(No Model.)

H. LOTZ.

SPINNING WHEEL.

No. 467,654. Patented Jan. 26, 1892.

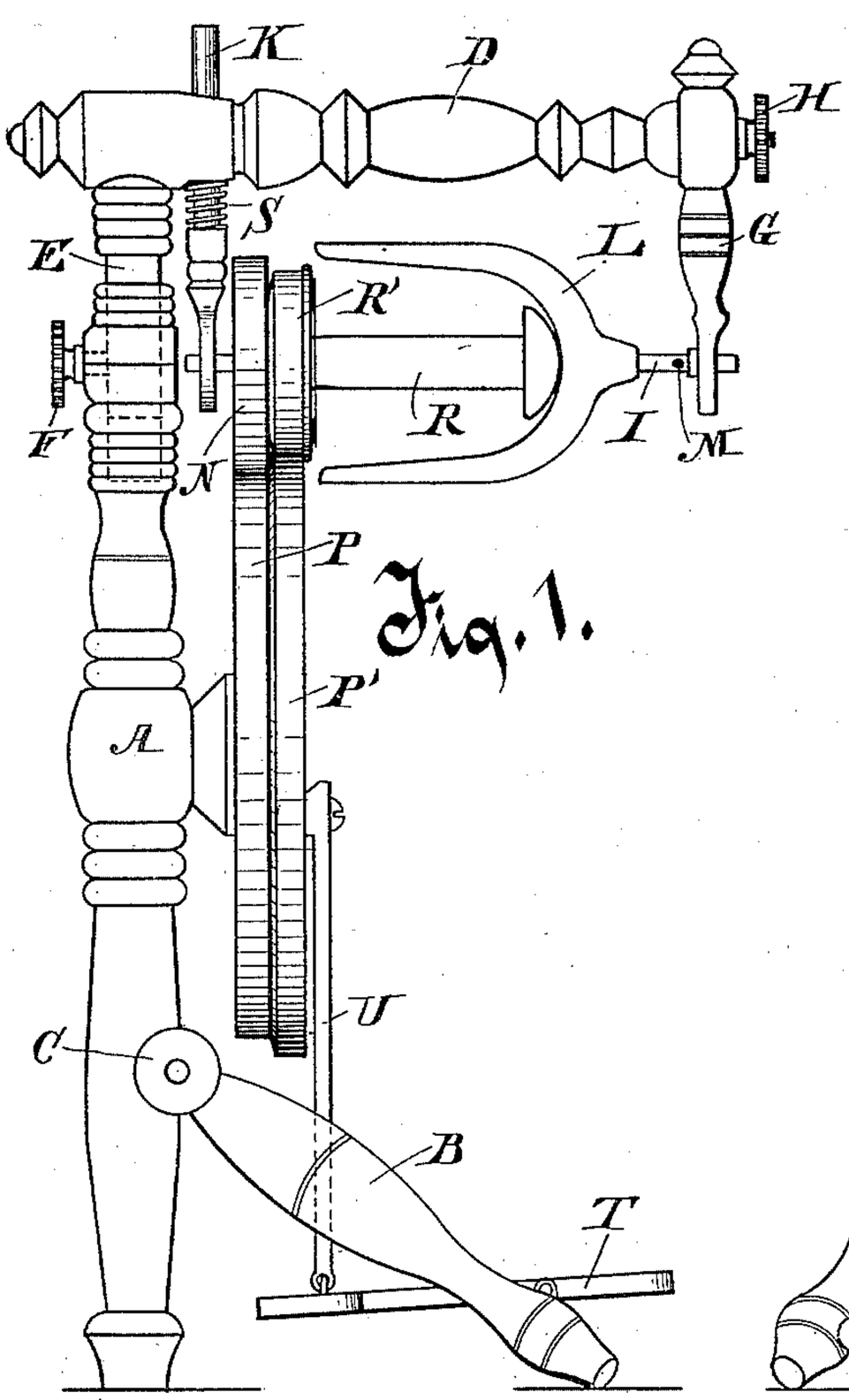


Fig. 1.

