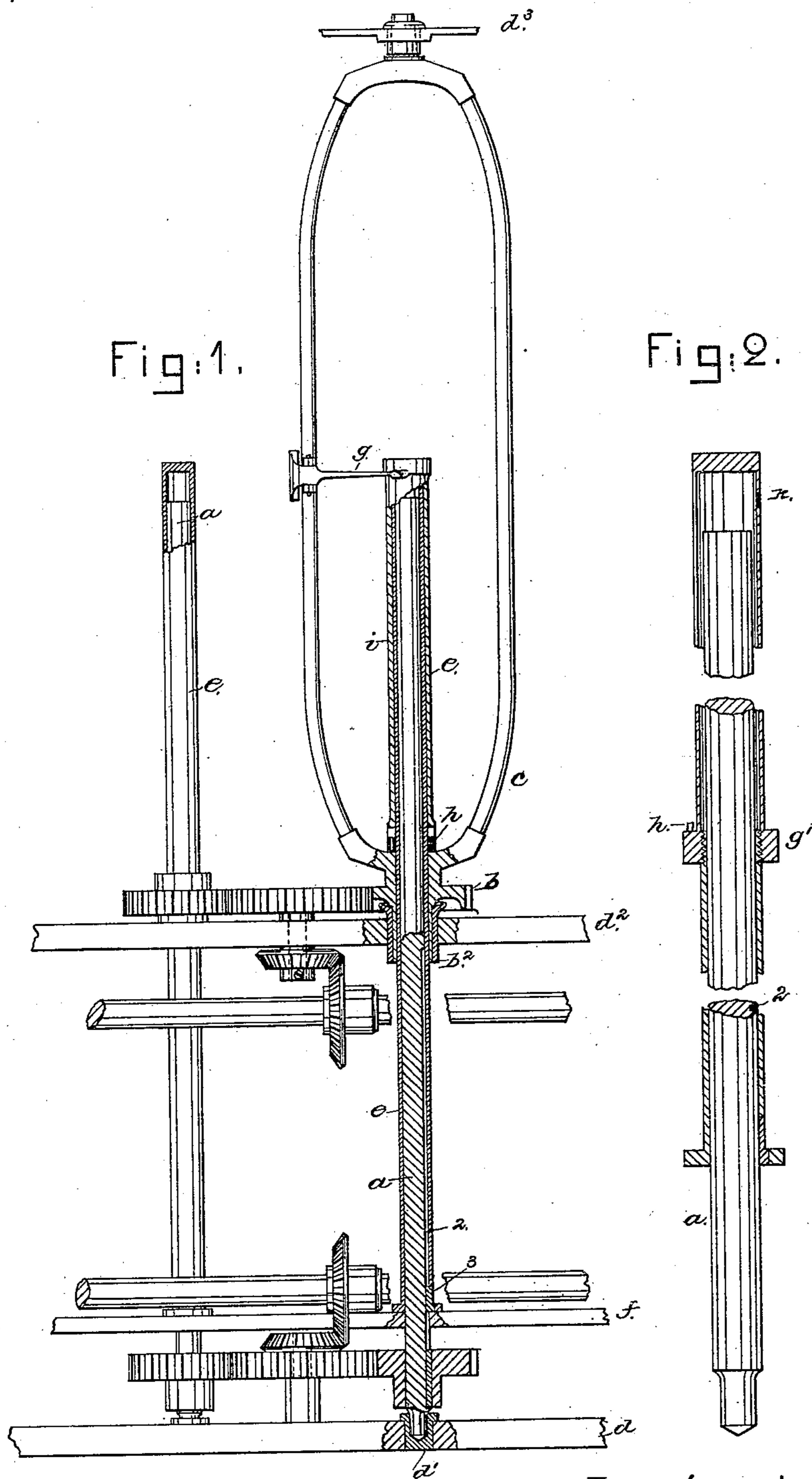


(No Model.)

R. B. DALY.
SPINNING MACHINE.

No. 246,470.

