(No Model.)

J. T. DAVIS.

Wool Washing Machine.

No. 238,864. Patented March 15, 1881.

Fig. 1.

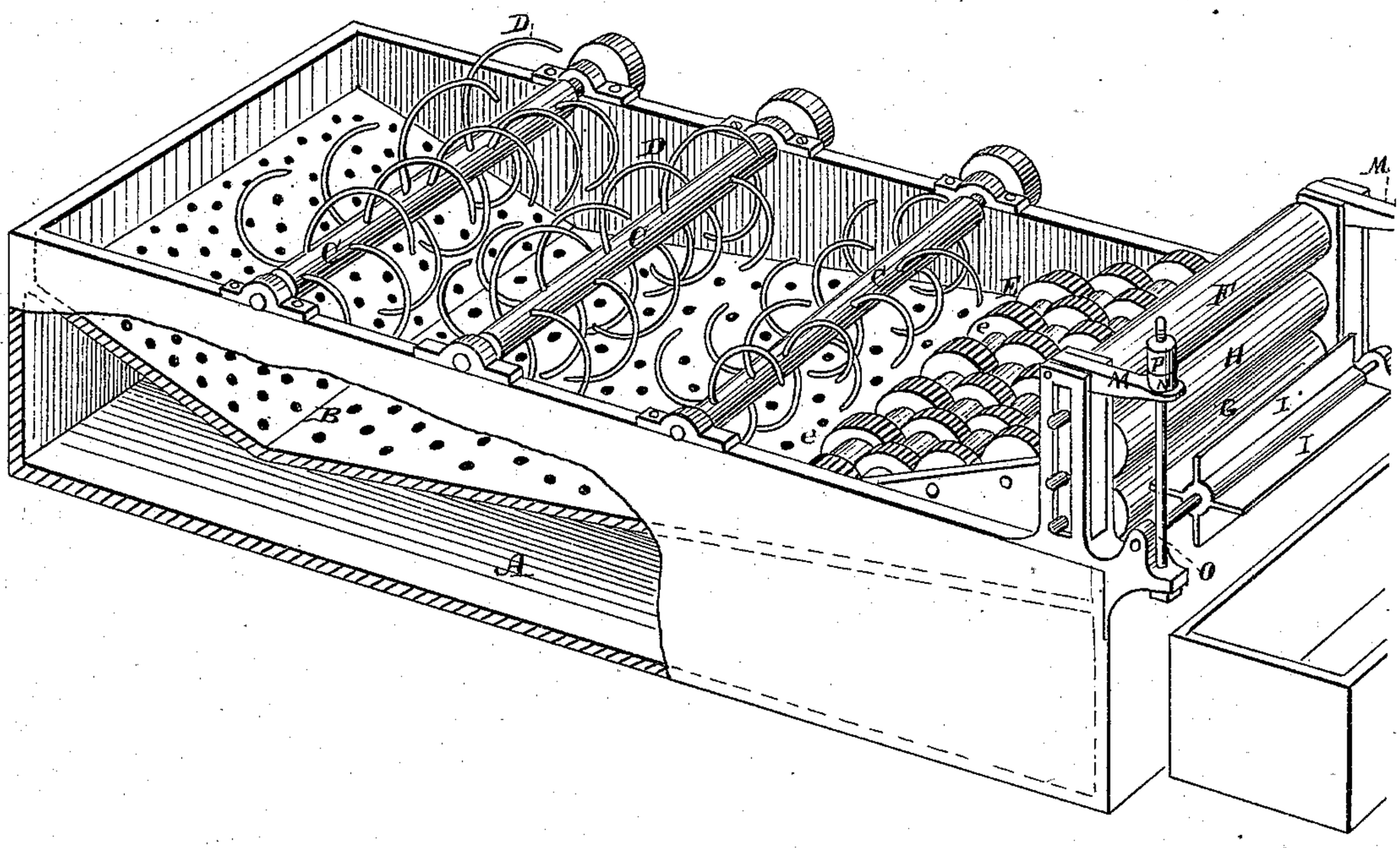
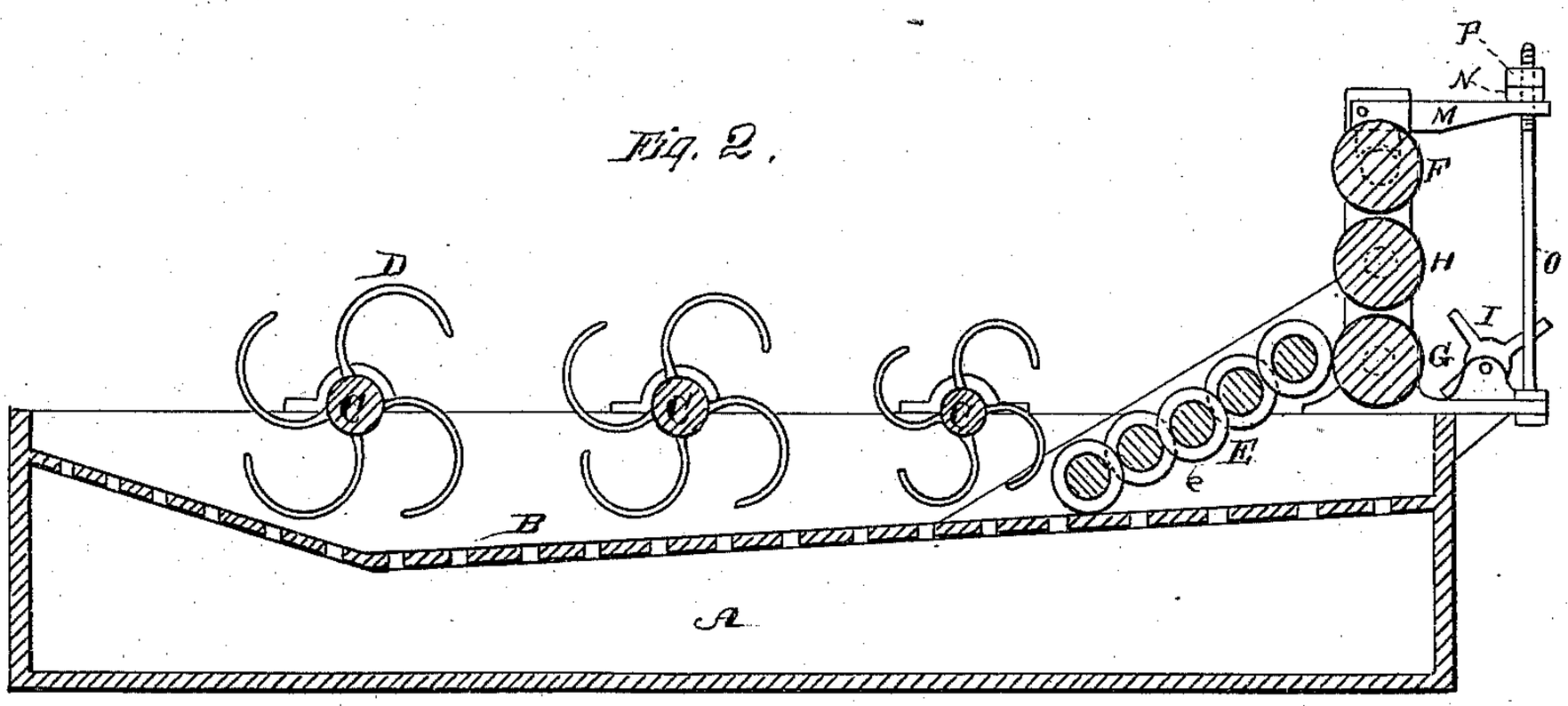


