

J. ROBERTSON.
SPINNING AND DOUBLING MACHINERY.
APPLICATION FILED JULY 9, 1907.

937,647.

Patented Oct. 19, 1909.
6 SHEETS—SHEET 1.

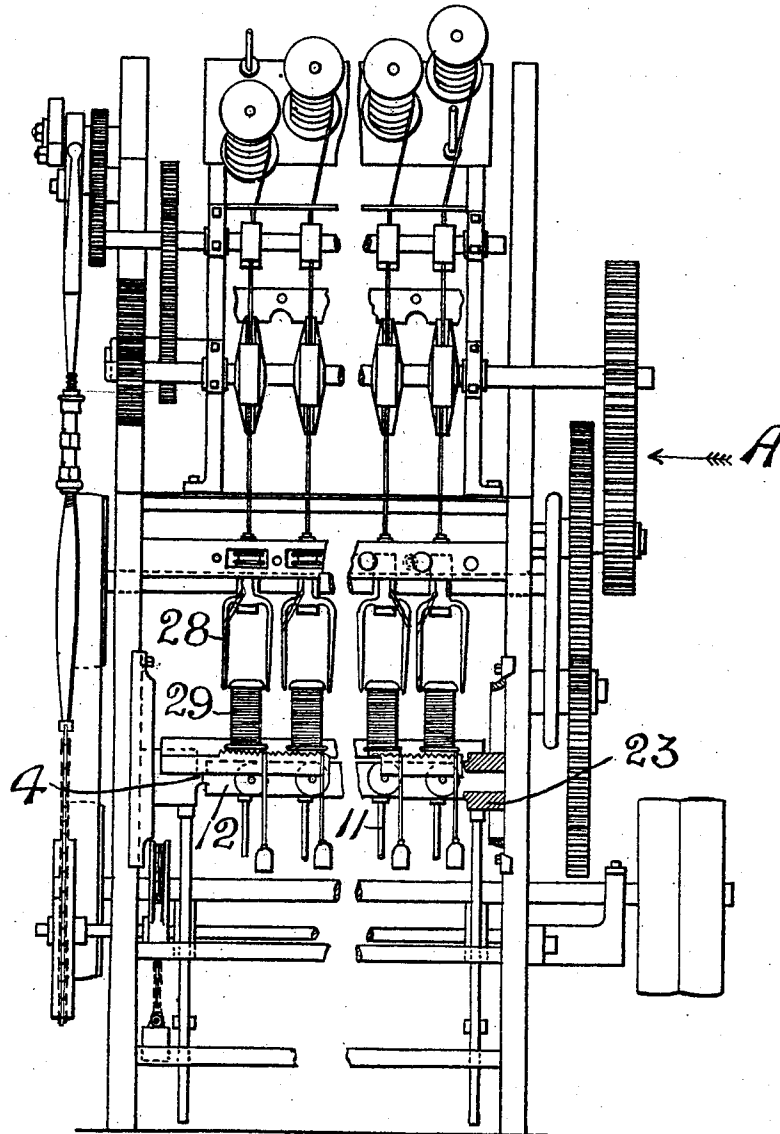


Fig. 1.

WITNESSES

W. P. Burt
W. P. Burt

INVENTOR

James Robertson
BY *W. P. Burt*
ATT'Y.

