No. 676,684. Patented June 18, 1901.

B. ORMEROD.

DRYING CYLINDER.

(Application filed Sept. 10, 1900.)

(No Model.)

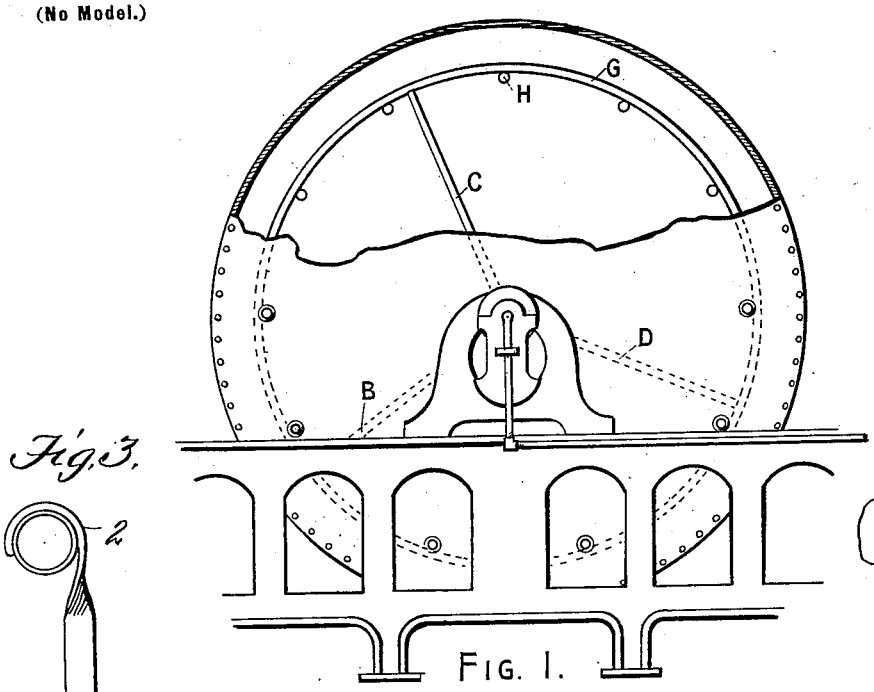


FIG. 1.

Fig. 3.

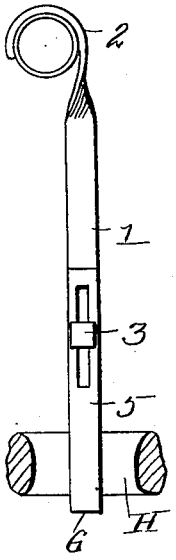
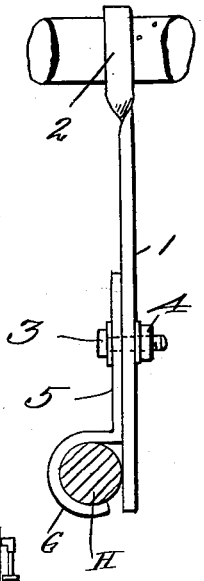


Fig. 4.



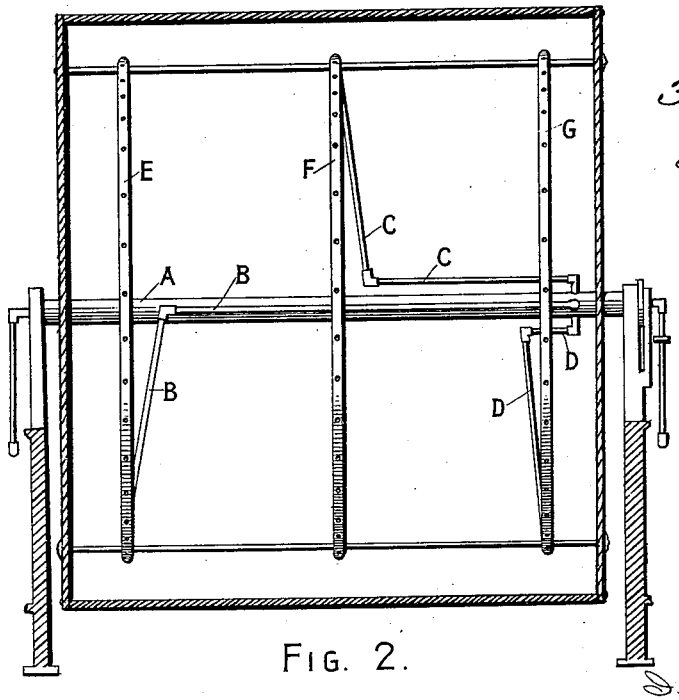


FIG. 2.