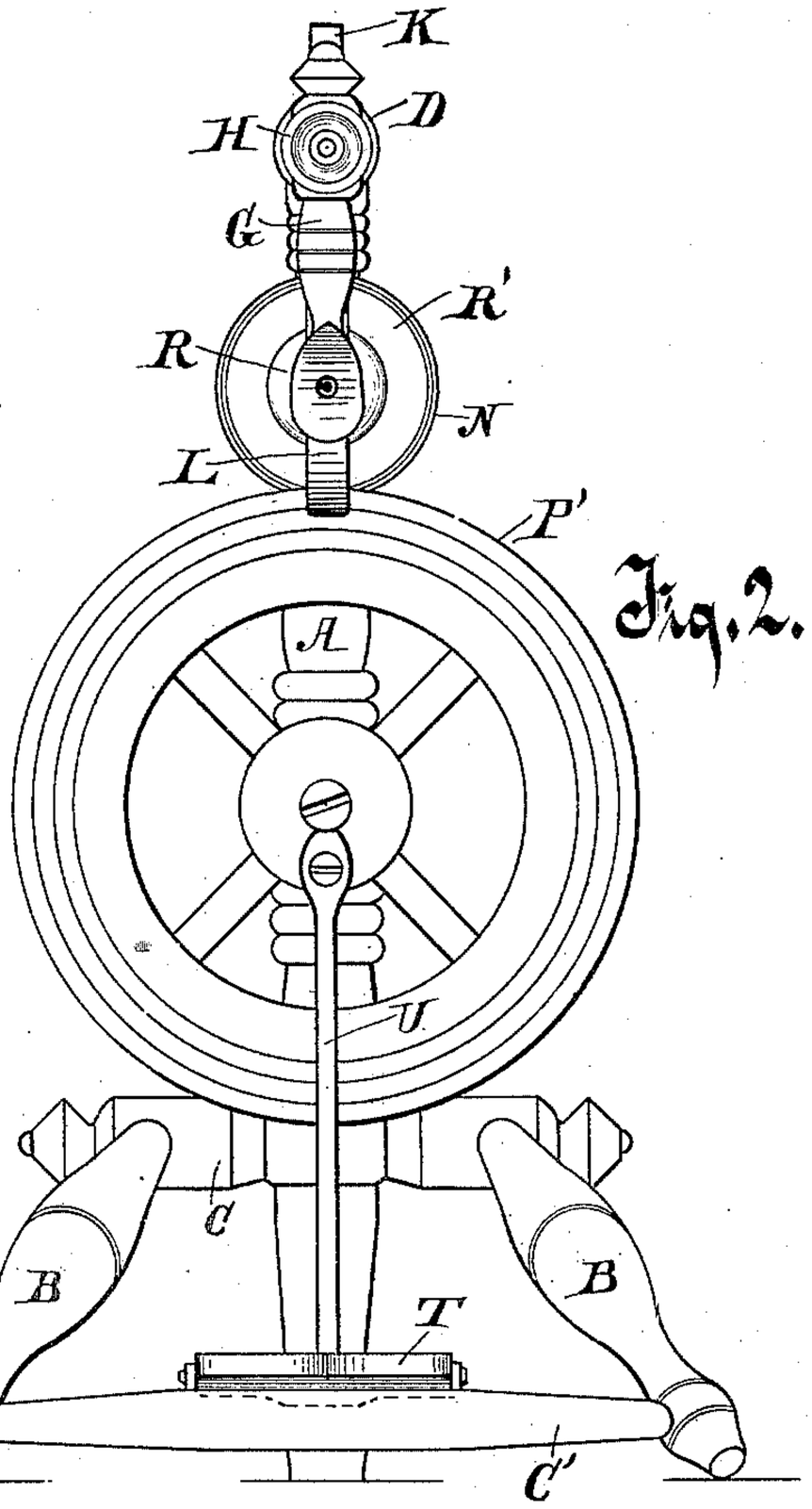
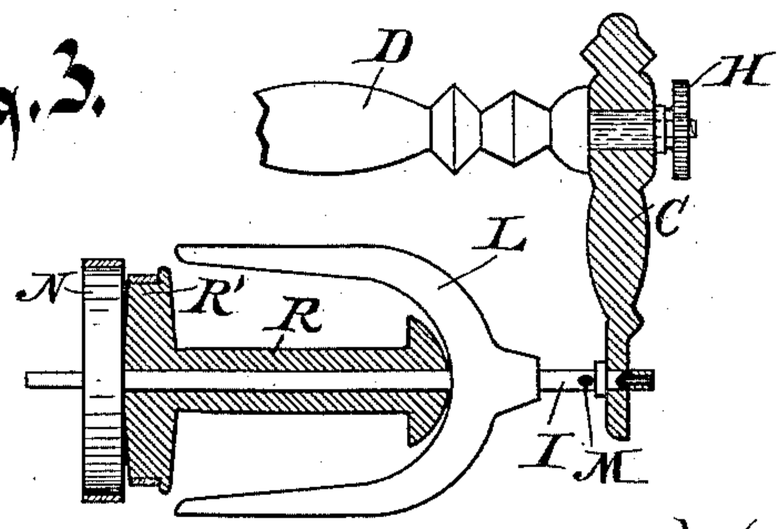


Fig. 2.

Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY LOTZ, OF HORICON, WISCONSIN.

SPINNING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 467,654, dated January 26, 1892.

Application filed April 6, 1891. Serial No. 387,806. (No model.)

To all whom it may concern:

Be it known that I, HENRY LOTZ, of Horicon, in the county of Dodge and State of Wisconsin, have invented a new and useful Improvement in Spinning-Wheels, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to a spinning-wheel adapted for spinning wool or flax by hand; and the object of the invention is to provide a device that is compact in form, that is arranged to spin a thread from either side either by a right or left hand twist, that is capable of adjustment for differentiating the motion between the spool and the flier or spindle, and in which the use of a cord or belt on the wheels is obviated.

In the drawings, Figure 1 is a side elevation of the complete machine. Fig. 2 is a front elevation of the same machine. Fig. 3 is a detail part in section for better illustration.