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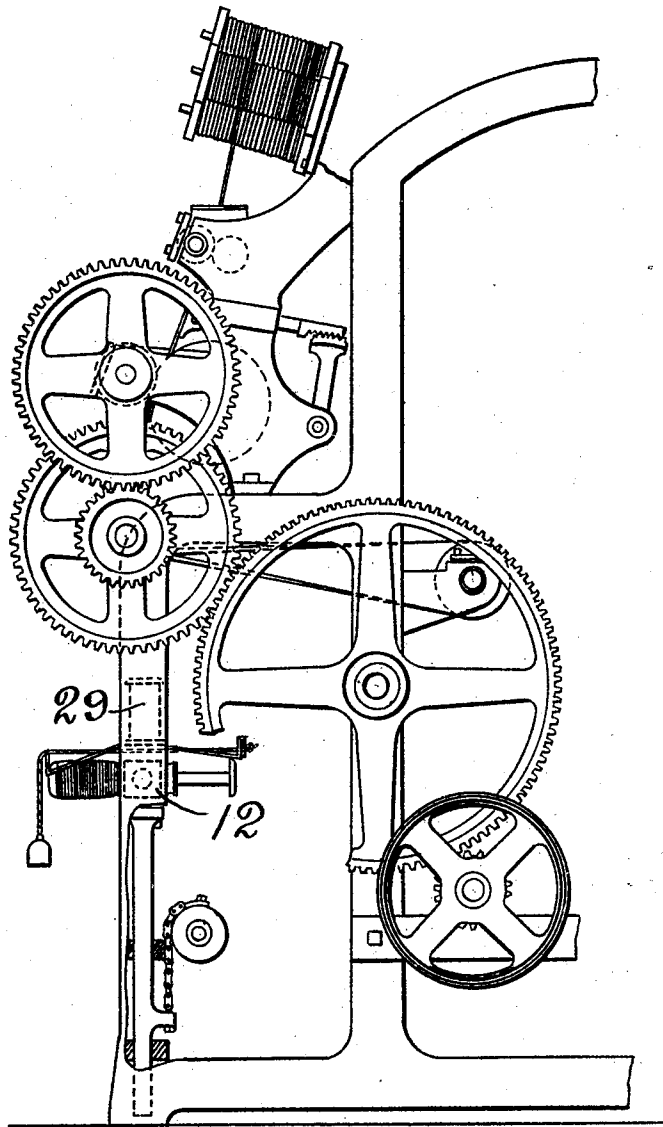


Fig. 2.

