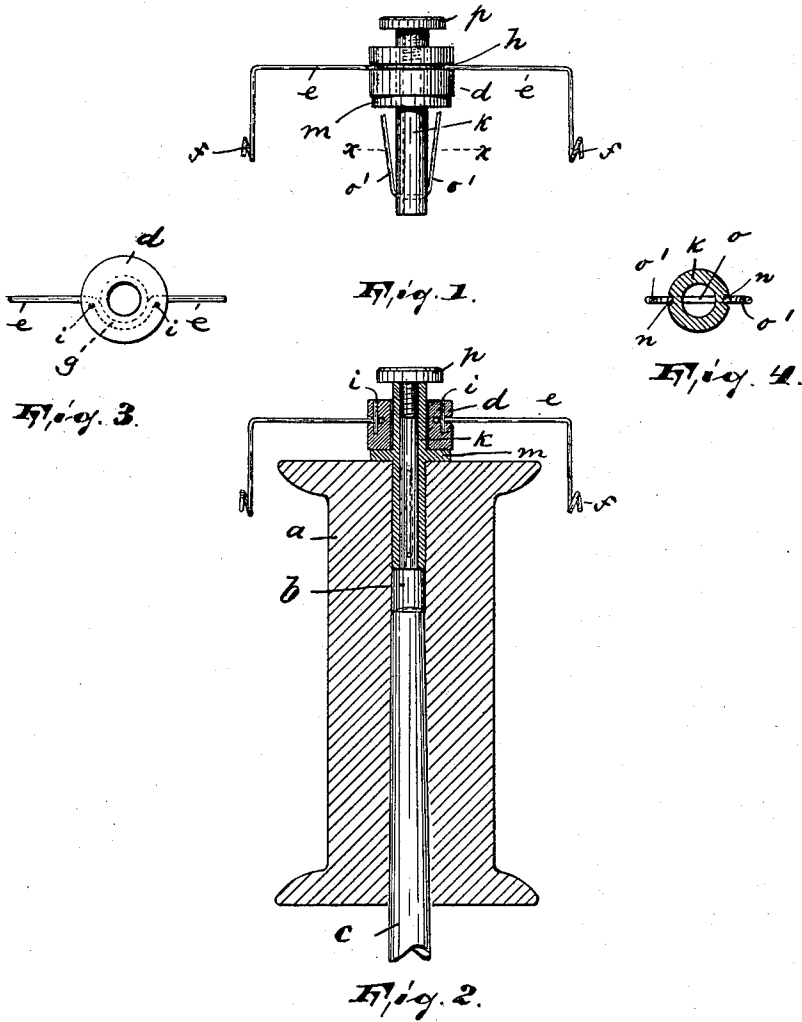


(No Model.)

F. CURL.
FLIER FOR SPINNING MACHINES.

No. 596,442.

Patented Dec. 28, 1897.



WITNESSES:

Wm. D. Kell.
L. Snyder

INVENTOR:

Fowler Curl

BY Partners & Co ATTY'S.

UNITED STATES PATENT OFFICE.

FOWLER CURL, OF AVOCA, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO THE ASHLEY & SHAW SILK COMPANY, OF HACKETTSTOWN, NEW JERSEY.

FLIER FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 596,442, dated December 28, 1897.

Application filed June 25, 1897. Serial No. 642,225. (No model.)

To all whom it may concern:

Be it known that I, FOWLER CURL, a citizen of the United States, residing in Avoca, county of Luzerne, and State of Pennsylvania, have invented certain new and useful Improvements in Fliers for Spinning-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The invention relates to that class of fliers which are used for spinning silk and which are free to rotate independently of their respective spindles.

The object of this invention is to provide a flier which can be quickly and readily attached to and detached from a bobbin and is carried thereby, of simple, strong, and durable construction, and reliable in operation.

The invention consists in the improved flier, its means for removably securing the same to a bobbin, and in the combination and arrangements of the various parts thereof, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a side elevation of my improved flier; Fig. 2, a sectional view through the same and through the bobbin to which it is attached; Fig. 3, a detail view illustrating the connection between the loop-carrying wire and the eye or hub, and Fig. 4 an enlarged sectional view on the line xx of Fig. 1.

In said drawings, a represents a bobbin, b the central bore therein, and c the top portion of a spindle carrying said bobbin.

The flier consists of the hub or eye d and the arms e , which latter carry on their free ends the loops f , and which arms are preferably formed of one piece of wire curved or looped in its central portion, as at g , and resting with said looped or curved portion within

an annular groove h of the hub d and secured thereto by a series of pins i , all as clearly illustrated in the drawings. The hub d is revolubly mounted upon the upper portion of the peg or pin k , the lower portion of which is adapted to be inserted into the central bore b of the bobbin a . An annular flange m is arranged on said pin k and is adapted to rest upon the top of the bobbin to thus separate the hub from the flange of said bobbin. The lower portion of the pin or peg k is provided with two diametrical oppositely-arranged vertical grooves n and is penetrated by a spring-wire o , having its ends o' bent upward and adapted to firmly hold said pin or peg within the bobbin, as will be manifest. The top portion of the pin k is internally threaded and is adapted to receive the headed screw p , by means of which latter the hub d of the flier is prevented from flying off its supporting pin or peg.

When a broken thread is to be tied up, the bobbin can be readily and quickly removed from the spindle without the necessity of removing the flier, and said flier needs only to be taken off the bobbin when said bobbin has been emptied. The flier can then be quickly attached to a fresh bobbin.

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

1. The combination with a spinning-flier and with the hub carrying the same, of a hollow pin or peg penetrating the hub of the flier and provided with an annular flange for supporting the same and having its top portion internally threaded, a headed screw removably arranged in said internally-threaded portion of the pin or peg to limit the upward movement of the hub, and a spring-wire passing through the lower portion of the peg and having its projecting ends bent upward, all said parts, substantially as and for the purposes described.

2. The combination with a spinning-flier and its hub, of a hollow pin or peg penetrating the hub of the flier and provided with an annular flange supporting said hub, and below said annular flange, with two diametri-

cal oppositely-arranged vertical grooves, and
having its upper portion internally threaded,
a headed screw removably arranged in said
internally-threaded portion of the hollow pin
5 or peg to limit the upward movement of the
hub, and a spring passing through the lower
portion of said hollow pin or peg and having
its projecting ends bent upward and adapted
to be partly engaged by said vertical grooves,

substantially as and for the purposes de- 10
scribed.

In testimony that I claim the foregoing I
have hereunto set my hand this 22d day of
June, 1897.

FOWLER CURL.

Witnesses:

WALTER WOOLEVER,
RICHARD M. MUCKLOW.