Nov. 28, 1967 L. H. HAUG 3,354,770

BATON STRUCTURE

Filed Oct. 24, 1965

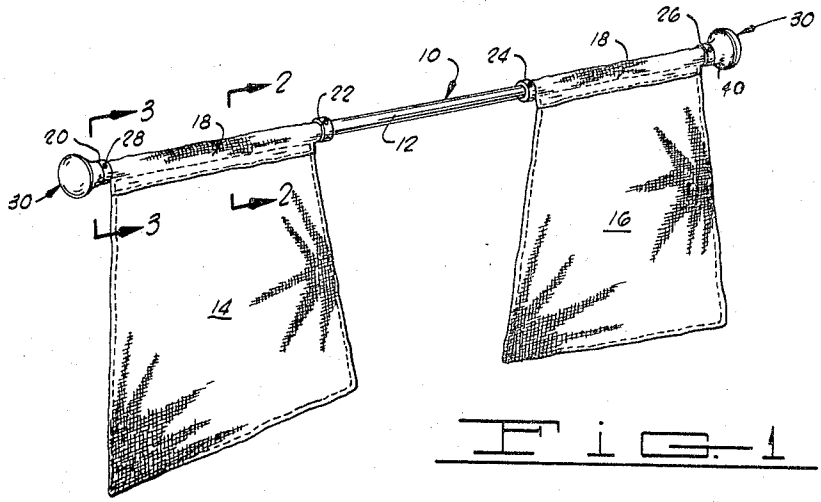
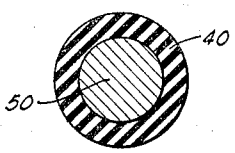


Fig. 1



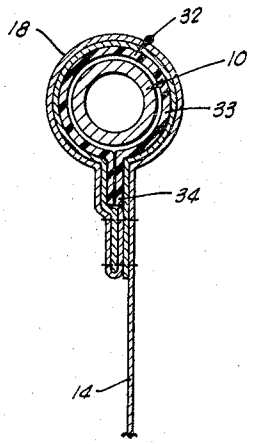


Fig. 3

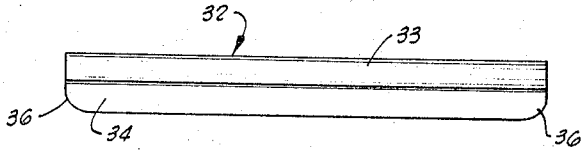


Fig. 5

Fig. 2

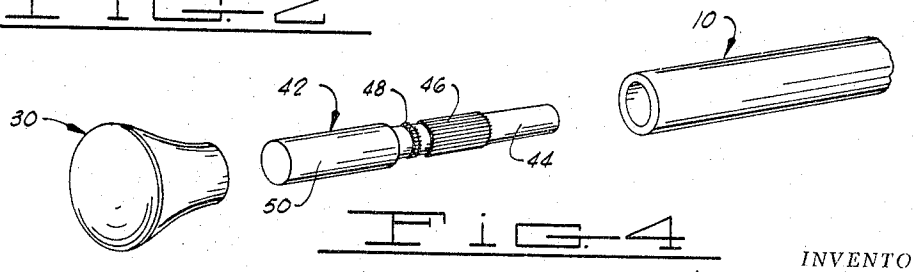


Fig. 4

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United States Patent Office 3,354,770
Patented Nov. 28, 1967

3,354,770

BATON STRUCTURE

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Filed Oct. 24, 1965, Ser. No. 504,312
5 Claims. (Cl. 84—477)

ABSTRACT OF THE DISCLOSURE

A twirling baton which has mounted at opposite ends of the elongated shaft, a pair of sleeves which are preferably constructed from synthetic resin or plastic with the sleeves loosely surrounding the shaft so that they can rotate about the longitudinal axis of the shaft. Flags are attached to these sleeves for rotation with them about the shaft, and two sets of stop collars are provided on the shaft with each set bracketing or being positioned on the opposite sides of the sleeves to restrict their longitudinal movement along the shaft. The baton carries the usual balls or resilient tips at the opposite ends thereof.

This invention relates to batons of the type used by twirlers and majorettes in various forms of entertainment activities, particularly those activities in which the twirler or majorette performs intricate manipulations of the baton with the fingers, arms and hands concurrently with a musical accompaniment.