WITNESSES

W. P. Burk
W. P. Burk

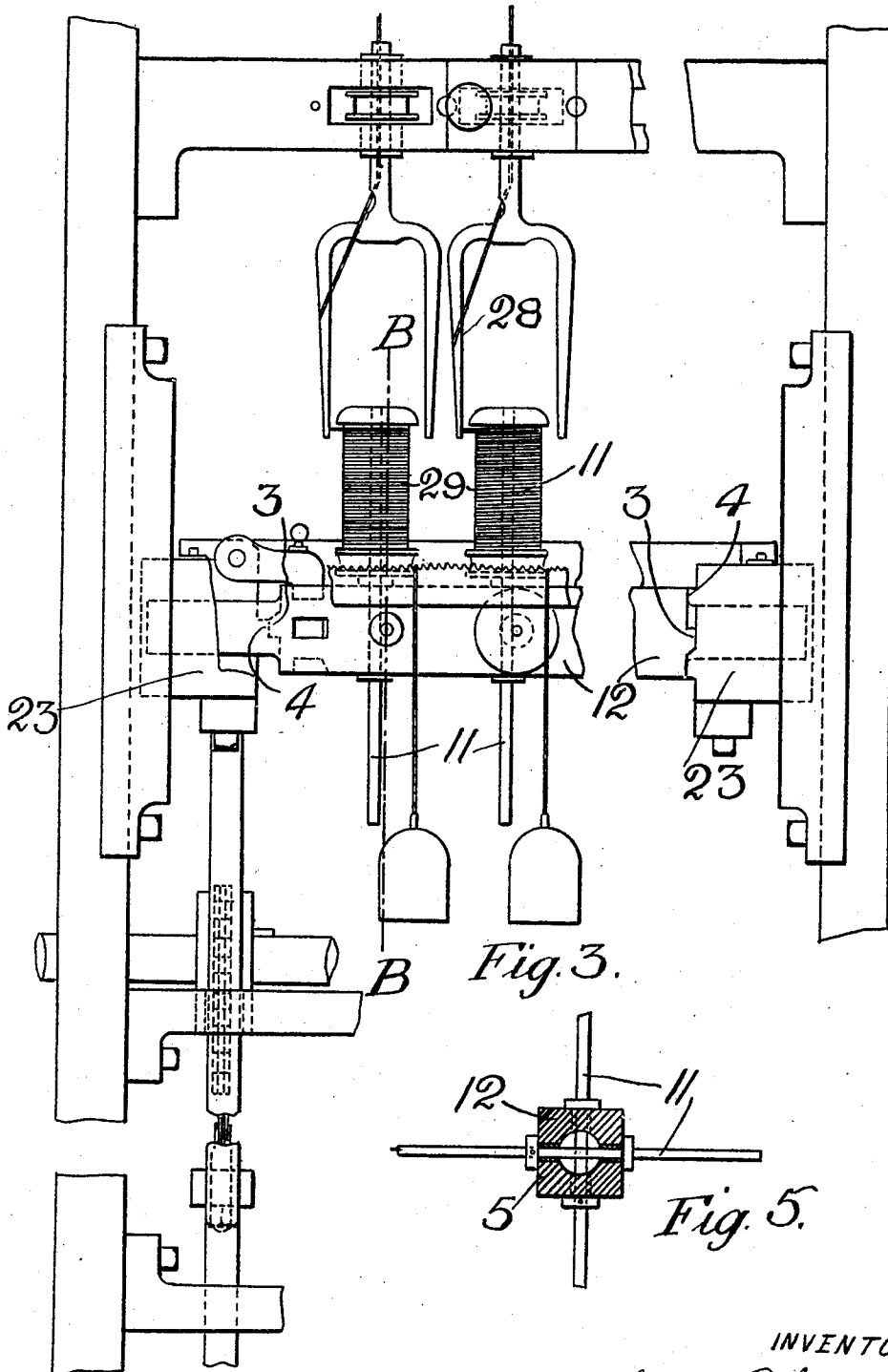
INVENTOR

James Robertson
B. M. Wallace White
ATTY.

J. ROBERTSON.
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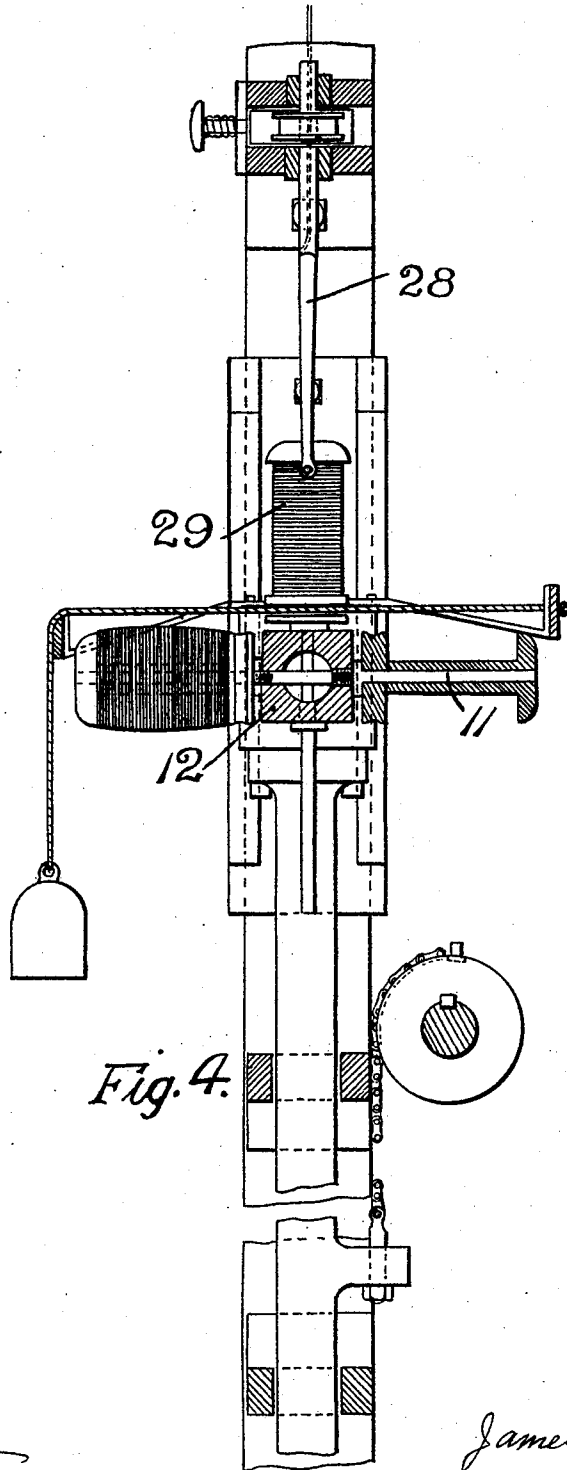
WITNESSES
in test
W. P. Brink

