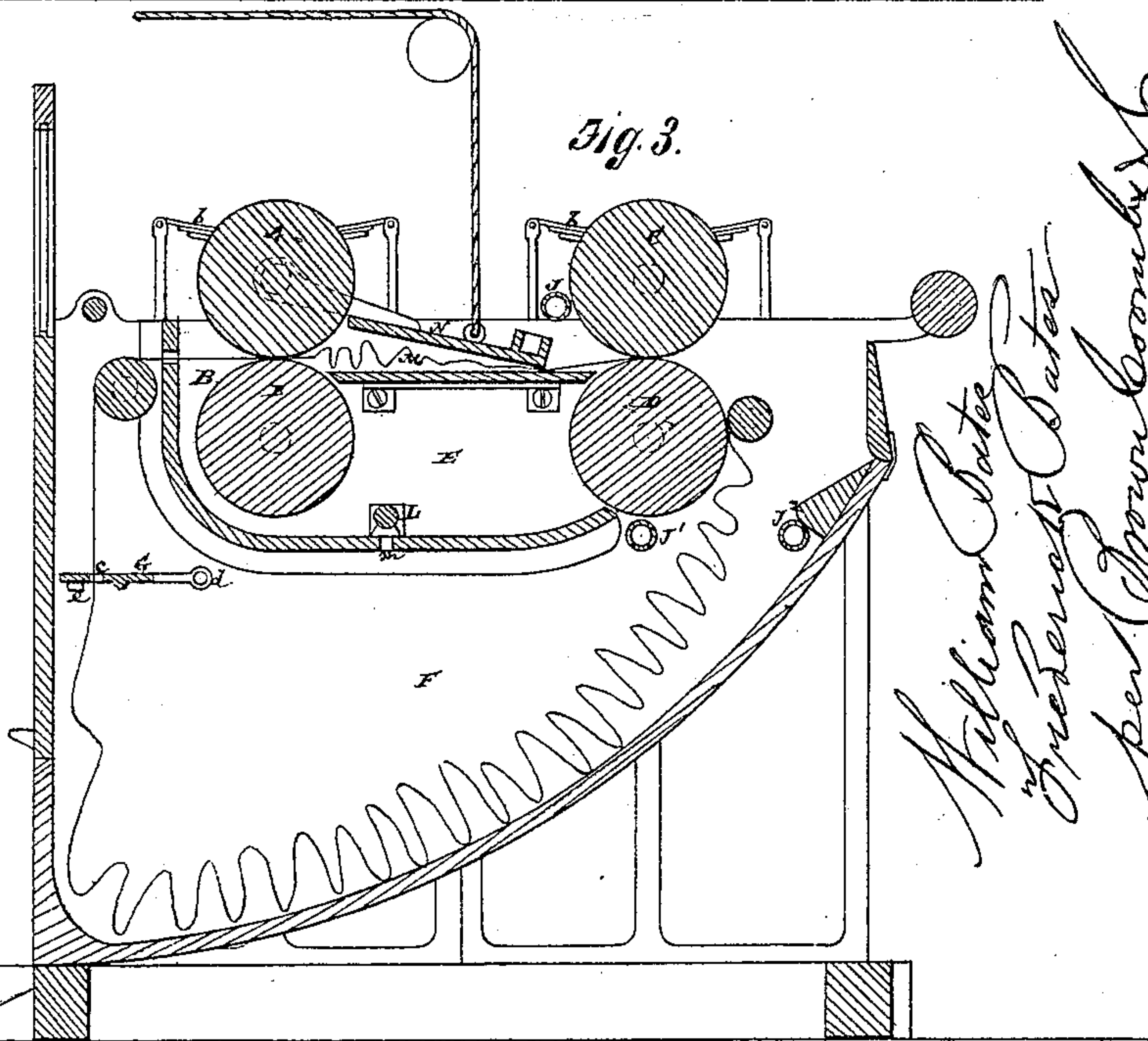
