When the wool is pushed over and upon these pins b^1 by the fork C they will yield and be depressed, but will rise and enter the wool automatically should the latter begin to slide back toward the fork. The pins b^1 are located on the surface, or above the bottom B^1 of the chute B, instead of being made to pass through openings therein, said openings being objectionable for the reason that they will allow the exit of wool, which is thus lost when the washing-liquor is discharged from the bowl. The chute B is pivoted or hinged at b^2, so that it may be adjusted to any desired angle by means of the set-screws b^4, which pass through ears b^3 and find bearings on the edge of the bowl A, or raised, as shown in dotted lines, to permit access to the bowl for cleaning.

The object of making the chute adjustable is this: In course of time the squeeze-rolls wear down in their bearings, the upper roll dropping below the chute. If the chute be made fixed, an opening will thus be formed between it and the lower roll, through which quantities of wool will pass to the bowl and thereby be lost. By making the chute adjustable—which is effected by pivoting—it may be lowered to correspond with the depression of the roll, and the above-mentioned loss avoided.

D is the carrier, connected by means of the pivoted arm E to the fork C. The carrier D rests and moves upon the sides B^2 of the chute B, and is provided with hinged or pivoted teeth *d*, arranged as shown, so that they will engage with the wool on the chute when said carrier is advanced toward the squeeze-rolls F, and will slide over the wool without engaging therewith during the backward motion of the carrier.

By means of this construction the carrier may be advanced and retracted in the same plane, thereby dispensing with the costly and cumbrous mechanism heretofore employed for elevating the carrier during its backward motion. G is a pipe provided with a series of apertures, *g g*, (or an elongated slot would answer the same purpose,) through which water is conveyed for flooding, and thereby speedily cleansing, the bowl A. It is designed to locate the pipe G at or about the beginning of the curve of the bowl, and also to employ a similar pipe at the other end of said bowl. The valve in the mud-well (not shown in the drawing) being

opened, and a full head of water let on through these pipes, the bowl will be very thoroughly cleansed in a very short space of time, the water passing in an even sheet from each end of the bowl, carrying with it the mud and impurities collected on the bottom. By means of this construction the bowl may be very speedily and easily cleaned without the necessity, heretofore existing, of raising the false bottom to effect the same result.

It will be observed that the hinged teeth are arranged under the carrier in transverse rows, each row being hung upon a rod in such manner that all the teeth in each such row will move simultaneously, thereby effecting an even delivery to the squeeze-rolls. The carrier and hinged or pivoted teeth are so combined and arranged that they form, at their junction, an acute angle on the upper side of the latter. This enables the teeth to freely enter and firmly engage with the stock on the incline as soon as the carrier begins its upward movement, it being obvious that if the teeth were arranged to form a right angle with the carrier, no such ready entrance and thorough engagement with the stock could be obtained.

It is admitted that in J. K. Proctor's patent of November 26, 1872, No. 133,481, an incline and fork are illustrated, and that in the patent granted October 14, 1873, to James E. Ackroyd, hinged teeth on a carrier are shown and described.

The present invention is, however, distinguished from Proctor's, above named, in the following respects: In Proctor's aforesaid patent the wool is lifted by a fork to a carrier, which moves up in one plane and down in another, cams and other devices for effecting said operation being provided. In the present case these cams and instrumentalities are dispensed with, the carrier moving up and down in the same plane over the incline.

It is distinguished from Ackroyd's patent in this: Ackroyd has neither an incline or false bottom, nor forks. Instead of an incline, Ackroyd proposes to place studs on the side or end of the bowl—a construction we deem impracticable—while we employ an incline, over and parallel to which moves the carrier, the latter being combined with the lifting-fork, so as to work alternately therewith.

What we claim as our invention is—

1. In a wool-washing machine, the combination of the following elements: a chute or incline for bearing the stock to the squeeze-rolls, a fork or deliverer for placing the stock on said incline, and a reciprocating carrier, moving to and fro in the same plane above said incline, and having hinged or pivoted teeth.

2. The combination of a reciprocating carrier, having hinged or pivoted teeth, and a fork or deliverer for transferring the wool from the bottom of the bowl to said carrier, the latter moving to and fro in the same plane.

3. The chute or incline B, hinged or pivoted substantially as described, so as to admit of adjustment with reference to the squeeze-rolls, and allow easy access to the bowl for the purpose of cleaning the same, as set forth.

4. The hinged or pivoted pins b^1, located on or above the surface of the bottom of the chute B, substantially as and for the purpose set forth.

5. In a wool-washing machine, a transverse flood-pipe, G, having discharge-orifices *g g*, and constructed substantially as shown and described, so that the water therefrom will be discharged in an even sheet over the bottom of the bowl, for the purpose set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 4th day of October, 1873.

JOSIAH K. PROCTOR.
CHARLES R. LINDSAY.

Witnesses:
JACOB R. MASSEY,
JACOB RAYMOND.