(No Model.)

T. J. FERGUSON.

HEMP WASHER.

No. 252,365. Patented Jan. 17, 1882.

Fig. 1.

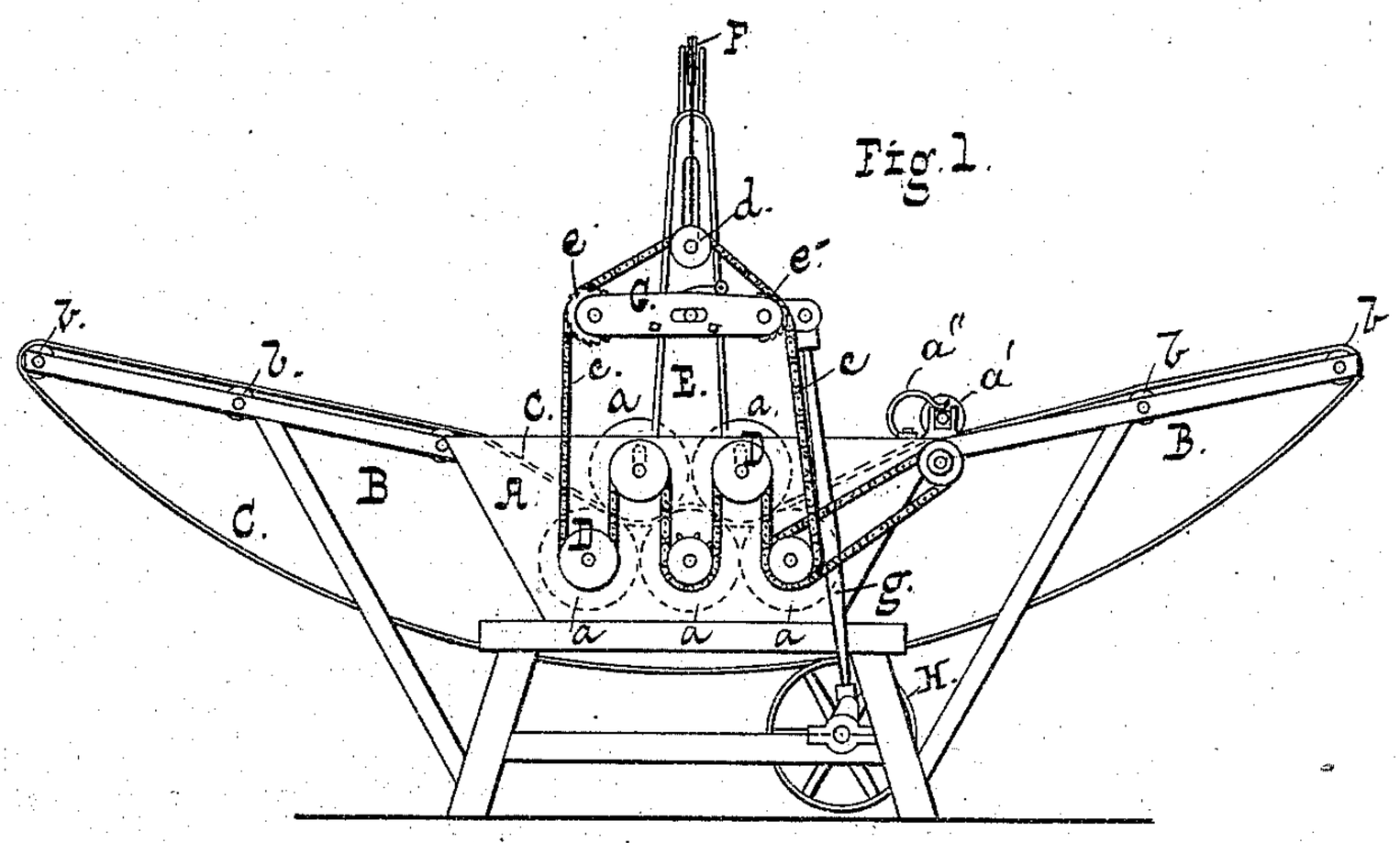


Fig. 2.

