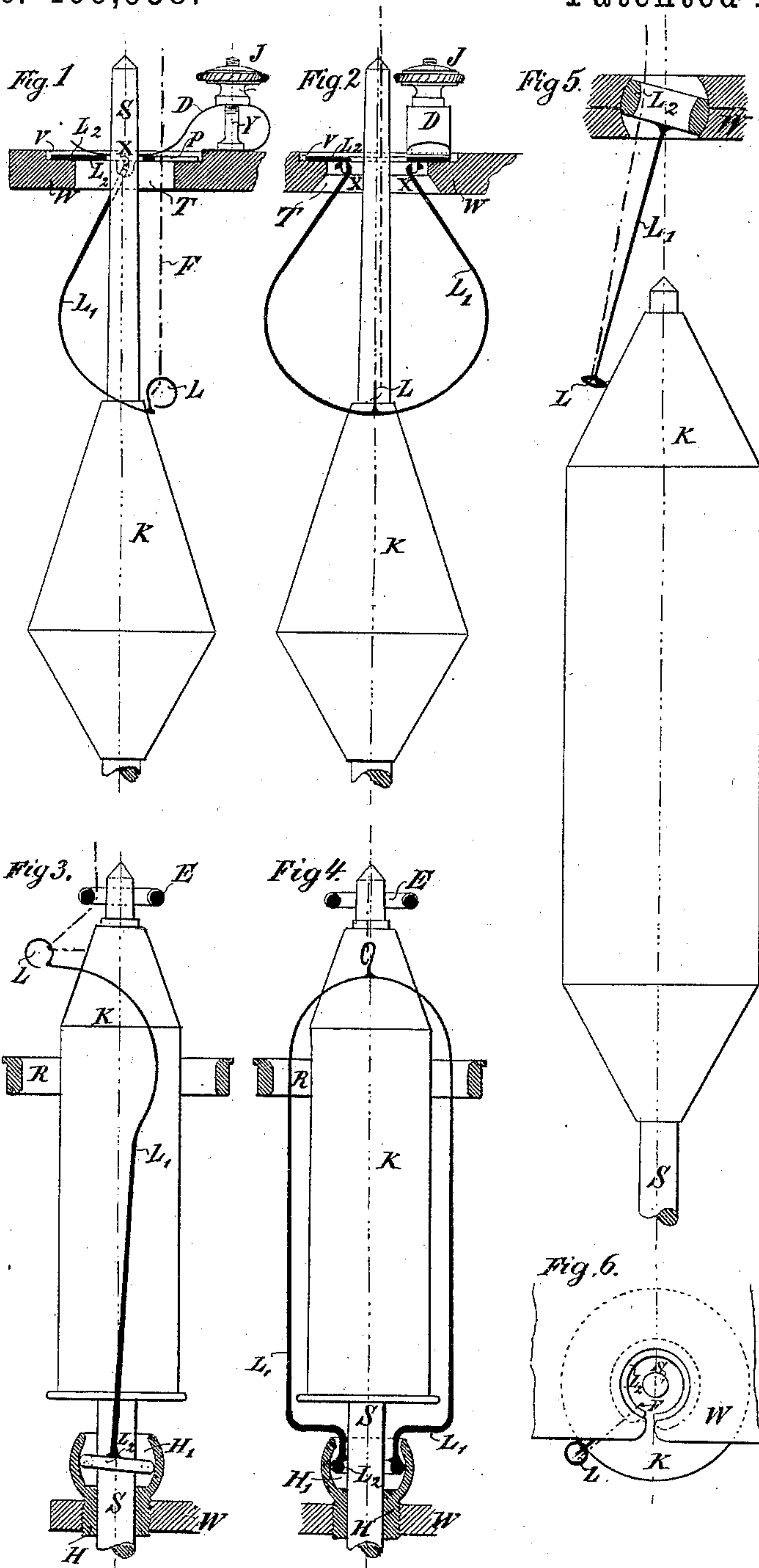


(No Model.)

E. GESSNER.
SPINNING MACHINE.

No. 409,958.

Patented Aug. 27, 1889.



WITNESSES
Fred G. Dieterich
Edw. W. Byrn

INVENTOR
ERNST GESSNER
BY *Mann & Co*
ATTORNEYS

UNITED STATES PATENT OFFICE.

ERNST GESSNER, OF AUE, SAXONY, GERMANY.

SPINNING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 409,958, dated August 27, 1889.

Application filed January 3, 1889. Serial No. 295,286. (No model.)

