

(No Model.)

F. E. WILLIAMS.
WHIRLING TOY.

No. 495,079.

Patented Apr. 11, 1893.

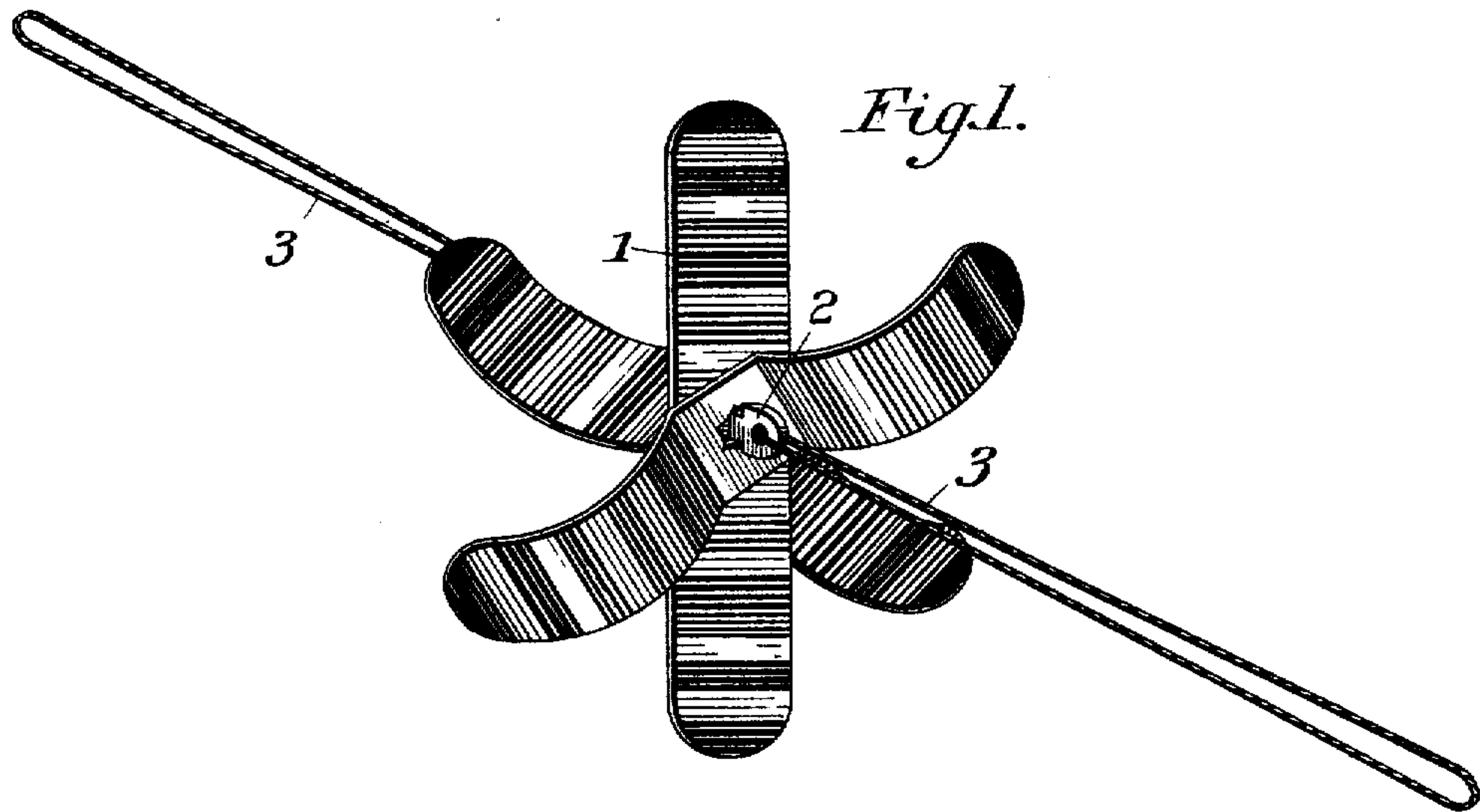


Fig. 2.

