

(No Model.)

F. VOEGTLI.  
SPINNING WHEEL.

No. 246,251.

Patented Aug. 23, 1881.

Fig. 2.

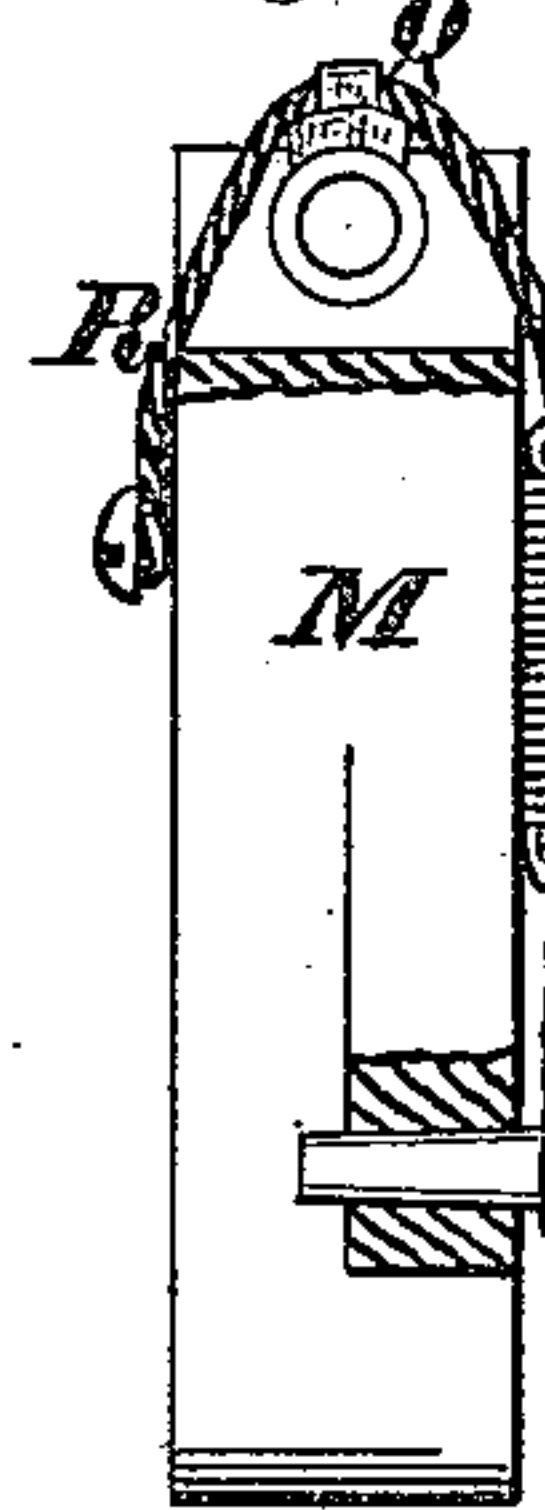


Fig. 7.

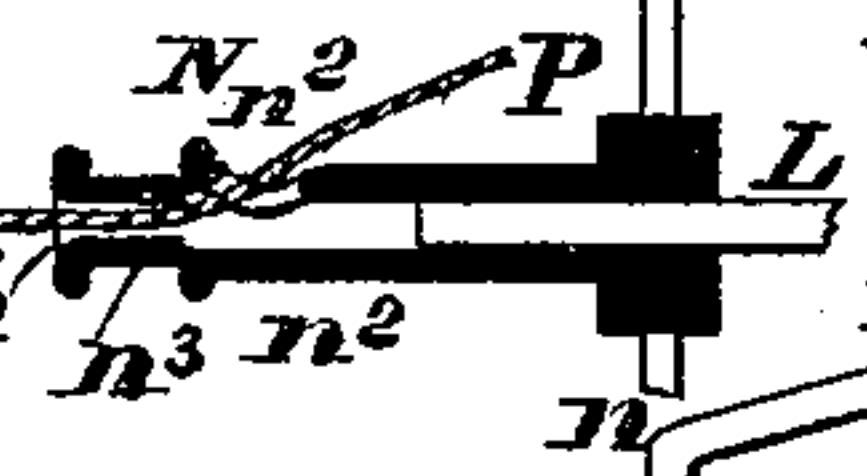


Fig. 1.

