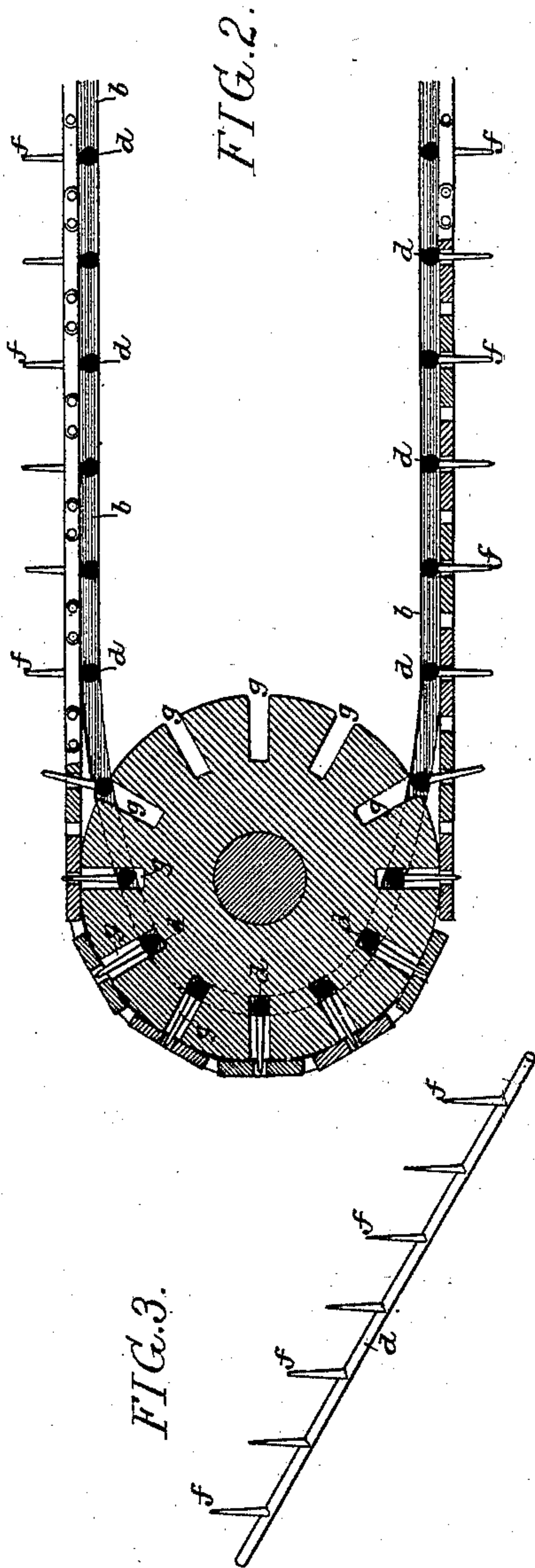
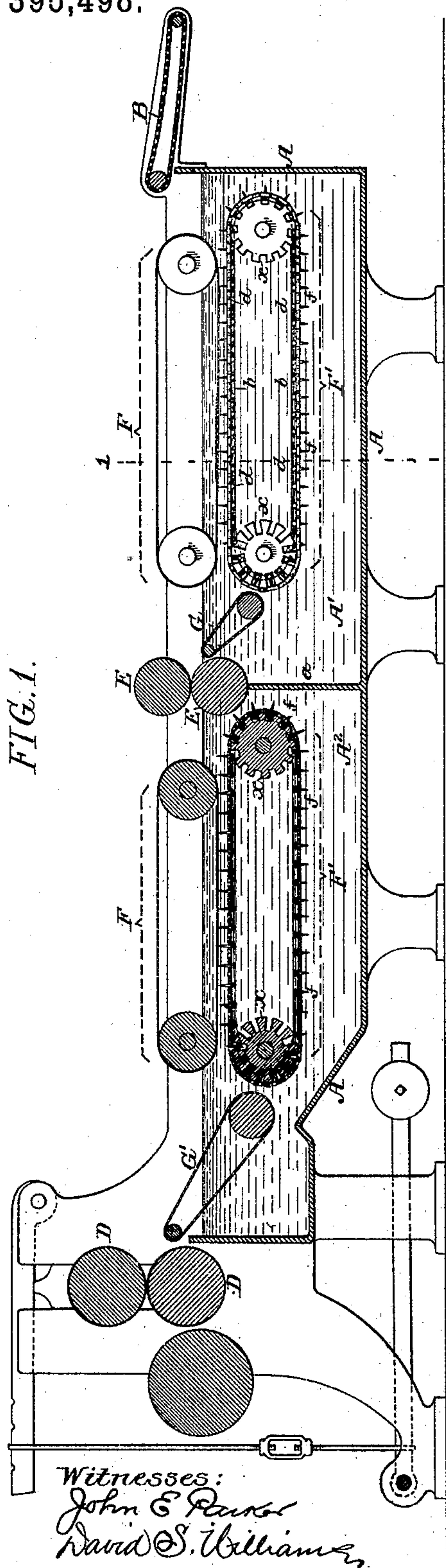


