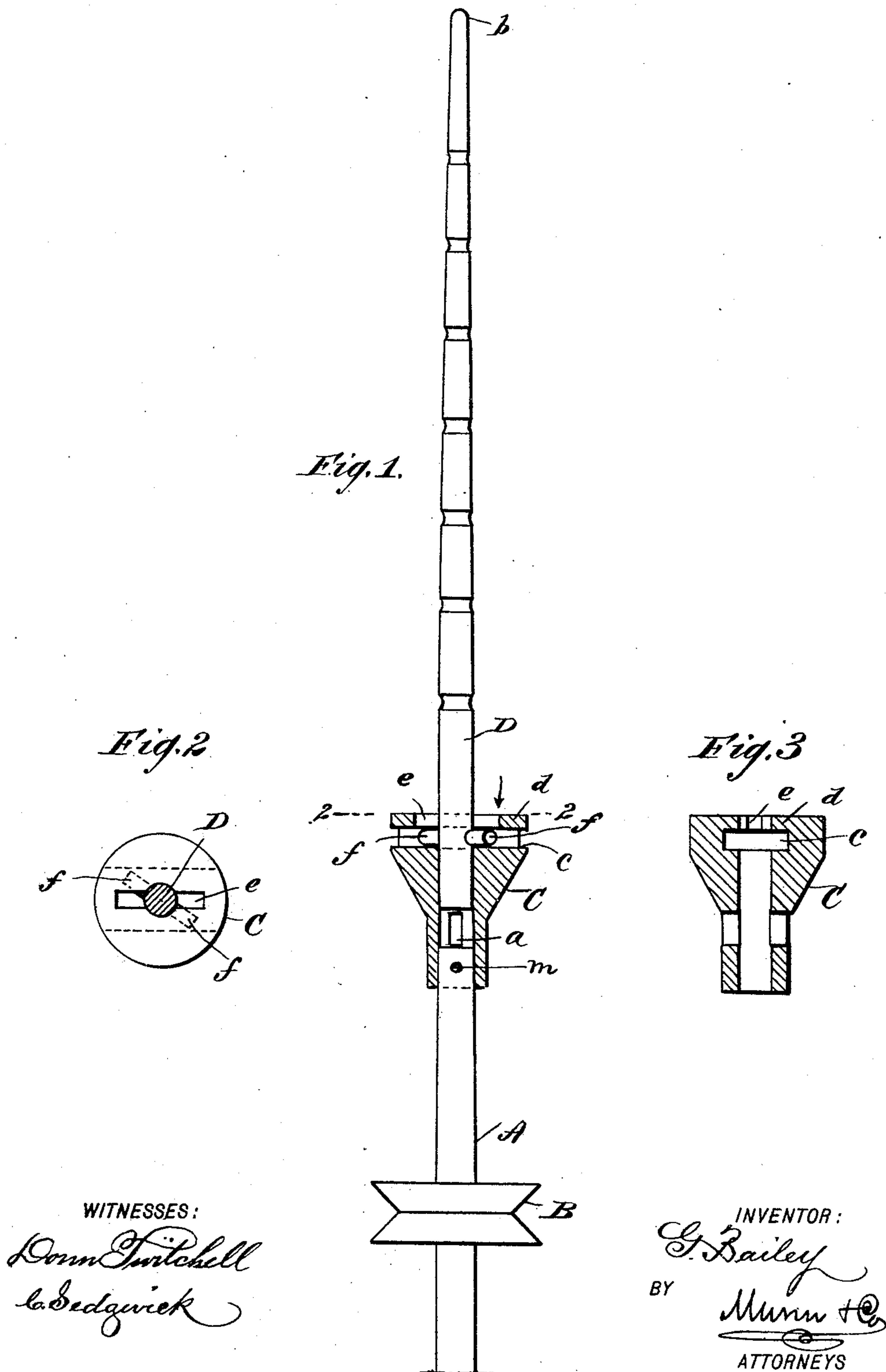


(No Model.)

G. BAILEY.  
SEPARABLE SPINDLE FOR SPINNING WOOL.

No. 434,752.

Patented Aug. 19, 1890.



# UNITED STATES PATENT OFFICE.

GEORGE BAILEY, OF MIDDLEBOROUGH, MASSACHUSETTS.

## SEPARABLE SPINDLE FOR SPINNING WOOL.

SPECIFICATION forming part of Letters Patent No. 434,752, dated August 19, 1890.

Application filed April 12, 1890. Serial No. 347,600. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE BAILEY, of Middleborough, in the county of Plymouth and State of Massachusetts, have invented a new and useful Separable Spindle for Spinning Wool, of which the following is a full, clear, and exact description.