INVENTOR
James Robertson
James Robertson
ATT'Y.

J. ROBERTSON.
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WITNESSES

W. P. Bunk

INVENTOR

James Robertson
BY *M. Delacorte*
ATTY.

J. ROBERTSON.
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6 SHEETS—SHEET 5.

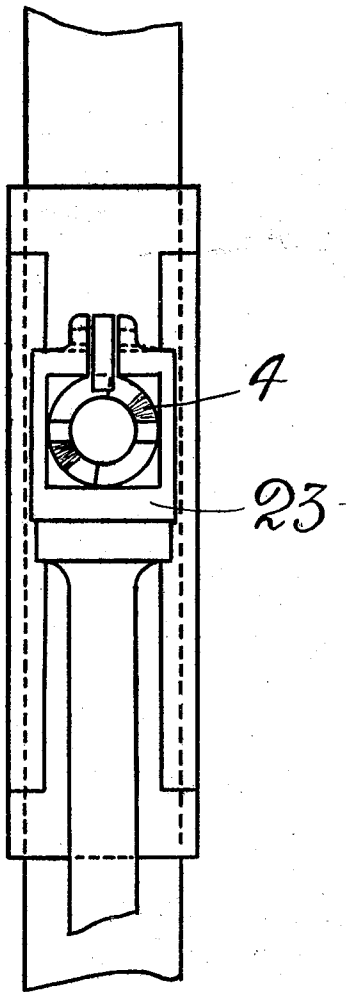


Fig. 4.

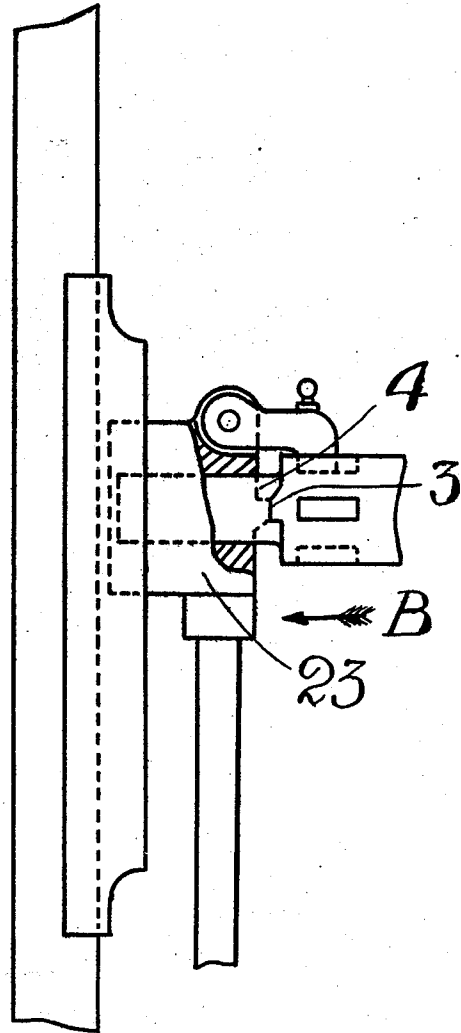


Fig. 6.

