(No Model.)

J. S. FUNK.

SPINNING MACHINE.

No. 336,850. Patented Feb. 23, 1886.

FIG. 1.

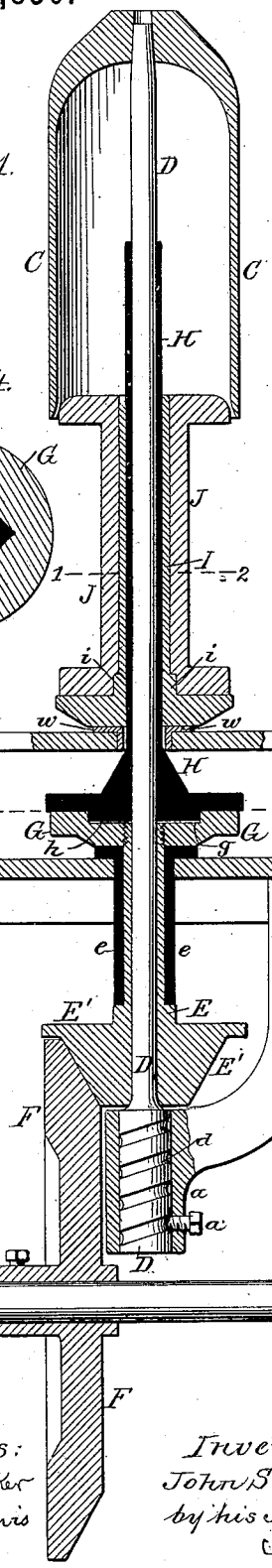


FIG. 4.

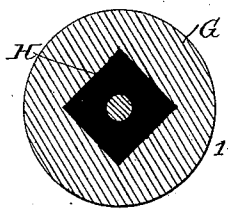


FIG. 3.

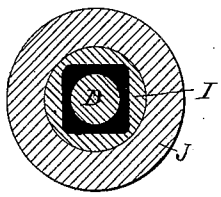
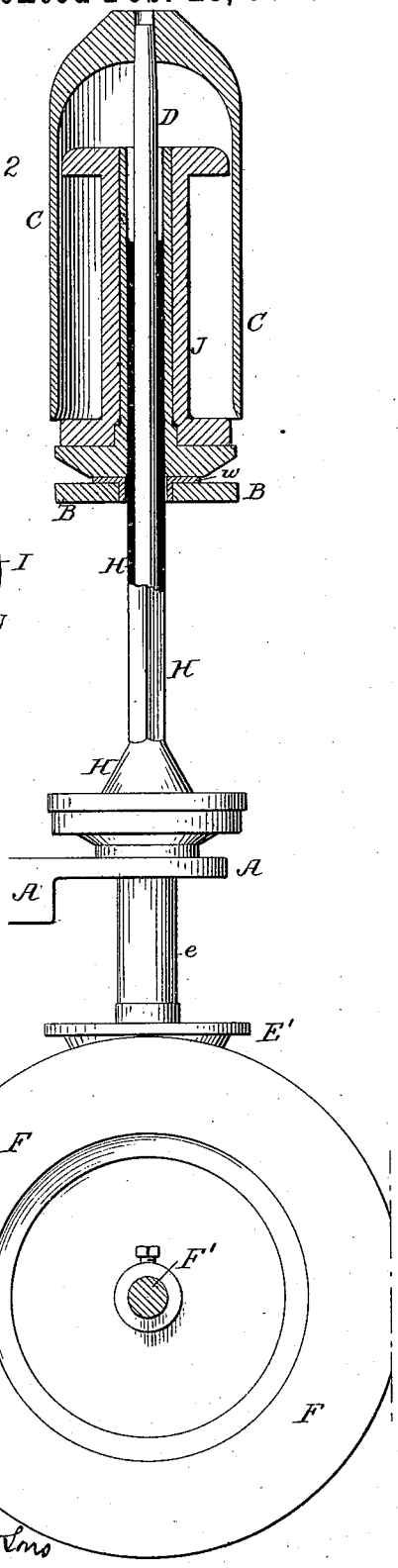


FIG. 2.



Witnesses:
John E. Parker
William F. Davis

Inventor:
John S. Funk
by his Attorneys:
Howson and Sons

UNITED STATES PATENT OFFICE.

JOHN S. FUNK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO J. JONES HUDSON, OF SAME PLACE.

SPINNING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 336,850, dated February 23, 1886.

Application filed November 6, 1885. Serial No. 182,051. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. FUNK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Spinning-Machines, of which the following is a specification.

My invention consists of an improved construction of cap-spinning apparatus designed, mainly, with the view of dispensing with the ordinary pulley-and-cord devices for driving the bobbin, as more fully described hereinafter.

In the accompanying drawings, Figure 1 is a vertical section of the rails of a spinning-machine and appliances in connection with a vertical spindle, the latter and the driving-shaft being shown in elevation. Fig. 2 is a view at right angles to Fig. 1, with some of the parts in section, the traversing rail and devices carried thereby being shown in their elevated position. Fig. 3 is a transverse section, drawn to an enlarged scale, on the line 1 2, Fig. 1; and Fig. 4 is a section on the line 3 4, Fig. 1.

A is a portion of the fixed rail of a spinning-machine, and B is the movable rail, to which the usual vertically-reciprocating traverse motion is to be imparted to the mechanism common in cap-spinning machines.

A′ is a bracket secured to the fixed rail A, and carrying the vertical dead-spindle D, the lower end of this spindle being adapted to a socket, *a*, in the bracket, and having a spiral groove, *d*, for the reception of the inner end of a retaining-screw, *a*′.

In an opening in the rail A is fitted a bushing, *e*, to which is adapted a tube, E, to turn on the dead-spindle D, and having at its lower end a friction-cone, E′. Against this cone bears a friction bevel-wheel, F, mounted on a horizontal rotary shaft, F′, which runs the length of the spinning-machine. The upper end of the tube E above the rail A is provided with a flange, G, having a square or many-sided recess, *g*, Fig. 4, for the reception of a corresponding projection, *h*, on the under side of the flanged lower end of a tube, H, which is free to turn on the dead-spindle D, and extends up through an opening in the traverse-rail B. The outer surface of this tube H is square or of other polygonal form in section, and to it is adapted a tube, I, for the reception of the bobbin J, the lower flanged end of this tube I being provided with a projection or projections *i*, adapted to corresponding recesses or notches in the bobbin J, in order that the latter may revolve with the tube I. The tube I rests on a washer, *w*, on the traverse-rail B and rises and falls with the latter. On the upper end of the dead-spindle D is fitted the usual cap, G.

The rotary motion imparted to the tube E from the shaft F′ by the friction wheels F E′ is transmitted through the tube H to the tube I and bobbin, while at the same time this tube I and bobbin have the usual traverse motion imparted to them by the traversing-rail B.

I claim as my invention—

The combination of a fixed rail of a cap-spinning machine carrying a dead-spindle and cap, and a driving-shaft carrying a bevel-wheel, with a rotary tube, E, mounted in the fixed rail, and having a cone engaging with the bevel-wheel, a tube, H, having a polygonal outer surface, a tube, I, free to slide on the surface of the tube H, and adapted to carry the bobbin, and a traverse-rail supporting the said tube I, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. FUNK.

Witnesses:
HARRY SMITH,
HENRY HOWSON.