

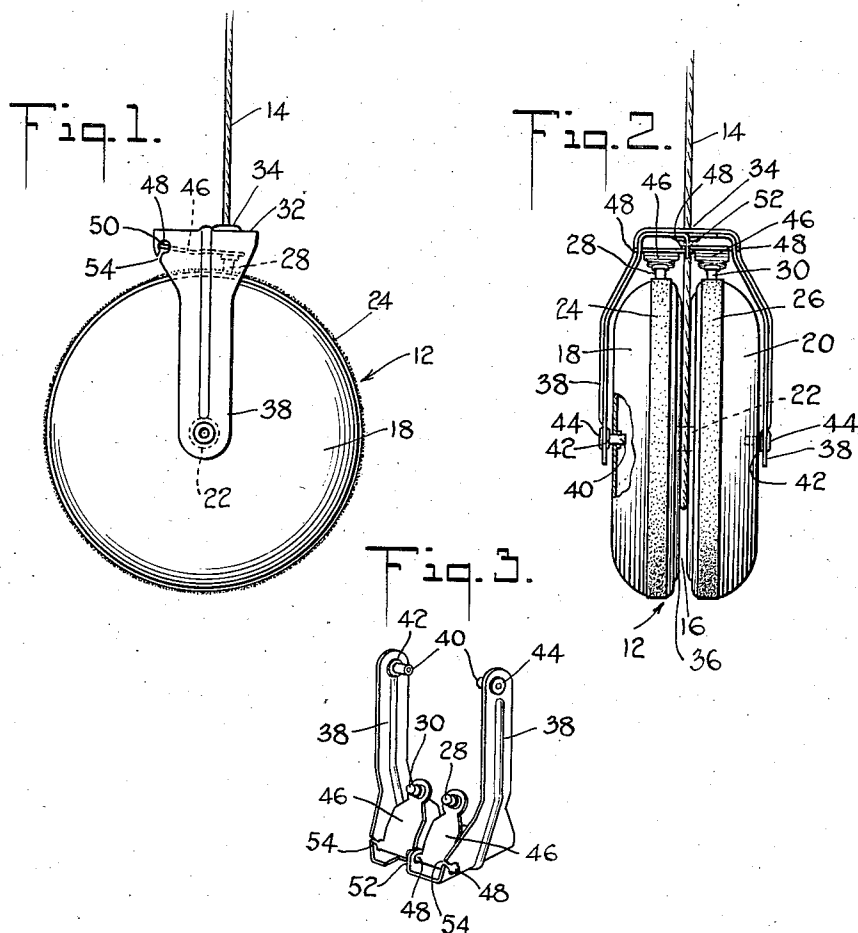
April 13, 1937.

L. MARX

2,076,658

SPARKLING YO-YO TOY

Filed Aug. 8, 1935



INVENTOR
Louis Marx
BY
James and Smith
ATTORNEYS

UNITED STATES PATENT OFFICE

2,076,658

SPARKLING YO-YO TOY

Louis Marx, New York, N. Y.

Application August 8, 1935, Serial No. 35,253

5 Claims. (Cl. 46—61)

This invention relates to toys, and more particularly to yo-yo toys.

The primary object of my invention is to generally improve yo-yo toys. A more particular object is to combine a yo-yo toy with spark producing means so that a shower of sparks is produced automatically upon rotation of the yo-yo. The reciprocation of the toy toward and away from the operator accompanied by a shower of sparks results in a brilliant effect, particularly at night.

Further and more particularized objects of my invention are to devise sparking mechanism which is simple and inexpensive; which includes flints so mounted as to be readily replaceable; which causes the flints to bear against the abrasive surfaces of the yo-yo with a light pressure or contact in order to minimize friction and to in no way impede the normal operation of the toy; and which is fully as easy and in some respects easier to operate than an ordinary yo-yo toy not equipped with sparking mechanism.

To the accomplishment of the foregoing and other objects which will hereinafter appear, my invention consists in the yo-yo and spark producing elements, and their relation one to the other, as are hereinafter more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by a drawing in which:

Fig. 1 is a side elevation of one form of sparkling yo-yo;

Fig. 2 is a partially sectioned side elevation of the same; and

Fig. 3 is a perspective view of the yoke or flint holder shown in inverted position.

Referring to the drawing the yo-yo is generally conventional in comprising a deeply centrally grooved circular or disc-like body 12 having an operating cord 14 looped in the central groove 16. Considered in another aspect, the toy comprises two circular disc-like bodies 18 and 20 connected in coaxial slightly spaced relation by a suitable hub 22. It will be understood that the operating cord 14 is simply looped on the hub 22 and is adapted to be wound and unwound in either direction during the operation of the yo-yo. Specifically, the cord 14 preferably comprises two strands twisted together, the center of the full length of the strand being simply turned about the hub 22, and the twisting of the strands serving to form the apparent single strand 14 and also serving to somewhat tighten the loop about the hub.