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN T. DAVIS, OF SAN FRANCISCO, CALIFORNIA.

WOOL-WASHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 238,864, dated March 15, 1881.

Application filed January 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. DAVIS, of the city and county of San Francisco, and State of California, have invented an Improved Wool Washing and Scouring Machine; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to machines for washing wool; and it consists in a trough provided with a perforated false bottom and a series of revolving beaters which submerge and stir the wool, and at the same time feed it toward one end of the trough, in which is a series of elevating-rollers which carry the wool to a set of squeezing-rollers, when the water is removed, all of which is hereinafter more specifically described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a longitudinal vertical section.

Let A represent a tank containing the solution or bath in which the wool is to be washed. This tank is constructed with a perforated false bottom, B, having an inclination upward toward the foot or discharge end of the tank. By this inclination of the bottom the wool is carried along through a gradually-lessening depth of the bath until it reaches the rollers, as hereinafter shown, when it is taken out altogether.

On the sides of the tank A, I place the rollers C, journaled appropriately to permit of their easy revolution, and provided with pulleys whereby they may be driven. To the rollers C, I attach the curved rakes or arms D over their surface in a spiral manner, so that each arm D shall follow another and act upon the wool below continuously. The arms D just move clear of the false bottom B. The rollers C are made to revolve in that direction which will turn the arms D backward—that is, present their curved or convex sides to the wool. This is for the purpose of preventing them from picking up the wool or catching in it, the object being simply to push it along. I can have as many of these rollers C as desirable, their number depending upon the length of the tank A.

Along the false bottom B, toward its foot or discharge end, I place the series of rollers E, journaled in appropriate frame-work placed within the tank to the desired height. The elevating-rollers E are made by arranging a series of disks, *e e*, on shafts and having the disks mesh between each other, as shown, which prevents the wool from being drawn down between the elevating-rollers.

They are so placed that the disks thus formed pass between each other. This series of rollers E is made to revolve by appropriate mechanism in the direction of the foot of the tank and form a surface over which the wool is passed, each separate roller receiving and passing the wool as it comes.

On the end of the tank A are journaled the squeeze-rollers, placed vertically, and consisting of the upper iron roller, F, the lower iron roller, G, and the rubber roller H, between the two. The two iron rollers are journaled in appropriate boxing on the side of a frame, and are revolved in the direction away from the tank, and thus cause the rubber roller H, fitted between them, to revolve in the opposite direction. The rubber roller H has a shaft through its center projecting at its ends, and fitting between guides, or journaled in housing, so as to keep it in place when the pressure of the iron rollers is upon it. This pressure is obtained by means of the lever M set on the boxing of the top roller, F, and pressed down by the box-screws P upon the rubber springs N on the rods O, as shown. These squeeze-rollers are so placed upon the foot of the tank as to receive the wool from the last roller E and draw it between themselves, and thus press it. They can be of any practicable size and weight. The object of the rubber roller is to prevent the wool from being cut, by securing an elastic pressure. When worn out another can be substituted. The upper iron roller, F, is simply to resist the pressure from the lower iron roller, G, the wool passing between the lower iron roller, G, and the rubber roller H. The rubber springs N on the rods O permit the rollers to give when necessary.

I do not confine myself to the use of a middle roller made of rubber, but use simply two iron rollers, one of which may be provided with flanges, which can be covered with rope, bagging, woolen yarn, or any suitable substance, which will form a cushion to prevent the wool from being cut up in passing between.

I represents a knocker journaled at the end of the tank A to receive the wool as it passes from between the squeeze-rollers and carry it along to the bin.

Appropriate pulleys, to which power is applied, will revolve all the systems of rollers and operate the entire machine. The operation of the apparatus will be as follows: The wool is placed in the bath at the head of the tank A. It is then pushed forward by the curved arms or rakes D, which do not lift it up, but push it forward in the bath from one to another until it reaches the feed-rollers E, over which it passes, being by them carried along and up to the squeeze-rollers, passing then between the lower iron roller, G, and the middle rubber roller, H, by which it is squeezed comparatively dry, and is then discharged.

Having thus described my invention, what I claim as new is—

The wool washing and scouring machine herein described, consisting of the tank A, with its inclined false bottom B, the rollers C, with their spirally-placed curved arms or rakes D, the feed-rollers E, provided with meshing-disks *e e*, and the squeeze-rollers consisting of the upper and lower iron rollers, F and G, and the middle rubber roller, H, together with the means for obtaining the pressure upon the said roller H, consisting of the levers M, pressed down upon the end of the top roller, F, by the box-screws P, set upon the rubber springs N on the rods O, substantially as described.

In witness whereof I have hereunto set my hand.

JNO. T. DAVIS.

Witnesses:
FRANK A. BROOKS,
S. H. NOURSE.