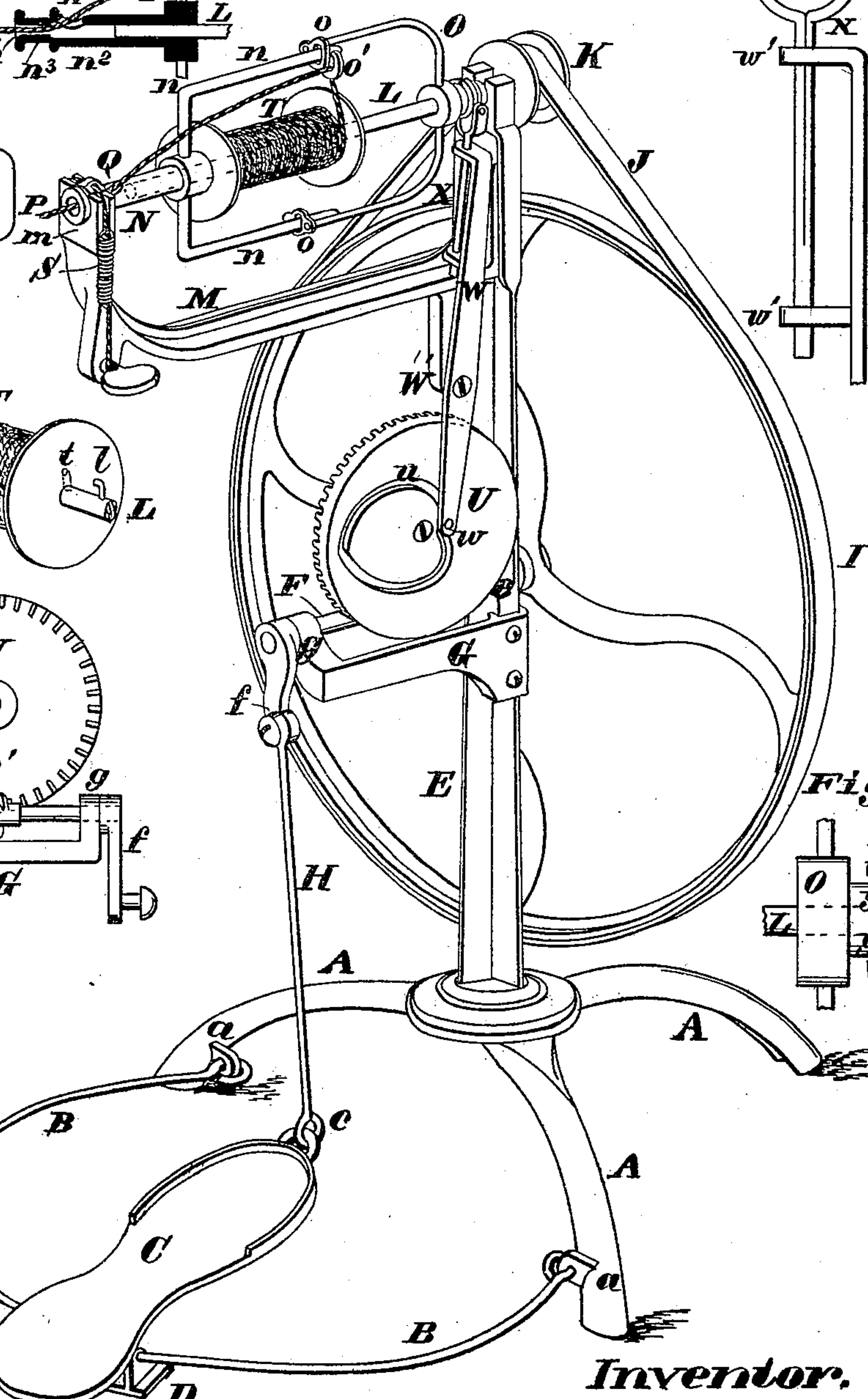


Fig. 4.

