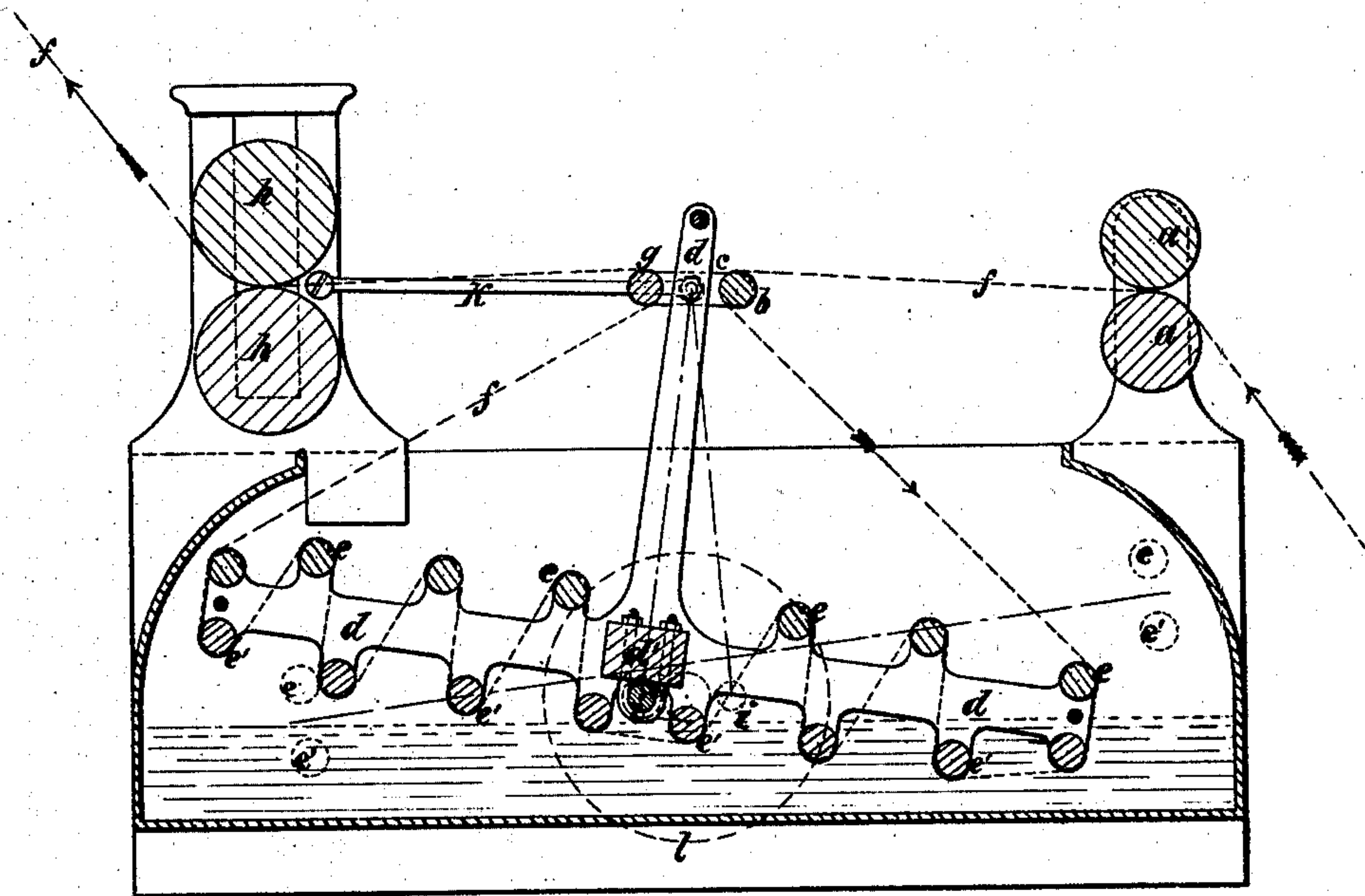


(No Model.)

F. W. ASHTON & W. MATHER.
Machinery for Washing Fabrics.

No. 238,021.

Patented Feb. 22, 1881.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANCIS W. ASHTON, OF HYDE, COUNTY OF CHESTER, AND WILLIAM MATHER, OF SALFORD, COUNTY OF LANCASTER, ENGLAND.

MACHINERY FOR WASHING FABRICS.

SPECIFICATION forming part of Letters Patent No. 238,021, dated February 22, 1881.

Application filed November 27, 1880. (No model.) Patented in England October 19, 1878.

To all whom it may concern:

Be it known that we, FRANCIS WILLIAM ASHTON, of Hyde, in the county of Chester, in England, calico-printer, and WILLIAM MATHER, of the firm of Messrs. Mather & Platt, of Salford, in the county of Lancaster, in England, engineer, have invented a new and useful Improvement in Machinery for Washing Fabrics, for which we have obtained a patent in Great Britain, No. 4,176, bearing date October 19, 1878, and of which the following is a specification.

Our invention consists in certain combinations of machinery, whereby the fabrics in a distended state are continuously lifted out of and immersed in the water, soap-liquor, or other liquid while passing through the machine, so as to obtain a dashing action, which will effectually cleanse the piece while extended to its full width and without undue tension, thus obviating the necessity of washing pieces in the form of a rope, as at present, that are printed with color liable to mark off.

In performing our invention we use a frame oscillating on a center or centers in a cistern containing the water or washing-fluid. The oscillating frame supports two series of rollers, around which the distended fabric is carried. At each end of the cistern is a pair of pressure-rollers. One pair draws the fabric forward and delivers it to the series of rollers in the swinging frame, and the other pair draws it through and conveys the fabric out of the machine. In washing delicate fabrics, or when desirable to reduce the strain, these rollers can be so speeded as to reduce the tension of the cloth in passing through the frame.

In order that our invention may be fully understood, we will describe the accompanying drawing, which is an elevation, in section, of our improved machinery for washing fabrics.

a a are the pressure-rollers through which the distended fabric *f* enters the machine, passing over the guide-roller *b* carried by the cross-bar *c*, connected to the upper part of the frame

d. From the guide-roller *b* the fabric *f* passes around the rollers *e* and *e'*, (which are supported by the frame *d*,) as shown by dotted lines, and, after leaving the rollers *e* and *e'*, it is drawn over the guide-roller *g*, and out of the machine by the pressure-rollers *h*.

i is a crank which passes through bearings fixed to a cross-bar, *d'*, connecting the two sides of the frame *d*. This crank, in revolving, lifts the rollers *e* and *e'* out of the water and dashes them into it at every revolution.

k is a vibrating arm, connected at one end to the frame of the pressure-rollers *h*, and at the other to the upper part of the frame *d*, to regulate the sweep of the frame, and the rollers *e* and *e'*, when they are actuated by the crank *i*, and to cause them to receive a rocking motion.

l is the driving-wheel or pulley, keyed onto the crank-shaft.

We do not confine ourselves to the details given, as the machinery for imparting motion to the frame and to the rollers around which the fabric passes may be considerably varied, and the dashing action may be accelerated or retarded independently of the speed at which the cloth travels to suit various fabrics, and any quantity of liquid may be used. The exact mode of threading the pieces of fabric around the rollers, as described above, may also be varied.

What we claim, and desire to secure by Letters Patent of the United States, is—

In machinery for washing fabrics, the combination, with the pressure-rolls *a a* and *h h*, of the vibratory frame *d*, carrying at the upper end the rolls *b g*, and at the lower end the series of rolls *e e'*, to admit of the operation described.

FRANCIS WILLIAM ASHTON.
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Witnesses:

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