T. T. ABBOT & J. A. V. SMITH.

Improved Flier.

110617

PATENTED JAN 3 1871

Fig. 1.

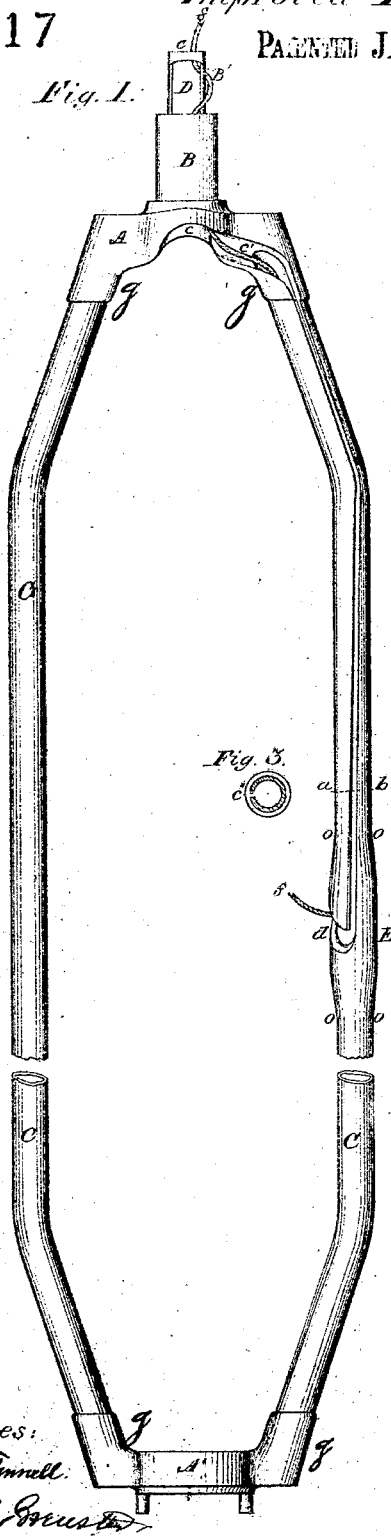
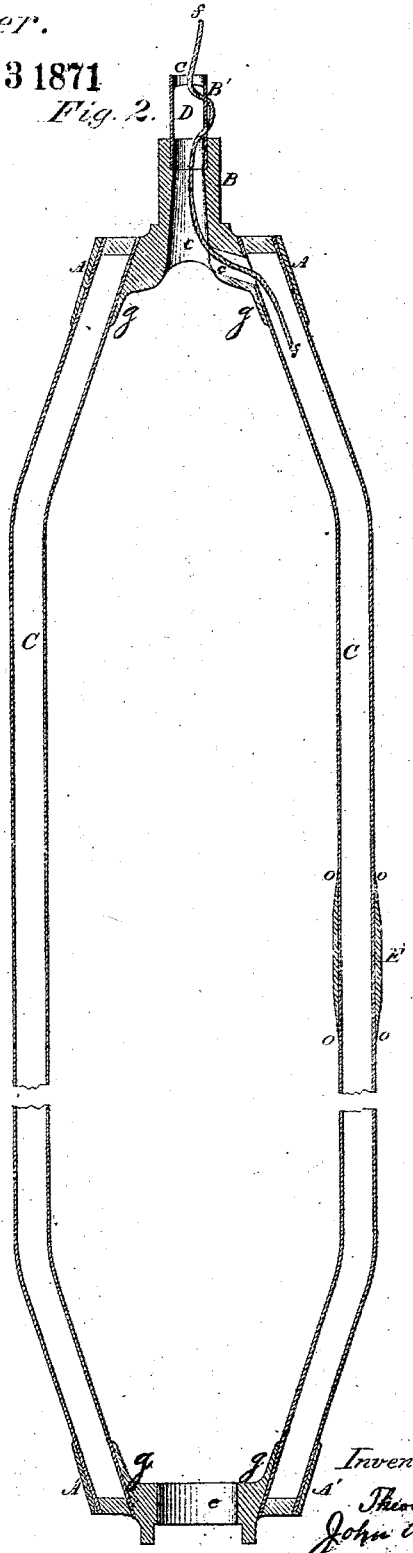


Fig. 3.

