

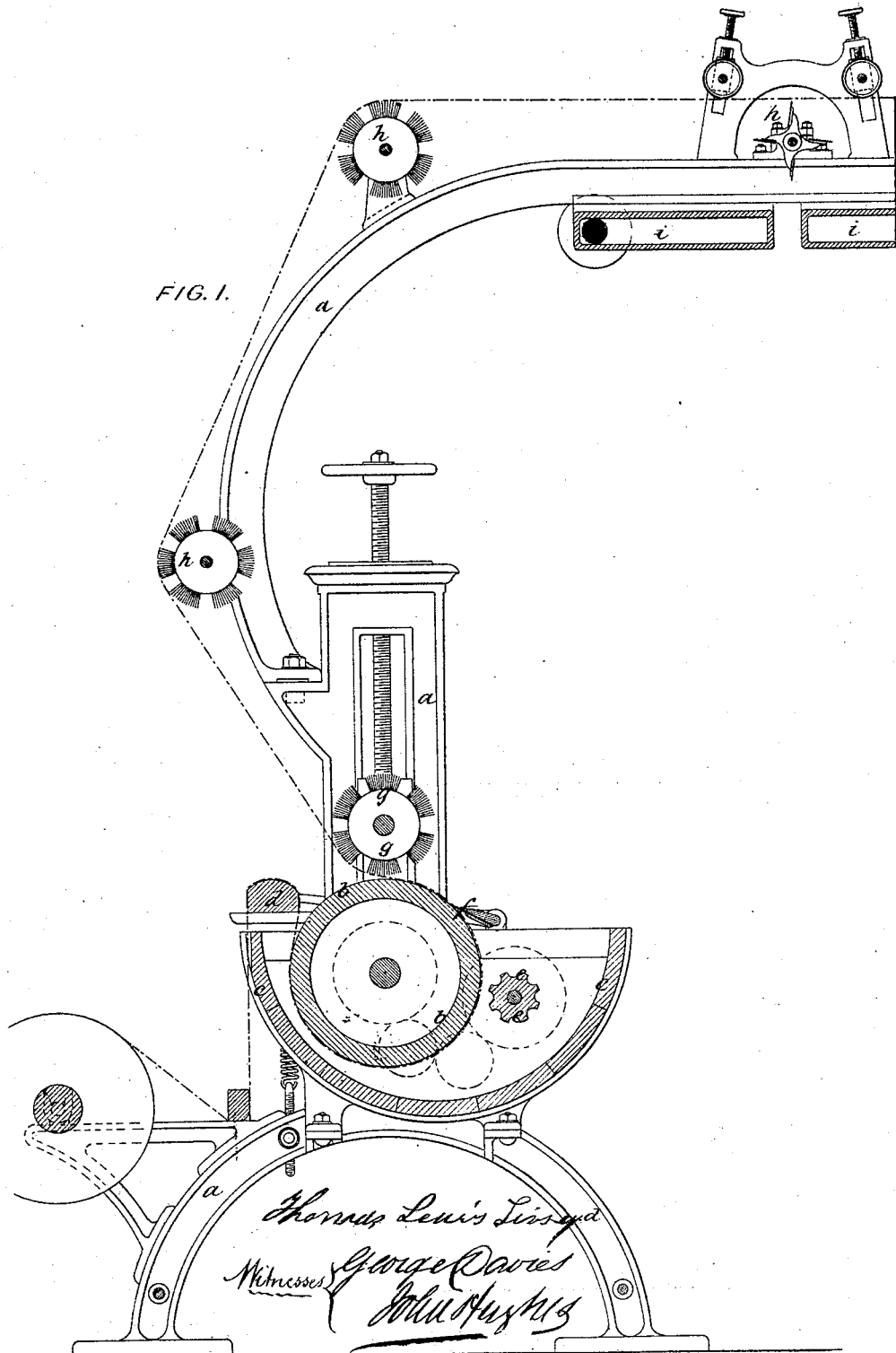
T. L. Linsey,

2 Sheets, Sheet 1.

Cloth Finisher.

