

(No Model.)

2 Sheets—Sheet 1.

T. BURROWS & D. E. RADCLYFFE.
MACHINE FOR SPINNING RAMIE, &c.

No. 580,636.

Patented Apr. 13, 1897.

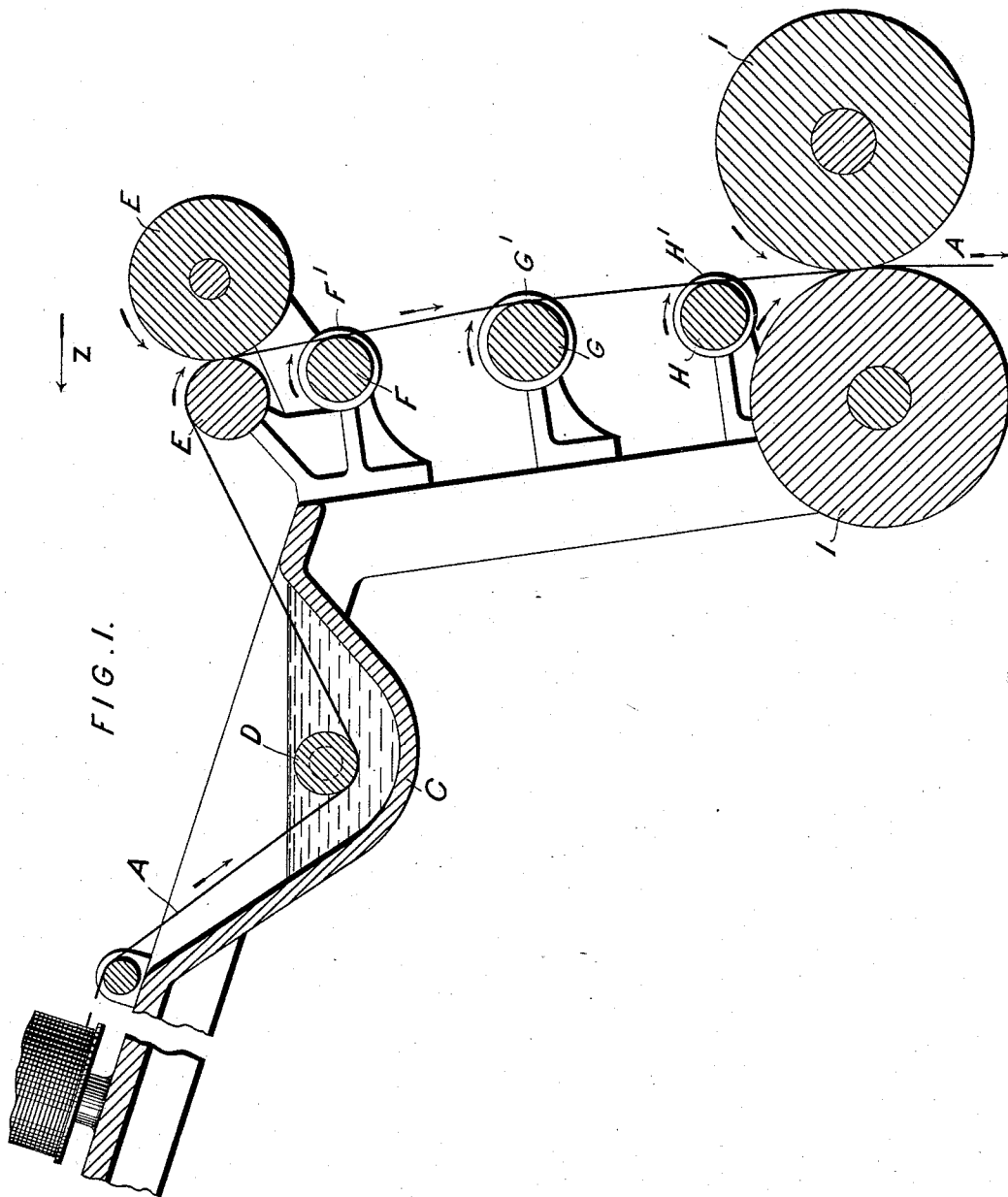


FIG. 1.