Fig. 2.



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THEODORE T. ABBOT AND JOHN A. V. SMITH, OF MANCHESTER, NEW HAMPSHIRE; SAID ABBOT ASSIGNOR TO SAID SMITH.

Letters Patent No. 110,617, dated January 3, 1871.

IMPROVEMENT IN FLIERS FOR SPINNING-MACHINES.

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

To whom it may concern:

Be it known that we, THEODORE T. ABBOT and JOHN A. V. SMITH, of Manchester, in the county of Hillsborough in the State of New Hampshire, have invented certain Improvements in Fliers for Spinning-Machines, of which the following is a specification.

The object of this invention is to supply a want that has for some time existed, by constructing the flier so that it shall be light, of the proper form to admit the present-shaped bobbins, strong and durable, and at the same time not fail to give to the thread the amount of twist desired or necessary; and

It consists in the construction of the flier as a whole, as hereinafter described, so that the object of the invention shall be obtained, and the flier made more durable, without essentially increasing its cost.

In the drawings—

Figure 1 is a side view of the flier, showing the slit and the thread;

Figure 2 is a sectional view of the same; and

Figure 3 is a transverse sectional view through one of the arms at *a b*.

A is the upper shoulder-piece or nose, having the section B, a hollow tube with the section B' above it, which is an extension of the tube B, but smaller in outside diameter, and has slots or mortises D on the two opposite sides.

The aperture *c*, at the top of the flier, is of the same diameter for a little distance into section B of the nose-piece, when it begins to enlarge to the under and inside of the shoulder-piece or nose A, where the diameter is considerably increased, and where it is made to intersect a groove in the shoulder-piece, and conduct the roving or thread into the slit *c'* of arm C.

This nose-piece is formed of metal, preferably of cast-steel, and having angular and projecting sockets *g g* to receive the arm C.

A' is the bottom piece of the same metal as the nose or shoulder-piece A, and has similar projecting angular sockets *g g*, for the same purpose.

Arms C C are made from steel tubes, and bent in the form shown in figs. 1 and 2, and secured in the bottom and nose-pieces in sockets *g g* by means of brazing or soldering, the holes in the sockets being bored upon an angle, as seen in fig. 2, where the steel tubes C are inserted and brazed fast.

In one arm is shown the slit *c''*, in which is placed the thread or roving *f*, and is a continuation of groove *c'* in shoulder or nose-piece A.

The slit *c''* continues to, or nearly to, the middle of the length of arm C, where it terminates in an angular eye, *d*, and where the thread *f*, is delivered to the bobbin in the usual way.

The steel arm at eye *d* is subject to great wear, because of the constant action of the passing thread bearing upon it in being delivered to the bobbin; and, to protect the arm from being worn out and becoming useless by such wear so soon, a second or auxiliary piece of steel tubing, E, larger in diameter, is placed around arm C, and brazed fast thereto, extending from *o* to *o* on said arm C, as seen in figs. 1 and 2.

At points *o o* this auxiliary piece of tubing is reduced to the size of arm C, making a clean and smooth finish.

In order to give the necessary twist to the thread when the thread is unevenly drawn, section B' of the nose-piece A is made with the opposite openings or mortise D, and the thread *f* is passed into the opening *c* at the end of section B', and out through one opening, D, around the outside of B', and into the opposite opening D, then down through the aperture *c* in the nose-piece A and groove *c'* into the slit of arm C to the delivery-eye *d*, as seen in figs. 1 and 2, where it makes its exit and goes to the bobbin.

This construction insures an even twist in the thread, whether equally drawn or not, as the bite made by passing the thread through the opening D, and around B', into the opposite opening D insures a twist in all parts of the thread evenly and alike, thus making a very perfect twist in the thread.

Having thus described our invention,

What we claim, and wish to secure by Letters Patent, is—

As an article of manufacture, the above-described flier, composed of the pieces A and A', having angular sockets *g g*, tubular and bent arms C C, auxiliary piece E, and section B', provided with openings D D, all constructed in the manner and for the purpose described.

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