W. LUND.
WOOL WASHING MACHINE.

No. 395,498.

Patented Jan. 1, 1889.



Inventor:
William Lund
by his Attorneys
Howson & Howson

(No Model.)

2 Sheets—Sheet 2.

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FIG. 4.

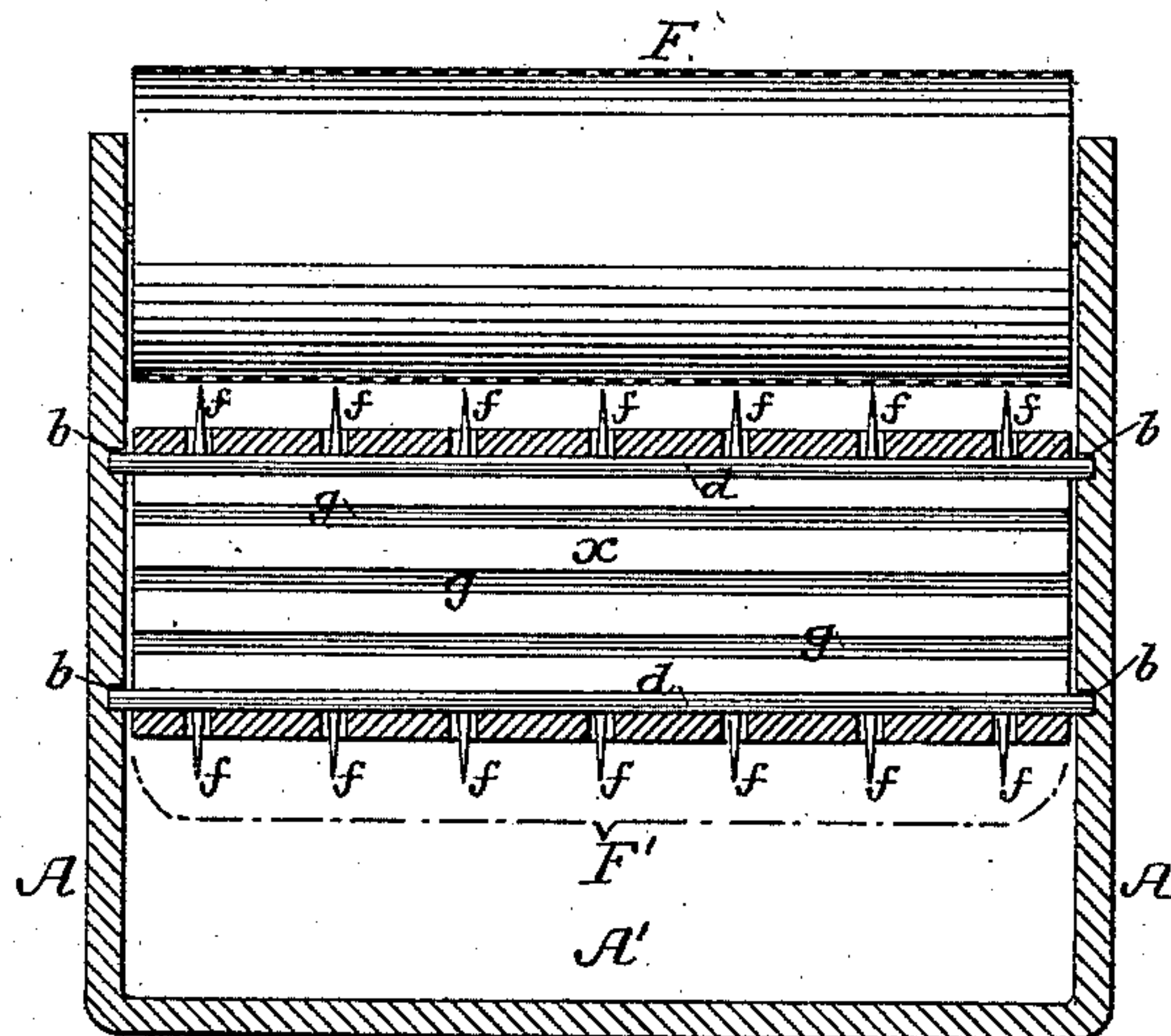
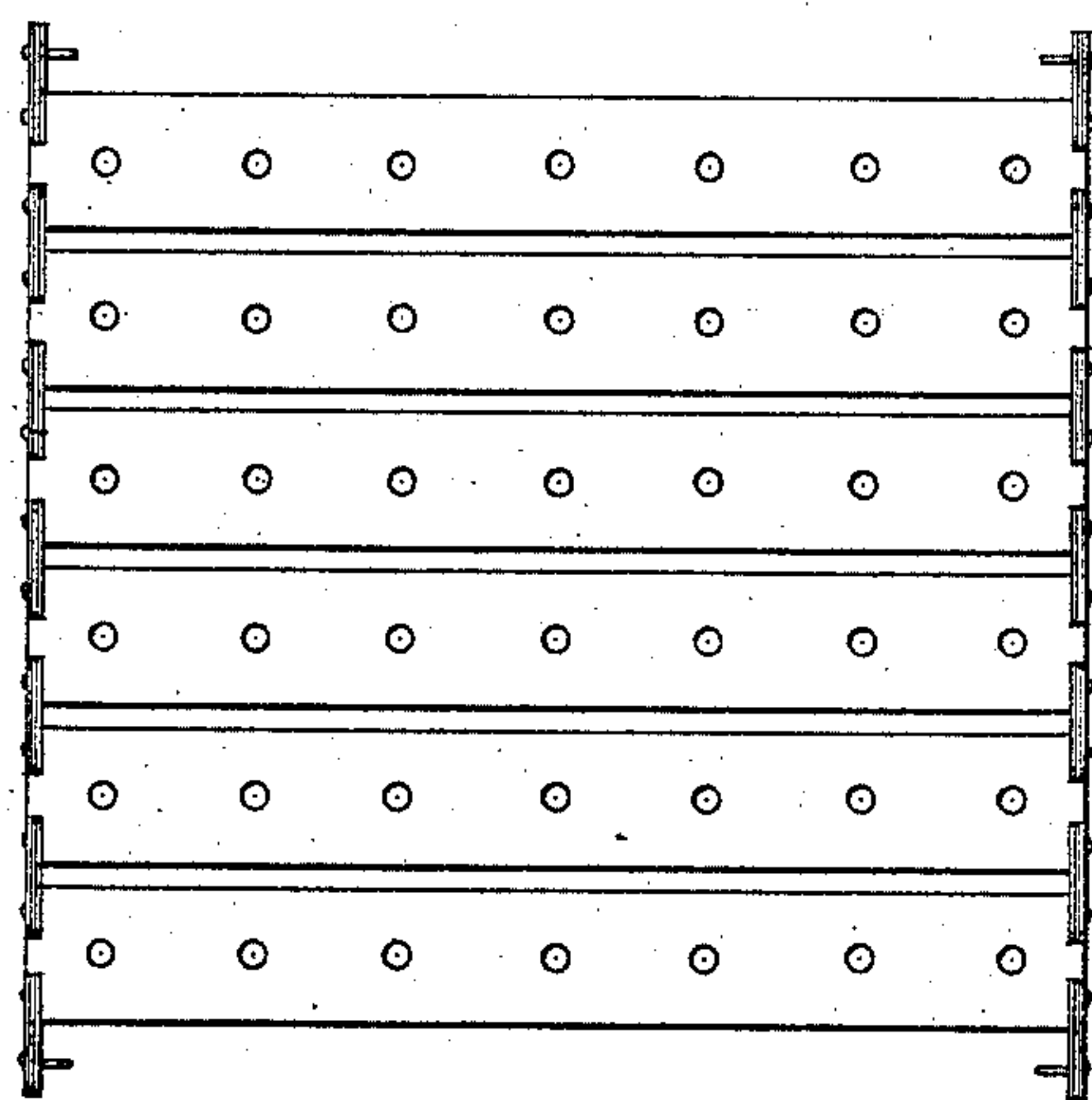


FIG. 5.