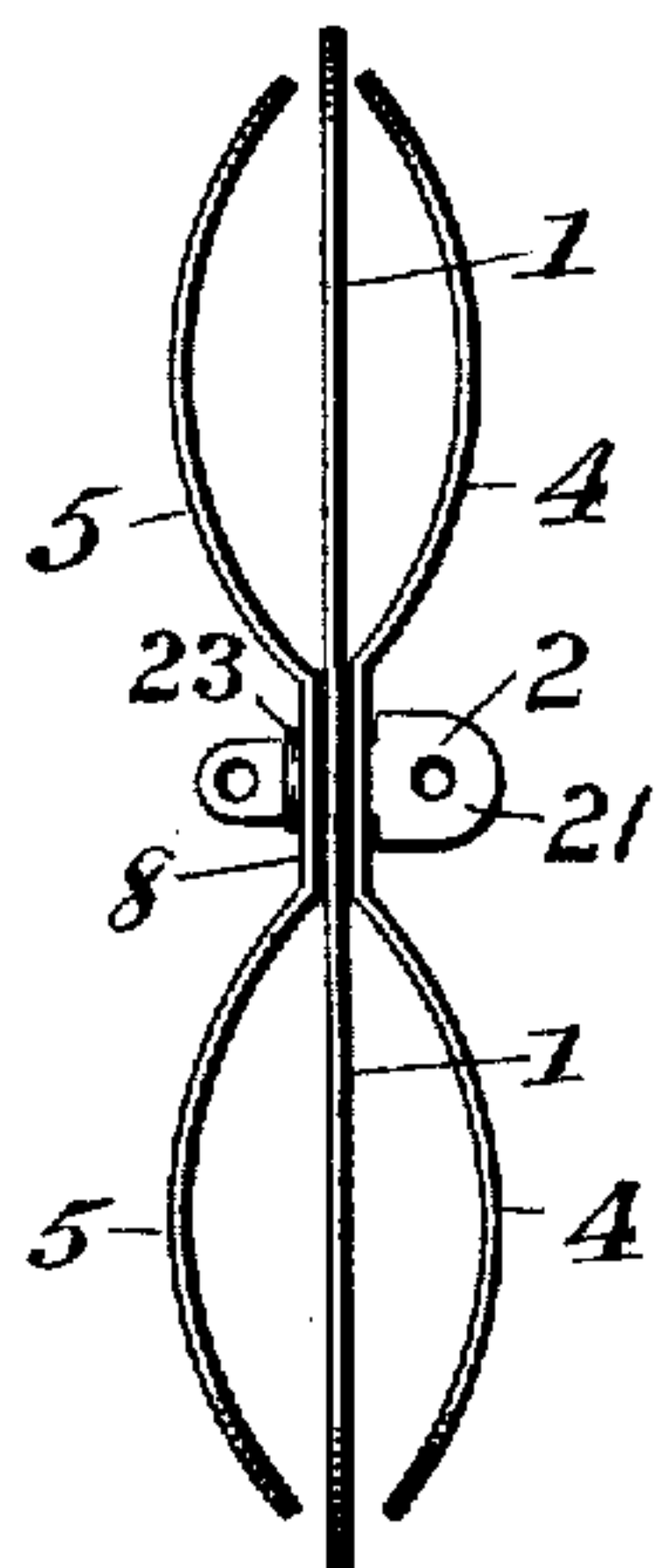


Fig. 3.