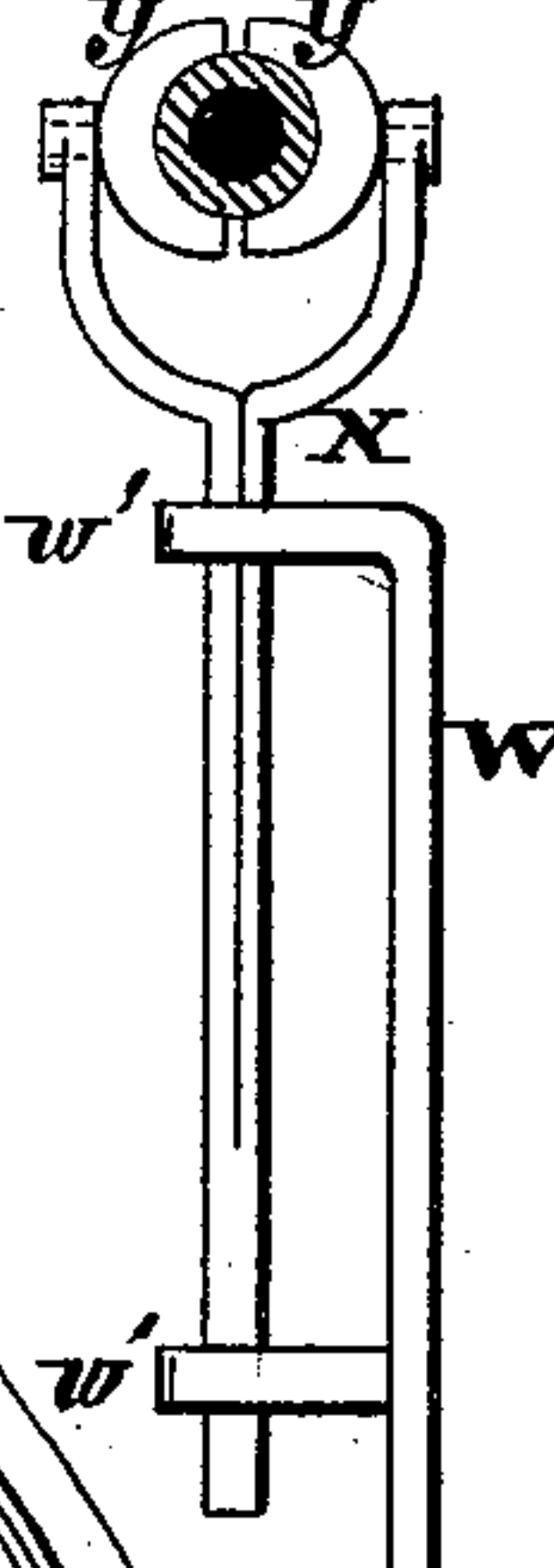


Fig. 3.

