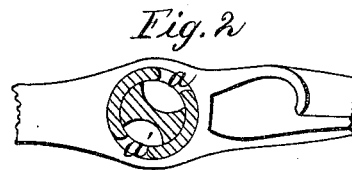
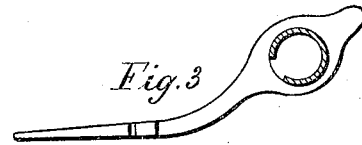
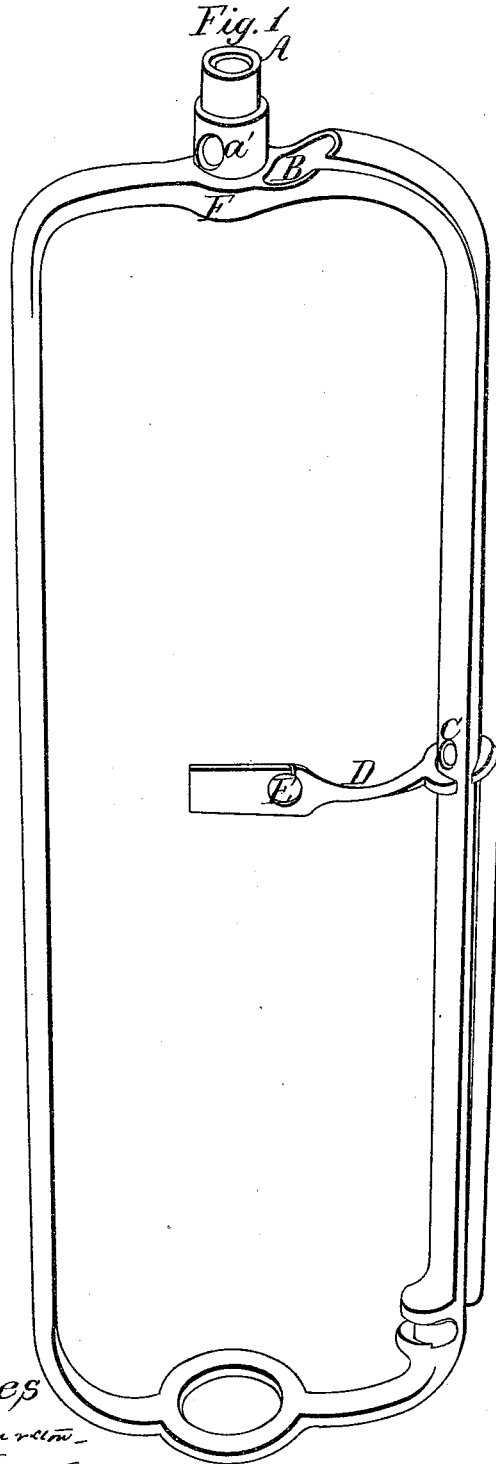


# *T. Mayor.* *Spinning Flyer.*

*N: 46,921.*

*Patented Mar. 21, 1865.*



*Fig. 4*



*Witnesses*

*Ray F. Thurston -*  
*John L. Thurston*

*Inventor*

*Thomas Mayor*

# UNITED STATES PATENT OFFICE.

THOMAS MAYOR, OF PAWTUCKET, RHODE ISLAND.

## IMPROVEMENT IN FLIERS FOR ROVING-FRAMES.

Specification forming part of Letters Patent No. 46,921, dated March 21, 1865.

*To all whom it may concern:*

Be it known that I, THOMAS MAYOR, of Pawtucket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Fliers for Roving-Frames for Spinning Roving; and I do hereby declare that the following specification, taken in connection with the drawings, making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is an elevation of the flier. Fig. 2 is a transverse section through the nose of the flier. Figs. 3 and 4 are details of the ordinary presser.

The "flier," as is well understood, is the apparatus which is attached to a spinning-frame to impart the first twist to the yarn and to wind it upon a bobbin.

In the accompanying drawings, Fig. 1, it must be supposed that the flier there shown is so mounted upon the frame that a rapid whirling motion can be imparted to it, and that the spindle which carries the bobbin is arranged in connection with the traverse-rail, so as to be moved upward and downward between the sides of the flier as the latter whirls in its fixed bearings. It must also be supposed that the roving is delivered between feed-rollers continuously through the orifice A in the axes of the neck, which forms the upper bearing of the flier and is conducted into the tube B, which is formed in one of the sides of the frame, and passing out the orifice C is delivered over the arm D and through the eye E of the presser in the form of yarn and wound upon the bobbin.

Prior to my invention, this apparatus has been constructed with the orifice A in the axes of the neck extended through the frame F of the flier and the mouth of the tube B, located upon the under instead of upon the upper side of the frame, as shown in Fig. 1. Two serious disadvantages result from this method of construction, one of which affects the quality of the work done and the other the convenience of attending the machine.

In the first place, in order to produce a uniform twist it is necessary that the roving should be firmly held at the two points between which it is to be twisted. These points in the machine in question are the delivery-rollers, which pinch the length of roving at

one point, and the mouth of the tube where the yarn is made to turn at nearly a right angle with the part which is receiving the twist, is the other point. It is obvious that at the first point the roving is much more firmly held than at the other, and the natural consequence is that from this cause the twist is liable to be wanting in uniformity. Particularly has this been observed in the case of these machines which have two sets of fliers where there is a difference between the two sets in the length of roving undergoing the twisting process. Attempts have been made to relieve the difficulty and to increase the friction upon the yarn after it enters the orifice in the flyer by roughening the edges of the orifice, but without more than partial success, which is more than compensated by the increased tendency of the yarn to break off from the abrasion of the roughened parts.

My invention remedies the difficulty completely by increasing the friction sufficiently to keep the yarn from unwinding at the mouth of the tube, while at the same time it is drawn over a perfectly smooth surface and thereby not likely to be broken in its passage.

Instead of continuing the orifice A through the frame F, I cause it to extend no farther than the apertures *a a'*, Figs. 1 and 2, upon opposite sides of the neck of the flier. The yarn is conducted through the one or the other of these apertures to the tube B, according to the nature of the twist required, the twist being harder when it is led from the farther aperture *a'* to the tube than when led from the nearer aperture *a*, owing to the increased friction in the one case over the other upon the yarn, and other apertures at different distances from the mouth may be used for varying the degree of the twist, if desired. In practice, however, two will generally be found to be sufficient. By this means the difficulty is obviated and a perfectly uniform twist imparted to the yarn.

In the second place it will be seen that the mouth of the delivery-tube B is upon the upper side of the flier, whereby it is rendered much more convenient for the operative to attend the machine and insert the yarn when the length has from any cause been broken, and the operation can consequently be performed more expeditiously than if the mouth

was located upon the under side of the flier, as by the old method of construction it must be in order to have it contiguous to the orifice through the neck.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of two or more lateral orifices in the neck of the flier, as described,

at unequal distances from the mouth of the delivery tube, with the said delivery tube, for the purposes specified.

THOMAS MAYOR.

Witnesses:

BENJ. F. THURSTON,

J. D. THURSTON.