In accordance with my invention, the yo-yo is

provided with sparking or spark producing mechanism. As here exemplified, the bodies 18 and 20 are provided with abrasive surfaces 24 and 26 on the rims or outermost peripheries thereof. These surfaces cooperate with suitable elements 28 and 30 which are preferably made of pyrophoric metal but which may for convenience be referred to simply as flints. The flints are carried by a flint bearer 32 which is perforated at 34 to receive the operating cord 14. It will be understood that cord 14 holds the flint bearer 32 during relative rotation of the yo-yo body, thereby affording movement of the abrasive surfaces relative to the flints, with resulting sparking of the yo-yo when operated.

Considering the arrangement in greater detail, the circular bodies 18 and 20 are preferably made of sheet metal. The abrasive surfaces 24 and 26 may be constructed by cementing in place narrow strips of emery cloth or like abrasive material. However, I find it advantageous to rotate the yo-yo body and to apply cement at the bands 24 and 26, and to thereafter apply abrasive grains to the adhesive bands, as by the use of an air spray gun or the like. It will be understood that the sheet metal bodies are preferably so shaped as to provide a flat raised rim for the abrasive bands. It may also be pointed out that it is desirable that the inner face of each body be stepped outwardly in one or more rounded steps, as indicated at 36, thereby facilitating passage of the operating cord 14 into the groove 16, and also preventing rubbing of the operating cord on the abrasive surfaces which otherwise would prematurely wear out the cord.

The flint bearer 32 is in the form of a sheet metal yoke the arms 38 of which are rotatably related to the yo-yo body. In the present case the arms 38 are provided with bearing pins 40. These pins are tubular and are preliminarily expanded or collared at 42, after which they are passed through perforations in arms 38 and are riveted or flanged at 44. Arm 38 is clamped between collar 42 and flange 44. The outer walls of the rotatable bodies 18 and 20 are centrally perforated to receive pins 40, as is clearly shown in Fig. 2. The yoke is preferably made of somewhat resilient metal and may be expanded or spread when applying the same to or removing the same from the yo-yo body 12. The normal or closed position of the yoke is as shown in Fig. 2, with the bearing pins 40 received in the mating bearing holes of the yo-yo.

Perforation 34 is preferably rounded to smooth

condition in order not to wear out the operating cord 14. This may be done by adding an eyelet to the perforation or by folding the metal over and rounding the resulting folded edge.

5 The flints 28 and 30 are secured at their upper ends to flint plates 46 best shown in Fig. 3. These plates have outwardly projecting pivot lugs 48 at the ends remote from the flints. The sides of yoke 32 near the top or bend of the yoke are
10 perforated at 50 to receive the outermost lugs 48. Where, as is here the case, the flints are mounted on independent flint plates, the top of the yoke has a bearing 52 bent inwardly therefrom, this bearing being perforated to receive
15 the inner pivot lugs 48 of flint plates 46.

In order to make the flints readily replaceable when worn, I provide slots 54 cut through the sides of yoke 32 and leading to the bearing perforations 50. These slots readily pass pivot lugs
20 48 when the lugs are presented in an edgewise direction, but when the lugs are turned sideways as shown in Fig. 1 or 3, they are unable to pass through slots 54 and are locked in the bearing holes 50. When the yoke and yo-yo body 12
25 are assembled as shown in Figs. 1 and 2, the flint plates 46 are freely oscillatable and rest lightly gravitationally on the abrasive surfaces, but the permissible oscillation of the flint plates is relatively limited, and the plates cannot turn downwardly to a position in which they may fall or
30 be removed from the bearings 50. When the yoke arms are spread and the yoke removed from the yo-yo body, however, it is readily possible to tilt the flint plates downwardly (or upwardly as viewed in Fig. 3) until the plates are aligned
35 in the direction of slots 54, at which time they may be removed from the yoke. With the construction here shown, in which one central bearing hole 52 is used for both flint plates, it is
40 necessary to move both plates to the loading or unloading position so that the overlapping lugs 48 at the inner or adjacent edges of the flint plates are kept in parallel relation.

