(No Model.)

C. SCHREPFER.

MECHANISM FOR DRIVING SPINNING SPINDLES.

No. 501,666. Patented July 18, 1893.

Fig. 1.

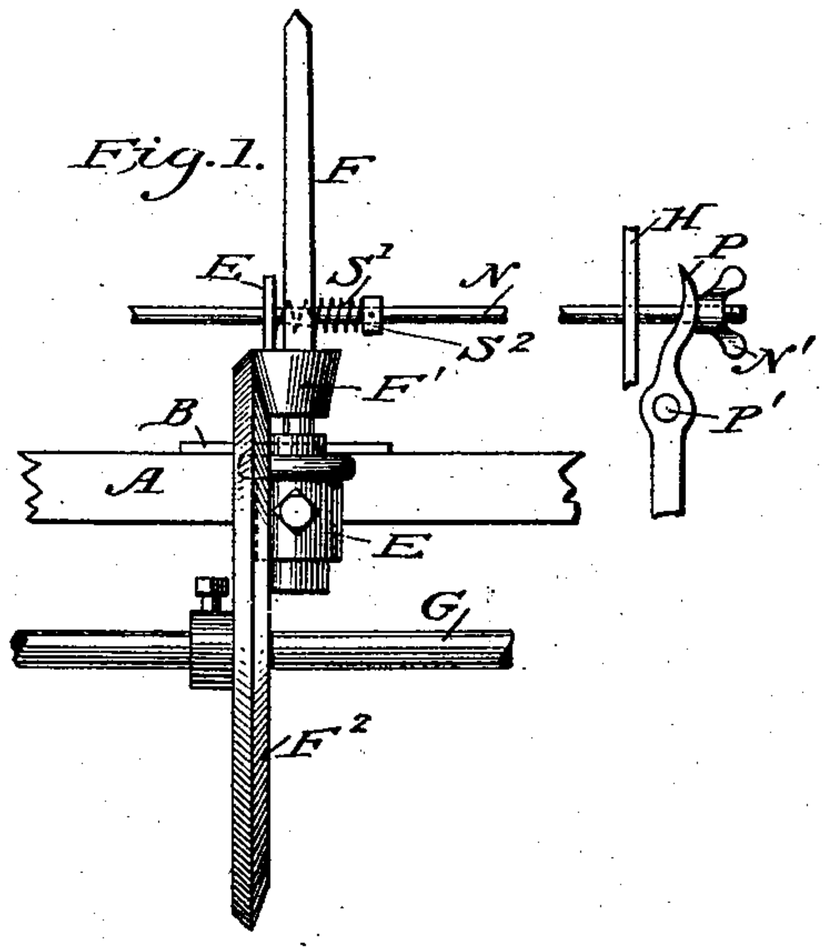
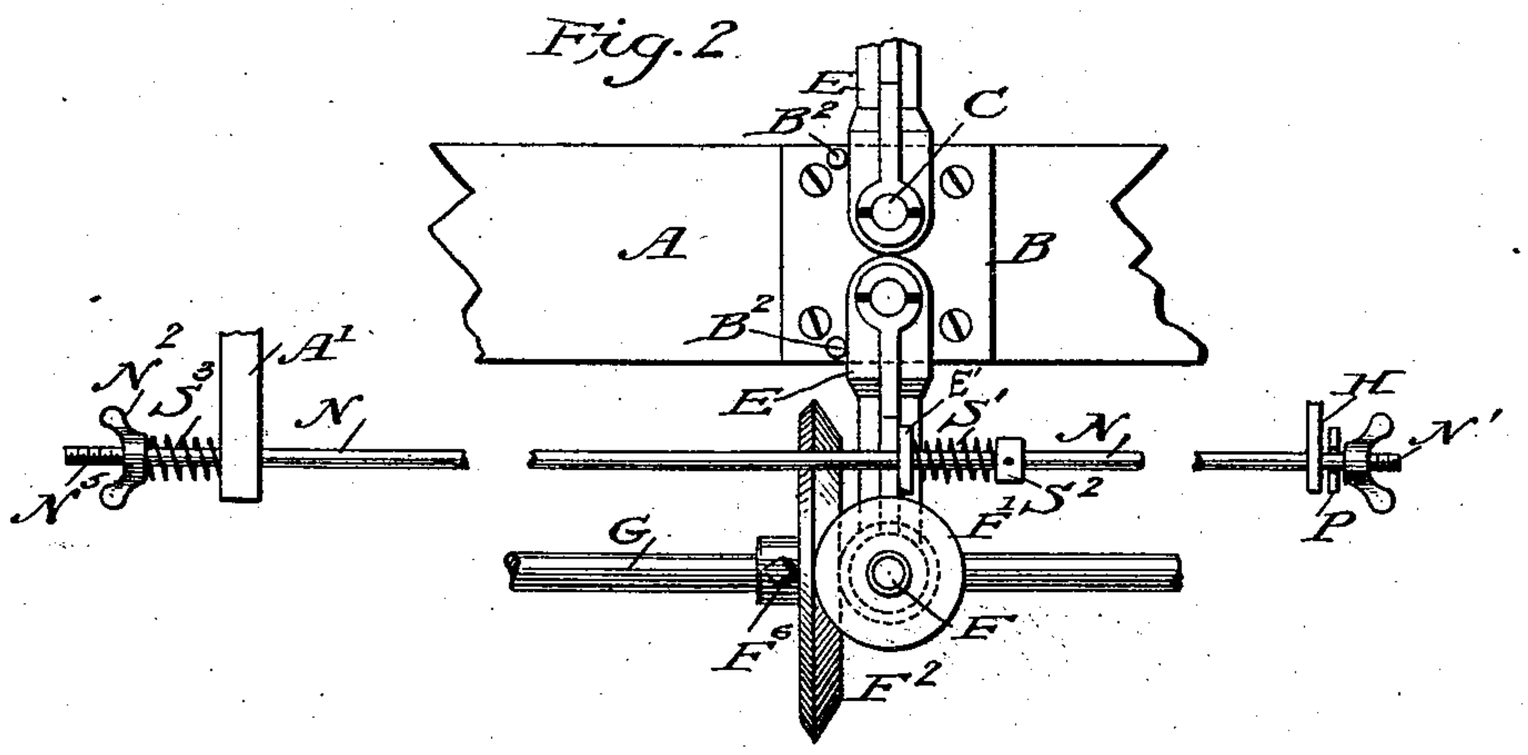