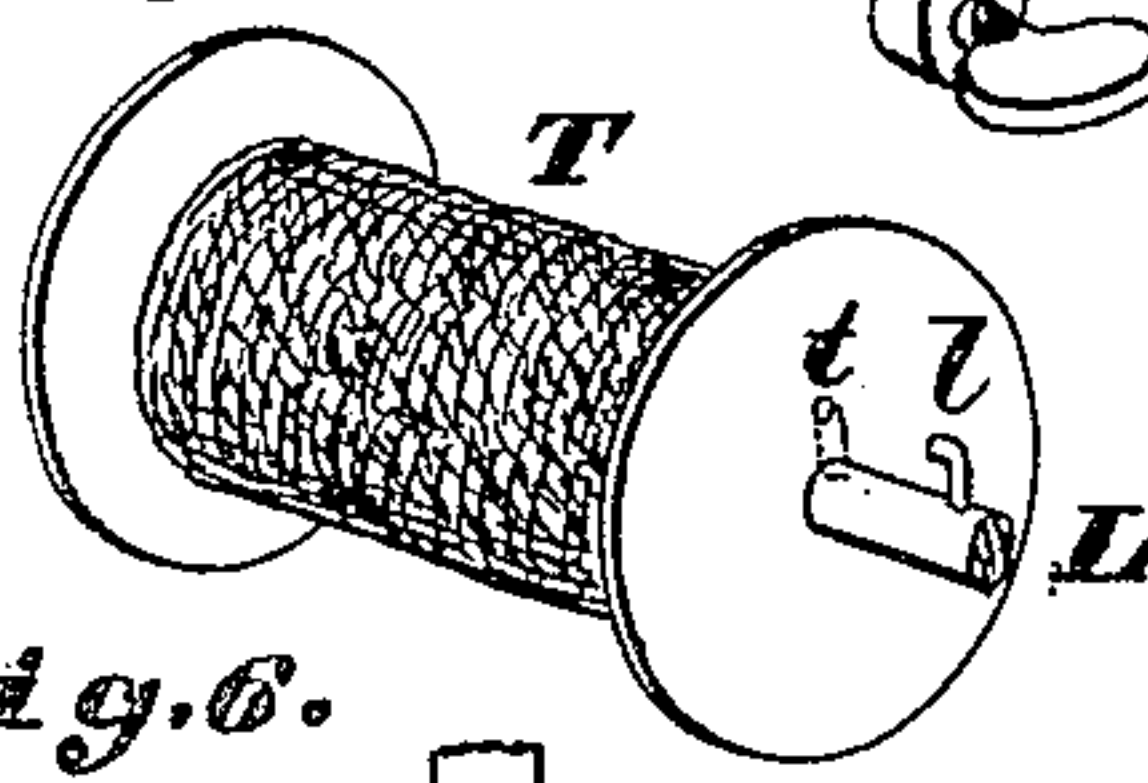


Fig. 6.

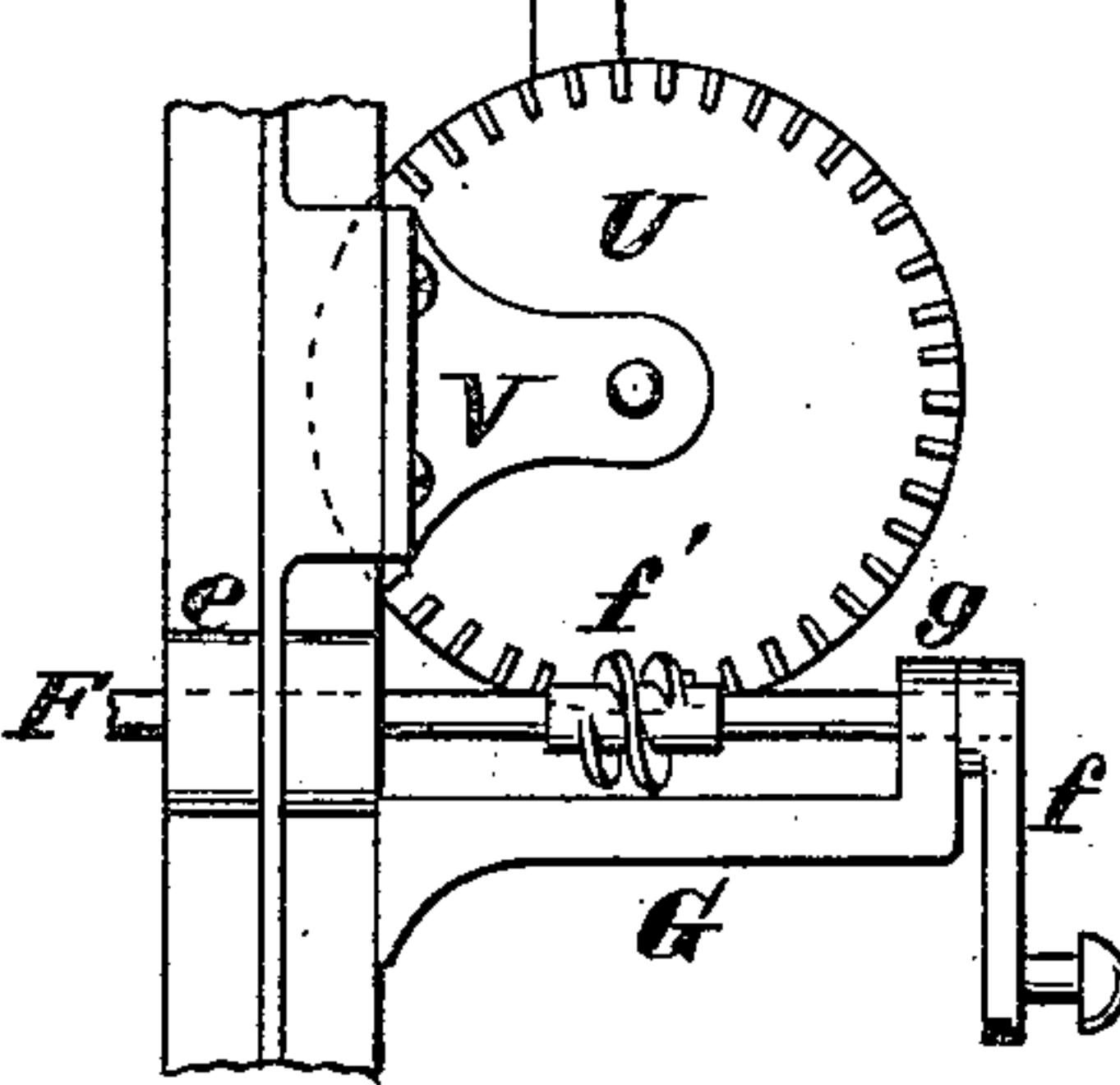
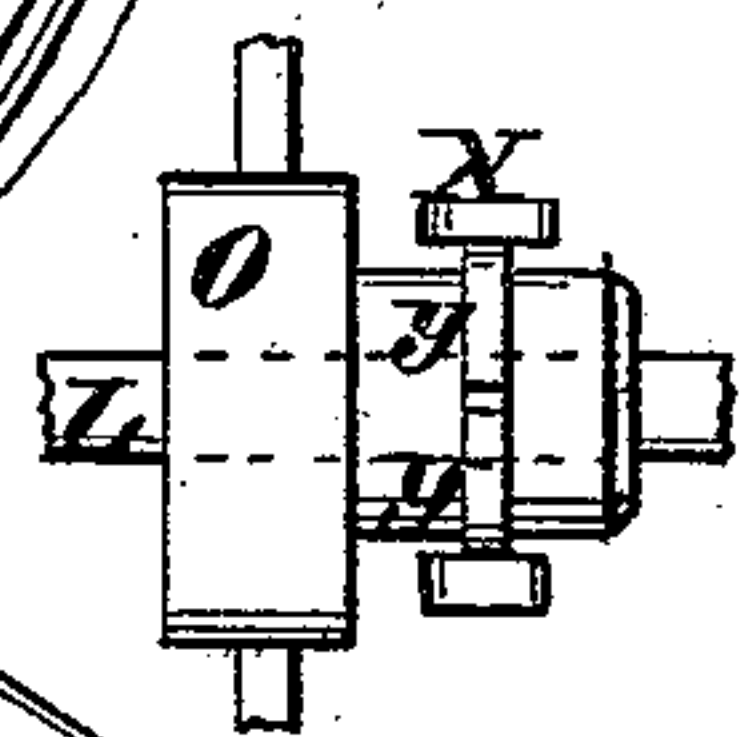