WITNESSES:
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R. F. Pelouze

INVENTORS
Taylor Burrows and
D. E. Edwards Radclyffe
BY
Shenck & Coquer
ATTORNEYS.

(No Model.)

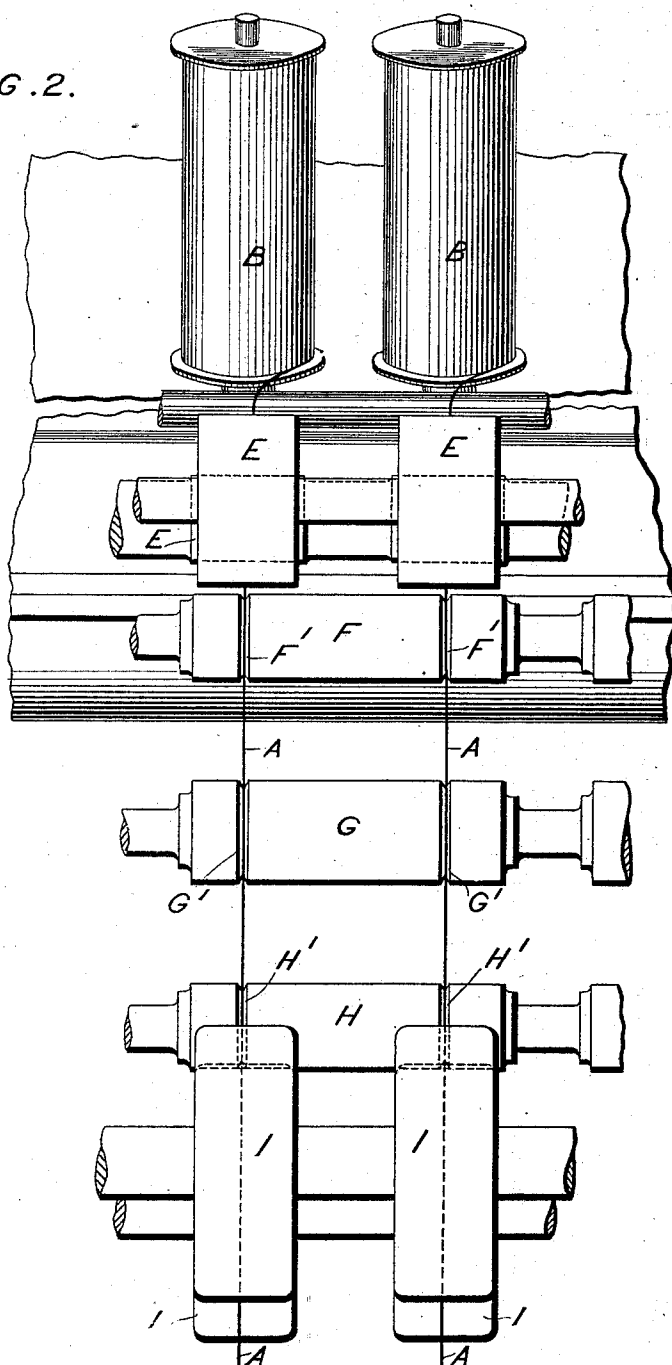
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FIG. 2.



WITNESSES:

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R. F. Pelouze

INVENTORS

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UNITED STATES PATENT OFFICE.

TAYLOR BURROWS AND DICK EDWARDS RADCLYFFE, OF LONDON,
ENGLAND.

MACHINE FOR SPINNING RAMIE, &c.

SPECIFICATION forming part of Letters Patent No. 580,636, dated April 13, 1897.

Application filed February 4, 1896. Serial No. 578,044. (No model.) Patented in England November 12, 1894, No. 21,811.

To all whom it may concern:

Be it known that we, TAYLOR BURROWS, engineer, of 88 Upper Kennington Lane, and DICK EDWARDS RADCLYFFE, horticultural decorator, of 56 Gloucester Crescent, Regent's Park, London, England, subjects of the Queen of Great Britain, have invented Improvements Relating to the Spinning of Ramie, Rhea, China-Grass, or other Fibers, (for which we have obtained Letters Patent in Great Britain, No. 21,811, dated November 12, 1894,) of which the following is a specification.

