(No Model.)

W. G. MORRISON.

DEVICE FOR DRIVING SPINDLES.

No. 479,896. Patented Aug. 2, 1892.

Fig. 1.

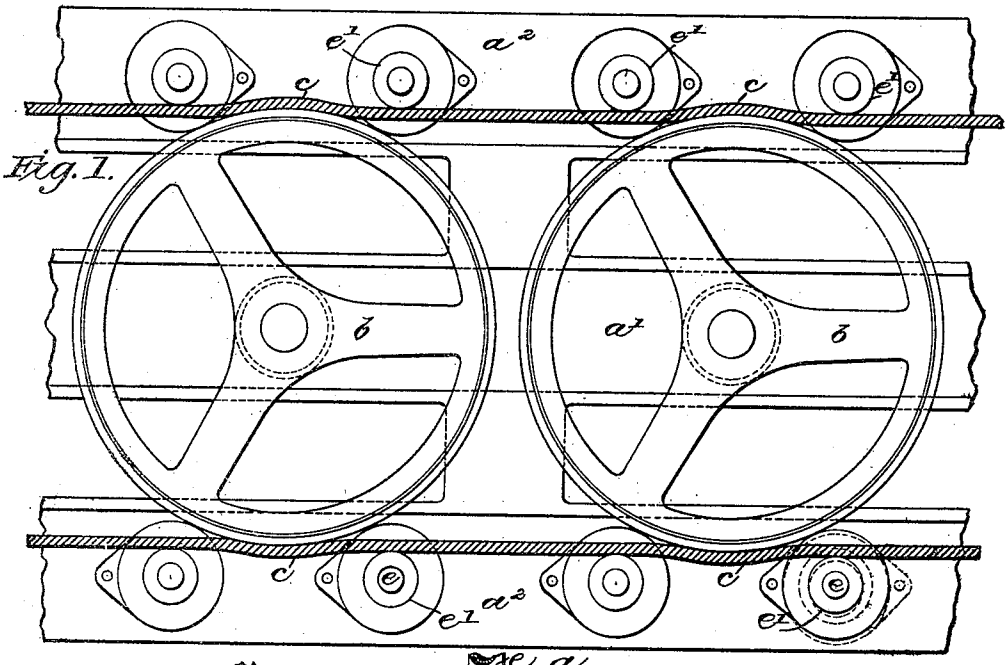


Fig. 2.

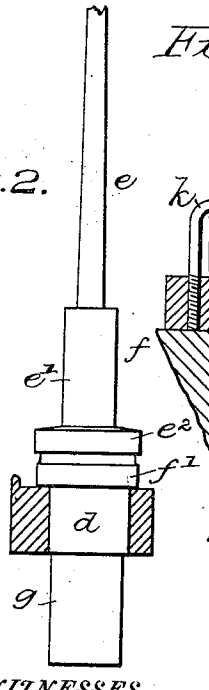


Fig. 4.

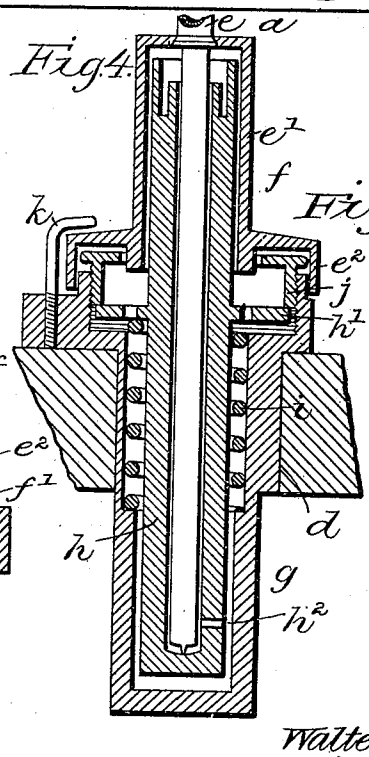
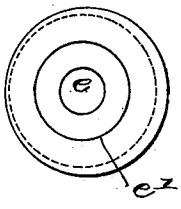


Fig. 3.