Witnesses:

Alex. Parkoff
David S. Williams

Inventor:

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Houson & Houson

UNITED STATES PATENT OFFICE.

WILLIAM LUND, OF PHILADELPHIA, PENNSYLVANIA.

WOOL-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 395,498, dated January 1, 1889.

Application filed June 14, 1888. Serial No. 277,072. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LUND, a subject of the Queen of Great Britain and Ireland, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Wool-Washing Machines, of which the following is a specification.

My invention relates to that class of wool-washing machines in which the wool is carried through the bowls by means of endless belts, the object of my invention being to insure a positive and definite feed of the wool by these belts. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a wool-washing machine constructed in accordance with my invention. Fig. 2 is an enlarged sectional view of part of the same. Fig. 3 is a detached perspective view of one of the parts of the machine. Fig. 4 is a transverse section, on an enlarged scale, on the line 1 2, Fig. 1; and Fig. 5 is an enlarged plan view of part of the carrier-belt of the machine.

A represents the bowl, which is divided by a central partition into two chambers, A^1 A^2 , each containing liquid for washing the wool as it is carried along through the same, the bowl having at one end a feed-apron, B, and at the opposite end a pair of squeeze-rolls, D, while an intermediate pair of squeeze-rolls E is located above the central partition, a , of the bowl.

In each of the chambers of the bowl is a pair of feed-aprons or belts, F F', the upper apron being of wire-gauze or perforated sheet metal and the lower apron being slatted—that is to say, composed of strips jointed together, so as to pass around the rolls x , these strips being preferably of metal. A flexible belt or apron of any desired character may, however, be used, although the slatted apron is preferred.

In the opposite sides of the bowl, or in plates secured to the inside of the same, are formed slots b , in which travel the opposite ends of bars d , each armed with rows of teeth f , which project through openings in the slats of the lower aprons, F', as shown in Fig. 2. Between the opposite rolls carrying the apron these slots b are parallel with said apron, and are so located in respect thereto that the teeth f are

caused to project above the surface of the apron and to or into the interstices of the upper apron, F, so that the wool fed onto the receiving end of the apron F' is caught and fed forward by the teeth and is held thereon by the contact or engagement of the upper wire-gauze or sheet-metal apron with said teeth, so that a positive and definite forward movement of the wool through the liquid in the bowl is insured, the wool being carried along near the surface of the liquid and kept up out of the dirt and sediment which collects in the bottom of the bowl.

The roll x at the delivery end of each apron F' has a number of radial slots, g , as shown in Fig. 2, and at points adjacent to this roll the slots b are made cam-shaped, as shown by dotted lines in said Fig. 2; hence as the toothed bars d approach the delivery end of the apron F' they will be retracted and their teeth will be drawn through the openings in the slats of the apron, so that the points of the teeth will not project above the surface of the apron and will not interfere with the free delivery of the wool therefrom, the teeth being projected again by the action of the cam-slot upon the bars d in time to catch and carry forward the wool placed upon the apron at the receiving end of the same, the projecting of the teeth being preferably effected as soon as they have passed below the center of the roll at the delivery end of the apron, as shown.

From the first pair of aprons the wool is delivered by a short carrier-apron, G, to the intermediate press-rolls, and after being squeezed thereby is delivered to the second set of aprons, by which it is carried along through the liquid in the chamber A^2 and is delivered by a second carrier-apron, G', to the final press-rolls D and receives its final squeeze prior to delivery from the machine.

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

1. The combination of the carrier-apron and retainer-apron, bars having teeth projecting from the carrier-apron, rolls for said apron recessed to receive the bars, and cam-slots whereby the bars are retracted and their teeth withdrawn from above the carrier-apron at the delivery end of the latter, all substantially as specified.

2. The combination of the carrier-apron composed of jointed and perforated slats, the bars having teeth adapted to the perforations of said slats, the rolls recessed for receiving said
5 bars, and cam-slots for retracting the bars at the delivery end of the apron, all substantially as specified.

3. The combination of the carrier-apron and its teeth with the open-work retainer-apron engaging with said teeth and preventing the re-

lease of the wool therefrom, all substantially as specified.

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

WILLIAM LUND.

Witnesses:

EDWARD M. RILEY,
HARRY SMITH.