

T. A. & H. A. BOYD.
SPINNING AND TWISTING FRAME.
APPLICATION FILED FEB. 23, 1909.

959,198.

Patented May 24, 1910.

Fig. 1.

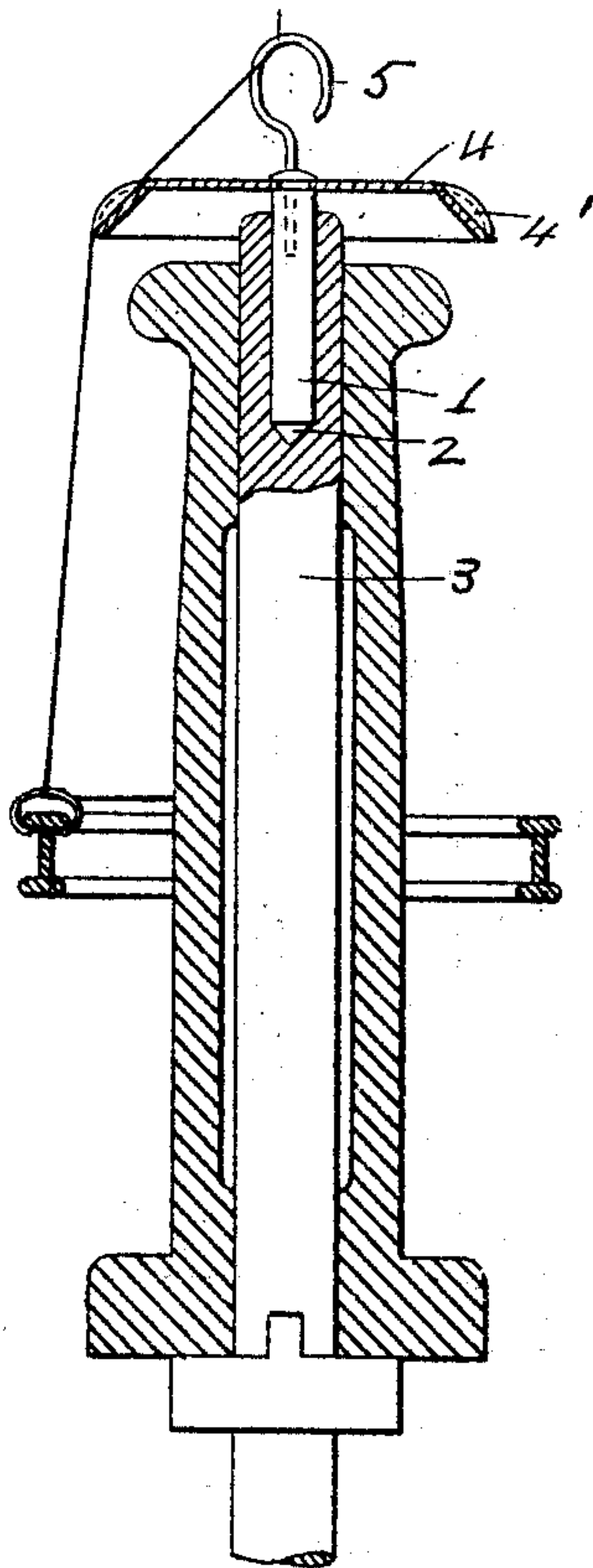


Fig. 2.