Patented Aug. 30, 1881.



Witnesses.

Arthur Reynolds.
Bernice J. Hayes

Inventor.

Richard B. Daly
by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

RICHARD B. DALY, OF NEWTON, MASSACHUSETTS.

SPINNING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,470, dated August 30, 1881.

Application filed April 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, RICHARD B. DALY, of Newton, county of Middlesex, State of Massachusetts, have invented an Improvement in Spinning-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention in spinning-machines relates to that class of machines known as "speeders," and has for its object to secure steadiness of rotation and facilitate doffing, and is an improvement on the apparatus shown in my application No. 29,961, filed April 4, 1881, to which reference may be had.

My invention consists in a spindle having a bobbin-driving tube connected with it above the foot-step rail, so as to be raised and lowered on the spindle by the lifting or traverse rail as the said tube is rotated by the spindle, the said tube sliding between the spindle and the neck of the flier-gear. The bobbin in this my improved machine is supported internally by the upper portion of the bobbin-driving tube. The length of the spindle above the flier-neck is such that the reciprocating tube will be steadied by the spindle substantially up to a point opposite the flier-presser, and so that the tube may be sufficiently lowered thereon to permit the bobbin to be doffed as freely as in a ring-spinning frame.

Figure 1 represents, in elevation and partial section, a sufficient portion of a speeder to illustrate my invention; and Fig. 2, an enlarged sectional detail of the spindle with a modified form of tube, the parts being broken out to save space on the drawings.

The mechanism herein shown to rotate the spindle *a*, flier-gear *b*, and flier *c* are all as usual, so need not be herein further described.

The foot-step rail *d*, containing the spindle-step *d'*, is fixed, as are also the bolster-rail *d*² and the top rail, *d*³, which receives the usual hollow nose of the flier *c*.

The neck of the flier-gear *b* is extended down through the bolster-bearing *b*², and is sufficiently large in diameter to receive the bobbin-driving tube *e* between it and the spindle, as represented in section, Fig. 1.

The spindle is grooved longitudinally, as at 2, to receive a key, 3, within the tube *e*, so that the tube may be rotated by, yet be reciprocated on, the spindle by the rising and fall-

ing traverse-rail, actuated in any usual manner, upon which the lower end of the tube rests.

The rotating spindle has its upper end extended up into the flier to a point at or near or a little below the presser-flier *g*, and the tube is extended, as herein shown, a little above the top of the spindle when the tube is in its lowest position, as in Fig. 1.

The tube has a collar, *g'*, provided with a bobbin-engaging projection, *h*, of any usual shape, to enter the usual notch at the lower end of the bobbin *i*. This tube may be made in one piece, as in Fig. 1, or two pieces, as in Fig. 2. If in two pieces, the upper piece may be a little larger in diameter internally than the lower piece, to thus lessen friction on the spindle. In practice the spindle will be extended into the flier above the flier-gear for a distance substantially equal to the length of traverse, so that the part of the tube *e* below the collar *g'* will be guided firmly and steadied by the spindle in all positions of the tube and traverse-rail. When the tube is lowered, as in Fig. 1, the bobbin may be doffed therefrom as readily as in ring-spinning, and that without the removal of a nut, pin, or bolt. The upper end of the tube may be covered to prevent entrance of dirt. Any portion of the side of the tube where surrounded by the bobbin may be provided with an oil-hole, as shown in black at *k*, Fig. 2. Oil may be introduced into the tube by removing the bobbin.

I claim—

The bolster-rail, flier, and connected flier-gear *b*, having its neck extended into the bolster-rail, the traverse-rail, and tube *e*, moved thereby, extended upward through the flier-gear, combined with the tube-steadying spindle extended up into the flier for a distance substantially equal to the length of the traverse of the tube, the top of the spindle terminating at a point substantially opposite the flier-presser, the combination being and operating all substantially as set forth.

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

RICHARD B. DALY.

Witnesses:

BERNICE J. NOYES,
ARTHUR REYNOLDS.