WITNESSES

W. P. Binks
A. F. Heuman

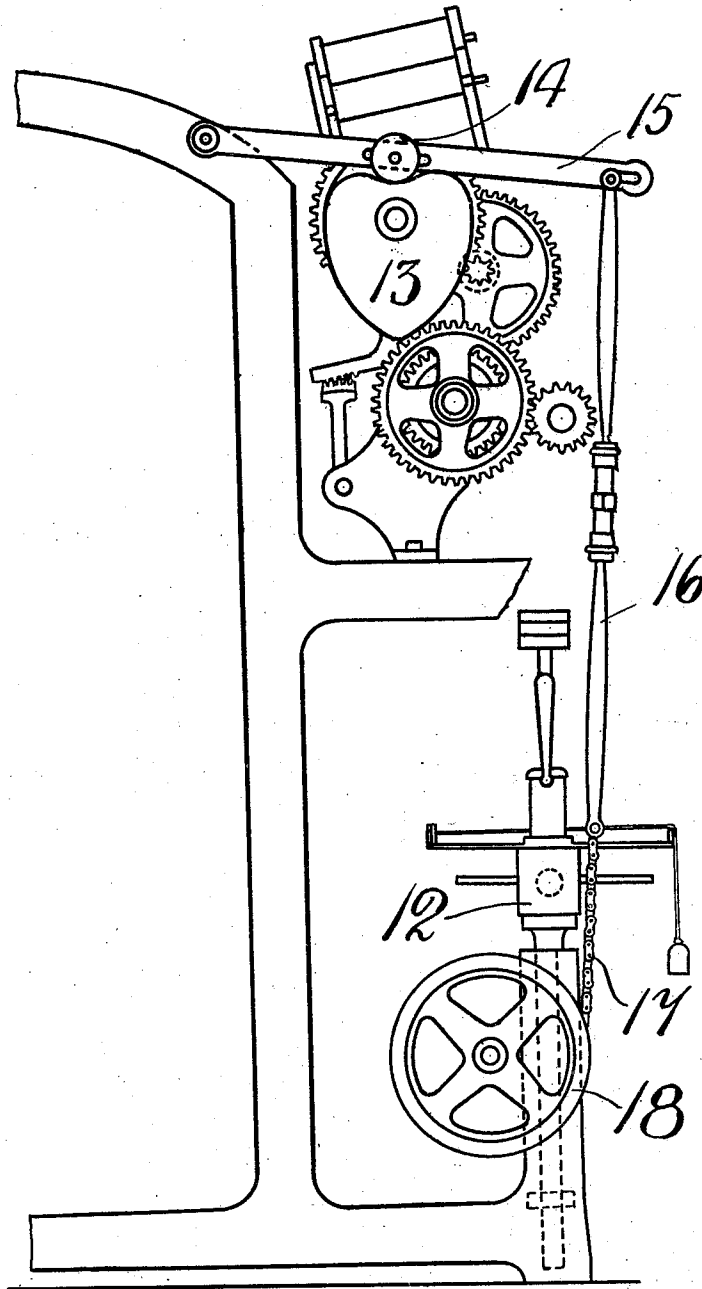
INVENTOR

James Robertson
By *Wm. Miller*
11-77

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6 SHEETS—SHEET 8.



WITNESSES

W. P. Burke
A. F. Heuman

Fig. 8.

INVENTOR

James Robertson
BY *Wm. H. Miller*
ATTY.

UNITED STATES PATENT OFFICE.

JAMES ROBERTSON, OF WEST FERRY, NEAR DUNDEE, SCOTLAND.

SPINNING AND DOUBLING MACHINERY.

937,647.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed July 9, 1907. Serial No. 382,877.

To all whom it may concern:

Be it known that I, JAMES ROBERTSON, a subject of the King of Great Britain and Ireland, and a resident of Vinebank, West Ferry, near Dundee, in the county of Forfar, Scotland, (whose post-office address is Vinebank, West Ferry, near Dundee, in the county of Forfar, Scotland,) have invented a certain new and useful Improvement in and Connected with Spinning and Doubling Machinery, of which the following is a specification.