WITNESSES

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DEVICE FOR DRIVING SPINDLES.

SPECIFICATION forming part of Letters Patent No. 479,896, dated August 2, 1892.

Application filed February 10, 1891. Serial No. 380,877. (No model.)

To all whom it may concern:

Be it known that I, WALTER G. MORRISON, of Willimantic, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Devices for Driving Spindles, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a spinning-frame or like machine in which spindles are supported with simple means, whereby one or more of the spindles may be quickly and effectually thrown into or out of operation.

To this end my invention consists in details of the several parts making up the device as a whole and in their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a top or plan view of the spindle-frame in part. Fig. 2 is a detail view in elevation of the spindle and in section of the frame. Fig. 3 is a top or plan view of the spindle, showing from the dotted line the eccentric feature. Fig. 4 is a view in vertical section of a spindle and spindle-rail, illustrating my invention.

In the accompanying drawings, the letter *a* denotes part of a spindle-frame as a whole, in the central portion *a'* of which are supported idlers *b*, in contact with which runs the belt *c*, driven from any suitable source of power. In the side rails a^2 of the frame are supported the spindle-bolsters *d* in suitable sockets provided for their reception, and these bolsters are supported in such manner that they may be easily turned therein.

It is not essential to my invention that any particular form of spindle shall be used, as my invention is applicable to any of the well-known forms; but in Figs. 2 and 4 there is shown in section a spindle embodying my invention. This spindle is a well-known form, having the oil-cup *g* supported in the spindle-rail. Within this oil-cup there is a tubular piece *h*, forming the bearing of the spindle, and this tubular piece is provided with an annular projection *h'*, seated on a spiral spring *i*, a portion of the body of the part *h* extending downward within the spring. A screw-threaded cap *j* is fitted to the upper part of the oil-cup and holds the tubular part *h* downward against the spring by contact with the annular projection *h'*. The lower part of the blade of the spindle fits within the part *h*, having a bearing at the bottom thereof, and is provided midway of its length with the sleeve *e'* and sleeve-whirl e^2, the spindle being held from removal by means of the screw-threaded pin *k*. The lower end of the tubular piece *h* is provided with an opening h^2, through which oil may flow from the oil-well into the chamber occupied by the lower end of the spindle-blade. That portion *d* of the oil-cup forming the bearing of the spindle within the frame is made eccentric to the other parts of the spindle, so that when turned in a certain position the portion *e'* of the sleeve *f* is brought into contact with the belt, so that the latter is held tightly against the spindle, serving to drive the same. By giving the spindle-box a partial turn from this position the spindle is thrown out of contact with the belt or other driving-power and ceases to move.

The spindle may be so constructed that one part e^2 will be thrown into contact with the idler at the same time that the part *e'* is thrown into running contact with the belt, thus providing an additional means of driving the spindle.

The spindles are preferably so arranged on each side part of the frame that two of them will be adjacent to or in contact with the periphery of each idler on each side.

By the construction of this device there is provided a convenient and simple means of stopping or starting any of the spindles when desired, this object being accomplished simply by giving the spindle which it is desired to stop or start a partial turn, thereby throwing it into or out of contact with the driving power.

It is obvious that the spindles may be arranged in various positions with regard to the idlers and belt—that is, it is not essential that the spindles shall be arranged precisely as herein shown and described, as any device in which there is provided means for throw-

ing the spindles into or out of contact with the driving-power by means of eccentric bearings will come within the scope of the invention, and I do not limit myself to this particular form.

I claim as my invention—

1. In combination with a spindle-rail having a spindle-socket, a driving-belt located in a plane transversely of the axis of said socket, and a spindle having a hub eccentric to the axis of the spindle, said hub fitting the spindle-socket, all substantially as described.

2. In combination in a spinning-frame, a spindle-rail having a line of spindle-sockets, a driving-belt supported in line by guide pulleys or idlers, and a series of spindles eccentrically supported in the respective sockets and in operative relation to the belt, all substantially as described.

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Witnesses:
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