Heretofore the frame of the spinning-wheel has been so constructed as to necessarily occupy a considerable space in the room where it stands, which frames were of such form as not to be capable of being put away in a corner or other limited or narrow space.

In my improved machine the operative portions of the mechanism are supported on a single post A, steadied and held upright by the bracing-legs B B, fixed in a cross bar or round C, secured rigidly to the post A. The legs B project and spread toward the front, so that when the machine is to be stored away the post A can be placed in the corner of a room, and the legs B, and in fact the whole machine, will not project far into the room, but will occupy a comparatively limited space. A horizontal arm D is provided with a rigid leg E, which is fitted movably in a socket therefor in the top of the post A. The leg E and the thereon-carried arm D are adjustable vertically in the post A, being held in position by the set-screw F. At the outer end of the arm D a hanger G is supported removably on the arm D, a faced part of which enters an aperture therefor in the hanger G, and the hanger is secured removably to the arm by the nut H, turning on a reduced part of the arm D against the hanger G. A spindle I has bearings near its extremities respectively in the hanger G and in the rod or pin K, movable endwise vertically in the arm D. The spindle I is provided with a bifurcate flier L, rigid thereon, and an aperture M, extending from its side opening longitudinally to the outer end of the spindle for the passage therethrough of the thread or roving. The spindle I is also provided with a wheel N, splined thereon, which bears against the driving-wheel P, axled on a pin fixed in the post A. A spool R, provided with a wheel R′, is axled loosely on the spindle I, and the wheel R′ bears frictionally against the wheel P′, rigid to the wheel P. The wheel P′ is slightly larger than the wheel P and the wheel N is larger than the wheel R′. A spring S around the pin K, bearing against the arm D and a shoulder on the pin, is adapted to hold the wheels N and R′ or one of them in frictional contact with the wheels P and P′, respectively, at all times under the raising and lowering of the leg E in the post A.

It will be seen that the spindle I, having its outer bearing in the hanger G at a constant distance from the arm D, will be tilted or inclined more or less by the movement of the pin K, actuated by the spring S, and by the raising or lowering of the leg E in the post A, so that by this means the wheel N may be put in firm frictional contact with the wheel P and the wheel R′ raised entirely or almost out of contact with the wheel P′, whereby the spindle may be revolved rapidly, while the spool rotates slowly or not at all; also, by the reverse adjustment of the parts the spool may be made to rotate rapidly, while the spindle revolves very slowly or not at all. The wheels P and P′, rigid together and axled on a pin in the post, rotate, respectively, in the planes of the wheels N and R′ on the spindle and flier, respectively, which latter wheels N and R′, being supported on the adjustable arm D, are capable of adjustment toward and from the wheels P P′, in the manner and for the purpose hereinbefore stated. A treadle T is fulcrumed on the round C′, fixed in the legs B. The treadle T is connected by a rod U to a wrist-pin or eccentric on the wheel P′, and the spinning-wheel is driven by power applied

on the treadle. The spool R may be removed from the spindle by removing the hanger G from the arm D and withdrawing the spindle from the rod K and slipping it out of the wheel N, which is held revolubly to the spindle by a spline or a faced part of the spindle.

Besides the differential motions of the spindle and the spools secured through the wheels N and R′, the use of these friction-wheels on the wheels P and P′ obviates the use of a belt or cord for running the spindle, as in old forms of wheel, which belt or cord was a constant source of annoyance, being liable to stretch and become loose or to contract and be too tight under varying conditions of the atmosphere, or even to break at inopportune times and require replacement when such renewal could not be conveniently made.

What I claim as new, and desire to secure by Letters Patent, is—

1. A spinning-wheel frame consisting of a single post, bracing-legs at its lower extremity, an overhanging arm supported adjustable vertically in the post, and a spindle journaled in suitable devices on the overhanging arm, substantially as described.

2. The combination, with the single post of a spinning-wheel frame, of an overhanging horizontal arm adjustable vertically in the post, a hanger detachably secured to the outer end of the arm, a pin or rod movable vertically in the arm, and a spindle having its bearings removably in the hanger and the movable pin, substantially as described.

3. In a spinning-wheel, an adjustable arm, a revoluble spindle supported thereon, a wheel splined thereon, a spool loose on the spindle, provided with a wheel somewhat smaller than the wheel on the spindle, and a driving-wheel in two parts of lesser and greater diameter, respectively, the two parts of which rotate in the planes of and are in frictional contact with the spindle-wheel and the spool-wheel, combined substantially as described.

4. In a spinning-wheel, a driving-wheel in two parts of lesser and greater diameter, respectively, a spindle journaled at one end in a relatively fixed part of the frame, an adjustable bearing in which the spindle is supported at its other extremity, a wheel of larger diameter on the spindle, bearing frictionally against the driving-wheel of lesser diameter, and a spool on the spindle, which spool has a wheel of smaller diameter than the spindle-wheel bearing frictionally against the driving-wheel of greater diameter, combined substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY LOTZ.

Witnesses:
ERNST GRAFUNDER,
CARL SCHULTZ.