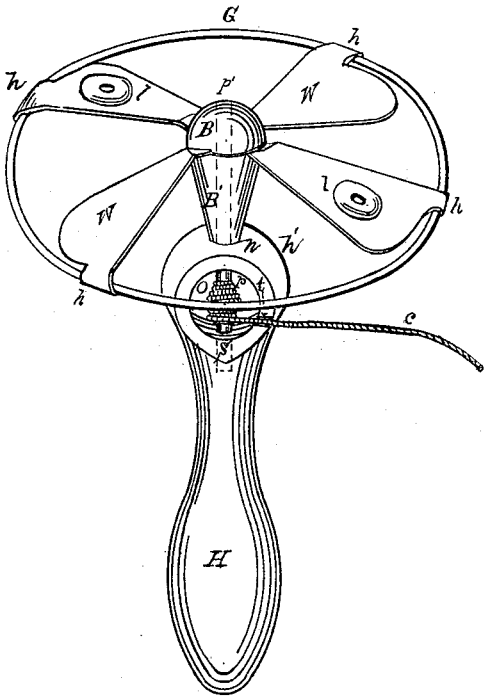
E. METS.

FLYING-TOP.

No. 191,246. Patented May 29, 1877.



WITNESSES

John Dieffner

Benj H Parsons

INVENTOR

Elisha Mets

per

Benj H Parsons atty.

UNITED STATES PATENT OFFICE.

ELISHA METS, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN FLYING TOPS.

Specification forming part of Letters Patent No. **191,246**, dated May 29, 1877; application filed March 1, 1877.

To all whom it may concern:

Be it known that I, ELISHA METS, of the city of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Musical Flying Tops, which improvements are fully set forth in the following specification and accompanying illustrations, and which illustrations are a view of the several parts of the invention in perspective.

Heretofore, on account of the exposure of the sharp edges and points of its wings, the flying top has been an unsafe toy for children; and the object of my improvement is, first, by putting a guard around outside of these points and edges, to prevent them from doing injury; and, second, to affix reeds or whistles to the wings of the flier, by which, as it rushes through the air, it emits sounds of varied quality, according to certain conditions known to those skilled in the art to which it appertains, and by a circular groove in one disk of the handle to run off the string for ejecting and sailing the flier without, for this purpose, perforating the shell, which will now be described.

The inverted conical body of the top is represented in the illustration transversely divided into two parts, thereby providing for attaching the wings between these parts, and for rotating and confining the same. One of these parts, B′, has a stem or axis of rotation, *p*, extending down through the orifice O into the socket S of the handle H, which stem *p*, for confining the wings W between the two said parts of the body, is also extended up through the part B, thus making, for securing the wings, a pintle, (in dotted lines,) *p′*, and to which also the part B of the body is fastened.

The wings, of any number, shape, size, or material, are cut from tempered sheet-brass with a die. At the same time they are all left solid with the central part, which central part, at the point of bisection of the body, is of the same diameter as the body, and perforated for the pintle all at one and the same operation.

For preventing the sharp points and edges of the wings, in their rotation, from injuring any one, there is affixed to their outer extremities a wire rim, G. By folding these purposely-extended extremities over onto this rim a clip, *h*, is formed, fastening the wire to the wings, by which means the desired object is attained.

To obtain the orifice O for the string-ball, the top of the handle H is first made bulb-shaped, then flattened and bored out the proper size for the ball, by which is formed around said orifice the shell *h′*. A perforation, *n*, is made through the crown of this shell for the stem *p*, and the socket S in its bottom opposite, for its foot to rest in, while to hold the string in starting its winding there is midway of the stem a perforation for receiving its end.

Into one disk of the shell (to avoid running the string through two perforations, as now, by this there is only one) is inserted the groove *t*, in which, aided by the left thumb, to give the flier its desired height and velocity, the string is briskly run from the stem, thereby effecting a saving for each flight of the toy of passing the string through one perforation. Any preferred sounding instrument, as the annular convex two-disked whistle *l*, or one operated by a reed, may be attached to either disk of the wings; but the whistle *l*, having one disk, the wings' disk forming the other, presents the least resistance to the rotation and flight of the top, for which reason I prefer, and therefore use it; but if a reed instrument be preferred, then its construction is to be similar to that of the mouth-organ, having one or two disks then attached either to the top or bottom of the wings, having its tongue at right angles to the radius of the wings' rotation.

The quality and quantity of sound emitted by either of these instruments are regulated by construction, velocity, and other conditions understood by those skilled in the art to which it appertains.

To set up the invention, a pintle for the axis of the wings' rotation is thrust through a previously-prepared wood block, which is then shaped, and, for the body of the flier, bisected in a lathe, when the part B is lifted off over the pintle *p′* from the part B′, after which all parts cut by a die—viz., the annular center, having its axial perforation, wings with their clip-extensions for confining the rim and giving the wings the desired heli-

coidal curve—are done at one and the same operation; after which the rim-guard, by folding said extensions over on the wire, is firmly secured to the wings. Then the pintle-aperture is slipped over the pintle *p'*, and the part of the body B on over this last, and all are confined together by being secured to said pintle. Then a perforation is made for the string *c* in the stem, and stem inserted in the handle, and string inserted, its remaining end being held by the thumb in the groove *t*. Then the handle is held in one hand, and flier rotated by the other, winding the string on the stem. Now, by inclining the handle in the direction it is desired to fly the toy, and pulling the string, the flier, in proportion to the impetus applied, is hurled in any direction a hundred to a hundred and fifty feet, while in whatever angle to the horizon it may be projected the weight and resistance of its body and stem to the atmosphere maintain them in a vertical posture, so that the wings always rotate horizontally.

Having described my improvements in musical flying tops, what I claim as my invention, and for which I solicit Letters Patent, is—

1. The flying top herein described, consisting of the bisected conical body B B', held together by the stem *p*, forming the pintle *p'*, and the wings W, all constructed and arranged substantially as set forth.

2. The flying top, having body B B' *p* and wings W, in combination with handle H, having orifice O, perforation *n*, socket S, and groove *t*, substantially as set forth.

3. The flying top, having wings W, provided with the reed or whistle *l*, in combination with the rim G, as and for the purposes described.

In testimony whereof I have hereunto set my hand this 21st day of November, A. D. 1876.

ELISHA METS.

Witnesses:

PETER R. BROTHERS,

FRANK KINGSLEY.