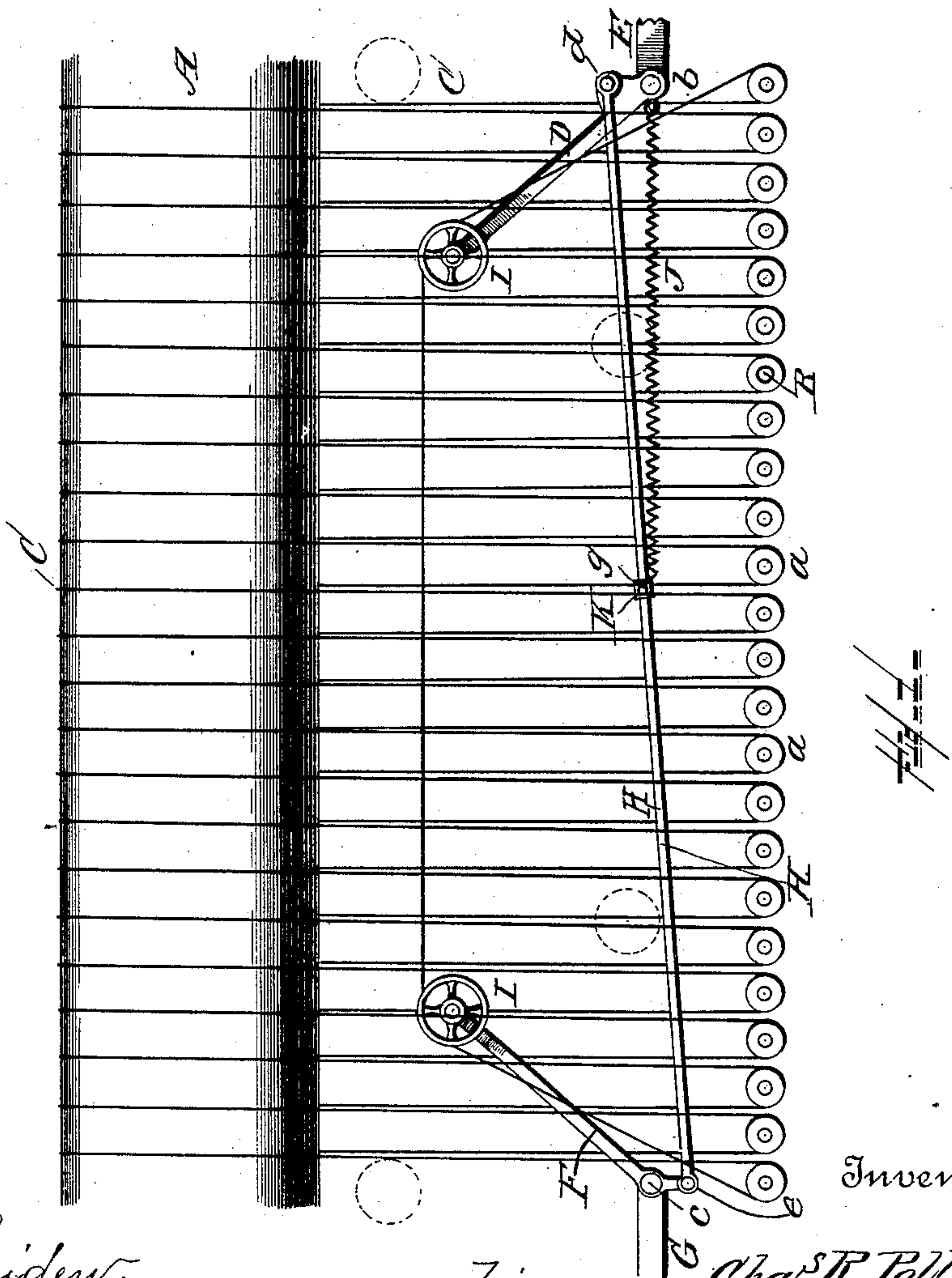