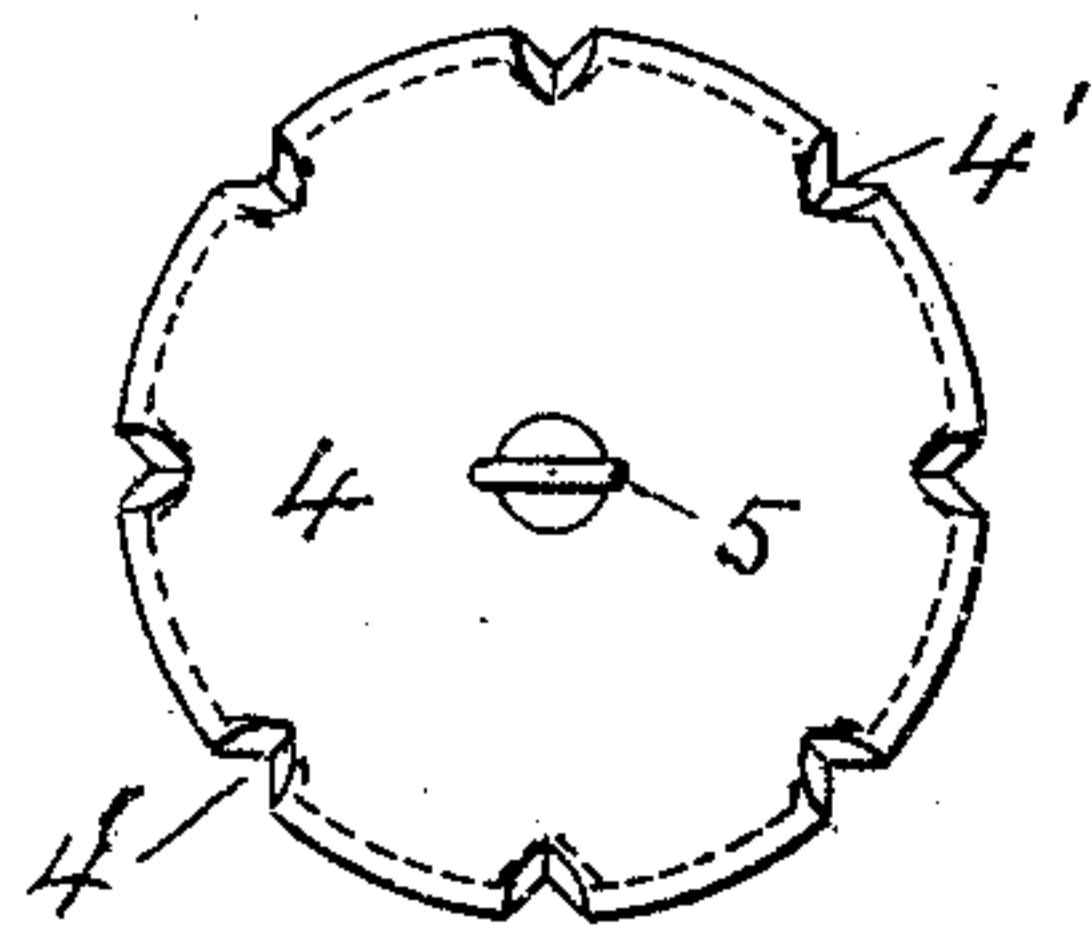


Fig. 3.