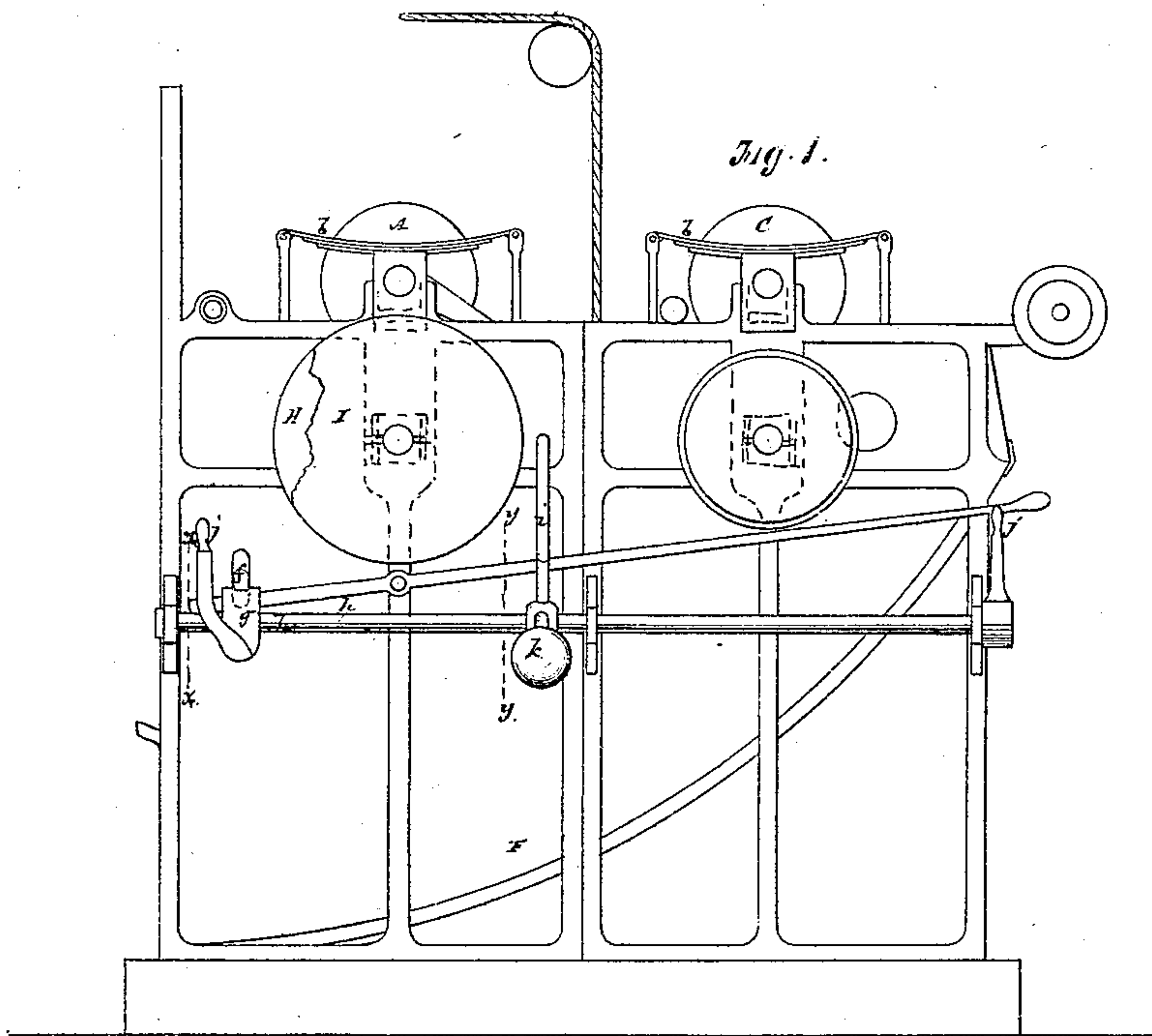