This invention relates to improvements in the construction of machines for spinning jute, flax, cotton, and the like and it is also applicable for twisting and doubling machines.

In my British specification #21331 of December 7, 1891, I form each spindle separate with one end supported in the platform, but it was found in practice that such a form of spindle was too hard on the yarn because when the bobbin rotated it at a high speed there was a tremor set up which broke the yarn. Besides the stud had such an inadequate bearing that it got loose and wobbled. By staggering the spindles, as in the present case, a double bearing is obtained with a bush or bearing at each side and the spindle remains absolutely free from vibration and quite true.

In order that my invention and the manner of putting the same into practice may be properly understood, I have hereunto appended six explanatory sheets of drawings in which the same reference numerals are used to indicate corresponding parts in the figures shown.

Figure 1 is a front elevation of part of a spinning frame showing my invention applied thereto. Fig. 2 is a side elevation of a part of such frame looking on it in the direction of the arrow A. (Fig. 1). Fig. 3 is a front elevation of part of a spinning frame showing my invention applied thereto and on an enlarged scale. Fig. 4 is a part sectional elevation at B. B. (Fig. 3) and Fig. 5 is a section through the platform showing a modified form of spindle, or stud. Fig. 6 is a part front elevation of the sliding block and the platform and Fig. 7 is a view looking in the direction of the arrow B, Fig. 6; Fig. 8 is a side elevation of a part of the frame showing how the sliding blocks are operated.

In carrying out my invention I make the

two opposite bobbin spindles or studs 11, which are carried by the square tubular platform 12, in one, that is to say the spindle or stud is passed completely through the square platform and each extremity projects equally from same. As there is a stud projecting from each face, two of the combined studs will be required for the set and as one stud must pass the other, the axis common to each opposite pair cannot cross at the same point but must be adjacent, as is shown. The bobbin platform 12 is traversed up and down, as in ordinary spinning frames, by means of the cam 13 which actuates the roller 14, lever 15, tension rod 16, chain 17 and pulleys 18 and 19 in this manner, causing the chains 20 to raise and lower the sliding blocks 23 which carry the platform 12.

In order to cause the axis of each stud to come directly in line with the axis of the flier 28 the platform 12 carrying the studs must be capable of moving sidewise by an amount equal to the pitch of a pair of studs, that is to say, when the platform makes one quarter turn it moves from the one position to the other and at the next quarter turn it moves back again. This movement can be obtained by a waved cam 3 on the platform engaging with a stud or cam 4 on the sliding block 23 carried by the frame of the machine. A cam 3 is on each end of the platform, their relative position being such that the platform in its rotation is alternately moved backward and forward with the result that each row of spindles or studs comes in line with the axis of the fliers as the platform is turned.

As shown in Fig. 4 the spindles or studs 11 are firmly fixed in the platform, while in Fig. 5 they are shown adapted to run in bushes 5 should the friction of the rotating bobbin 29 on its spindle be sufficient to move them.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is;—

1. In spinning and doubling machinery, the combination of an intermittently rotary platform, a rotary spindle which projects from opposite sides of said platform and adapted to carry a bobbin on either extremity, and a similar spindle placed below and at right angles and closely adjacent to the first, as described.

2. In a device of the class described, a platform having two pairs of holes therein,

a hole of one pair being opposite the other hole of the same pair, said pairs of holes being arranged in different planes, bushes in said holes, and a spindle passing through the
5 bushes in each pair of holes and projecting on opposite sides of said platform.

3. In spinning and doubling machinery, the combination of sets of two combined spindles or studs with a platform which can
10 be rotated and moved alternately backward and forward to bring each spindle or stud in

line with its flier; sliding blocks; a cam on each end of the platform and a cam on each sliding block, as described and for the purposes set forth.

15

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

JAMES ROBERTSON.

Witnesses:

GEORGE CAMERON DOUGLAS,
AGNES CULBARD DOUGLAS.