Fig. 5.



Attest.

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# UNITED STATES PATENT OFFICE.

FRANZ VOEGTLI, OF ST. LOUIS, MISSOURI.

## SPINNING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 246,251, dated August 23, 1881.

Application filed March 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, FRANZ VOEGTLI, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Spinning-Wheels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This is an improvement on Letters Patent of the United States, No. 147,200, granted to me February 3, 1874.

My present invention applies, first, to a new construction of flier; secondly, to a new friction device or brake to check the rotation of the flier; and, thirdly, to a novel mechanism for imparting the reciprocating movement to the flier.

Figure 1 is a perspective view of the machine. Fig. 2 is a detail view, showing the flier-brake. Fig. 3 is a perspective view of the spool. Fig. 4 is an elevation of the upper end of the reciprocating lever of the flier. Fig. 5 is a top view of same, showing its connection with the flier-hub. Fig. 6 is a side view of the cam-wheel with worm-gear. Fig. 7 is a detail axial section of the end spindle-bearing.

A are the legs of the machine. Upon two of the legs are eye-lugs *a*, to which are connected the ends of the bail B, upon which the treadle C is hinged. The hinge-block D of the treadle stands upon the floor and is held in place by the bail B. The arrangement is such that the position of the treadle can be changed relatively to the machine by slipping it along the bail. The manner of connecting the bail to the lugs *a* admits the folding of the treadle up against the side of the machine when it is stood away or moved from place to place. The standard E extends up from the center of the leg-stand.

F is the crank-shaft, having bearing directly upon the standard at *e* and upon a bracket, G, at *g*. Upon one end of the shaft is a crank, *f*, connected by a pitman, H, to the treadle C by a hinge-joint, *c*.