Fig. 2.



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CONRAD SCHREPFER, OF PATERSON, NEW JERSEY.

MECHANISM FOR DRIVING SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 501,666, dated July 18, 1893.

Application filed October 17, 1892. Serial No. 449,162. (No model.)

To all whom it may concern:

Be it known that I, CONRAD SCHREPFER, of the city of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Mechanism for Driving Spinning-Spindles, of which the following is a specification.

The invention is an improvement on "mechanism for driving spinning spindles," for which Letters-Patent No. 465,001 were granted to me December 15, 1891, and it consists in devices for pressing the friction pulley of a spindle or series of spindles, mounted in swinging brackets, against a face driving wheel or series of face driving wheels secured to a driving shaft located on either side of the spinning frame. In the above mentioned patent the bolsters for the spindles were stationary and each face driving wheel was pressed into engagement with the friction pulley of each spindle by means of a series of springs attached to a driving spider which was keyed to the driving shaft. In this case however it is quite the reverse, as the face driving wheel is secured to the driving shaft, and the bolster in which the spindle revolves is adjustable, the bracket in which it is secured swinging on a pin or pivot and the friction pulley of the spindle is held in contact with the face driving wheel by means of a spring secured to a longitudinal rod which passes through openings in said swinging brackets and is provided with resisting collars, a spring being located on said rod between each resisting collar and its adjoining swinging bracket. The tension of this series of springs is regulated, according to the amount of friction required, by means of a spring on the end of said longitudinal rod as will be more particularly described hereinafter. By this improvement a great amount of speed is obtained without requiring much power. Another advantage I obtain by means of this improvement is, that all the spindles on one side of the frame may be stopped without stopping the power or spindles on the opposite side of the frame. The swinging brackets or supports for the bolsters are obtained by dividing the saddles described in my previous invention into two parts, as shown in the accompanying drawings, and by providing studs on the top of the saddle rail, upon which studs the swinging brackets or divided saddles are mounted and swing. I propose to hold the friction pulley of each spindle in engagement with its respective face driving wheel by means of springs, as shown in the drawings and hereinafter more fully set forth.

The accompanying drawings illustrate my invention and form a part of this specification.

In the drawings Figure 1 is a front elevation of a single spindle and my improved driving means therefor; a part of the operating means for the rod N being omitted. Fig. 2 is a plan view showing the top rail of a spinning machine, an adjustable bolster, a spindle and mechanism for driving the same.