W. & F. BATES.
MACHINE FOR SCOURING AND WASHING FABRICS.
No. 104,818. Patented June 28, 1870.



Witnesses.
J. Haynes

R. E. Raven

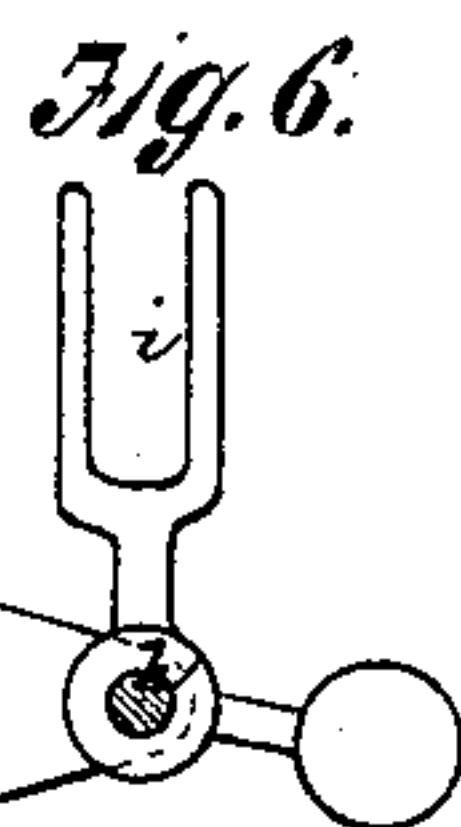
