M. Richardson,

Washing Machine,

No. 28,442. Patented May 22, 1860.

Fig. 2.

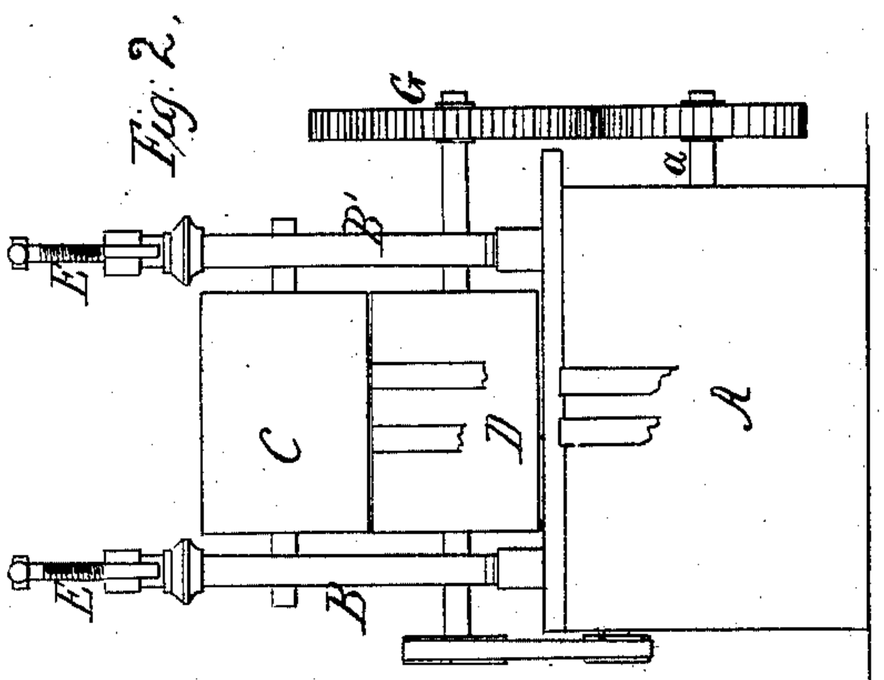


Fig. 4.

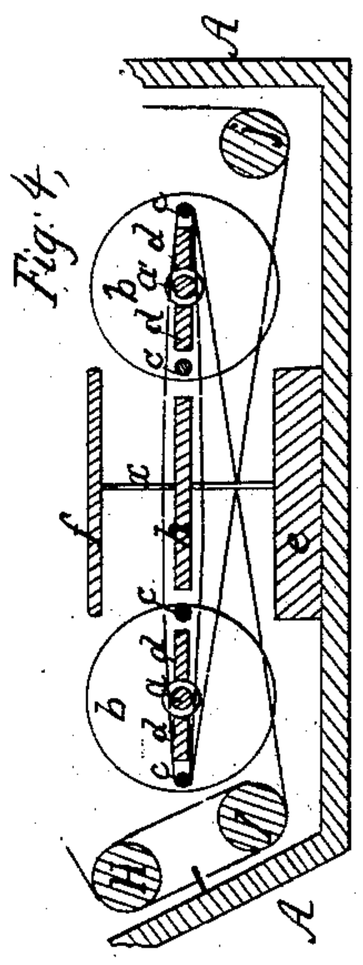


Fig. 5.