Witnesses
J. T. Keeler
J. F. Meyers

Inventor
Bartholomew Ormerod
by James L. Norris
Atty

UNITED STATES PATENT OFFICE.

BARTHOLOMEW ORMEROD, OF ACCRINGTON, ENGLAND.

DRYING-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 676,684, dated June 18, 1901.

Application filed September 10, 1900. Serial No. 29,604. (No model.)

To all whom it may concern:

Be it known that I, BARTHOLOMEW ORMEROD, sizer, a subject of the Queen of Great Britain, residing at 2 Swiss street, Accrington, county of Lancaster, England, have invented certain new and useful Improvements in Drying-Cylinders, of which the following is a specification.

This invention relates to drying-cylinders heated by steam used in sizing or slashing machines for drying yarn after it has been submitted to the sizing process and also to similar drying-cylinders used for other purposes. Hitherto steam has been allowed to enter the cylinder through holes in the tubular shaft of the drying-cylinder. In consequence of the considerable area between the place of admittance of steam and the drying-surface of the cylinder a waste of steam takes place in effecting the heating of the cylinder to the required degree. In my invention, which is designed to remedy this evil, I tap the holes in the shaft for the inlet of steam and conduct therefrom a pipe or pipes, which may be elbow-jointed or otherwise formed, so that the steam may be conveyed from the shaft to circular tubes or hollow bands perforated at suitable distances apart and adjacent to the drying-surface of the cylinder, whereby small jets of steam issuing from the circular bands play direct upon the drying-surface of the cylinder. The circular perforated hollow bands are placed at suitable distances apart to bring about an equal distribution of heat over the drying-surface of the cylinder, and the steam is put to its fullest and best use. At present the steam-inlet holes made in the shaft are usually three in number, and according to my invention I tap each of these and convey separate pipes therefrom to the perforated circular and tubular bands to any desired part of the drying-cylinder. I do not confine myself, however, to the employment of three separate pipes to convey steam to the circular bands, as one or two larger pipes may be employed and branch pipes extend from these to the said bands. The circular hollow perforated bands are preferably carried over the cylinder-bars and clipped or otherwise secured thereto. The proximity of the circular bands to the drying or heating surface of the cylinder may be varied as may be found most convenient for effecting the proper drying of the material carried over it, and their distances apart and from the sides of the cylinder may be such as to best effect the proper drying of the material or articles passing over the cylinder-surface.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a steam-heated drying-cylinder; and Fig. 2, a cross-section of the same, with my invention applied for economizing steam and equalizing the distribution of heat over the cylinder-surface. Figs. 3 and 4 are detail views of the clips for supporting the hollow bands.

A is the tubular shaft of the drying-cylinder, provided with the usual stuffing-box and gland and inlet-pipe for the supply of steam to the cylinder. The three steam-inlet holes usually made in the tubular shaft A are according to my invention tapped to receive pipes, such as B, C, and D, which convey the steam from thence to three circular hollow bands E, F, and G, which are perforated at suitable distances apart, as shown, so that jets of steam may play direct upon the drying-surface. The circular bands or tubes are preferably carried over the cylinder-bars H and are clipped or otherwise secured thereto by a series of clips, each consisting of a bar 1, provided at one end with a hook 2 for embracing the bands and adjustably connected by means of the nut 3 and bolt 4 to the hanger 5, provided at one end with a hook 6 to permit of mounting upon the cylinder-bars. These clips are disposed at any desirable distance from the surface of the cylinder and from each other and the sides of the cylinder, so that the absorption and distribution of caloric derived from the steam by the drying-surface may be as complete as is practically possible.

Instead of three perforated circular and tubular bands two or four may be used; but I prefer three, as being most suitable.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a drying-cylinder, cylinder-bars secured therein, perforated hollow bands arranged in said cylinder and connected to said

bars, and means secured to said bands for supplying a drying medium thereto.

2. In a drying-cylinder, a shaft connected thereto, cylinder-bars secured within said cylinder, perforated hollow bands arranged in said cylinder and connected to said bars, and means in communication with said shaft and said bands for supplying a drying medium to the latter.

3. In a drying-cylinder, a shaft connected thereto, cylinder-bars secured within said cylinder, perforated hollow bands arranged in said cylinder in close proximity to the drying-surface thereof, and pipes connected to said shaft and bands for supplying a drying medium to the latter.

4. In a drying-cylinder, circular perforated hollow bands suitably secured therein, and means connected to the said bands for supplying a drying medium thereto.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BARTHOLOMEW ORMEROD.

Witnesses:
A. S. BURG,
F. RICHMOND.