To all whom it may concern:

Be it known that I, ERNST GESSNER, a citizen of Germany, residing at Aue, in the Kingdom of Saxony, Germany, have invented certain new and useful Improvements in Spinning-Machines, of which the following is a full, clear, and exact description.

The invention refers to spindles with rotary winders rotated similarly to travelers in ring-frames by the tension strain of the thread for continually spinning and simultaneously winding the thread.

The characteristic feature of the invention is an arm carrying the thread-guide pivoted or hinged in the plane of the spindle, so as to allow of its being rotated round the spindle, and at the same time being oscillated between the spindle and the outer circle of its rotary motion from the opposing forces of centrifugal action and the tension of the thread.

Figures 1 and 2 show a front and side view of a winder with its pivotal bearing located above the cop, the winder being shown in relation to the spindle and the rail. Figs. 3 and 4 show the front and side view of a winder with its pivotal bearing below the cop, the winder being shown in relation to the spindle, rail, and ring. Fig. 5 shows the elevation, and Fig. 6 the ground plan, of another modification of a winder.

Referring to Figs. 1 and 2, the winder consists of the bowed arm L' , carrying the thread-guide L , and pivotally attached to a flat ring L^2 by hinges X , so as to be free to oscillate, the axes of the hinges being in the vertical plane of the spindle. The ring L^2 rests in a circular recess V in the coping-rail W , and is held down in the said recess by means of a spring D . The spindle S passes through an opening T in the coping-rail, and also through this ring. The ring L^2 has a slot or outlet P , and the opening T of the rail has a corresponding outlet to allow the thread F to enter from without into the slot P of the ring L^2 , so as to pass round the spindle. The arm L' is so constructed as to have the center of its gravity on the opposite side of the spindle from the thread-guide. With this disposition of weight, centrifugal force tends to

carry the weighty part of the said bowed arm L' away from the spindle, and consequently the thread-guide bears against the spindle or the spun yarn, accommodating itself to the shape of the cop. The tension of the spring D is rendered adjustable by means of the bolt Y and nut J , so as to give more or less pressure against the ring L^2 , and it may thus be used as a brake to the winder to regulate the tension of the thread.

Referring to Figs. 3 and 4, the spindle S is held by the bolster-bearing H , fixed in the coping-rail W . (Shown in section.)

The winder consists of bowed arm L' , carrying the thread-guide L and secured to the ring L^2 . The upper part of the bearing H' has a globular form inclosing the ring L^2 of the winder, which is thus free to rotate, and at the same time to oscillate transversely to the spindle. A ring R , connected with the coping-rail, serves as a guide to the winder to limit the range of its oscillatory motion, the arm L' sliding around on the inner face of said ring. To prevent ballooning of the thread from centrifugal action, it is passed through the ring E , which may be connected with the coping-rail in the ordinary way.

The same winder is applicable for spinning-bobbins of a cylindrical shape. According to the different forms and weight of the winders employed the tension arising in the thread is different, and in order to meet the various requirements as to different kinds and strength of the material to be spun winders of different shape may be substituted, or the thread-guide may be made detachable from the winder, so as to be capable of being loosened or unhooked for the purpose of exchanging thread-guides of different weight instead of changing the whole winder. Instead of having the shape of a bow, as shown in Figs. 1 to 4, the part L' may be made in the shape of a straight arm carrying the thread-guide, as in Figs. 5 and 6. In this case the winder consists of the thread-guide L , the arm L' , which is fixed to the ring L^2 , having a globular form and being movably held in a corresponding bearing in the coping-rail W , after the manner of a ball-and-socket joint, so that the thread-guide is

free to oscillate in its motion round the spindle to regulate the spinning and winding. The ring L^2 and the coping-rail W (see Fig. 6) are slit open for the thread to pass through.

5 The ring L^2 is shown in a position above the spindle for spinning the top part of the cop K. When the lower part of the cop is being spun, as at the start, the coping-rail is lowered and the spindle protrudes through and revolves
10 within the ring L^2 .

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a spindle and the
15 coping-rail, of an oscillating winder composed of a rotatable ring L^2 , seated on the

coping-rail and embracing the spindle, arm L' , connected to said ring in the plane of the spindle, and the thread-guide L, substantially
20 as described.

2. The combination, with a spindle and the coping-rail W, of the winder composed of bowed arm L' with thread-guide, slotted ring L^2 , seated on the coping-rail and hinged or pivoted to the arm L' in the plane of the
25 spindle, and the brake-spring D, pressing upon said ring, substantially as shown and described.

ERNST GESSNER.

Witnesses:

ALFRED NAEZOLD,
ERNST GESSNER, Junior.