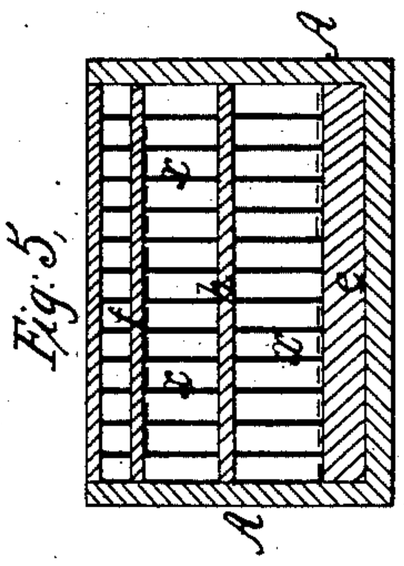


Fig. 1

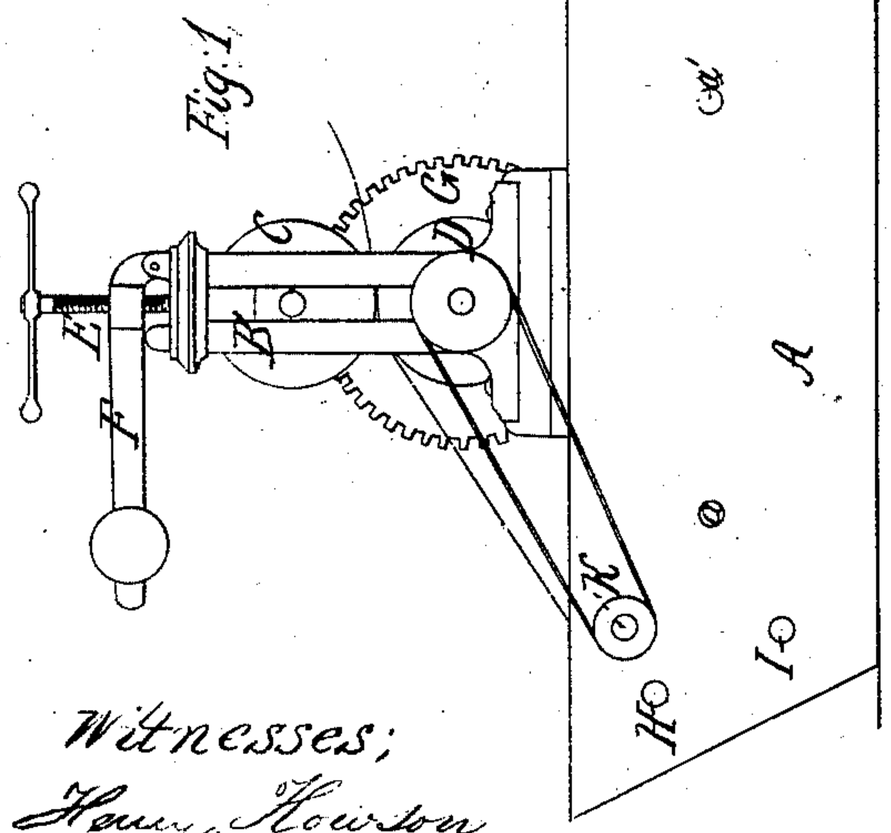
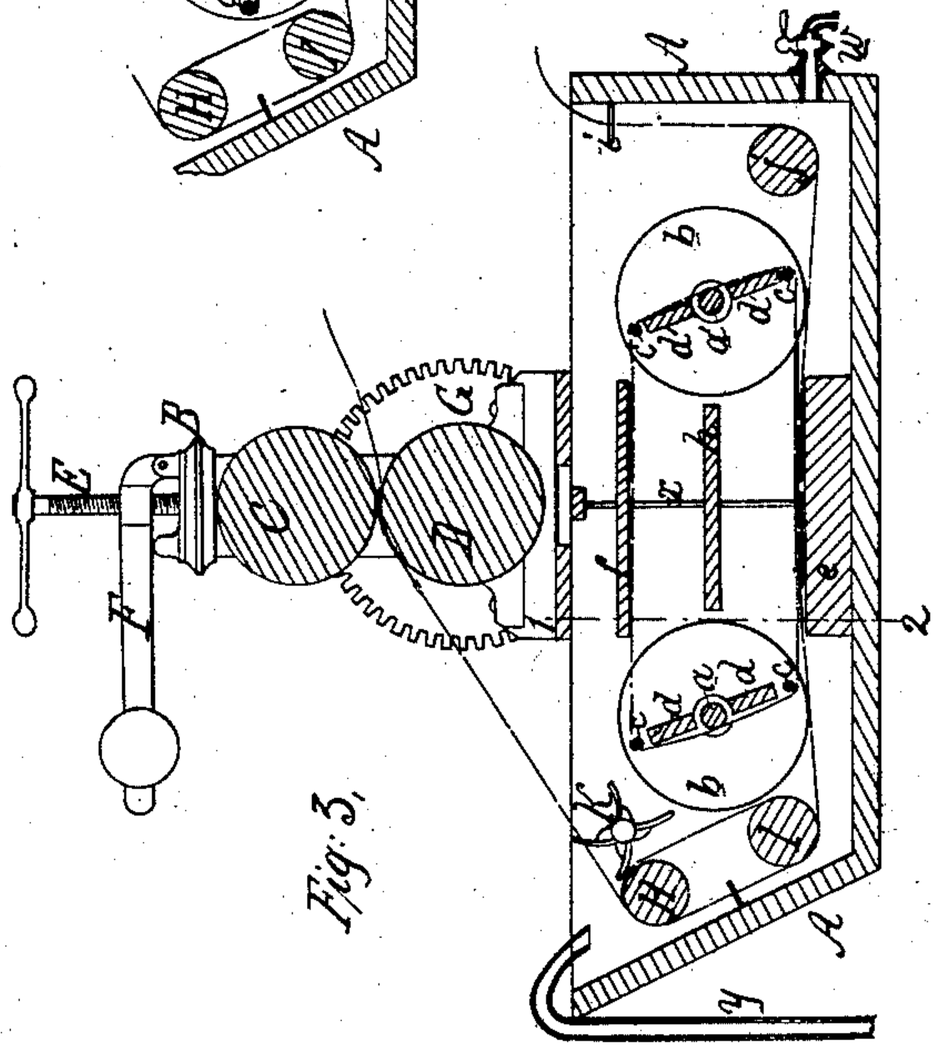


Fig. 3.



