

*A. N. Smith,
Flyer.*

No. 87,374.

Patented Mar. 2. 1869.

Fig. 1.

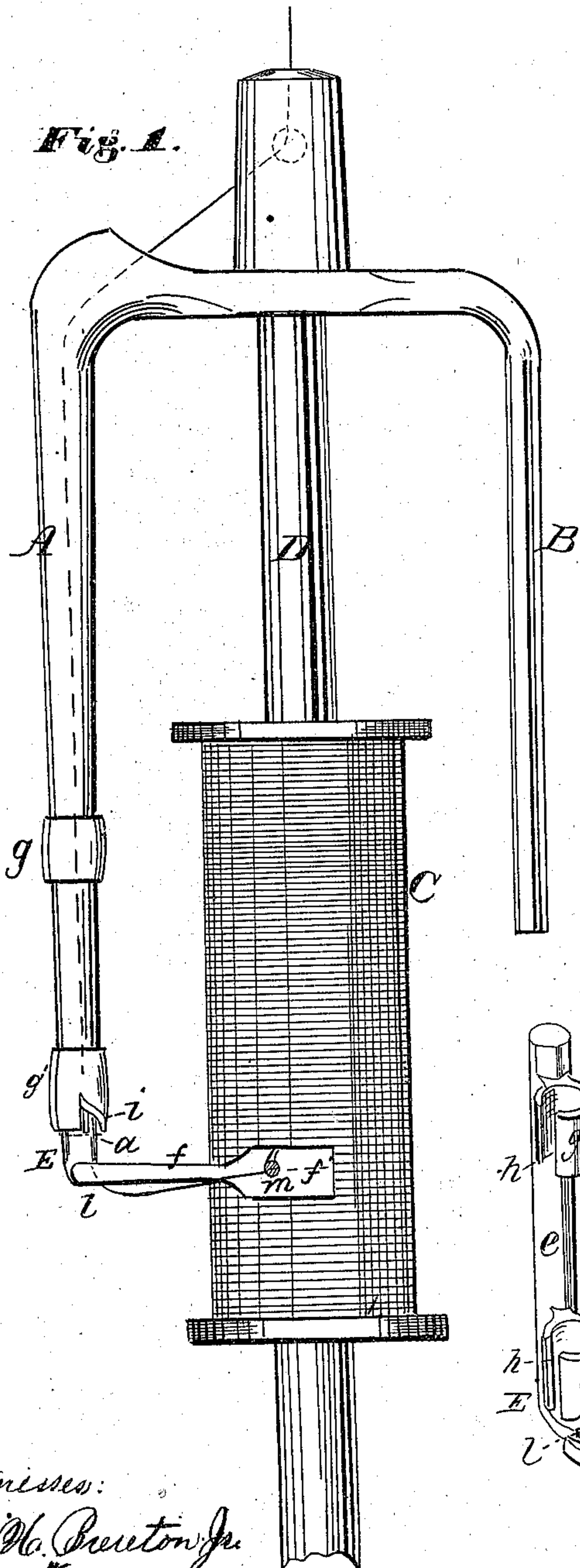


Fig. 2.