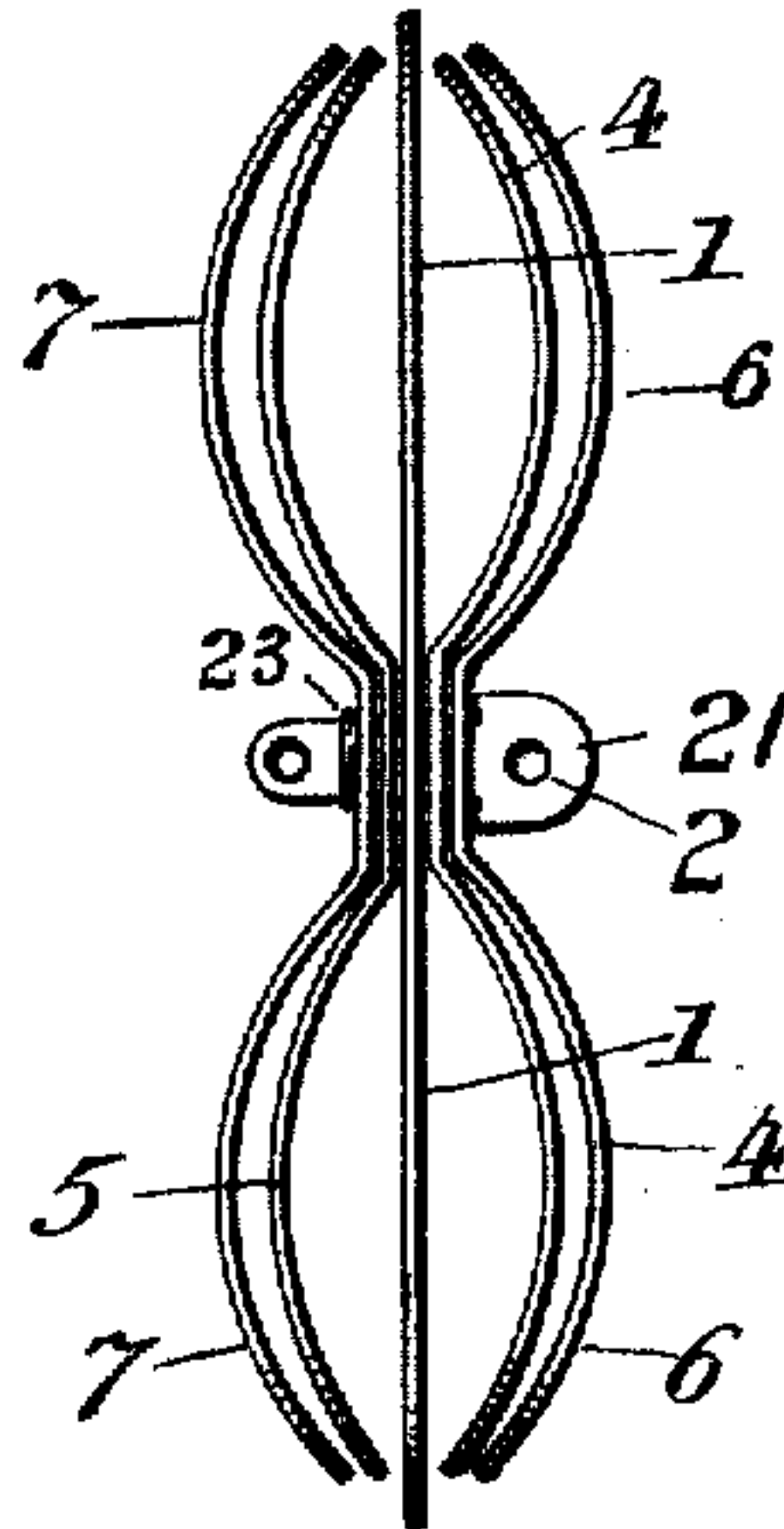


Fig. 4.

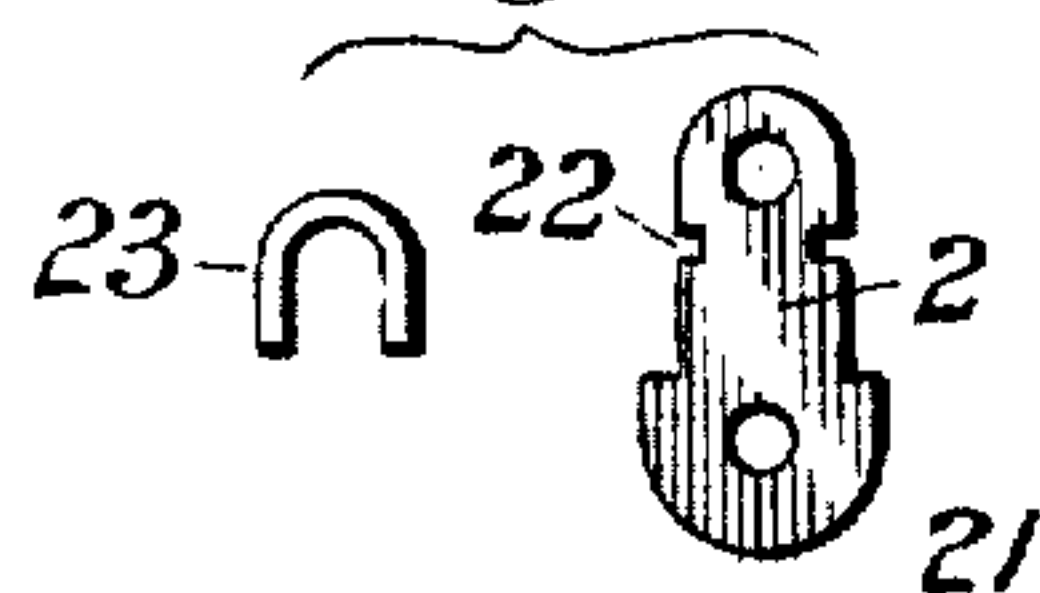
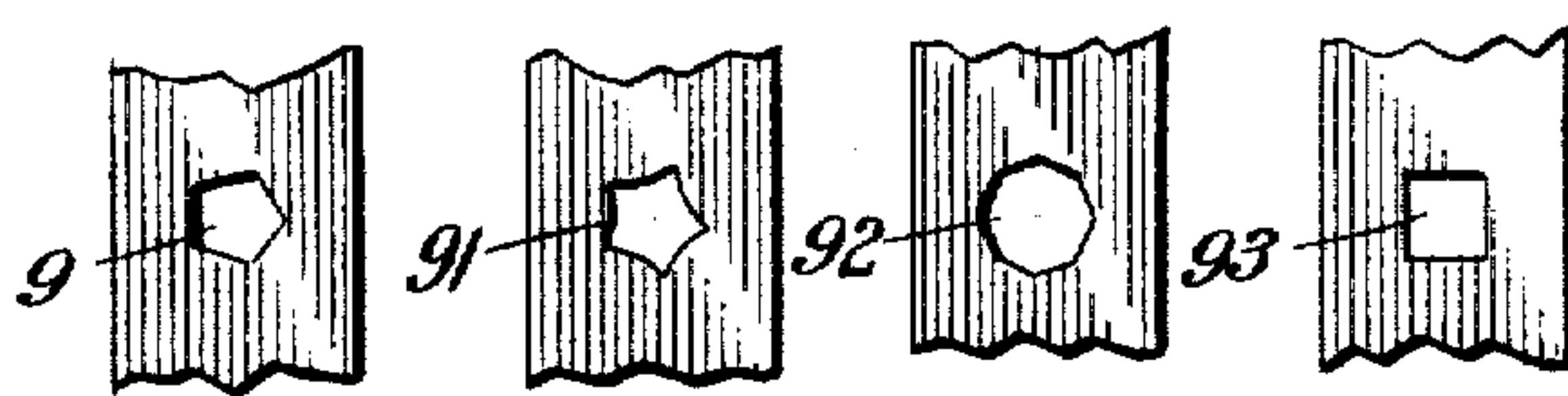