I is a band-wheel on the shaft F, carrying a band or belt, J, passing over a pulley, K, upon the spindle L. The spindle has bearing *m* (near the pulley) in the upper end of the standard.

M is a bracket attached to the standard, and

giving bearing at the outer end to the journal *n*<sup>3</sup> of the sleeve N, whose bent arm *n* extends through eyes *o* in the flier O. The sleeve has an axial bore, *n'*, from end to end, and a side orifice or orifices, *n*<sup>2</sup>, through which the thread P passes from the flier-hook *o'* and out through the axial bore *n'*. The end of the spindle L has bearing in the sleeve N. (See Fig. 7, and dotted lines in Fig. 1.)

Q is the friction-brake of the flier. This is applied to the sleeve N by means of a cord or chain, R, to which it is attached. One end of the cord R is fast to the bracket M, and the other end coils on an adjusting thumb-pin which is turnable in the bracket, so as to regulate the pressure of the brake.

S is a spring inserted in the cord R to give proper elasticity to the device.

T is the spool upon which the thread is wound as it is spun. The spindle passes axially through the spool, and the spool is made to turn with the spindle by any suitable means of engagement. I show a hook, *l*, which is fast to the spindle, and engages in a hole, *t*, of the spool. (See Fig. 3.)

*f'* is a gear-worm upon the crank-shaft F. This worm engages with the cogs of a cam-wheel, U, having bearing on a bracket, V. In the side of the cam-wheel is a cam-groove, *u*, receiving a stud, *w*, upon the lower end of the lever W. The lever receives a regular oscillatory movement by means of the cam-groove, and gives the flier endwise motion on the spindle to cause the proper distribution of the thread as it is wound upon the spool. The lever is fulcrumed upon an arm, W'.

The means of communicating motion from the lever to the flier is as follows: Upon the upper arm of the lever are two eye-lugs, *w'*, in which a rod, X, has bearing. The rod X is forked at the upper end, and to each tine of the fork is pivoted a shoe, *y*, which shoes enter a circumferential groove in the hub of the flier O. Thus the endwise motion will be given to the flier upon the spindle, the rod X having the necessary capacity for endwise movement in the lugs *w*.

The operation is as follows: The thread from the reel extends over the hook *o'* and through the passage *n*<sup>2</sup> *n'* in the sleeve N. Rotary motion is given to the crank-shaft by the treadle

C, which causes the rapid rotation of the spindle, reel, and flier, and the slow endwise reciprocation of the flier. The brake Q checks the rotary movement of the flier whenever the hold of the hand upon the thread is loosened, and by that means the thread is wound upon the spool, for it will be understood that when the thread is stretched it carries around the flier with the bobbin, whereas when the thread is loosened the friction of the brake upon the hub of the flier checks the motion of the flier. When the spool has a load of thread the machine is stopped and the brake is lifted from the sleeve N and the sleeve lifted from its bearing and drawn from the spindle. Then the spool can be slipped off the end of the spindle and an empty spool be put in its place.

It will be observed that the construction of the friction-brake is such that the pressure of the brake can be readily adjusted while the machine is in motion.

I claim as my invention—

1. The combination of the removable sleeve

N, constructed with arms  $n$   $n$ , axial spindle-bore  $n'$ , thread-orifice  $n^2$ , and journal  $n^3$ , flier O, having eyes  $o$  and hook  $o'$ , the spindle L, a thread-spool, T, and bracket M, having journal-bearing  $m$ , as set forth.

2. The combination of the spindle L, flier O, and sleeve N with axial socket, giving bearing to the end of the spindle, and arm  $n$  engaging the flier to regulate its rotary movement, for the purpose set forth.

3. The combination, with the sleeve N, having journal  $n^3$ , and bracket M, having bearing  $m$ , of the friction-brake Q, cord or chain R, spring S, and thumb-pin, as set forth.

4. The combination of crank-shaft F  $f$ , having worm  $f'$ , cog-wheel U, having cam-groove  $u$ , lever W, having stud  $w$ , flier O, sleeve N, having arms  $n$   $n$ , and spindle L, as set forth.

FRANZ VOEGTLI.

Witnesses:

SAML. KNIGHT,

GEO. H. KNIGHT.