Wilcox, Robinson & Wilcox.

Spinning Mach.

No. 112,103. Patented Feb. 21. 1871.

FIG. 1.

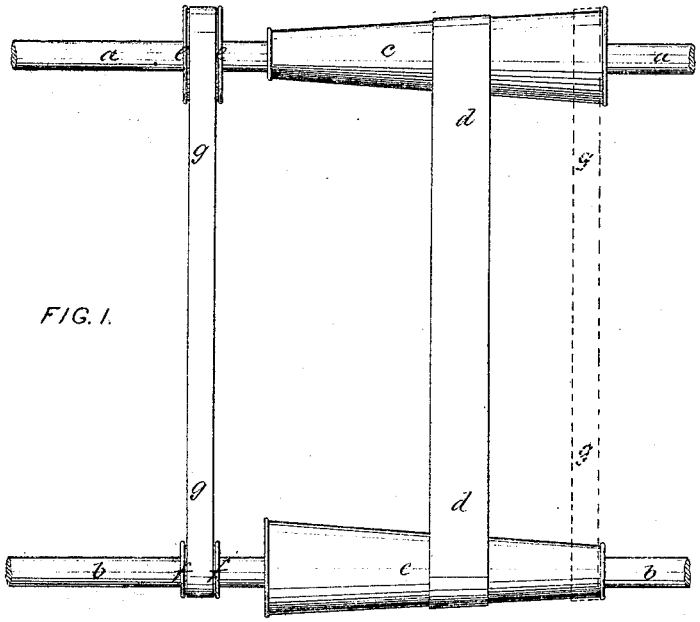
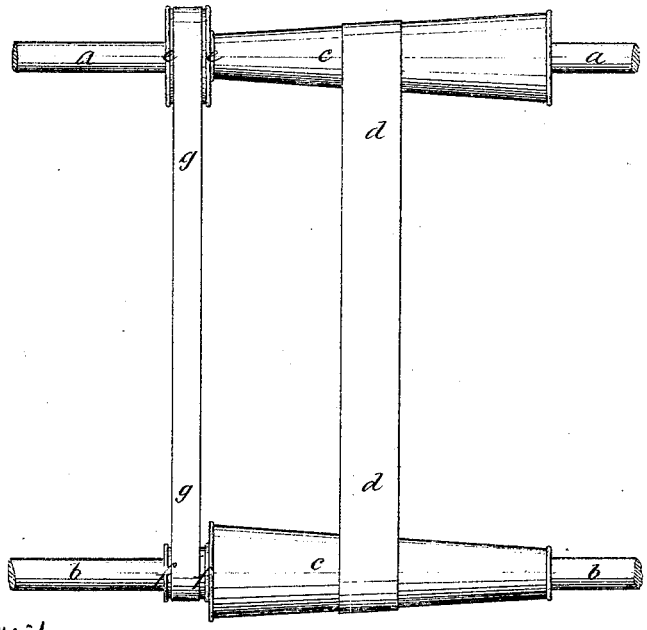


FIG. 2.



Witnesses
Henry Brierley
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Alfred Wilcox
Richard Robinson
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United States Patent Office.

ALFRED WILCOCK, RICHARD ROBINSON, AND FREDERICK WILCOCK, OF ROCHDALE, GREAT BRITAIN.

Letters Patent No. 112,103, dated February 21, 1871.

IMPROVEMENT IN DRIVING MECHANISMS FOR ROVING, SLUBBING, AND OTHER MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

We, ALFRED WILCOCK, RICHARD ROBINSON, and FREDERICK WILCOCK, all of Rochdale, in the county of Lancaster, Kingdom of Great Britain and Ireland, have invented "Improvements in Machinery or Apparatus to be employed for preparing cotton and other fibrous substances for spinning," of which the following is a specification.

This invention applies to the machines known as slubbing, intermediate, and roving-frames, and to such other machines used in preparing cotton and other fibrous substances as are provided with one or more conical pulleys or drums, for the purpose of gradually diminishing the speed of the bobbins as their diameter increases.

In machines of this class it is necessary for the rollers and the bobbins to start and stop simultaneously, otherwise imperfect work or breakages will occur; that is to say, if the bobbins stop before the rollers, or start after them, the yarn will become curled or snarled; and if the rollers stop before the bobbins, or the bobbins start before the rollers, the yarn will be stretched, and either thin places or breakages will occur; and in order to prevent this the strap which drives the cone from the first shaft must be in a complete state of tension, or perfectly tight around the two pulleys, and it has been found by experience that the strap always gets more or less slack by use, and, hence, imperfect or damaged work results.

In order to obviate this defect and to cause the cone which drives the bobbins to start and stop simultaneously with the rollers, we use an auxiliary pair of pulleys, (one on each shaft,) and we pass an endless strap around these two pulleys, and it is found that this auxiliary strap assists the cone-strap in stopping and starting, and causes the bobbins to stop and start simultaneously with the stopping and starting of the rollers, and thus prevents either the stretching or curling of the yarn.

In order to enable others skilled in the art to make and use our invention, we will now proceed to describe its construction and operation.

On reference to the accompanying drawing—

Figure 1 shows the way in which we propose to apply our invention to old frames or machines already in use.

a a is the top cone-shaft, and

d d, the ordinary cone-strap, which is movable over the surface of the cones, by means of the strap-fork or guide, in the usual manner, so as to gradually diminish the speed of the bobbins.

Upon the top cone-shaft or driving-shaft *a a* we fix an auxiliary pulley, *e e*, about the diameter of the larger end of the cones, and upon the bottom cone-shaft *b b* we fix a second smaller auxiliary pulley, *f f*, about the same diameter as the smaller end of the cones, and round these two pulleys we pass the auxiliary strap *g g*. These auxiliary pulleys may, if preferred, be made in two parts, and bolted together so as to be applied without removing the shafts from the machine.

In fitting up a new frame or machine, we prefer to cast or form the auxiliary pulleys in one piece with the cones, as shown at Figure 2.

It will, of course, be evident that the same effect might be produced without using the auxiliary pulleys by placing an auxiliary strap on one end of the cone-pulleys themselves, by making the cones a little longer, or shortening the traverse of the cone-strap, as shown by the dotted lines in fig. 1; but we prefer the use of the auxiliary pulleys, as before described.

This auxiliary strap *g g*, as above mentioned, assists the stopping and starting of the bobbins, causing them to stop and start at all times simultaneously with the rollers, but, being narrower than the cone-strap *d d*, slips on the pulleys when the machine is in work, and allows the latter to regulate the speed of the bobbins.

Claim

We claim as our invention—

The combination, with the pair of cones *c c* and their driving-strap *d*, of an auxiliary strap, to assist the stopping and starting of the bobbins, whether the said strap be applied on a separate pair of auxiliary pulleys or on the ends of the cones themselves.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ALFRED WILCOCK.
RICHARD ROBINSON.
FREDERICK WILCOCK.

Witnesses:
HENRY BRIERLEY,
WILLIAM CLEGG.