Fig. 5.



Witnesses
Vinton Coombs
A. M. Parkins.

Inventor.

Frank E. Williams.
by
Pierce & Goldsborough
attorneys

UNITED STATES PATENT OFFICE.

FRANK E. WILLIAMS, OF ALHAMBRA, CALIFORNIA, ASSIGNOR OF ONE-HALF
TO JAMES E. HILLS, OF BROOKLYN, NEW YORK.

WHIRLING TOY.

SPECIFICATION forming part of Letters Patent No. 495,079, dated April 11, 1893.

Application filed December 29, 1892. Serial No. 456,637. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. WILLIAMS, a citizen of the United States, residing at Alhambra, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Whirling Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates more especially to that class of toys known as whirligigs or buzzes, and has for its object to improve the construction and operation of such devices, and incidentally to simplify and cheapen the cost of production.

The invention consists in the construction hereinafter described and claimed, and illustrated in the accompanying drawings forming part of this specification.

In the drawings Figure 1 is a perspective view of my improved whirligig complete. Fig. 2 is a side or edge view of the same. Fig. 3 is a similar view of a slightly modified arrangement. Fig. 4 illustrates in detail the stem or spindle and the fastening ring. Fig. 5 contains four detail views of as many different forms of opening in the auxiliary piece.

Referring to these drawings 1 indicates a straight flat strip of metal, card-board, or other material, preferably about three inches long and three quarters of an inch wide, though the dimensions of the strip are variable at the pleasure of the maker. Through a slot cut in the center of the strip I pass a stem or spindle 2, the stem fitting in the slot so as to cause the two parts to rotate together. The stem is formed out of a small piece of metal shaped as shown in Fig. 4, with an eye or perforation at each end into which is threaded the doubled piece of cord or string 3 as clearly shown in Fig. 1. The strip 1 is ornamented with transverse stripes or bands of different colors, as indicated in the drawings, by reason of which when the strip is revolved rapidly by the twisting or untwisting of the strings 3, the appearance of a disk having complete circles of corresponding colors is produced, as will be readily understood.

In order to vary the ornamental appearance of this imaginary disk, I use in conjunction with the strip 1 other strips 4, 5, 6 and 7, of corresponding size, these auxiliary strips being loosely connected with the stem so as to revolve thereon, whereby their position relative to that of the strip 1 may be changed. These auxiliary strips are formed as shown in Fig. 2 of the drawings, the central portions 8 being depressed and flattened so as to lie close against the strip 1 and their opposite ends being curved outwardly away from the strip 1, so as not to touch or scrape against the same in the revolution of the whirligig. These auxiliary strips are also intended to be ornamented in the same manner as the strip 1, stripes or bands of colors contrasting with corresponding stripes on the strip 1 being used to heighten the effect. As shown in the accompanying drawings these auxiliary strips are arranged upon both sides of the strip 1; this is not essential, however, it being only necessary that one or more of these pieces should be used in connection with the principal strip 1, whether upon one or both sides. The arrangement of auxiliary strips upon opposite sides of the main strip is preferred, and any number of these pieces may be used, two on each side being shown in Fig. 3.