Various types of batons have been contrived for use by twirlers or majorettes in performing before audiences either as individual performers, or to the accompaniment of a band or other musical organization. In general, batons utilized for this purpose include an elongated shaft which is usually provided with a bulb or enlarged head at one or both ends thereof and which is round in cross section, and of a diameter such that the twirler of the baton can extend the fingers around the shaft without difficulty. In addition to batons of the basic structure described, certain other modifications or embellishments have been added to the basic structure for the purpose of further enhancing the interest of spectators in the twirler's act. For example, it has been proposed to adhere spangles or other glittery, light-reflective material to certain portions of the baton so that a more striking appearance is presented as the baton is rapidly rotated. It has also been proposed to provide an inflammable material on one or both ends of the baton in order to permit these portions of the baton to be surrounded by flames during the twirling act.

The present invention provides a novel baton structure which greatly enhances the aesthetic appeal of the twirler's performance, but does not greatly increase the difficulty of performing the various twirling routines which are customarily followed by artists of this type. More specifically, the baton construction proposed by this invention has the effect of permitting the baton to be more easily viewed by the spectators, and followed in its intricate movements throughout the twirler's act. In some instances, it permits the twirling baton to appear as a bright circle or a disc of light which may be a single color or may be a multiplicity of colors.

Broadly described, the baton of the invention comprises an elongated shaft having first and second ends and having a circular cross section over at least a portion of its length which is located between the ends thereof; a first flag rotatably secured to the shaft between the center of the shaft and one end thereof for rotation about the longitudinal axis of the shaft; and a second flag spaced from the first flag and rotatably secured to the shaft between the center of the shaft and the second end

thereof for rotation about the longitudinal axis of the shaft.

More specifically described, but without being limited to such more specific description, the invention is an improved baton which comprises an elongated shaft having first and second ends and having a circular cross section over at least a portion of its length which is located between the ends of the baton. A first flag engaging means, such as a short, plastic open-ended cylinder, or a plurality of rings, is rotatably mounted on the shaft between the center of the shaft and one end thereof for free rotation about the longitudinal axis of the shaft. A second flag engaging means of similar construction to the first flag engaging means is rotatably mounted on the shaft between its center and the second end thereof, and is also constructed for free rotation about the longitudinal axis of the shaft. Finally, flags or pennants are secured by snaps, clips, a pressfit, staples or other suitable means to each of the first and second flag engaging means for rotation with the first and second flag engaging means about the longitudinal axis of the shaft.

In a preferred embodiment of the invention, the flags which are mounted for rotation about the longitudinal axis of the shaft on or near each end of the baton are attached to flanges which are carried by and project radially from a pair of plastic, lightweight cylindrical members which rotatably encircle the baton and can rotate freely about the longitudinal axis of the baton. Suitable stop means are provided at the adjacent ends of the two plastic cylinders to maintain spacing therebetween and prevent the cylinders from interfering with the fingers of the twirler during the manipulation of the baton.

From the foregoing summary description of the invention, it will have become apparent that a major object of the invention is to provide a two flag baton in which flags, pennants or other indicia carrying flexible members are located at each end of the baton and are attached to the baton in a manner such that fouling of the flags does not occur during the twirling of the baton, or in the course of any of the manipulations of the baton which may be carried out by the twirler.

Another object of the invention is to provide an improved baton which is spectacular in its utilization by a twirler, and which conveys, when it is twirled rapidly about a point located near the center of the baton shaft. the illusion of a circular or disc-shaped area of solid or mixed colors.

An additional object of the invention is to provide an improved baton which includes or incorporates a pair of flags or pennants mounted at opposite ends of the baton, which flags or pennants are mounted on the baton in a way so as to remain unfurled during the twirling performance, and so as to provide a minimum of interference with the twirler's technique.

Yet another object of the invention is to provide a baton which can be economically constructed, yet which is characterized by a long and trouble-free operating life.

In addition to the foregoing described objects and advantages, additional objects and advantages will become apparent as the following detailed description is read in conjunction with the accompanying drawings which illustrate the invention.

In the drawings:

FIGURE 1 is a perspective view of one embodiment of a baton constructed in accordance with the present invention.

FIGURE 2 is a sectional view taken along line 2—2 of FIGURE 1.

FIGURE 3 is a sectional view taken along line 3—3 of FIGURE 1.

FIGURE 4 is an exploded view illustrating certain elements of the baton as they appear prior to assembly of the baton.