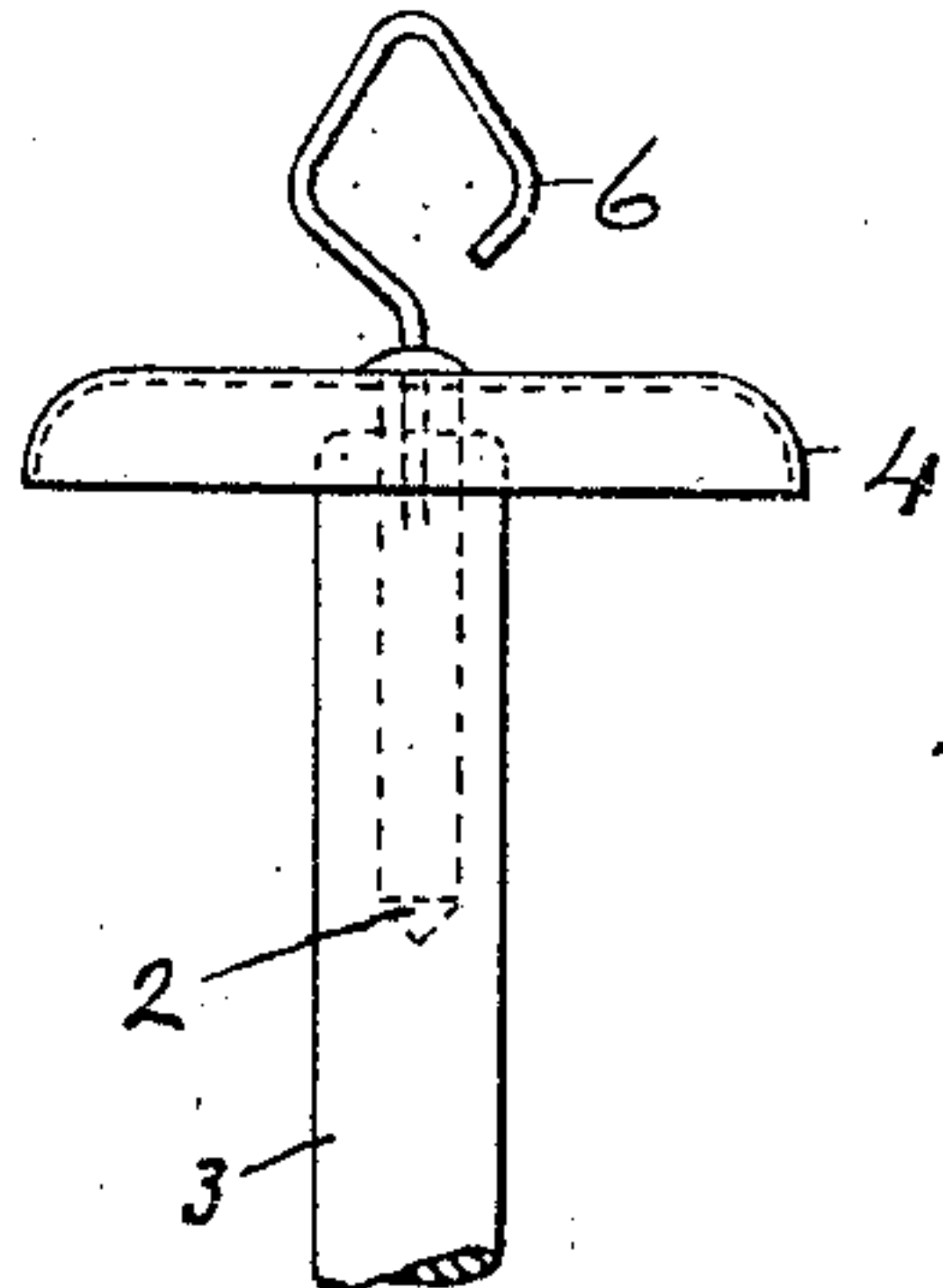
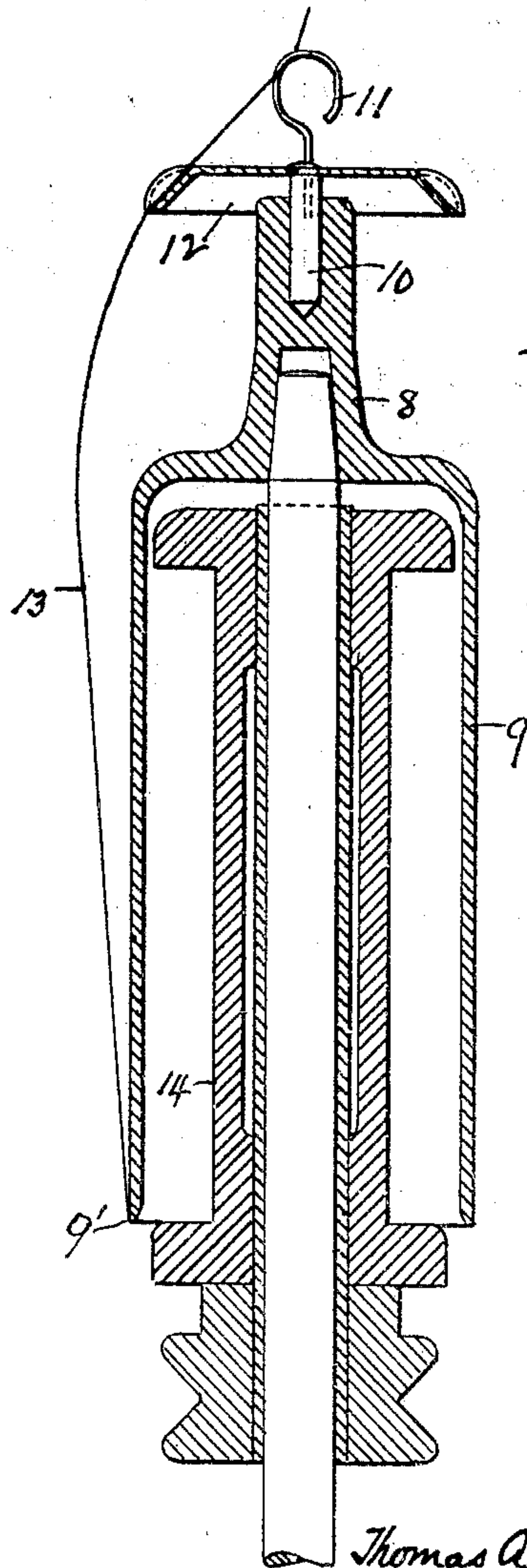


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS A. BOYD AND HAROLD A. BOYD, OF SHETTLESTON, SCOTLAND.