As usually constructed the wool-spinning frames are provided with spindles whereon cop bobbins or quills are placed and on which the yarn is spun. Where bobbins are employed, these, from the top weight imposed on the spindles, create a swaying motion that rapidly wears the spindle-foot and renders it useless. The outlay for bobbins is a large tax, as from their frail nature they are liable to lose correct form and require frequent renewal, the same objection pertaining to the use of quills as to expense and necessity for frequent renewal.

The object of this invention is to provide a separable spindle which will obviate the necessity for using cop bobbins or quills in spinning wool and secure better results in the quantity and quality of work performed by the use of the improved device.

To this end my invention consists in certain features of construction and combination of parts, as is hereinafter described, and indicated in the claims.

Reference is to be made to the accompanying drawings, forming a portion of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a spindle with a whirl on its lower end and the coupling-head in section, axially taken. Fig. 2 is a plan view in section, taken on the line 2 2 in Fig. 1; and Fig. 3 is a longitudinal axial section of the coupling-head, taken on a plane ninety degrees removed from the view of the same piece in Fig. 1.

The lower portion A of the separable compound spindle is a cylindrical stub-piece of steel having the usual diameter which is given the lower end of a wool-spinning spindle. The stub-piece is rendered true in diameter and polished, a whirl B being secured thereon to receive a driving-band on its grooved periphery.

Any desired number of the stub-pieces A are provided for a frame, (not shown,) and these

are supported vertical and parallel to receive revoluble motion in the ordinary manner.

Upon the upper end of a stub-piece A the coupling-head C is mounted by introduction of the terminal end of the stub-piece in an axial perforation or hole made to fit it in the coupling-head, which hole is extended through the head. There is a cross-key *m* inserted in an aperture formed in the head C and transverse center of the spindle stub-piece A, thus firmly securing the head on the stub-piece, or the stub-piece may be screwed into the coupling-head. There is a diametrical enlargement produced on the upper portion of the coupling-head C to facilitate the formation of an interlocking but removable connection of the spindle proper with the coupling-head C.

The spindle-blade D is of proper length for its use, and consists, essentially, of a cylindrical shaft slightly tapered from its lower end portion to the rounded point *b*, the body being made as perfectly round as is practicable and annularly grooved at intervals in its length to prevent yarn from slipping off until its removal is desired, when the yielding nature of the fibrous material will permit its ready dislodgment.

At a point near the top surface of the coupling-head C a transverse slot *c* of rectangular form is produced transversely of the head, cutting through the longitudinal perforation of said piece C, and in alignment with this transverse slot *c* an elongated slot *e* of less width and length is vertically formed in the wall *d*, that is left standing above the slot *c*. The slot *e* extends an equal distance on each side of the center hole in the coupling-head, and is adapted by its intersection with the transverse slot *c* to permit the diametrically-opposite locking-pins *f* to enter through the vertical slot *e* into the wider slot *c* below it, and by a partial revolution of the spindle-blade, which will cause the locking-pins *f* to strike the sides of the slot *c*, lock the spindle-blade D fast to the coupling-head C, and at *a* an elongated transverse slot is produced that extends through the coupling-head between the lower end of the spindle-blade and the top end of the stub-piece to permit the removal of dirt that might enter the socket-hole in which the spindle-blade D is seated.

In use the spindle-blade is used naked or



without "cops" or "quills;" but should these be preferred in the spinning of yarn they can be employed in the same manner as is usual with other forms of spindles. When a spindle is filled, it can be removed bodily from the stub-piece A and coupling-head thereon by grasping the spun yarn and lifting the spindle, a slight revoluble movement releasing the interlocking connection of parts in an evident manner.

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

1. In a spindle for spinning wool, the combination, with a revoluble stub-piece and a whirl secured on the stub-piece, of a spindle-blade, two opposite radial locking-pins on the spindle-blade, and a coupling-head having its

body axially perforated and laterally slotted for the introduction and locking engagement of the pins on the spindle-blade, substantially as set forth.

2. In a spindle for spinning wool, the combination, with a revoluble stub-piece, a whirl on the stub-piece, a spindle-blade, and two opposite radial locking-pins on the lower end of the spindle-blade, of an axially-perforated coupling-head which is transversely perforated to interlock with the pins on the spindle-blade and laterally apertured between the spindle-blade and stub-piece for the removal of dirt, substantially as set forth.

GEORGE BAILEY.

Witnesses:

JAMES F. ROBERTS,  
STEPHEN B. HOLMES.