FIGURE 5 is a view in elevation of a plastic sleeve used in one embodiment of the invention for rotatably mounting the flags or pennants on the shaft of the baton.

Referring now to the drawings in detail, and particularly to FIGURE 1, one embodiment of the invention is there illustrated and includes an elongated shaft designated generally by reference character **10** having first and second ends. The shaft further has a central portion **12** which is of substantially circular cross section to facilitate digital manipulation of the baton by a majorette or twirler. The baton shaft **10** can be constructed of a great variety of materials and can vary in length, but in a preferred construction, is fabricated from a tubular member of tempered steel which is chrome plated to provide an aesthetically attractive, and corrosion resistant external surface. The diameter of the shaft can vary considerably, but preferably ranges from about 7/16-inch to 9/16-inch. In the most preferred construction, the shaft is 7/16-inch in diameter. The length of the shaft is also subject to considerable variation, and can range from about 20 inches to about 35 inches, depending on the particular type of twirling which is to be accomplished with the baton, and depending also upon the age and physical size of the twirler. In a preferred construction of the baton, the shaft has a length of about 30½ inches and is extended from ¼ to 2 inches beyond this length by the use of certain weight-incorporating inserts hereinafter to be described.

Rotatably mounted on the shaft between the central portion **12** thereof, and each of the ends of the shaft are a pair of flags or pennants designated generally by reference characters **14** and **16**. It should be clearly noted at this point that the term flag as hereinafter used in describing the invention, and in the claims which are appended to the specification, is intended to encompass within its definition structures of the type generally referred to as flags, pennants, streamers, banners, and any other type of relatively flexible, substantially monoplanar members which can carry indicia or selected colors. The flags as thus defined may be constructed of various types of fabric, or may be constructed of certain types of relatively thin, flexible plastic material, or even, in some instances, may be constructed of very thin sheet metal or foil, such as sheet aluminum, which will undergo deformation during the twirling of the baton. In a preferred construction of the invention, the flags **14** and **16** are constructed of silk.

The width of the flag, as measured along the axis of the shaft **10**, is not critical except that, in every instance, it should be substantially less than one-half the length of the baton. In the embodiment of the invention illustrated, each of the flags **14** and **16** is approximately 10 to 14 inches in width. It will be noted in referring to FIGURE 1 that each of the flags **14** and **16** is hemmed around its edges and is provided with an edge portion **18** which extends transversely across the respective flag fabric and is folded back upon the fabric to form a generally cylindrical sleeve at the transverse edge portion **18**. The construction of this sleeve in the flag will be explained in greater detail hereinafter.

Spaced longitudinally along the shaft **10** of the baton are a plurality of adjustable collars **20**, **22**, **24**, and **26**. The collars **20–26** are identical in construction and each comprises a short cylindrical or tubular section which is characterized in having an inside diameter which permits it to slidably fit around the shaft **10**. Each of the collars **20–26** also is provided with a threaded, diametrically extending aperture which receives a small Allen head type screw **28** which is utilized to fix or secure the collar in a stationary position on the shaft **10**. It will be noted in referring to FIGURE 1 that the collars **20** and **22** are spaced from each other along the shaft **10** so that their positions are immediately adjacent the opposite edges of the flag **14**. The collars **20** and **22** thus function as stops

fixing the longitudinal position of the flag **14** on the shaft **12** and prevent longitudinal movement of the flag on the shaft. In similar fashion, the stops **24** and **26** are positioned adjacent the opposite side edges of the flag **16** and determine the position of this flag on the shaft **10**.

To preserve unobstructed the central portion **12** of the shaft **10** for gripping and manipulation of the baton by the twirler, the collars **22** and **24** are spaced from each other along the shaft and are positioned on opposite sides of the central portion **12**. Preferably, the spacing between the collars **22** and **24** is from about 6 to about 9 inches, and will depend, of course, upon the particular type of flags which are mounted on the baton.

Secured to each end of the shaft **10** in a manner hereinafter described are a pair of rubber ball tips **30**. The construction of the ball tips **30** is that conventionally used in the baton fabrication art. The balls **30** serve to protect the baton from damage when it is rested on a flat surface, or when it is missed by the twirler after being thrown in the air. The balls also constitute a safety factor preventing injury to the twirler or other personnel, and impart balance to the baton which facilitates its manipulation. Other conventionally used tips can be mounted on the ends of the shaft **10** in lieu of the ball tips **30** if desired.