It is believed that the mode of constructing
45 and using, as well as the many advantages of my improved sparkling yo-yo, will be apparent from the foregoing detailed description thereof. The yo-yo is operated in the usual manner, it being dropped or thrown while holding the free
50 end of the operating cord, thus imparting rotation to the yo-yo body, which, when the string is unwound, continues to rotate in the same direction and then winds itself up on the operating cord. During the operation of the yo-yo, a
55 sparkling or illuminated effect is obtained which is especially attractive at night. The rotation of the yo-yo is not appreciably restrained because the flint bears against the abrasive surface with only a light gravitational pressure and is quite
60 free for self-adjusting movement. The mechanism added for producing the desired sparking is comparatively simple and inexpensive. The flints are readily accessible for replacement.

An advantage of the yoke construction here
65 disclosed is the ease with which the yoke may be removed from the yo-yo, thus restoring the rotatable body to the form of an ordinary yo-yo which may be used in the regular manner. A child playing with the yo-yo may prefer to re-
70 move the yoke during the day-time and to replace the same at night, thus using the sparkling feature only when most effective.

It will be apparent that while I have shown and described my invention in preferred forms,
75 many changes and modifications may be made

in the structures disclosed without departing from the spirit of the invention defined in the following claims.

I claim:

1. A sparkling yo-yo comprising a centrally
5 grooved circular disc-like body, an operating cord looped in said groove and adapted to be wound or unwound in either direction during operation of the toy, a relatively wide yoke member, said yoke member and body having mating
10 bearing parts for free rotation of the body within the yoke, said yoke being perforated to receive the operating cord, abrasive surfaces on the outer peripheries of the body member, and flints mounted on flint carrying arms shorter than the
15 width of the yoke member and housed within the yoke member, said arms being pivotally mounted on said yoke member and resting gravitationally on the abrasive surfaces, said operating cord serving to prevent rotation of the yoke and there-
20 by providing relative movement of the flints and abrasive surfaces to cause sparking of the yo-yo during operation.

2. A sparkling yo-yo comprising two circular
25 disc-like bodies connected in coaxial spaced relation by a hub, an operating cord looped about the hub and adapted to be wound or unwound in either direction during operation of the toy, a sheet metal yoke member, said yoke member and
30 body having mating bearing parts for free rotation of the body within the yoke, said yoke being perforated to receive the operating cord, an abrasive surface on the outer periphery of a body member, a flint secured on a sheet metal flint
35 plate having outwardly projecting pivot lugs at one end thereof, the side walls of said yoke near the edge thereof being perforated to receive the pivot lugs of said flint plate in order to pivotally support the flint in contact with the abrasive
40 surface, said flint plate being directed toward the other edge of the yoke and held in place between the yoke and the body, said walls being slotted from the outside to the perforations in such di-
45 rection that the flint plate is readily removed and replaced when the body is separated from the yoke, but cannot be removed when the body is borne by the yoke.

3. A sparkling yo-yo comprising two circular
50 disc-like bodies connected in coaxial spaced relation by a hub, an operating cord looped about the hub and adapted to be wound or unwound in either direction during operation of the toy, a sheet metal yoke member having bearing pins
55 received in bearing holes at the center of the body, said yoke being perforated to receive the operating cord, an abrasive surface on the outer periphery of a body member, a flint secured on a sheet metal flint plate having outwardly project-
60 ing pivot lugs at one end thereof, the side walls of said yoke near the top thereof being perforated and slotted from the outside to said perforations, the pivot lugs of said flint plate being detachably
65 received through said slots into said perforations in order to pivotally support the flint in contact with the abrasive surfaces.

4. A sparkling yo-yo comprising two circular
70 disc-like bodies connected in coaxial spaced relation by a hub, an operating cord looped about the hub and adapted to be wound or unwound in either direction during operation of the toy, a sheet metal yoke member having bearing pins
75 received in bearing holes at the center of the body, said yoke being perforated to receive the operating cord, abrasive surfaces on the outer periph-

eries of the body member, flints secured on sheet metal flint plates having outwardly projecting pivot lugs at one end thereof, the side walls of said yoke near the top thereof being perforated and slotted from the outside to said perforations, a central bearing lug being turned downwardly from the top wall, the pivot lugs of said flint plates being detachably received in said central and outside bearings in order to pivotally support the flints in contact with the abrasive surfaces.

5. A sparkling yo-yo comprising a centrally grooved circular disc-like body, an operating cord looped in said groove and adapted to be wound or unwound in either direction during operation of the toy, a relatively wide yoke member, said

yoke member and body having mating bearing parts for free rotation of the body within the yoke, said yoke being perforated to receive the operating cord, an abrasive surface on the outer periphery of the body member, and a flint mounted on a flint carrying arm housed within the yoke member, said arm being pivotally mounted on said yoke member and resting gravitationally on the abrasive surface, said operating cord serving to prevent rotation of the yoke and thereby providing relative movement of the flint and abrasive surface to cause sparkling of the yo-yo during operation.

LOUIS MARX. 15