As before explained, the auxiliary pieces 4, 5, 6, and 7 are connected with the stem 2 so as to revolve thereon, the object of this being to permit the pieces to change their positions relative to the main strip automatically. Although this connection must be a loose one, it is highly desirable that something in the nature of a brake be provided to prevent the momentum of the revolving pieces continuing the revolution in one direction after the movement of the stem or main strips have been reversed, thus blurring the image and delaying the formation of a new disk. In order to provide for this, I form the edges of the hole through which the stem passes of a broken or irregular outline, so that the edge of the stem 3 will catch upon the angles or in the corners of the hole and retard the rotation of the movement when the stem and main strip are reversed.

Referring to Fig. 5, 9, 91, 92 and 93 indicate different forms of openings in the aux-

iliary strips through which the stem is passed. I prefer the five-sided or pentagonal shaped opening in Fig. 5, as I find that this form gives the most satisfactory results. Any of the other forms, however, work well. Other forms of openings may be devised without departing from this feature of my invention, which is not limited to the use of any particular conformation of the openings. The edges of the figures may be straight, as in figures on the right of Fig. 5, or these edges may be rounded as shown in the second view of Fig. 5.

The construction of the stem or spindle 2, and the manner of connecting the ornamental strips or pieces together by means of the spindle, will be readily understood upon inspection of Figs. 2 and 4. The spindle is preferably made out of a flat piece of metal as shown in Fig. 1, but it may be made in any form in cross-section which is preferred. One end of the spindle should be formed with a head 21 to prevent the same from passing entirely through the opening in the auxiliary strip. The other end of the spindle is of a size to pass readily through the openings in all the strips, and near this end the spindle is provided with notches 22 or a groove into which is clamped so as to form a ring around the spindle, a small U-shaped piece of wire 23, the wire being clamped in place after the ornamental strips have been arranged in the proper relation upon the stem.

As before stated any number of auxiliary strips may be used. I prefer, however, to use but one of these strips on each side of the main piece, as I find that a great variety of figures are produced by this simple form. If preferred, however, a greater number of combinations of colors and a greater variety of pleasing effects may be produced by the use of two of these auxiliary strips upon each side of the main central piece. It will be understood that in ornamenting these strips, the opposite ends of the pieces must have the same ornamentation otherwise the disk or figure produced by the rapid revolution of the pieces will be blurred and imperfect.

Obviously any other specific devices may be employed for fastening the spindle to the pieces, instead of the groove 22 and wire ring 23, my invention not being limited to the devices shown. So also the auxiliary strips need not be bent in the exact form illustrated in the drawings, as I contemplate in some instances forming them in other fanciful shapes.

Although I have shown the main piece or strip herein as located between two loose aux-

iliary pieces, it is obvious that this arrangement may be reversed, the outer pieces being fixed to the spindle and the inner piece or pieces being loosely connected therewith. Washers may be inserted if preferred between the pieces, or between the outer strips and the end of the spindle. It will generally be found unnecessary, however, as the central flat portions of the strips and the divergently bent ends are found to work perfectly without them.

As before stated, I do not intend to be limited to any particular shape of the openings in the auxiliary pieces, so long as they are provided with an irregular edge, presenting little knobs, notches, or projections, against which the spindle will catch, so as to retard the revolution of the pieces without interfering with the prompt reversal of the movement of the main piece. The advantage of this irregular shaped opening lies mainly in the fact that I am thereby enabled to dispense with springs, catches, or other forms of frictional devices, which add to the cost of construction and are otherwise objectionable.

Having thus described my invention, what I claim, and desire to secure, is—

1. In a whirligig, the combination of a straight flat main piece 1, an auxiliary piece having a straight flat portion 8 in the center and outwardly curved or bent ends, and a central stem 3 connecting the parts together; substantially as described.

2. In a whirligig, the combination of a main piece 1, a stem 2 passing centrally through and secured to the piece 1, and an auxiliary piece or pieces revolubly connected to the stem by means of openings of irregular outline through which the stem passes; substantially as described.

3. In a whirligig, the combination of a straight, flat main central piece 1 ornamented with transverse colored bands, a stem 2 fixed to the same, doubled cords or strings connected to opposite ends of the stem, and auxiliary pieces having contrasting ornamentation to that of the main piece, and revolubly mounted upon the stem on opposite sides of the central piece by means of openings having angular or irregular outline; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK E. WILLIAMS.

Witnesses:

J. A. GOLDSBOROUGH,
A. M. PARKINS.