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Mason

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(54) **SPINING, SPEEDER, COTTON, ROPING**

(76) Inventor: **Samuel P. Mason**

Samuel P. Mason

Letters Patent Dated June 24, 1830. Cancelled Dec. 29, 1836.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Samuel P. Mason himself of his improvement in the "Speeder for making Cotton Roving" patented to him on the 24 day of June 1830, which patent being hereby cancelled on account of a defective specification

The essential principle which constitutes the Invention which I claim in the Speeder for making Cotton Roving, and which distinguishes it from all other Speeders now in use consists in the peculiar structure of the Spindle, and the application of the Flyer to that Spindle, and is thus described. The Spindle is made of cast steel, or iron ground and tubular or hollow, for more than half its length, commencing at the bottom or foot of the Spindle, On one side of which is a slot or groove commencing about two inches from the foot and running along its side as far towards the top as the Spindle is tubular and within. This tubular or hollow Spindle is filled another Spindle, at the bottom of which is a Spring which raises out of the tubular Spindle through the slot. At the other extremity of this inner Spindle is a head with a deep groove made of brass or any other metal. This Spindle has a tubular bearing turned at the top of sufficient length to give it a bearing on the nose of the flyer in which it revolves. At the bottom of this hollow Spindle is attached a pulley which drives it by means of a belt. There is also a pulley attached to the bottom of the flyer through the centre of which there is an aperture to admit the passage of the Spindle on which the flyer has a bearing and revolves.

Between the flyer pulley and Spindle pulley the Spindle has another bearing on which it revolves and near this bearing and between the pullies the Spindle has a groove turned around it, to admit the slide which keeps the Spindle in its place while in operation. (vide Drawing Fig 2. 3. 5. The different parts of machinery embraced by this improvement are particularly arranged as follows,

There

w a frame of wood or iron to support the several parts. On the top of one of the sides is a set of fluted rollers with top rollers.
The first motion of the machine is produced by belting on to a pulley which is firmly fixed to the front Roller and the motion is continued to the middle and back rollers by means of gearing. on a level with the Rollers at right angles to them, are horizontally placed the spindles and flyers with their bearings at both ends on two cross girts
From one end of the front Roller is geared at right angles a shaft lying horizontally and parallel with the spindles: Near the end and on the shaft is a pulley which gives motion to the flyers by means of a belt running over and under alternately the flyer pullies. From the other end of the front Roller is also geared a horizontal shaft at right angles to the rollers upon which is a wooden Cone which I term the driving Cone; parallel with this is another Cone which receives its motion from the driving Cone by means of a belt running from the driving Cone under a friction pulley: At the extremity of the receiving Cone shaft is a pulley which drives the spindles by means of a belt running over and under the spindle pullies. On the receiving Cone shaft is a pulley which gives motion by means of a belt to a shaft lying horizontally under the driving Cone. On this shaft is a cylinder upon which lies a bobbin with a spindle or shaft running through its barrel; on one end of which is a worm playing into the teeth of a wheel upon an upright shaft
Near the bottom of this shaft, is geared a horizontal shaft at right angles, which is geared at the other end into a perpendicular shaft placed in the center of a carriage which carries on a rail way under the spindles. On this perpendicular shaft is a half wheel which gives into two racks fixed upon the carriage and playing alternately in each rack gives the carriage its back and forward motion
Parallel to the bobbin upon the cylinder is another bobbin filled with cord of the same size as the roving that you wish to make. This cord is intended use when the machine is in motion by the bobbin on the cylinder and thus as it fully moves slower, and causes the carriage and also the slides within the spindles, which are attached to the

to the carriage to move slower, and thus enable the flyers to lay the roving in regular layers on the spools as they traverse back and forth on the spindle by means of the transverse motion of the carriage. There is a sliding rack with graduated teeth placed below the horizontal cones, with a friction pulley at one end. Above this rack are two hammers with arms running downwards by the side of the horizontal shaft, and on this shaft is a dog or projecting finger. Upon every half revolution of this shaft the dog presses against the hammer arm thereby raising the hammer from the teeth of the rack above and permitting it to move along by means of a weight attached to one end by a belt or cord, and thus moves or slides the cone belt which runs under the friction pulley until the rack is checked by the other hammer which catches into the next tooth of the rack, when the dog or projecting finger relieves the arm it is moved back to its former position by a spring on the opposite side of the arm which presses it back and brings the hammer down upon the rack.

The roller is brought in contact to the spindle and passing over the drawing rollers, and thence thro' the nose of the flyer and corresponding guides, along the inner side of the flyers and receives its twist, and is then laid in layers on the spools until they are filled.

The slide which secures the spindles in their places when the machine is in operation is drawn back and the spindles are then drawn back from the nose of the flyers a sufficient distance to admit of taking off the spools of roving, and a new set of spools put on. The spindles are then pushed back to their places and secured by the slide or catch and the regulator bobbins reversed, the cone belt and rack are also slipped forward.

Instead of the regulator bobbins and cords, cones may be substituted to perform the same office, and bevel wheels instead of pulleys and belts may be used to drive the spindles and flyers and the patentee is not confined exactly to the precise form of the apparatus herein described as the same may be varied in many particulars without departing from the principle of my invention as he claims the same whether the gearing be arranged horizontally perpendicularly or diagonally.

Witnesses: [illegible] Samuel S. Mason

(126 words)