I will now proceed to describe the construction of my improvement. Extending along either side of the frame are driving shafts —G—; secured to said shafts equi-distant apart are face driving wheels —F^2—. A rail —A— is arranged on and attached to the usual frame, and on said rail —A— a series of brackets —E— are located and supported by studs —C— whereon said brackets are permitted to swing as shown in Fig. 2. The brackets —E— are held in position on the studs —C— by a pin passing through said studs or in any other suitable manner. The swinging brackets —E— secured to the studs —C— are located along both sides of the rail —A—, and, as shown in Fig. 2, they extend downward on both sides of said rail —A— and each is provided at its lower end with a holder formed to receive the bolster of the spindle —F—. The spindle —F— is provided with a friction pulley —F′— which is adapted to come in frictional contact with the face driving wheel —F^2— when the swinging bracket —E— is pressed toward the face driving wheel. While I prefer to construct the friction pulley —F′— slightly conical in shape, as shown in Fig. 1, I do not wish to confine myself to that particular shape. The swinging brackets —E— on the rail —A— are also equi-distant from each other.

On each side of the spinning machine, and journaled in suitable bearings formed to receive them, are the longitudinal driving shafts —G—, to which the series of face driving wheels —F^2— are secured in any suitable manner. An arm or lug —E′—, provided

with an opening, is secured to each of the swinging brackets —E—.

I may employ springs of various constructions to accomplish my object; but I prefer the construction shown in Fig. 2, while not confining myself to the precise construction shown.

A rod —N— extends longitudinally along either side of the frame passing through the openings formed in the arms —E'— of the swinging brackets —E— and through openings in supports —H— and —A'— which are secured to the frame. On the rod —N— are secured a series of resisting collars —S^2—. A spring —S'— is arranged on or about the rod —N—, between each resisting collar —S^2— and the nearest swinging arm —E'—. The spring —S'— is adapted to expand between the fixed resisting collar —S^2— and the arm —E'— of the swinging bracket —E— and to force, in that manner, the friction pulley —F'— of the spindle —F— into contact with its respective face driving wheel —F^2— as shown in Fig. —2—, and so throughout the whole series on either side of the frame. Both ends of the rod —N— are provided with screw threads as will be seen at —N'— and —N^5— in Fig. 2. One end of the rod —N— passes through the supporting bracket —A'— and the other end through the supporting bracket —H— which brackets are secured to the frame in any appropriate manner. The tension of the springs —S'— is regulated by a spring —S^3— (see Fig. 2) which is located on the rod —N— and is regulated by an adjusting nut —N^2— which is screwed on the end of the rod —N— thus pressing said spring against the supporting bracket —A'—, thereby regulating and controlling the friction between the face driving wheels F^2 and the friction pulleys F' on the spindles —F—. On the opposite end of the rod —N— is a similar thumb screw or adjusting nut. A stop fork —P— is secured to the frame on a pivot —P'— and acts as a lever by means of which the rod —N— is moved laterally in order to release the tension of the series of springs —S'— and to remove the friction pulleys from engagement with the face driving wheels.

With this description of my invention, what I claim is—

1. In a spinning machine, a swinging bracket supporting a spindle, said spindle provided with a friction pulley, in combination with a driving shaft arranged longitudinally in suitable bearings on said machine, a face driving wheel securely fixed to said driving shaft, a rod passing longitudinally alongside of said machine through openings in supporting brackets attached to said machine and through an opening formed in an arm on said swinging bracket, said rod provided with a resisting collar, a spring on said rod between the resisting collar and the adjacent swinging bracket, a spring on one end of said rod and an adjusting nut adapted to regulate the tension of said spring and thereby that of the spring located on said rod between the resisting collar and the swinging bracket, which forces its spindle into engagement with its face driving wheel, all constructed substantially as shown and described.

2. In a spinning machine, a shaft extending longitudinally in suitable bearings on said frame, a face driving wheel secured to said shaft, a swinging bracket suitably secured to the rail on said frame above said driving shaft the lower end of said bracket formed to hold the bolster of a spindle, in combination with a spindle provided with a friction pulley, a rod N extending longitudinally along side of said frame passing through arms E' on the swinging bracket E, the ends of rod N being provided with screw threads and adjustable nuts, a compression spring at one end of said rod, at the other end a forked lever, said rod N also provided with a resisting collar, and a spring between said resisting collar and the adjacent bracket supporting the spindle, substantially as and for the purposes specified.

3. In a spinning machine, a spindle provided with a friction pulley and mounted in a swinging bracket, in combination with a shaft, suitably mounted on said machine, a face driving wheel secured to said shaft, the rod N provided with screw threads N' and N^5, resisting collar —S^2, spring S', and a spring S^3 adapted to hold the friction pulley in engagement with its respective driving wheel, the brackets H and A' provided with openings through which rod N passes, an adjustable nut adapted to be screwed on each end of the rod N, and on one end of the rod N a forked lever —P— secured to frame of machine on a pivot P', substantially as shown and described and for the purposes specified.

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