SPINNING AND TWISTING FRAME.

959,198.

Specification of Letters Patent.

Patented May 24, 1910.

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To all whom it may concern:

Be it known that we, THOMAS ALEXANDER BOYD and HAROLD ARTHUR BOYD, engineers, both of Shettleston Iron Works, Shettleston, Glasgow, Scotland, do hereby declare the nature of this invention for Improvements in Spinning and Twisting Frames, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement.

Our invention relates to spinning and twisting frames in which the yarn is wound on to the bobbin by means of a ring and traveler a cap or an inverted flier and has for its object the guiding and controlling of the thread as it passes from the delivery roller to the bobbin or cop on the spinning spindle.

Our invention relates to that type of flier which is mounted on the top of the revolving spindle and is free to revolve independently of the spindle. Hitherto such fliers have been formed with cap-like sleeves mounted directly upon the spindle top and consequently it has been practically impossible to provide for their lubrication. Moreover, when thus arranged, they are liable to displacement while in operation.

According to the present invention, the flier is fixed upon a subsidiary spindle inserted in a corresponding aperture in the spindle top, or alternatively in the cap. Thus, its proper and enduring lubrication is simple, while it is not liable to displacement. The invention further relates to the form of the flier and the combination therewith in known manner of one thread guide whereby the thread is guided centrally or nearly so to the spindle and a second guide upon the periphery of the flier so arranged that the said thread on its passage to the spinning bobbin, as it revolves around the same will carry the flier with it, and thus keep the flier in concert with the ring traveler or the point of winding on to the bobbin. The result is the yarn is controlled and kept from ballooning and the twist is put in at the guide above the spindle which improves the spinning. The flier resting on the point of its spindle in the hole in the spindle top is free to revolve by the action of the thread.

Accompanying this specification is one sheet of drawings.

Figures 1, 2 and 3 show the invention applied to ring spinning. Fig. 4, applied to cap spinning.

In carrying out our invention in one arrangement Figs. 1 and 2. we employ a spindle 1. working freely in a hole 2. in the spindle top 3. On the spindle 1. we rivet a disk 4. shaped like an inverted saucer and having on its outer edge a hollow 4¹. at each side to receive the thread. Several of these hollows could be formed if necessary. We screw a hooked guide 5. into the top of the spindle 1. The thread coming from the delivery roller gets its twist at the hooked guide 5. which is revolved by the thread resting on the disk 4. as the thread passes around the bobbin.

In a second arrangement Fig. 3. similar to the foregoing we form the hooked guide 6. triangular in shape—the apex of the triangle serving as the guide for the thread as it comes from the delivery roller and one end of the base as a guide to prevent ballooning and by means of which the thread revolves the flier. The disk 4. may be made with or without hollows to receive the thread.

In a third arrangement Fig. 4. in which we apply our invention to a cap spinning frame we form a socket 8. on the top of the revolving cap 9. and in the socket we place a spindle 10. having a curl hook 11 at its upper end and having a cup shaped disk 12 just below the said curl hook. The spindle 10 with its curl hook 11 and disk 12 are free to revolve. The thread 13 from the delivery roller is carried through the curl eye 11 and over the edge of the disk 12 and down to the lower edge 9¹. of the cap 9 at which point it is wound on to the bobbin 14. As the bobbin revolves and carries the thread around the cap the thread carries with it the disk and the spindle with the curl eye. The spin it will be understood is put into the yarn between the curl eye and the delivery roller. Instead of forming a socket on the top of the cap the cap spindle itself may be bored to receive the spindle with the disk and curl eye.

Having now particularly described and ascertained the nature of our invention and in what manner the same is to be performed we declare that what we claim is:—

1. In ring spinning and twisting frames, the combination of a revolving spindle having a socket at its upper end with a flier having a spindle projecting downward and working freely in said socket.

2. In spinning and twisting frames of the ring, cap or inverted flier construction, the

combination of a revolving carrier having a
socket at its upper end with a flier consisting
of a metal disk with a hollow at its edge,
an eye at the top and a central spindle pro-
5 jecting down and revolving freely in said
socket.

In testimony whereof we have signed our

names to this specification, in the presence
of two subscribing witnesses.

T. A. BOYD.
H. A. BOYD.

Witnesses:

R. E. BOYD,
ROBERT BOYD.