

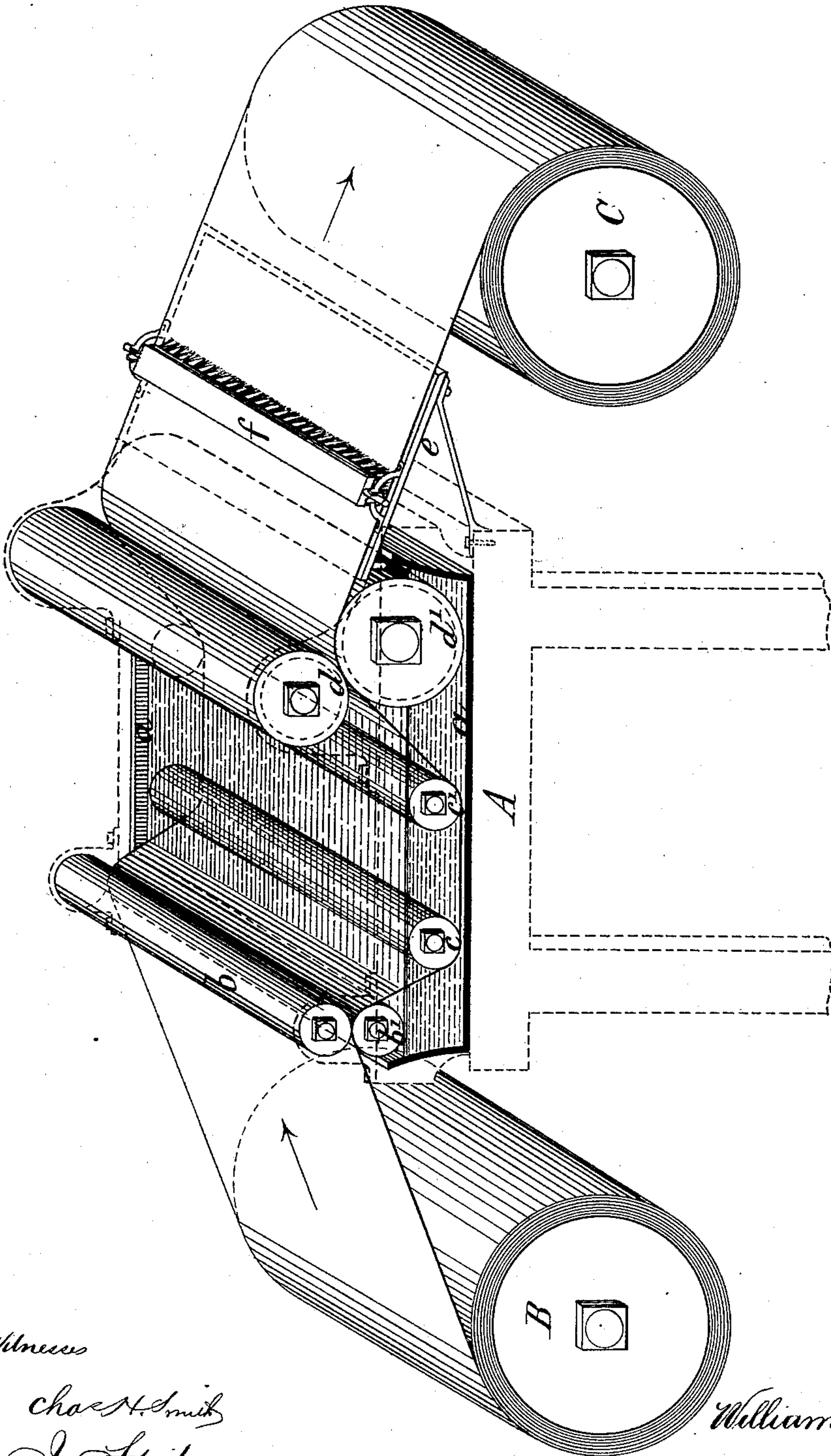
(No Model.)