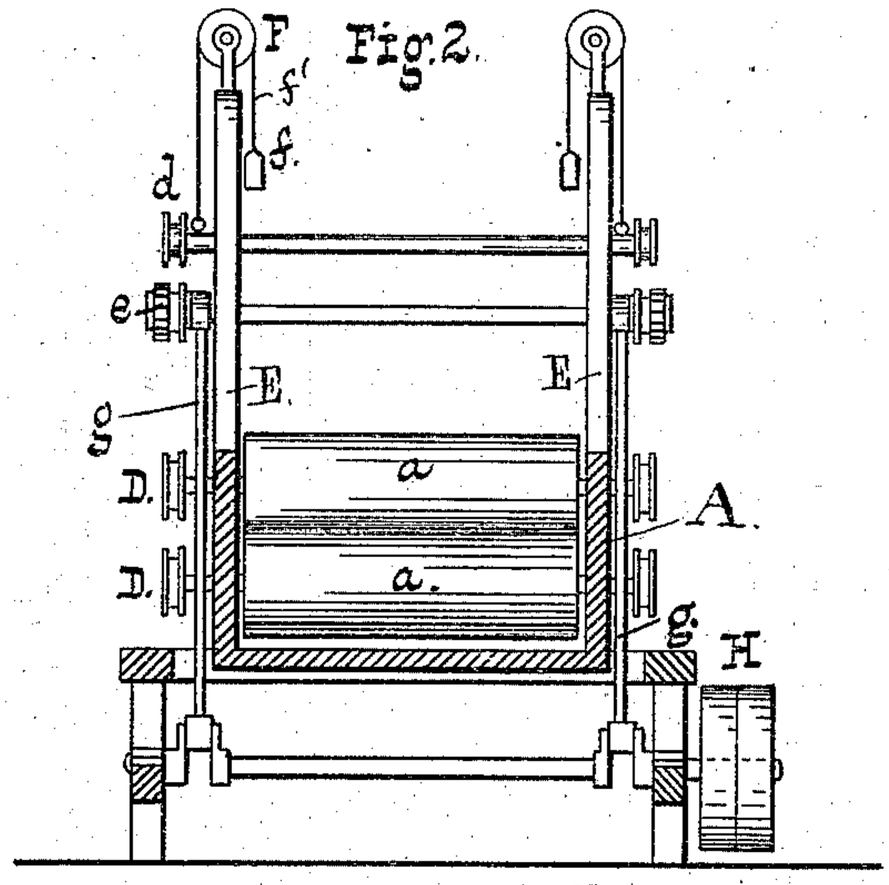
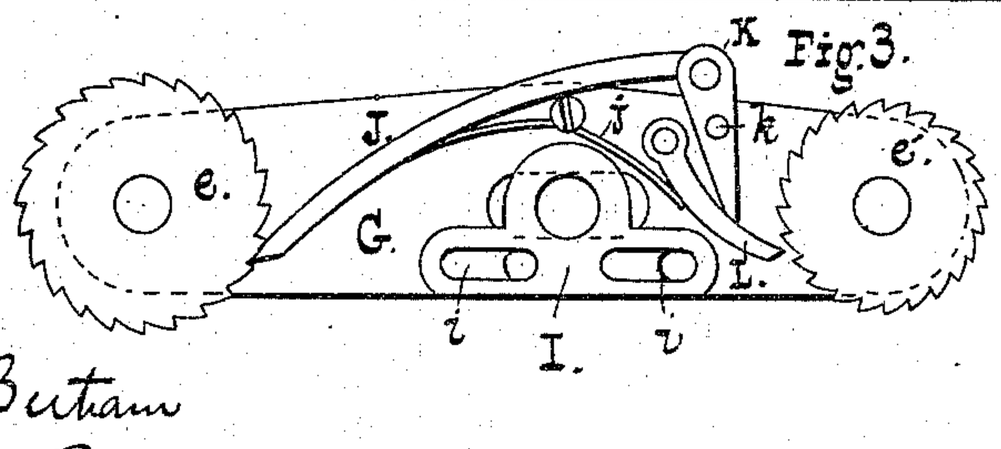


Fig. 3.