The manner in which the flags **14** and **16** are rotatably mounted on the shaft **10** of the baton for rotation about the longitudinal axis thereof can be better understood by referring to FIGURES 2 and 5. The hollow shaft **10** is surrounded by a pair of cylindrical plastic sleeves **32** which appear in cross section as shown in FIGURE 2 and in elevation as shown in FIGURE 5. The sleeves are preferably constructed of a lightweight acetate type synthetic resin or plastic material, and are formed from a single piece of the plastic which is folded around a cylindrical mandrel having the diameter of the shaft **10** (the shaft itself could be used) and the free edges thereof then heat bounded to each other to form a radially projecting flange **34**. If desired, a suitable adhesive may be placed on the abutting surfaces of the free edges of the sheet of plastic material prior to its formation to the cross sectional configuration shown in FIGURE 2 to enhance and promote the adherence of the free edges to each other in the formation of the flange **34**. When the sleeves **32** have been constructed in the manner described, the ends of the flange **34** are beveled as indicated at **36** in FIGURE 5 to prevent the protrusion of any sharp edges which might injure the twirler or puncture the fabric of the flags.

After the plastic sleeves **32** have been formed in the manner described, the flags **14** and **16** are secured to the sleeves. This is accomplished by turning the transverse edge portion **18** of each of the flags over the cylindrical portion **33** of the sleeves **32**, and then securing this edge portion by a suitable seam or stitching to the remaining portion of the flag which it contacts after being turned back in the manner described. The flag **14** or **16** is then stapled or otherwise suitably secured to the flange portion **34** of the respective plastic sleeves so that the flag will move or turn with the sleeve when it is slidably mounted on the shaft **10**. It should be pointed out that in a preferred construction of the invention, a portion of each of the panels from which the flags **14** and **16** are constructed (which portion is adjacent the edge which is to be turned over to secure the flag to the respective sleeve **32**) is preferably lined with a semi-rigid fabric material, such as the material sold under the trade name Stay-Flex. This material is relatively stiff and has an adhesive on one side thereof which permits it to be adhered to fabric by a simple ironing process. With a small amount of this material lining the cylindrical portions **18** of the flags **14** and **16**, greater strength is given this part of each of the flags, and better conformity to the cylindrical surface of the plastic sleeves **32** is obtained.

After each of the flags **14** and **16** has been mounted on its respective plastic sleeve **32** in the manner herein-

before described, the sleeves are slidably and rotatably mounted on the shaft **10**. This is accomplished, of course, by initially placing the collars **22** and **24** in the approximate positions which they will occupy on the shaft **10**, and the sliding the plastic sleeves **32** over the opposite ends of the shaft **10** until they are in the desired position on the shaft. The collars **22** and **24** are then secured to the shaft by tightening the Allen head screws **28** until they engage and bear against the shaft. The collars **20** and **26** are then slipped over the opposite ends of the shaft and fixed in their positions adjacent the respective ends of the plastic sleeves **32**. It will be noted that the plastic sleeves **32** which carry the flags **14** and **16** are now free to rotate about the longitudinal axis of the shaft **10**, but are prevented from sliding longitudinally along the shaft by the collars **20–26**.

Each of the rubber or plastic ball tips **30** includes a hollow neck portion **40**, and the manner of mounting these balls on each of the ends of the shafts **10** is best illustrated in FIGURES 3 and 4. To provide for a desired weighting of the baton, as well as an extension in the length thereof, solid steel cylindrical inserts **42** are pressed or screwed into the opposite ends of the hollow shaft **10**. The solid cylindrical inserts **42**, though preferably constructed of steel, may also include a lead filler material if greater weight is desired. Each of the inserts **42** includes a turned-down elongated spindle portion **44** which is provided with a knurled, shank-engaging portion **46** of slightly larger diameter than the inside diameter of the shaft **10**, and a knurled shoulder **48** also of slightly larger diameter than the inside diameter of the shaft. Finally, a shank portion of from ⅛ to 1½ inches in length is provided adjacent the shoulder **48**, and has a diameter which is equal to the outside diameter of the shaft **10**. When the spindle portion **44** is inserted in the hollow open end of the shaft **10**, the solid metal insert **42** may then be driven into the shaft so that the knurled shaft engaging portion **46** and the knurled shoulder **48** bite into and frictionally engage the internal walls of the hollow shaft. The shank portion **50** is then flush with the external periphery of the shaft and provides a surface over which the collars **20–26** can be slidably removed from the shaft, and also which can be frictionally engaged by the neck portion **40** of each of the rubber balls **30**. As has been previously indicated, the function of the inserts **42** is to provide additional weight and balance to the baton, and permit the overall length of the baton to be extended if desired. A plurality of sets of the inserts may be provided with each baton with the shank portions **50** of the different sets of inserts varying in length so that a relatively short baton can be optionally constructed, or one of greater length and with different balance characteristics.