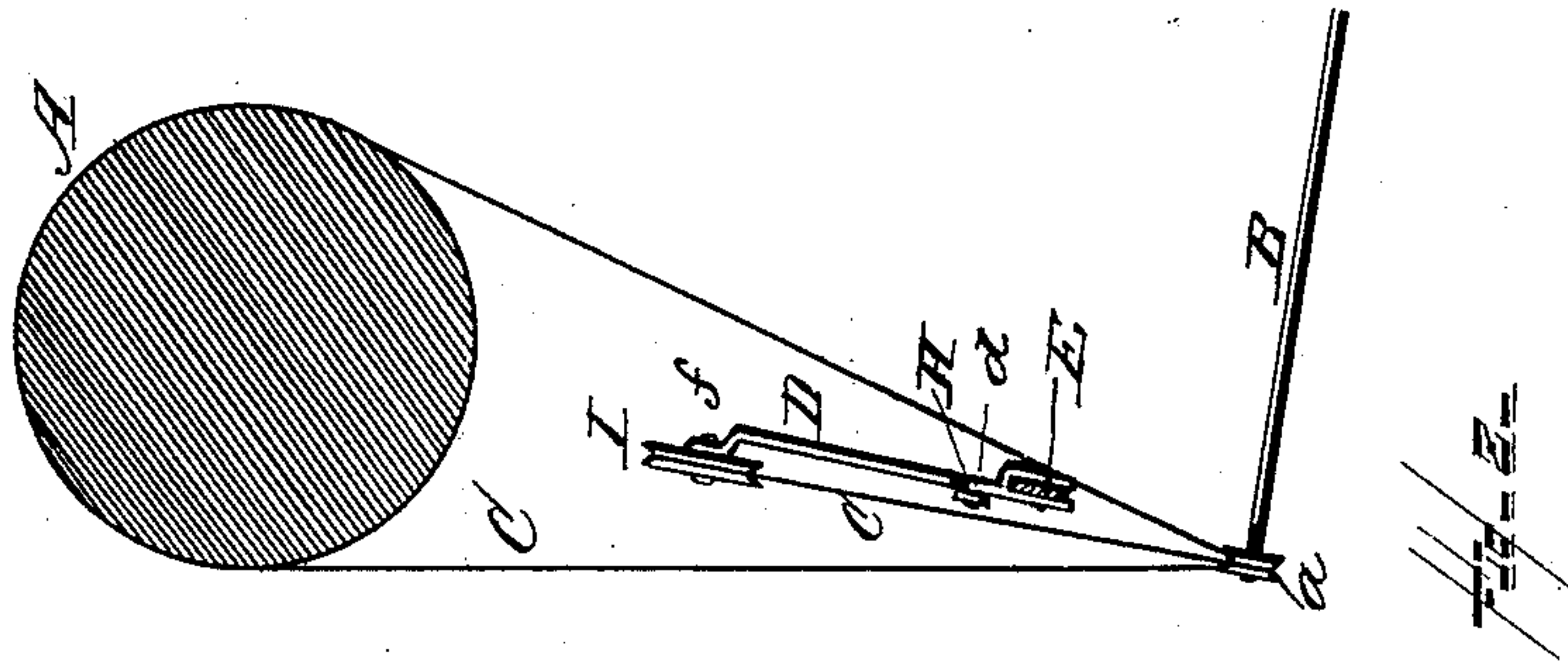