Witnesses;
Henry Howson
Thurlow & Foster

Inventor
Mark Richardson

UNITED STATES PATENT OFFICE.

MARK RICHARDSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF, THO. CORT, AND H. ROWBOTHUM, OF SAME PLACE.

WASHING-MACHINE.

Specification of Letters Patent No. 28,442, dated May 22, 1860.

To all whom it may concern:

Be it known that I, MARK RICHARDSON, of the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines for Bleachers, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists of certain revolving beaters constructed substantially as described hereafter in combination with certain platforms the whole being arranged within a trough and operating on the folds of fabric passing through the same in the manner hereafter explained so as to drive the impurities from the interstices of the fabric.

My invention also consists of a revolving shaft with elastic vanes so arranged as to operate on the folds of the fabric as they pass over a roller at or near the point where the supply of pure water is introduced into the trough, as fully described hereafter.

In order to enable others skilled in the art to make and use my invention I will now proceed to describe its construction and operation.

On reference to the accompanying drawing which forms a part of this specification Figure 1 is an exterior side view of my improved washing machine for bleachers, etc. Fig. 2, an end view of the same. Fig. 3, a longitudinal section. Fig. 4, the same of the trough with the moving parts in a position differing from that illustrated in Fig. 3. Fig. 5, a transverse section of the trough on the line 1—2 Fig. 3.

Similar letters refer to similar parts throughout the several views.

A is the trough consisting of an oblong box inclined at one end, and to the opposite sides of this box are secured the two standards B and B′ carrying the rollers C and D, the latter having journals turning in permanent bearings in the said standard and the roller C having journals turning in boxes which slide in the standards and which are acted upon by the screws E of the weighted levers F so that these levers tend to maintain the upper roller C in close contact with the lower roller D.

Through the trough and at equal distances from a line drawn vertically through the centers of the rollers C and D, pass two shafts *a* and *a′* to which a rotary motion is imparted by any suitable system of gearing.

To each of the shafts *a* and *a′* are secured two plates or disks *b* one adjacent to one side and the other adjacent to the opposite side of the trough. Between these plates *b b* of each shaft extend the rods *c c* and boards *d d* the whole forming what I term a beater.

Between the two beaters and across the inside of the trough are secured the three platforms *e f* and *h*, which will be more especially alluded to hereafter.

The pieces to be washed are temporarily stitched together end to end as usual when preparing them for washing, or bleaching or dyeing. The ends of the two different pieces are then passed over the end of the trough, through the staples *i*, downward under the roller *j* thence around and around the beaters above described, thence around and around the two rollers H and I, and thence between the two rollers C and D, the fabric taking the direction pointed out by the red lines.

It should be understood that although but two pieces are operated on at one time each piece is folded a number of times around the beaters as well as around the rollers H and I the number of folds of the two pieces depending upon the number of vertical bars *x x* (Fig. 5) which serve to maintain the separate folds apart from each other.

The trough is nearly filled with water which is maintained in a fresh and clean state by a constant supply of pure water passing through the inlet pipe *y* while the more impure water passes off through the cock *w*. As the pieces of fabric are drawn gently through the trough by the action of the rollers C and D the folds between the beaters are, by the revolution of the latter, constantly changing their position. Thus when the beaters occupy a vertical position or nearly vertical position as seen in Fig. 3, the upper folds between the beaters will be in contact with the platform *f* and the lower folds in contact with the platform *e*. When the beaters however occupy a horizontal position as seen in Fig. 4, the upper folds will be brought in contact with the upper surface of the platform *h* and the lower folds in contact with the under surface of the same platform so that, as the beaters revolve, the folds are brought in violent contact,

first with the upper and lower, and then with the intermediate platform. The cleansing effect of this combined action of beaters and platforms on the folds will be evident without further explanation.

Passing through the trough A at a point adjacent to the roller H is a shaft K to which are hung any convenient number of elastic vanes, each of which, as the shaft is caused to rotate by a strap passing from a pulley on the journal of the roller D, bears on or strikes the folds of the fabric passing over the roller H, and this at a point where the fresh supply of water from the inlet pipe *y* falls onto the said roller. It will be evident that the beating action of the vanes on the folds at this point must tend to drive from the fabric any impurities which may remain after the above described action of the beaters on the folds.

I claim as my invention and desire to secure by Letters Patent—

1. The revolving beaters constructed substantially as described, in combination with the platforms *e f* and *h*, the whole being arranged within the trough and operating on the folds of the fabric as specified.

2. The revolving shaft K with its elastic vanes when arranged within the trough in respect to the roller H and the mouth of the inlet *y* substantially as and for the purpose herein set forth.

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

MARK RICHARDSON.

Witnesses:

HENRY HOWSON,

ROBERT HUTCHINSON.