

(No Model.)

H. PRIESTMAN.
MACHINE FOR SPINNING, &c., YARNS.

No. 422,155.

Patented Feb. 25, 1890.

FIG. 2.

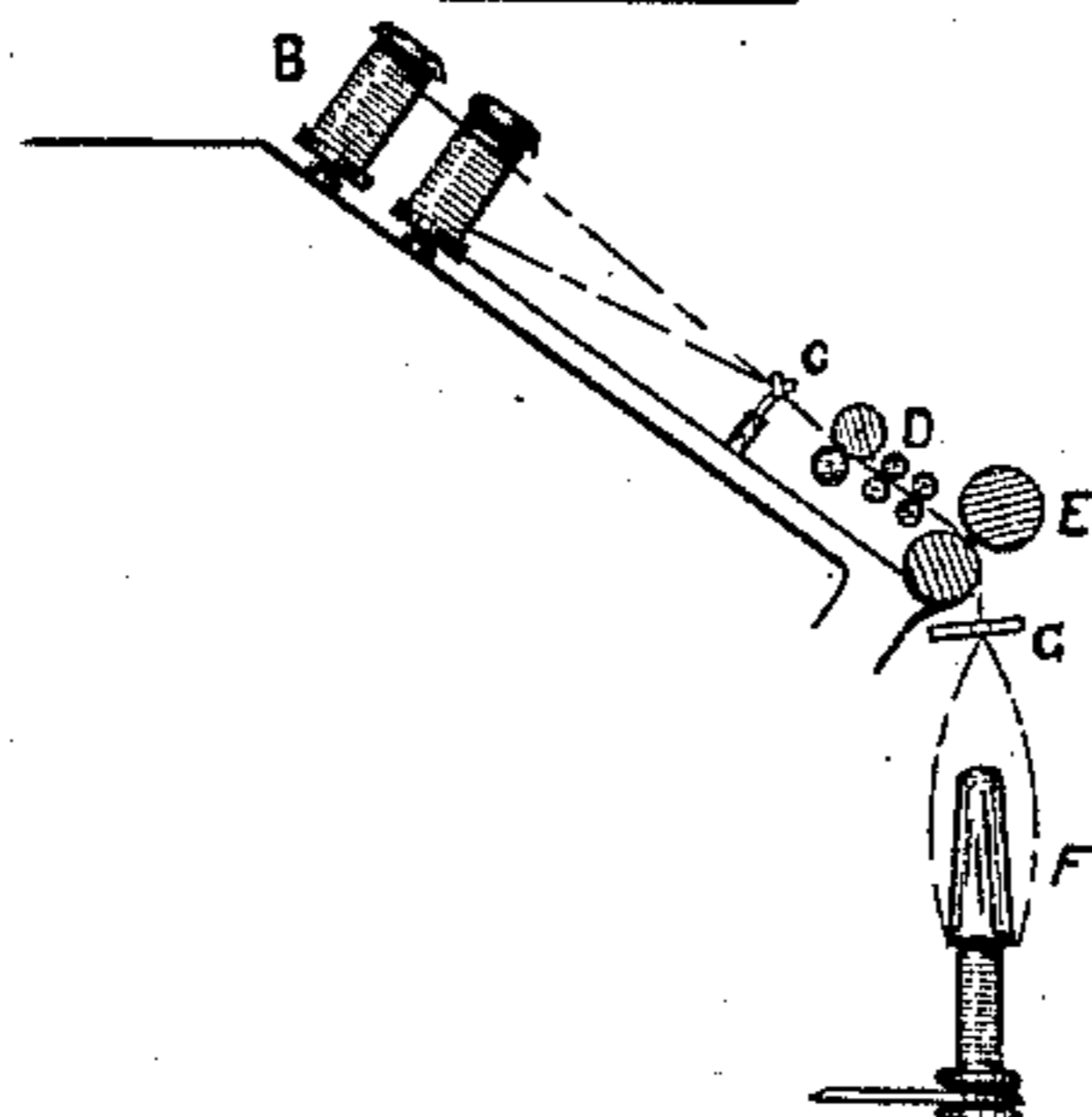
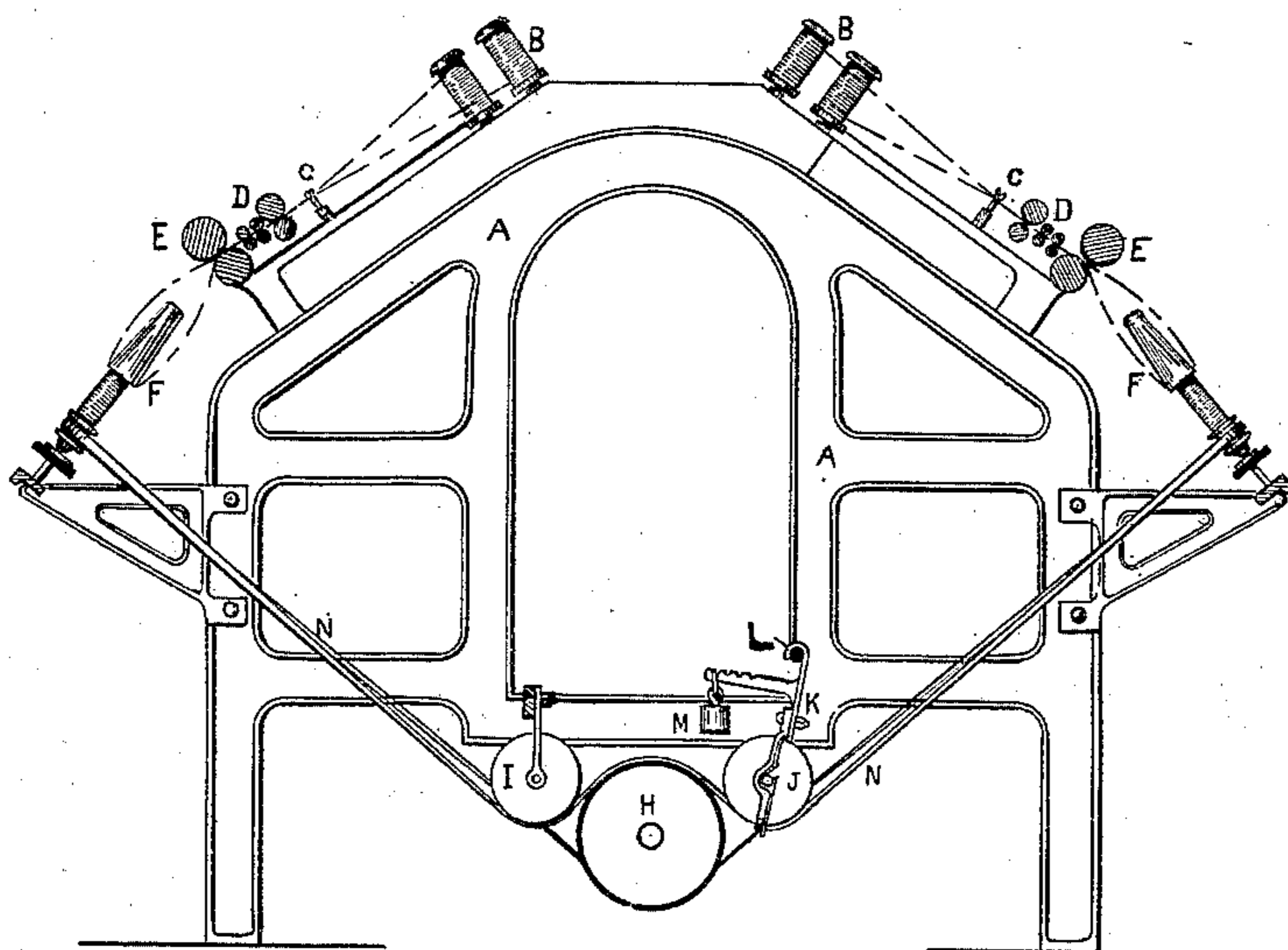