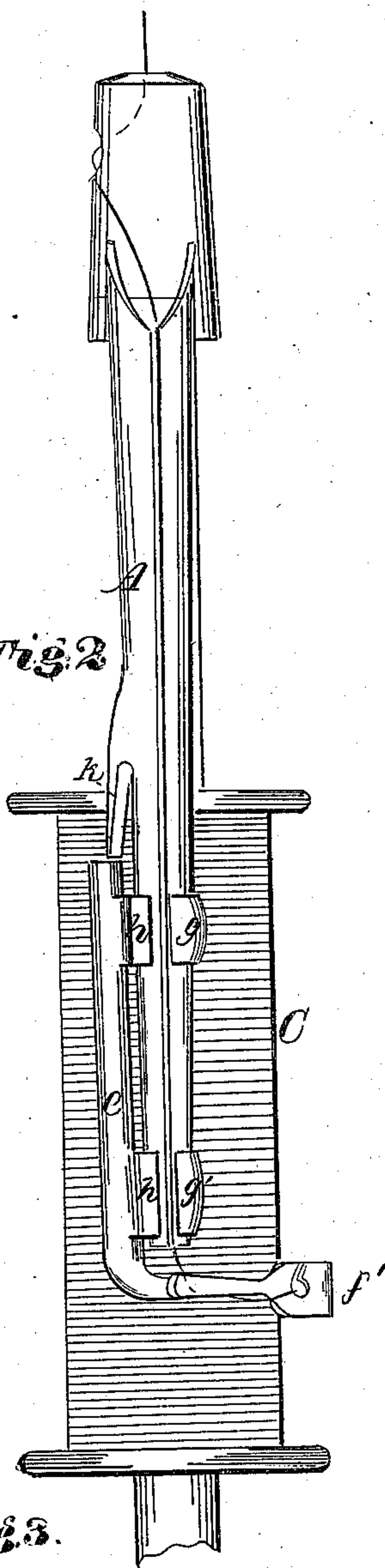
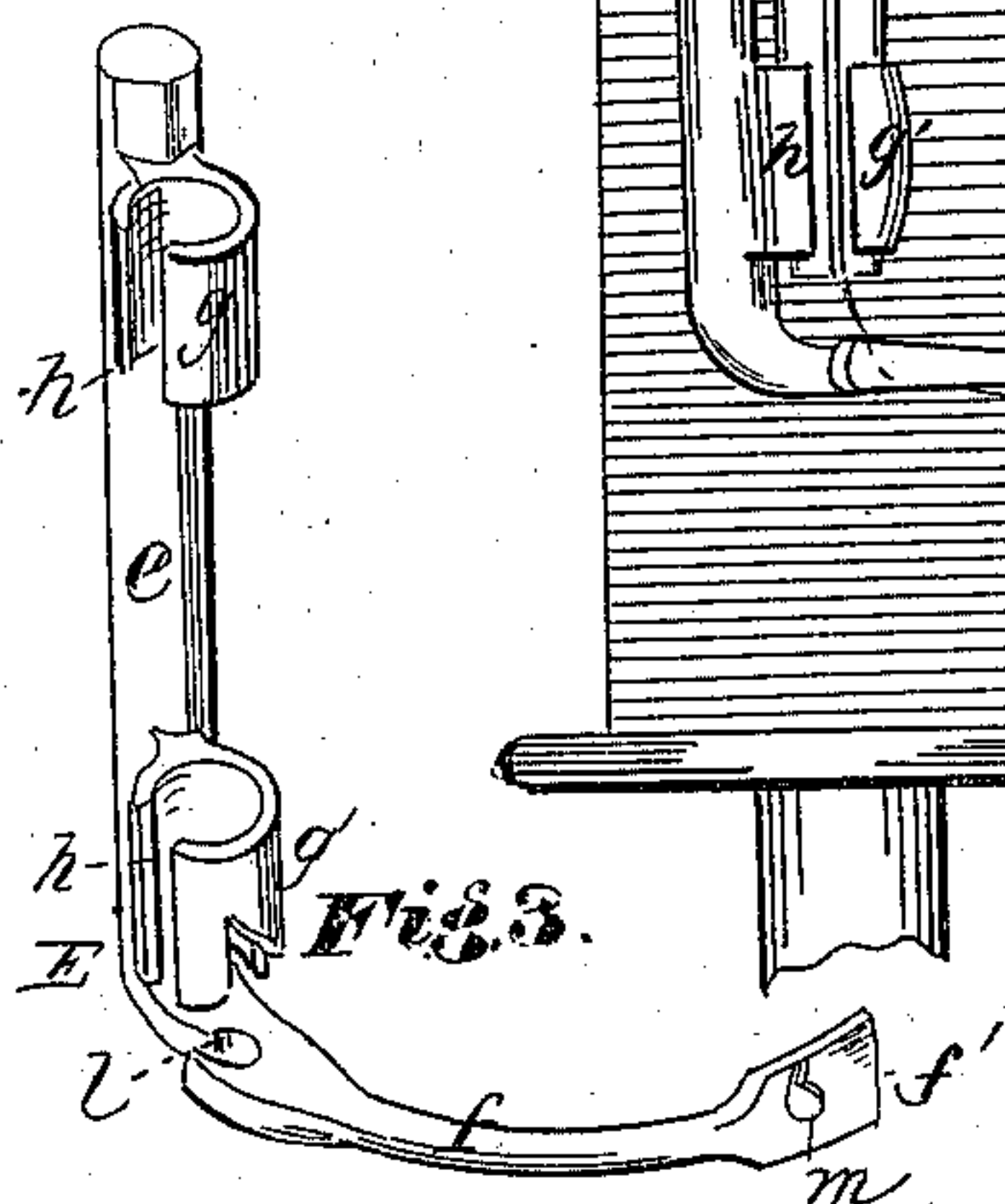


