F. KANGASNIEMI.

TOY.

APPLICATION FILED JUNE 3, 1920.

**1,355,674.** **Patented Oct. 12, 1920.**

Fig. 1.

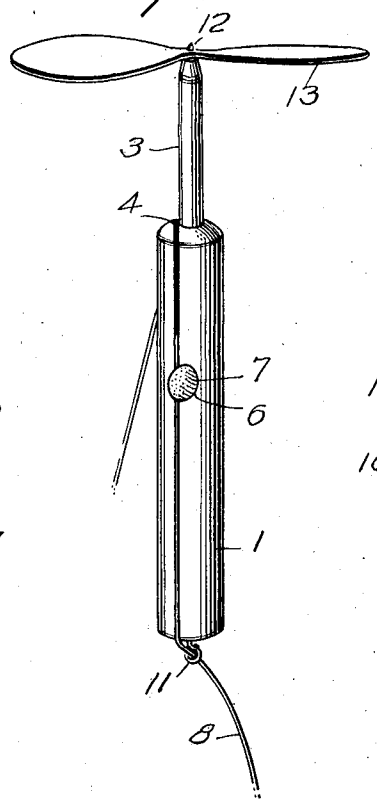



Fig. 2.

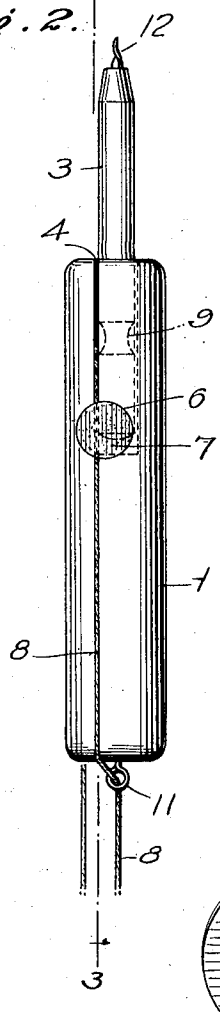



Fig. 3.

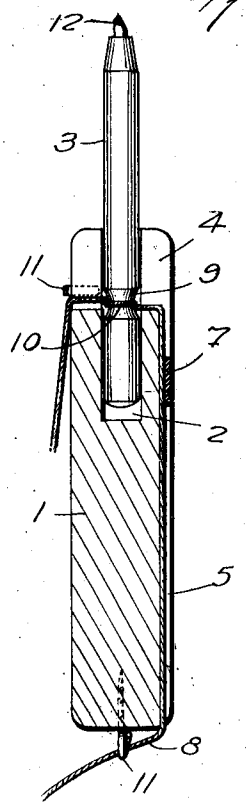



Fig. 5.

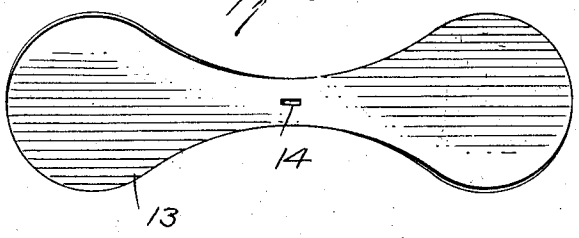
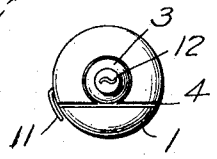



Fig. 4.




INVENTOR.

FERDINAND KANGASNIEMI

BY

E. F. J. F. Brandenburg

ATTORNEYS

# UNITED STATES PATENT OFFICE.

FERDINAND KANGASNIEMI, OF WHITE PLAINS, NEW YORK.

## TOY.

1,355,674. Specification of Letters Patent. Patented Oct. 12, 1920.

Application filed June 3, 1920. Serial No. 386,281.

*To all whom it may concern:*

Be it known that I, FERDINAND KANGASNIEMI, citizen of Finland, residing at White Plains, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Toys, of which the following is a specification.

The object of this invention is to provide a toy, carrying an aerial projectile, which is simple in construction, which is easy and cheap to manufacture, which may be sold at a low price, which is thoroughly efficient and durable in operation and use, and which is entertaining to children.

With this object in view, the invention resides, generally stated, in a socket-member, adapted to be held by one hand of the operator, a rotatable spindle projecting from said socket-member and carrying, at its outer end, a spirally-bent, pointed barb, an aerial projectile releasably supported upon said barb, and means, controlled by the other hand of the operator, for rapidly rotating said spindle and said projectile, causing the latter to rise from said barb and fly through the air for a period of time, until the steadily decreasing speed of revolution of said projectile, after it leaves the barb, is such that the force of gravity acts to draw the projectile earthward.