WITNESSES.

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THOMAS J. FERGUSON, OF PIKESVILLE, MARYLAND.

HEMP-WASHER.

SPECIFICATION forming part of Letters Patent No. 252,365, dated January 17, 1882.

Application filed November 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. FERGUSON, of Pikesville, Baltimore county, State of Maryland, have invented certain new and useful Improvements in Hemp Washers; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the device; Fig. 2, a cross-sectional view of the same, and Fig. 3 a side elevation of a part of the same.

My invention has reference to machines for washing hemp for the cleansing and separation of the fiber from the adherent matter of the plant and other impurities; and it consists in a device for accomplishing that end, constructed and operating substantially as hereinafter described, the points of novelty being made the subject of the claims.

In the drawings, A is a suitable tank, in which are mounted rollers *a a*, having pulleys D upon their shafts on the outside of the tank. At either side of the latter is a frame, B, having rollers *b*, over which passes an endless apron, C. The apron is led between the rollers *a a*, as shown in dotted lines, and passes under a roller, *a'*, on its exit from the tank, the said roller being pressed down by means of a spring, *a''*.

At either side of the frame is an upright, E, in which are mounted levers G, having in their ends sprocket-wheels, over which are led chains *c*. The latter pass over the pulleys of the rollers *a a* and over rollers *d*, which are normally drawn upward by cords *f'*, led over pulleys F, and having weights attached, as shown, the object being to hold the chain *c* tight and cause the upper row of rollers to press upon the lower ones.

The ends of the rock-shafts are connected by rods *g* with cranks on a main driving-shaft, which latter carries a pulley, H, for the driving-belt.

The levers G (see Fig. 3) are pivoted eccentrically in the uprights E, the wheels *e e'* being at unequal distances from the pivot, and the plate I, through which the shaft passes, is made laterally adjustable by means of bolts passing through slots *i*, so as to alter these relative distances as desired, to determine the feed.

J is a pawl, which engages with the ratchet *e*, and which is pivoted to a lever, K. The latter is pivoted at *k* to the lever G, and bears at its lower end upon a pawl, L, that engages with the wheel *e'*.

A spring, *j*, holds the pawls in engagement with the ratchets. Instead of using a pawl, L, the lever K may engage directly with the ratchet *e'*.

The operation is as follows: The hemp being fed to the apron is carried along between the series of rollers *a a* and out at the opposite side of the machine. In transit between the rollers it is thoroughly scrubbed by their peculiar motion and the vegetable matter is removed from the fiber.

It will be seen that as the arms of the lever G are unequal the arcs described by its extremities are also unequal, whereby the chain *c* is carried forward a greater distance by the sprocket-wheel attached to the ratchet *e* than it is retracted by the wheel in the other end of the shaft or lever G. The motion of the rollers *a* is therefore a reciprocating rotation greater in one direction than the other. The result is that the hemp is gradually fed through the tank, but is rubbed back and forth in the water in transit, being pressed between the rollers.

The device is susceptible of other uses than in washing hemp, being eminently adapted for use, for instance, as a wool-washer, as its motion will not felt the fiber.

What I claim is—

1. In a hemp-washer, a tank having a series of washing-rollers and mechanism, substantially as described, for imparting to the same a reciprocating rotary movement, the motion being greater in one direction than the other, as and for the purpose set forth.

2. In combination with the tank having rollers *a* and mechanism for imparting to the same a reciprocating rotary movement, the endless apron C, as and for the purpose set forth.

3. In combination with the tank having rollers and apron, the driving chain or belt *c*

and rocking shaft or lever G, provided with ratchets *e e'* and their pawls, as set forth.

4. In combination with the tank having rollers and apron, the driving-chain *c*, rocking lever G, having unequal arms and ratchets *e e'* and pawls, and the tension-rollers *d*, as set forth.

5. In combination with the tank and rollers, the driving-chain *c* and lever G, laterally adjustable with reference to the pivot, whereby the feed may be regulated, as set forth.

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Witnesses:
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