Fig. 3.



*Witnesses:
Wm. H. Brewster Jr.
S. Schatkin.*

*A. N. Smith
By Knight*

United States Patent Office.

AARON W. SMITH, OF MANCHESTER, NEW HAMPSHIRE.

Letters Patent No. 87,374, dated March 2, 1869.

IMPROVEMENT IN FLIER FOR SPINNING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, AARON W. SMITH, of Manchester, in the county of Hillsborough, and State of New Hampshire, have invented a new and useful Improvement in Fliers; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which are made a part of this specification.

My invention consists in an improved construction of the presser or foot-piece, whereby it is rendered self-adjusting, and readily detachable; and, further, in a provision in said foot-piece to adapt it to guide the roving or thread, as it comes from the tubular arm of the fliers, and carry it straight from the said hollow arm, so that it may be delivered uniformly to the bobbin, whether the latter is empty or full.

In the drawings—

Figure 1 is a front view of my improved flier.

Figure 2 is a side view of the same.

Figure 3 is a perspective view of the foot-piece detached.

A represents the hollow arm of the flier, through which the thread is carried, and

B, a balance-arm.

The bobbin C is mounted on the spindle D, in the customary manner.

My detachable foot-piece, E, consists of a vertical shaft, *e*, and a horizontal bar, *f*, which projects from the lower end of the said shaft, and is formed with a flattened end, *f'*, for the purpose of paying the thread on to the bobbin.

Upon the vertical shaft *e* is a socket, (which may be divided into two or more bands, *g g'*), to fit over the arm A, the said socket or bands having slits, *h*, to adapt them to pass a lug, *a*, upon the arm A, which lug prevents the escape of the foot-piece E, when the latter is turned into its working-position, as shown in figs. 1 and 2.

While in this position, a recess, *i*, in the socket, or in the lower band *g'*, fits over the lug *a* in such a manner as to allow a limited horizontal motion to the bar

f around the arm A as an axis, the top of the recess *i* and lug *a* having such an oblique form as will cause the gravity of the entire foot-piece to press its free end *f'* toward the bobbin.

A spring-catch, *k*, on the arm A, engages over the upper end of the shaft *e* of the foot-piece, so as to prevent it rising far enough for the socket or band *g'* to entirely clear the lug *a*, unless the said spring-catch be intentionally pressed in, when it will allow the shaft *e* to pass, and the foot-piece can then be carried up and around until the openings *h* come opposite the lug *a*, so as to permit the entire foot-piece to be withdrawn.

In operation, the thread is carried, as indicated by the red line, through the hollow arm A, and through slitted apertures *l m*, in the horizontal bar *f*, and thence to the bobbin.

As the flier revolves, the weight of the foot-piece and the resistance of the air tend to hold the flat end of the bar against the periphery of the bobbin with a moderate pressure.

The leading notch *l*, in the horizontal bar *f*, being in line with the tube or hollow arm A, causes the roving or thread to be drawn evenly through the said arm, and delivered with uniformity to the bobbin, whether the latter is empty or full.

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

1. I claim the socket or open bands *g g'*, lug *a*, recess *i*, and catch *k*, employed in combination, substantially as herein described, to retain the foot-piece in position while at work, and permit its ready removal.
2. I further claim the leading notch *l* in the bar *f*, arranged directly under or in line with the tube or hollow arm A, substantially as and for the purposes specified.

Witnesses:

JOHN H. ANDREWS,
E. M. TOPLIFF.

AARON W. SMITH.