(No Model.)

C. R. POLLARD.
TENSION REGULATOR FOR SPINDLE DRIVING BANDS FOR SPINNING
MACHINES.

No. 428,630.

Patented May 27, 1890.



Witnesses

Albert Speiden,
E. H. Bond,

Inventor

By *his* Attorney *Chas. R. Pollard,*
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UNITED STATES PATENT OFFICE.

CHARLES RICHARD POLLARD, OF SOMERVILLE, CONNECTICUT.

TENSION-REGULATOR FOR SPINDLE-DRIVING BANDS FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 428,630, dated May 27, 1890.

Application filed September 28, 1889. Serial No. 325,355. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHARD POLLARD, a citizen of the United States, residing at Somerville, in the county of Tollard and State of Connecticut, have invented certain new and useful Improvements in Tension-Regulators for Spindle-Driving Bands for Spinning-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in tension-regulating devices for the driving-bands of spindles in spinning and similar machines of that class wherein the driving-band has a loop between the ends of the machine or of a section thereof, with an arm carrying a pulley engaging said loop or slack portion.

The present invention has for its object to provide an improved tension-regulator, the advantages of which will be hereinafter set forth.

The invention in the present instance resides in the peculiar combinations and the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and which will be more particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a plan view of a portion of a spinning-machine, showing the spindles, driving-drum, the endless driving-band applied to said drum and spindles, and with my improved tension-regulating devices arranged to act on said band. Fig. 2 is a cross-section through Fig. 1, parts being shown in elevation.

Referring to the details of the drawings by letter, A designates the driving-drum, designed to be carried by a suitable shaft journaled in suitable bearings and carrying in a well-known manner a driving-pulley, these latter devices not being shown, however, in the drawings.

The spindles B are supported in the frame

of the machine in a well-known manner in suitable bolsters or bearings, and are provided with the usual whirls *a*, on which the driving-band C, connecting with the drum A, runs. The driving-band C is what is known as an "endless band"—that is to say, it is a band of sufficient length to encircle the drum and a certain section of the spindle-whirls, and the ends thereof are united in any suitable manner. To comply with the object of this invention the said driving-band is made long enough to provide a considerable slack portion, as shown in Fig. 1, between the end spindles of said section of the machine, said slack portion passing between those portions of the band which extend from the upper and lower sides of the drum to the intermediate spindles, as shown in Figs. 1 and 2. This band is arranged in relation to the drum and spindles in the usual manner—that is, alternately around the drum and spindle-whirls, as shown.

D is a lever fulcrumed at *b* on the arm E, and F is a lever fulcrumed at *c*, at the opposite end of the machine, on the arm G.

H is a connecting-rod connecting the levers or arms D and F. It is connected at one end with the lever or arm D, as at *d*, between its pivot and its free end, and is connected at its other end, as at *e*, with the lever or arm F at the end of its short arm, thus making of the lever or arm D a lever of the third class and of F a lever of the first class, and any movement of the connecting-rod H will cause the levers D and F to move on their pivots in opposite directions. The levers D and F each carry at their outer ends a pulley I, connected therewith in any suitable manner, so as to freely rotate thereon, the said levers being provided with an offset *f*, as shown clearly in Fig. 2, so as to always bring said pulleys in line with or in the same plane as the whirls on the spindles.

J is a coiled spring attached at one end to the lever D near the fixed center, on which the lever or arm D works, and at the other end to a collar or slide K on the connecting-rod H, said collar being held to the rod by means of a binding-screw *g*, so that the tension of the spring may be regulated or adjusted, when desired, by moving the collar nearer to or farther from the end of the said

rod, and thus vary the tension which is imparted to the driving-band by the pressure of the pulleys I on it.

It is deemed important that the pulleys I
5 be so arranged as to work in the same plane as that of the whirls on the spindles, whereby a better result is accomplished. By the employment of the levers, one at each end, and the levers of two different classes, I obtain a
10 greater tension on the band and provide for an even tension in case of stretch of band from any cause.

The device is simple, not liable to become disarranged or get out of order, and in practice
15 has proved most efficient.

What I claim as new is—

1. The combination, with the drum, the spindles, their whirls, and the driving-band, arranged as shown, with a loop between the
20 end spindles, of the two levers, one of the first class and the other of the third class, each provided at its end with a pulley over which the loop of the band passes, a rod connecting the said levers, and a spring, substantially as
25 described.

2. The combination, with the drum, the spindles, their whirls, and the endless driv-

ing-band, of the levers, pivoted as described, the rod connecting the levers near their pivots, the slide on the rod, and the spring connected at one end to said slide and at the other to one of the levers, and the pulleys on said levers, substantially as described. 30

3. The combination, with the drum, the spindles, their whirls, and the driving-band, arranged as shown, and having a loop between the end spindles, of the lever D, pivoted as shown, the lever F, pivoted as shown, the rod attached at one end to the lever D between its pivot and end and at the other
40 to the end of the short arm of the lever F, the pulleys on the ends of the levers and around which the loop of the band passes, and the spring connecting the rod with the lever D near its pivot, substantially as described. 45

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES RICHARD POLLARD. [L. S.]

Witnesses:

FRED O. ALDEN,
ANNA D. POLLARD.