Heretofore in spinning-frames used for fibers, such as rhea, china-grass, or ramie, wool, silk-waste, flax, hemp, and jute, the roving is fed through slowly-revolving rollers and carried forward to drawing-rollers which move quicker than the retaining-rollers and so draw the fibers of which the roving is composed, which is twisted by the spindle and wound on the spool or bobbin. There is a slight twist in the roving, and various devices are in use to prevent the fibers being drawn away irregularly from the roving by keeping the twist in the said roving, and for this purpose in flax, hemp, and jute spinning on the dry frame the roving is made to pass over and against a friction-plate, while in wool and silk-waste spinning the roving is carried forward from the back to the front drawing-roller over two or three carrier-rollers having a light top roller pressing on the roving. These various modes of spinning as heretofore do not leave the thread or yarn very smooth or even on the surface thereof, but, on the contrary, same remain more or less "hairy," which is an objection, especially where brilliancy is desired.

Now the object of our present invention is primarily to spin china-grass, rhea, or ramie (although other fibers to which our invention is applicable may also be similarly spun) wet, so that the yarn we thus produce will be very smooth and even on its surface and having many advantages, particularly in the case of china-grass, rhea, or ramie, when thus spun; and in order to fully explain our present invention we will proceed to describe same with reference to the drawings hereunto annexed.

Figure 1 is a diagrammatic side view showing our improvements. Fig. 2 is a front

view—*i. e.*, looking in the direction of the arrow *z*.

According to this invention we pass the roving *A*, as same comes from the bobbin *B* on the spinning-frame, through a trough, bath, or vessel *C*, of any suitable shape, mounted in the spinning-frame and containing liquid, for instance, pure water (hot or cold) or any suitable chemical or ingredient, therein or any other suitable liquid mixture or solution to wet or moisten the fiber and add to its brilliancy and also, if desired, to tint or dye it or otherwise treat it during spinning.

The roving is caused to pass under a rod, roller, or rail *D* or other guide in said trough or vessel *C* to insure immersion in said bath, and thence is passed between the back or feed rollers *E* and is carried on over carrier-rollers *F G H*, having *V*-shaped circumferential grooves therein, *F' G' H'*, respectively, according to our present invention, in the bottom of which grooves the rovings respectively lie. These carrier-rollers (two, three, or any suitable number of which may be used, for instance, three rollers, such as *F G H*) are mounted slightly higher than (*i. e.*, slightly above) the direct straight line between the back or feed rollers *E*, and the drawing-rollers are advantageously in the form of a curve or arch, whereby the strain put on the roving by the drawing-rollers forces or draws the roving down to the narrowmost bottom part of the said *V*-shaped groove, and thereby the roving is, as it were, wedged therein, and consequently any untwisting of the roving is prevented or practically prevented, while at same time the rovings can freely run (in the said *V*-grooves) over said carrier-rollers *F, G, and H*, which latter may be mechanically revolved at the same or different peripheral speed as the feed-rollers, or said *V*-grooved carrier-rollers may be "idle-rollers." By this means also we dispense with the use or necessity of top rollers over the carrier-rollers *F, G, and H*.

The drawing-rollers operate as heretofore to draw away the fiber in this wet state and same is then twisted into a thread or yarn and wound on the bobbins in the usual or any suitable manner.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

5 1. In a spinning-machine, the combination of a bobbin-support, feed-rolls, a holder for a liquid bath disposed between said bobbin-support and feed-rolls, drawing-rolls, and a series of carrier-rolls disposed on a convex arc between the feed-rolls and the drawing-rolls.

10 2. In a spinning-machine, the combination of a bobbin-support, feed-rolls, a holder for

a liquid bath disposed between said bobbin-support and feed-rolls, drawing-rolls, and a series of carrier-rolls disposed on a convex arc between the feed and draw rolls and provided with V-shaped peripheral grooves in which the roving is wedged during its passage whereby untwisting thereof is prevented.

TAYLOR BURROWS.

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Witnesses:

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