The accompanying drawing clearly discloses an exemplary embodiment of the underlying principles of my invention. Like reference-characters indicate corresponding parts throughout the several views. Briefly described:

Figure 1 is a view in perspective of the toy;

Fig. 2 is a view in side elevation thereof;

Fig. 3 is a vertical sectional view on the line 2—2, Fig. 2, looking in the direction of the arrows;

Fig. 4 is a view in top plan; and

Fig. 5 is a plan view of the projectile.

Referring, now, in detail to the drawing:

1 designates a socket-member, which, as shown, is a cylindrical body, of convenient length and diameter to be easily held in the operator's hand. The socket-member is provided with an axial chamber 2 extending from what may be called the upper end thereof and terminating short of the other or lower end thereof. This axial chamber is annular in cross section, and is adapted to receive a rotatable spindle 3, which projects for a suitable distance beyond the upper end of said socket-member.

The socket-member is split longitudinally at the upper end thereof, as shown at 4, said slit being substantially tangential to the axial chamber 2; and extending from one side of said slit, longitudinally of said socket-member, is a peripheral groove 5, terminating at the lower end of said socket-member.

Intersecting said groove is a peripheral recess 6, disposed in which is an element 7, herein shown as a disk, preferably of suitably flexible material, such as leather. The flexible disk 7 is suitably secured in said recess, as by means of glue applied to a portion of the under surface thereof, so that the unglued portion of said disk may be raised, as a flap, to position thereunder a flexible element, such as a cord 8. The disk 7 is advantageously disposed slightly below the inner end of the slit 4, as shown in Fig. 2.

The spindle 3 is provided, at a point thereon inside the socket-member 1, with a circumferential groove 9, around which the cord 8 is wound or looped, as shown at 10.

The bottom of the socket-member 1 carries an eye 11, and carried by said socket-member adjacent that side of the slit 4 opposite the disk 7 is a guard or keeper 11, driven into the socket-member and projecting across the slit, so as to maintain the cord 8 in said slit.

The end of the spindle 3 which projects beyond the socket-member carries a barb 12, which is bent spirally, as shown, and is pointed.

The cord 8 is preferably looped, at both ends, so that the fingers of the operator may be inserted in the loops, for convenient manipulation of the cord. The cord passes, at one end, through the eye 11, thence along the groove 5, beneath the disk 7, across one side of the slit 4, thence looped around the spindle 3 in the groove 9 thereof, thence through the other side of the slit 4, beneath the keeper 11. By grasping one end of said cord and pulling quickly thereon, the cord will, by reason of its looped relation around said spindle 3, rapidly revolve the latter.

An aerial projectile 13, constructed similarly to a propeller, or the horizontal lifting rudders of an airplane, is provided with a rectangular slot 14 centrally of the length thereof, whereby the projectile may be disposed on the barb 12. By the rapid revolu-

tion of the spindle 3, the projectile 13 is rapidly revolved, which, by reason of the particular construction of said projectile and the spiral and pointed conformation of the barb 12, causes the projectile to rise from the barb and soar upward into the air and describe an irregular horizontal path of movement therethrough, until the steadily decreasing speed of revolution of the projectile reaches a point where gravity will act to cause the projectile to drop earthward. It is possible with my device to cause the projectile 13 to rise fifty or sixty feet into the air.

The disk 7 acts as a drag or brake on the cord: By pressing upon the disk with the thumb or finger of the operator, the travel of the cord is impeded, as it is pulled upon by the operator.

It is to be understood that, while, in accordance with those portions of the Revised Statutes of the United States relating to patents, I have described with great particularity a physical embodiment of the underlying principles of my invention, various changes and modifications may be made, within the scope of the appended claims, without departing from the spirit of the invention, or necessarily sacrificing any of its advantages.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

A toy comprising a socket-member provided with a longitudinally-extending slit portion at one end thereof and with a longitudinally-extending peripheral groove extending from said slit portion to the other end of said spindle, a cord lying in said groove and projecting through said slit portion and looped around said spindle for rotating the same, and an aerial projectile supported upon said spindle and releasable by rotation thereof.

In testimony whereof I affix my signature.

FERDINAND KANGASNIEMI.