W. MACRONE.

WATERPROOFING PAPER AND OTHER FABRICS AND MACHINERY THEREFOR.

No. 341,587.

Patented May 11, 1886.



Witness

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UNITED STATES PATENT OFFICE.

WILLIAM MACRONE, OF GLASGOW, COUNTY OF LANARK, SCOTLAND.

WATERPROOFING PAPER AND OTHER FABRICS AND MACHINERY THEREFOR.

SPECIFICATION forming part of Letters Patent No. 341,587, dated May 11, 1886.

Application filed November 2, 1885. Serial No. 181,599. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MACRONE, a subject of the Queen of Great Britain and Ireland, residing at Glasgow, in the county of Lanark, Scotland, letter-press printer, have invented new and useful Improvements in Waterproofing Paper and other Fabrics, and in Machinery Therefor, of which the following is a specification.

My invention relates to improvements in waterproofing paper and other fabrics, and in machinery therefor, whereby a waterproofed paper or other fabric of a superior class is produced with great rapidity and at a comparatively small cost.

According to my invention the paper or other fabric to be waterproofed, as rolled off a web, is carried through a tank or cistern of prepared varnish or size heated to a temperature of about 212° Fahrenheit, and at a rate slow enough to permit the air contained in the paper or other fabric being entirely replaced by the varnish or size. The paper, &c., is then drawn between two pressure-rollers heated a few degrees higher than the liquid varnish or size. These rollers express the surplus varnish or size from the fabric, and allow it to flow back to the tank. The fabric is now carried a short distance, and at this stage of the operation it receives a dusting of powdered steatite, which is brushed in and surplus cleaned off by a convenient arrangement of brushes. This steatite sets the varnish or size, and the fabric is immediately wound on a reel or drum at the end of the machine. The size or varnish for this operation forms the subject of another patent deposited by me at the same time as this application; and in order that my invention may be readily understood I proceed to describe the same with reference to the accompanying drawing, which represents a perspective view of a machine for carrying out my invention, one of the sides of the tank or cistern being removed, in order that the working parts of the machine may be clearly seen.

A is a frame-work or table, on which I mount a tank or cistern, *a*, for containing the varnish or size, which is maintained at a temperature of about 212° Fahrenheit by any suitable heating apparatus or method. In this tank, and at a convenient height above

the liquid, I mount two feed-rollers, *b b'*, between which passes the fabric to be waterproofed, and coming from a drum or reel, B. From these rollers the fabric passes into the heated varnish or size under two leading or conducting rollers, *c c'*, mounted in the lower part of the tank and immersed in the varnish or size. On leaving these rollers the fabric passes upward and between two heated rollers, *d d'*, whose function is to express the surplus varnish or size from the fabric. From these rollers the fabric passes over a table, *e*, where it receives a dusting of powdered steatite, which is sprinkled over it to set the varnish or size.

The use of the powdered steatite forms an important feature in my invention.

A brush, *f*, (or brushes,) having a reciprocating to-and-fro motion, or a brush (or brushes) having a rotating motion, is mounted above the table *e* in suitable bearers and operates to brush in and clean off the powdered steatite.

The fabric thus waterproofed passes to a drum or reel, C, on which it is wound, and is then ready for use.

The arrows indicate the direction of travel of the fabric into and out of the machine.

Although I have, for the purpose of clearness, omitted all gearing from the drawing, yet it is obvious that any suitable means may be adopted for driving the rollers and for operating the brush or brushes.

I claim as my invention—

The process herein specified of waterproofing paper and other fabrics, consisting in immersing the paper or other fabric in a varnish that is heated sufficiently to cause it to impregnate the material through and through, removing the surplus varnish or size, and setting the same by brushing powdered steatite upon the surface of the paper or fabric and into the varnish, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM MACRONE.

Witnesses:

JOHN MUIR,

JAMES MACRAE,

Both of 176 West George Street, Glasgow, Solicitors.