FIG. 1.



WITNESSES:

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UNITED STATES PATENT OFFICE.

HOWARD PRIESTMAN, OF BRADFORD, COUNTY OF YORK, ENGLAND.

MACHINE FOR SPINNING, &c., YARNS.

SPECIFICATION forming part of Letters Patent No. 422,155, dated February 25, 1890.

Application filed February 13, 1889. Serial No. 299,713. (No model.) Patented in England November 7, 1888, No. 16,115.

To all whom it may concern:

Be it known that I, HOWARD PRIESTMAN, a subject of the Queen of Great Britain, residing in Bradford, Yorkshire, England, have
5 invented certain new and useful improvements in Machines for Spinning, Twisting, and Doubling Yarns, (for which a patent has been granted in Great Britain, No. 16,115, dated November 7, 1888,) of which the follow-
10 ing is a specification.

My invention relates to that class of machines where caps are employed for spinning, twisting, and doubling yarns; and the object of the invention is to so arrange the axis of
15 the spindle that it shall stand aligned with the bite of the delivery-rollers, or nearly so, for reasons that will be hereinafter set forth, and to provide the spindle so arranged with mechanism for driving while in that position.
20 In some of the machines for this purpose, where the spindles are provided with caps, the yarns, after leaving the front or delivery rollers, pass through an eyelet-board and thence to a bobbin or spool placed upon a
25 vertical spindle or stud, and in practice it is found that a short length of yarn, after leaving the nip of the delivery-rollers, bears upon the periphery of the bottom roller, and this in such machines arises in consequence of
30 the yarn having to travel (during a part of its way to the bobbin) almost in a vertical line, consequently the length of yarn into which twist can be put is diminished by the length of that portion of the yarn resting
35 upon the periphery of the said bottom roller. To obviate this I place the spindle or stud and bobbin at such an angle, or in such an oblique position in relation to the front rollers, as to prevent the yarn from bearing upon
40 the upper surface of the bottom roller after the said yarn leaves the nip of the front or delivery feed-rollers, so that such yarn will be at liberty to take the twist immediately on leaving the nip and not after passing over
45 or resting upon the bottom roller or eyelet-board, and in this manner by my invention twist can be put into the yarn throughout the whole length thereof which lies between the nip and the cap. This change of position
50 of the spindle and bobbin requires a special

arrangement of the gearing for driving the spindle. This I have provided and it will be hereinafter described.

Such being the nature and object of my invention, I will now show by the accompa-
55 nying drawings how the same may be performed or put into practical operation.

Figure 1 of the annexed drawings illustrates such parts of a spinning or twisting frame as is necessary to show the application
60 of my invention, and Fig. 2 is a fragmentary view illustrating the common method of arranging the spindle with reference to the delivery-rollers.

A is the framework of the machine, and B
65 the bobbins containing the roving to be spun and twisted. The said roving passes through guide-eyes C, back rollers D, and front delivery-rollers E, all arranged in the ordinary
70 manner and usually worked in combination with vertical spindles F, as shown in Fig. 2, where it will be seen that a portion of the yarn, in passing from the delivery-rollers E, must of necessity rest upon the periphery of
75 the front bottom roller, as will be observed and understood from said Fig. 2.

I prevent the yarn from resting upon the lower front roller by placing the spindle F with its axis at about right angles to a plane
80 passing through the centers of the two front or delivery rollers and about tangent to both rollers at the nip, as shown in Fig. 1, by means of which the eyelet-board G (seen in Fig. 2) is dispensed with, and the yarn is free and
85 at liberty to receive twist immediately after leaving the nip of the front rollers; consequently, as is obvious to those conversant with spinning and twisting, a more even twist can be put into the yarn and the spinning is
90 thus much improved and finer counts can be spun from the same quality of fiber, while the yarn is not flattened by frictional contact with the bottom roller, but is left in a round state.

The apparatus for driving the spindle is
95 necessarily somewhat different from that employed for driving vertical spindles, but the means shown in Fig. 1 are sufficient for the purpose.

It will be seen that H is the main driving
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drum or pulley, I and J being tension-pulleys, the former working upon a fixed stud and the latter carried by a bracket K, working upon the stud L, the said bracket being
5 weighted at M for the purpose of keeping the driving tape or belt N at a suitable tension. This construction enables the spindles on both sides of the frame to be driven conveniently from a common drum H, arranged between them and at a sufficient distance below
10 the obliquely-arranged spindles to place the portions of the belt between it and the respective spindles at right angles to the latter, as they should be for driving. A single end-
15 less belt is used to drive opposite spindles, and the drum H stands between the upper and lower sides of said belt, that portion of the latter which is above the drum being held down in contact with the latter by the tension-pulleys I J.
20

I do not herein claim, broadly, the particular arrangement of the spindle-axes with respect to the front or delivery rollers, as an arrangement very similar to this has been
25 before employed.

Having thus described my invention, I claim—

In a machine for the purpose specified, the combination, with the two sets of obliquely-arranged spindles on opposite sides of the 30 frame, of the driving-drum H, arranged between and below the sets of spindles, the belt N, by which the spindles are driven from the said drum, and the tension-pulleys I and J at opposite sides of the drum, said pulleys 35 acting on the upper strand of said belt and pressing it down over the top of said drum, whereby both strands of the belt are made to embrace the drum, the one above and the other below, as set forth. 40

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

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Witnesses:

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