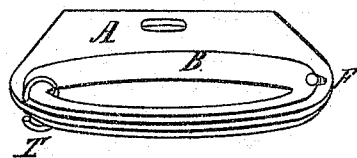
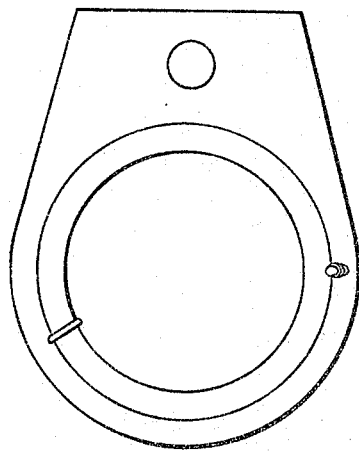


*J. Thorp.*  
*Spinning Ring.*  
*N<sup>o</sup> 3,766. Patented Sept. 27, 1844*



# UNITED STATES PATENT OFFICE.

JOHN THORP, OF NORTH WRENTHAM, MASSACHUSETTS.

## WHIRLING AND ROTARY RING AND REVOLVING-HOOK SPINNER AND TWISTER.

Specification of Letters Patent No. 3,766, dated September 27, 1844.

*To all whom it may concern:*

Be it known that I, JOHN THORP, now residing in North Wrentham, in the county of Norfolk and State of Massachusetts, have made new and useful Improvements in Constructing Ring-Fliers and in the Adjustment of the Hooks, being improvements on my whirling and rotary ring and revolving-hook spinner and twister for which Letters Patent of the United States were granted to me on November 20, 1828.

My greatest wish and design in attempting these improvements, was, to produce something that would cost less and be more serviceable, and better adapted to the common spinning and twisting frames, which are now using the common fliers, and such other frames as may be hereafter built, than anything now in use, and to find some method of constructing the ring on which the hook travels so that the main body of the hook might naturally hang in a vertical position, for in this position of the hook great advantages are gained, such as obtaining a much greater surface of both the hook and ring to resist the wear, and a larger bow to the upper part of the hook, which will allow the knots and the bunches and other imperfections of the yarn, twine, threads, &c., to pass more freely through the hook than can be obtained in the horizontal position of the hook, and to find some method of putting the hook onto the ring with ease, in its full hardness, without binding or straining it in the least, and so that it will stay on, without reducing its temper to spring temper and springing it on, as is now practiced, also to construct the flier so that it can be easily swaged, or molded and cast in its perfect shape, from iron or any other suitable metal.

The method heretofore and still practiced in forming that part of the ring on which the hook travels, is, by cutting two grooves by lathe process, one on the outside and one on the inside of a circular plate, and very near to its upper edge, leaving the top or flat surface of the ring horizontal, which will, of course, cause the main body of the hook to lay horizontally, or in other words, will cause the two ends of the hook to remain on a horizontal line. But my improved plan of constructing the ring-flier will cause the two ends of the hook to hang on a perpendicular line, one of its curved ends will remain below the ring, and the

other above it, consequently nearly the whole length of the main body of the hook, by its centrifugal force, will bear against the inner surface of the ring, presenting to each other a much greater surface of both the hook and ring to resist the wear, than can be obtained in the horizontal position of the body of the hook. This improved plan I call the universal ring-flier, specified and described as follows, viz:

The accompanying drawings are intended to illustrate and form a part of this specification, and are made to represent the full size of a flier, No. 5. This number is intended for spinning yarn from No. 25 to 35. The plate A, in this number is intended to be about the sixteenth part of an inch thick. I make it of sheet iron, or any other suitable metallic substance; I form it in dies as coinage is formed; I make the ring, B, of sound polished wire, about the fifth part of an inch diameter; the wire I form into rings by winding it several turns around a cylinder, or any other round substance of a suitable size, each turn forming one ring, they are then cut apart, and by the use of proper tools, each ring is forced into its respective plate, A, until the plate reaches the middle or arrives at the greatest diameter of the ring, which will, and is intended to leave an equal proportion of the ring on both sides of the plate, as represented in the drawing, the opening in the plate, is rather smaller than the outer circumference of the ring, by which means, the two ends of the ring are pressed snugly together, and the ring firmly confined within the plate, and if it should require to be more firm, I cement the ring and plate together, by the use of salomoniac, or the like. In order to prepare this flier for receiving the hook, I drill a hole or cut a notch or make an indentation in some part of the ring and plate, suitable to admit the hook to be put onto the ring with ease, in its full hardness, without binding or straining it in the least, and in a manner not liable to get off, unless taken off, and without reducing its temper to spring temper, and springing it on, as is now practiced in the rings of the common kind.

The best and most proper place for the hole, notch or indentation to be made, is, at F, entering partly into the upper surface of the plate, and outer surface of the ring, taking a direction toward the center of the ring, and toward the center of the wire of

the ring, deep and large enough to admit the largest curved end of the hook far enough into the hole, notch or indentation to allow the other end to be carried over within and below the ring; when this is done the hook is on the ring. The construction of the hole, notch or indentation is such and so situated, with regard to the ring and plate that it remains always open and ready to receive the hook, without being injurious to the durability of the ring, or in the least detrimental to the revolving of the hook.

When the plate and the ring are confined to each other as above described, they then constitute the entire universal ring, flyer, and in such shape, after confining a thin piece to the shank of the plate, to stiffen it, I have them molded and cast from iron or made of any other suitable metal.

The hook is made of wire about the thirtieth part of an inch diameter, and its size, shape and position is shown at T.

Although I have described but one size of the said flier, it should be proportioned to the kind of spinning and twisting which it is intended to perform, yet a variety of sizes or numbers of yarn, threads, twines, &c., may be spun or twisted on any one size of the flier and hook.

To increase tension on the yarn &c., the hooks may be made of larger wire, or a number of hooks may be put onto the ring at one time, and the thread, or twine, or yarn cast into all of them.

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

An improvement consisting of a new combination of ring, hole and hook adjusted to the plate of the ring-flier and in combination with each other, the ring, hole and hook forming by the peculiar construction and adjustment of each, and by their com-

bination as in the specifications, an improvement of the ring flier, and which is called the universal ring flier—the ring being such as may be formed of polished wire, as well as of the old material, and may be adjusted to the plate by forcing it in as stated in the specification—the hole, which may be also called a notch or indentation, so shaped and formed as that it enters both into the upper surface of the plate and into the outer surface of the ring, taking a direction toward the center of the ring and toward the center of the wire, or other circular material, of the ring, and deep and large enough to admit freely the largest curved end of the hook far enough into it to allow the other end of the hook to be carried over and hang freely within and below the ring and so situated in respect to the ring and plate as to remain always open and ready to receive the hook without impeding the revolving thereof and formed and adjusted as stated in the specification—the hook being formed and shaped as in the specification and drawing described, so adjusted to the ring by means of the hole as aforesaid that it hangs perpendicularly and loosely upon the ring, with one of its curved ends remaining above and upon the ring and the other below the ring, and travels freely without interruption from the open hole. These parts in this combination and the peculiar construction, adjustment, and adaptation of each of the said parts in itself and to each other, whereby the combination is produced and is put in operation as set forth in the specifications and drawings I claim as my improvement and invention.

JOHN THORP.

In presence of—

LEWIS HARDING,  
CALEB W. SAYLES.