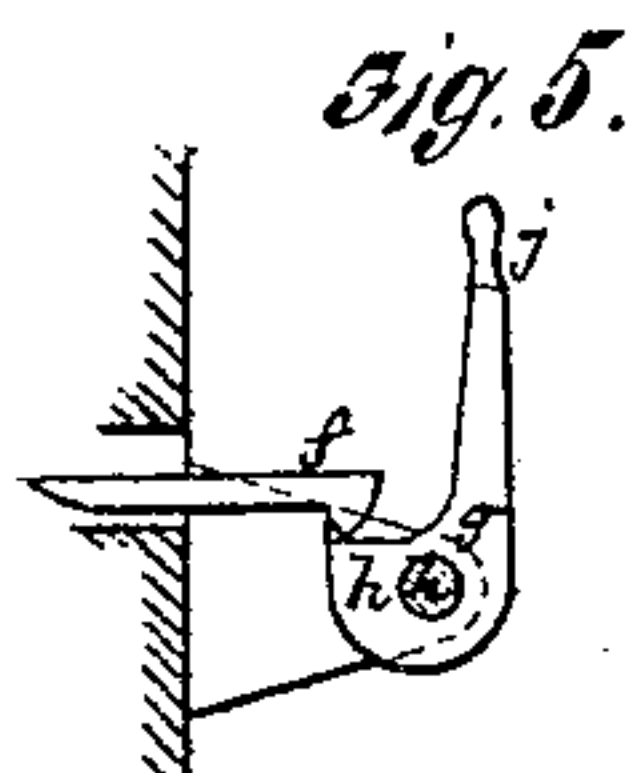
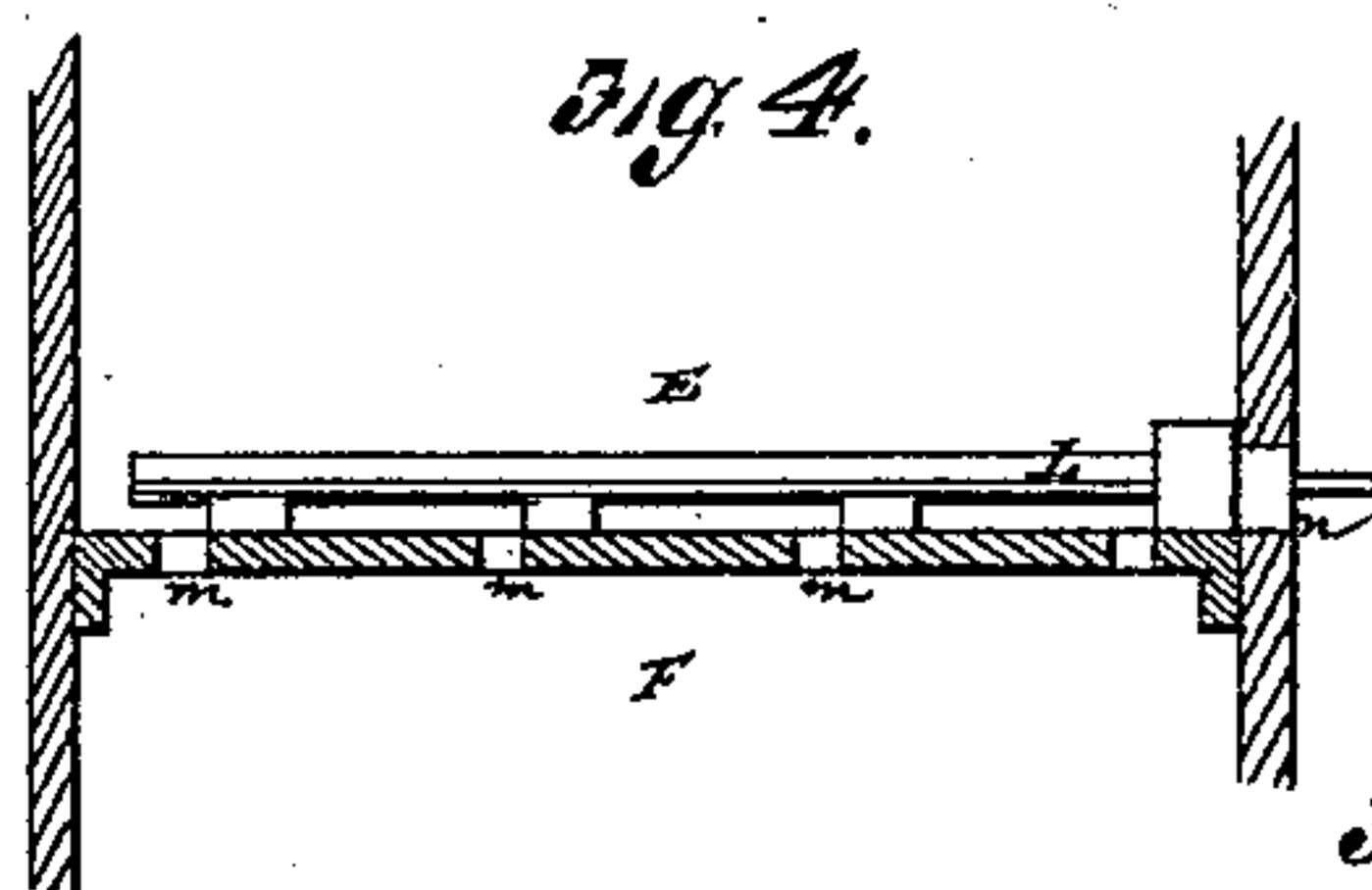
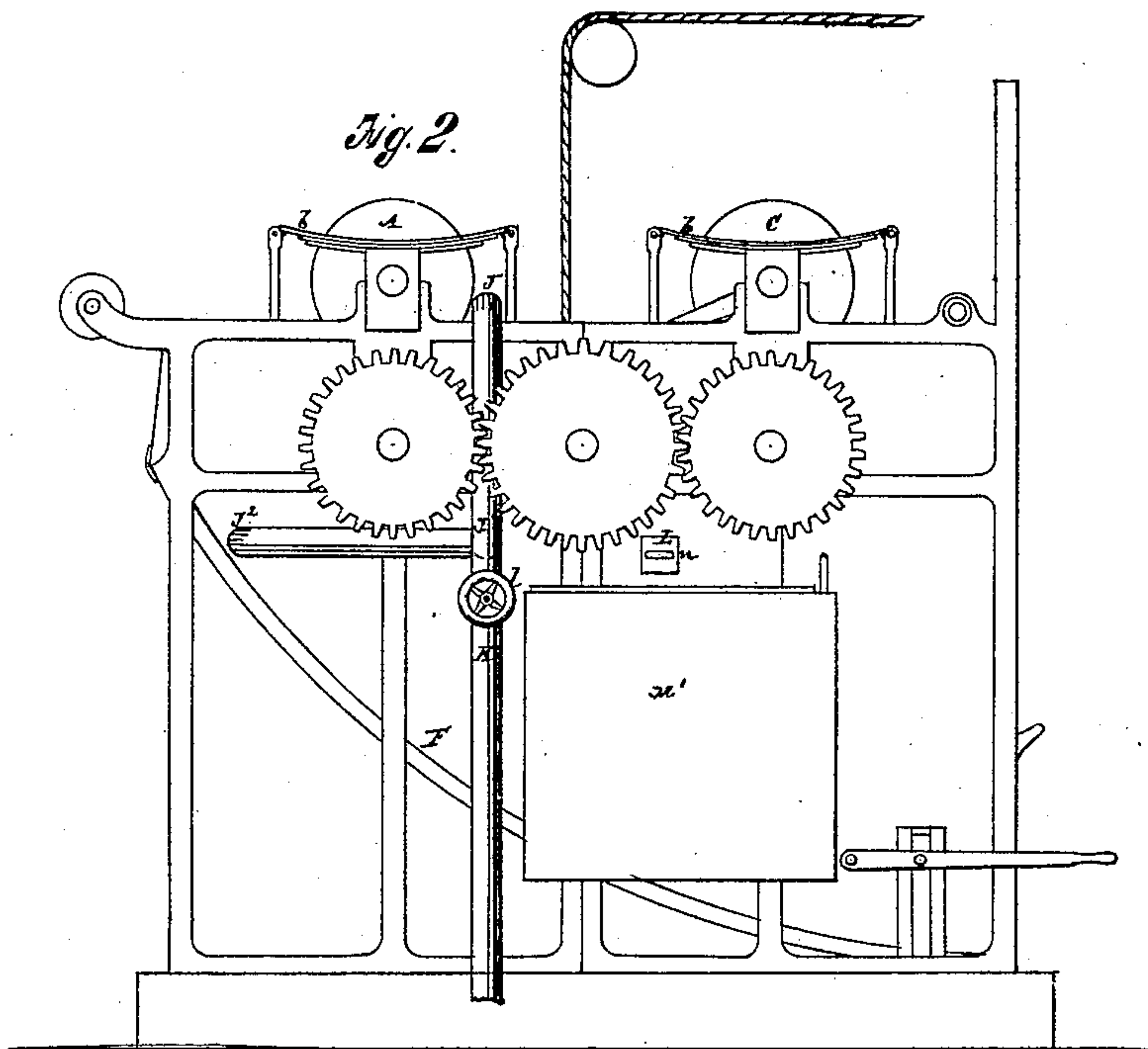
William Bates
Frederick Bates
per John Coombs & Co. Attorneys