No. 110,252.

Patented Dec. 20, 1870.



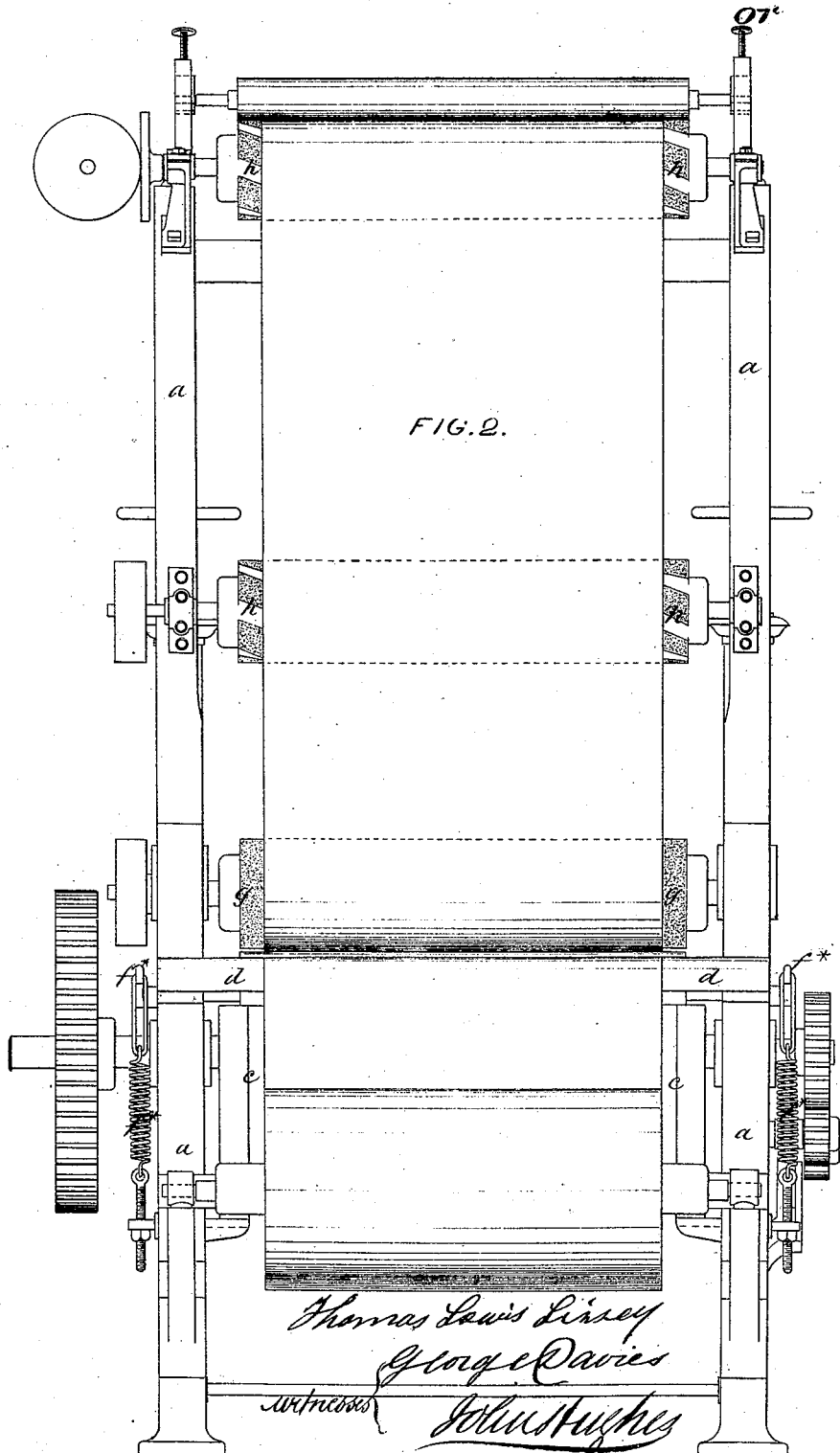
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United States Patent Office.

THOMAS LEWIS LIVSEY, OF BURY, GREAT BRITAIN.

Letters Patent No. 110,252, dated December 20, 1870.

IMPROVEMENT IN MACHINES FOR FILLING OR STARCHING WOVEN FABRICS.

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

I, THOMAS LEWIS LIVSEY, of Bury, in the county of Lancaster, Kingdom of Great Britain and Ireland, have invented "certain Improvements in Machinery for 'Filling' or Starching Woven Fabrics made from cotton, flax, or other fibrous substances," of which the following is a specification.

This invention relates to machinery or apparatus employed for filling or starching woven fabrics, the object of the said invention being to apply the filling or starch to one side of the fabric only, leaving the threads uncovered on the other surface.

Hitherto the filling or starch has been applied to the fabric by means of a pair of calendering-rollers or bowls, which forced the filling or starch completely through the fabric, covering the threads on both sides, and the pressure of these rollers flattened the threads and injured the appearance of the surface of the cloth.

In my improved apparatus I dispense with the use of calendering-bowls, and employ only one roller, which revolves in the trough or vessel containing the starch or filling, in connection with a series of revolving brushes for smoothing the surface, and with steam-chests or pipes for drying the starch or filling.

The cloth or fabric under operation first passes over a tension-bar or rail, and then over the edge of the trough, and downward under and partly round the roller; one side of the cloth, being exposed to the starch or filling in the trough or vessel, takes up a sufficient quantity thereof, the said quantity being regulated by a "doctor"-plate, which presses against the surface of the cloth as it leaves the trough in contact with the roller, and prevents it from taking up too much of the starch or filling, the latter being also kept constantly agitated by a revolving beater mounted inside the trough.

The cloth then passes between the upper surface of the roller and a revolving brush, which moves in the same direction, but faster than the cloth, and brushes or smoothes the surface.

The cloth next passes over a series of similar revolving brushes and fans, beneath which are arranged steam-chests or pipes for drying the starch or filling while it is being brushed, and it is then delivered in a dry, finished state, by means of any convenient arrangement of folding or "plaiting-down" machinery.

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 part of this specification—

Figure 1 is a vertical section of the machine, and

Figure 2 is a front view of the same.

a a is the main framing of the machine, supporting, in suitable bearings, the roller *b b*, revolving in the trough *c c* which contains the starch or other filling material.

d d is the tension-bar or rail, over which the cloth passes, and then inside the edge of the trough *c c*, and round the roller *b b*, one side of the cloth being in close contact with the roller and the other exposed to the starch or filling material in the trough, so that it takes up the requisite quantity as it passes through the trough.

e e is a revolving beater or agitator, for keeping the starch or filling material in constant movement and forcing it against the cloth.

f f is a "doctor-plate," pressing against the surface of the cloth while it is in contact with the roller, and adjustable, by means of springs and levers *f* f**, so as to regulate the quantity of filling material taken up by the cloth and smooth the surface of the same.

g g is a revolving brush, moving in the same direction as the roller *b b*, but at a quicker speed, so as to brush and smooth the surface.

h h is a series of revolving brushes and fans, in contact with which the cloth then passes, and

i i are steam-chests or pipes placed beneath the same.

This series of revolving brushes and fans and steam-chests or pipes extends to a sufficient length to complete the finishing and drying of the fabric before it arrives at the folding or plaiting-down machine, which may be of the ordinary construction.

Claims.

I claim as my invention—

1. The roller *b*, revolving in a trough and carrying the cloth through the starch or filling material, in combination with a revolving brush, *g*, and a doctor-plate, *f*, acting on the surface of the cloth while it is in close contact with the roller, substantially as described.

2. The trough *c*, its agitator *e*, and roller *b*, in combination with the brushes *g h h*, heaters *i*, and fan, all arranged and operating as specified.

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

THOMAS LEWIS LIVSEY.

Witnesses:

GEORGE DAVIES,
JOHN HUGHES.