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MACHINE FOR SCOURING AND WASHING FABRICS.

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Witnesses.
Thos. Haynes
R. E. Kabeau

William Bates
Friedrich Bates
per Brown & Lombard
Attorneys

United States Patent Office.

WILLIAM BATES AND FREDERICK BATES, OF SOWERBY BRIDGE, NEAR
HALIFAX, ENGLAND

Letters Patent No. 104,818, dated June 28, 1870; patented in England December 14, 1867.

MACHINE FOR SCOURING AND WASHING FABRICS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, WILLIAM BATES and FREDERICK BATES, of Sowerby Bridge, near Halifax, in the county of York, England, have invented a new and useful Improvement in Machines for Washing and Scouring Fabrics, also applicable for crushing and fulling the same, of which the following is a full, clear, and exact description reference being had to the accompanying drawing forming part of this specification, and in which—

Figures 1 and 2 represent opposite side elevations of a machine constructed in accordance with our invention; and

Figure 3, a vertical longitudinal section of the same.

Figure 4 is a sectional transverse view of a portion of the machine, in illustration of a valve used therein.

Figures 5 and 6 are transverse views, taken as indicated by the lines *x x* and *y y*, in fig. 1, of certain devices for shifting the belt and stopping the machine when any knotting, or twisting, or fettering of the fabrics takes place.

Similar letters of reference indicate corresponding parts.

This invention relates to machines known as "dollys," employed in washing and scouring fabrics, and embraces a certain advantageous arrangement of perforated pipes for spraying in water to said chambers; likewise a valve arranged to return the scour from the upper to the lower chamber, or from the upper chamber into the flock-box, accordingly as said valve is shifted. Also the invention embraces an ordinary fulling-trough, with presser placed between the two pairs of rollers for the fabric to be worked or pushed through by the action of the first pair of rollers, in the usual manner, and a presser may be also applied at the delivery side of the second pair of rollers, which operates against the bottom roller, producing additional crushing or fulling effects upon the fabric.

Referring to the accompanying drawing—

A and B are the ordinary pair of squeezing-rollers; and

C D are the additional pair of squeezing-rollers.

These rollers are arranged, the one or receiving-pair, at the forward end of an upper washing-chamber, E, and the other pair at the delivery-end thereof, which is in communication with a lower scour-chamber, F.

Both pairs of rollers, or the upper ones of them, are provided with springs, *b*, and, preferably, with adjusting-screws, for the purpose of regulating, as required, the pressure of said rollers on the fabrics under operation; or levers and weights may be applied for this purpose, instead of the springs, if desirable.

G is the board or bar, with holes, *c*, formed therein,

for the fabrics to pass through. This board or bar is arranged at the forward end of the machine for the run of the fabric through it, in advance of the same passing to the primary rollers A B. Said board, which extends across the machine, is hinged to the frame by arms or otherwise, as at *d*, and rests upon a suitable stop or stops, *e*. Attached to one end of this board is a catch, *f*, which takes into a lever, *g*, fast on the shaft *h*, that carries a strap-guide or belt-shifter, *i*, and two hand-levers, *j j*, with a counter-weight, *k*.

When any knotting or fettering of the fabric takes place in its passage through the machine, the board G will be lifted, and thereby remove the catch *f* from its hold on the lever *g*, and the weight *k* will actuate the strap-guide *i*, to throw the driving-belt from the fast pulley H to the loose pulley I, and, consequently, will stop the machine.

J J¹ J² are perforated spray-pipes, arranged one in advance of the after pair of rollers C D, and above the path of the fabric's travel, and the other two being situated below said rollers, over the back end of the lower chamber F.

These pipes serve to admit, in a sprinkling or divided manner, the necessary water to the machine, and are connected by branches with a general supply-pipe, K, provided with a cock, *l*, and whereby water is let on or shut off from the several spray-pipes J J¹ J² simultaneously.

L is a valve, arranged to cross the bottom of the upper chamber E, and made to control apertures *m* therein, communicating with the scour-chamber F below, also serving to control a discharge-opening, *n*, into the usual flock-box, M', provided with a screen to catch the flock. When starting the machine this valve L is adjusted to close the opening *n*, and open the apertures *m*, after which the cock *l* is turned to let on water. This, as the fabric continues its travel through the machine, drops the scour back from the upper chamber E to the lower chamber F. After the grease has been fairly loosened, the valve L is then adjusted to close the apertures *m*, and open the discharge-opening *n*, and the water allowed to run, till clear, into the flock-box.

To adapt the machine to crushing or fulling fabrics, a trough, M, is arranged between the two pairs of rollers A B and C D, with a presser, N, to act or press upon the fabrics as they are pushed forward by the action of the ordinary rollers A B. There may also be applied another presser, to act upon the fabrics as they issue or are delivered from the additional pair of rollers C D, arranged to press the fabrics against the bottom of the said rollers. When the machine is used simply for washing or scouring, these pressers, not being required, may be suspended by chains or otherwise.

A dolly thus provided and constructed is not only improved, as applicable to its ordinary uses or purposes of washing and scouring, enabling additional washing and scouring effects to be produced, but is rendered applicable or adaptable to be employed for the purposes of crushing and fulling fabrics, thus avoiding the cost of two machines, and also saving the room and other requirements for working them.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The arrangement, relatively to the chambers E F and rear squeezing-rollers C D, of the perforated water-pipes J J¹ J², essentially as herein set forth.

2. The combination with the chambers E F and flock-box M', of the valve L, arranged to control open-

ings m and n, substantially as and for the purpose herein set forth.

3. The combination with the chambers E F and squeezing-rollers A B and C D, of the fulling-trough M and presser or pressers, the whole being constructed and arranged for operation substantially as shown and described.

WILLIAM BATES.

FREDERICK BATES.

Witnesses to signature of WILLIAM BATES:

WM. TASKER,

W. YATES SELLECK.

Witnesses to signature of FREDERICK BATES:

FRED. HAYNES,

M. J. SHANLY,