Operation of the baton

With the baton constructed in the manner hereinbefore described, it is ready for utilization by a twirler or majorette in a substantially conventional fashion. Thus, the twirler grips the shaft **10** of the baton at the central portion **12** thereof with the fingers, and, by imposing moments of force of various magnitudes on the shaft **12** on the opposite sides of the center point thereof, causes the baton to spin in rotation or twirl about the center of the shaft. This action by the twirler causes the flags **14** and **16** to stand out or be furled away from the shaft **10**. The rapidly rotating motion of the baton causes the illusion to be conveyed to a spectator of brightly colored pinwheels or discs, and by proper selection of the colors of the flags **14** and **16**, different patterns and color impressions can be conveyed. For example, the flags **14** and **16** may each be a different solid color representative of the colors of a particular college or university. The flags **14** and **16** could also each be constructed as a plurality of stripe-like streamers joined to a common base portion, with each of the streamers being of a different color so that the visible effect of the rapidly twirled baton would be a pinwheel-like blur of color changing according to the changing speed of rotation of the baton.

A very important aspect of the present invention is the non-fouling characteristic of the flags **14** and **16**. Despite the intricate manipulations of the baton by the twirler, including tossing it into the air to a considerable height while the baton is rapidly rotating, the rotational mounting of the flags on the shaft **10** permit them to always extend radially outwardly from the shaft and to swing about the shaft without becoming fouled thereon during the performance. Thus, the entire surface of the flag always remains visible to the spectators.

Although a preferred embodiment of the invention has been disclosed herein in order to provide an example of the manner in which one form of the invention can be constructed using the principles broadly described herein and underlying the invention, it will be readily apparent that many modifications and changes can be made in the described structure without departure from these principles. Thus, though plastic sleeves of a certain type have been utilized in the illustrated embodiment to rotatably mount the flags on the shaft **10**, other types of rotatably mounted structures can be utilized, provided only that the non-fouling effect is maintained, and that the flags can rotate freely about the longitudinal axis of the shaft. All such modifications and changes as are made in the structure herein depicted and described are deemed to be circumscribed by the spirit and scope of the invention except as the same may be necessarily limited by the appended claims or reasonable equivalents thereof.

I claim:

1. A baton comprising:

an elongated shaft having first and second ends and having a cylindrical central section;

a first cylindrical plastic sleeve surrounding and rotatably mounted on said shaft between the longitudinal center of said shaft and one end thereof for free rotation about the longitudinal axis of said shaft;

a second cylindrical plastic sleeve surrounding and rotatably mounted on said shaft, said second cylindrical plastic sleeve being spaced from said first cylindrical plastic sleeve and positioned between the center of said shaft and the second end thereof for free rotation about the longitudinal axis of said shaft; and

a flexible flag secured to each of said plastic sleeves for rotation therewith about the lonigtudinal axis of said shaft, each of said flags being secured along one of its edges to the respective plastic sleeve.

2. A baton comprising:

an elongated cylindrical shaft having first and second ends, and having a uniform diameter over its length;

first flag engaging means rotatably mounted on said shaft between the longitudinal center of said shaft and one end thereof for free rotation about the longitudinal axis of such shaft;

a pair of annular collars positioned on the opposite sides of said first flag engaging means and surrounding said shaft for limiting the movement of said first flag engaging means along said shaft, said collars detachably engaging said shaft so that said collars can be removed from said shaft to permit said first flag engaging means to be removed from said shaft;

second flag engaging means spaced along said shaft from said first flag engaging means and rotatably mounted on said shaft between the center of said shaft and the second end thereof for free rotation about the longitudinal axis of said shaft;

a second pair of annular collars spaced from each other along said shaft and surrounding said shaft, said collars being detachably secured to said shaft on opposite sides of said second flag engaging means for limiting the movement of said second flag engaging

means longitudinally along said shaft, and said collars being removable from said shaft to permit said second flag engaging means to be removed from said shaft;

a first flexible flag secured to said first flag engaging means for rotation therewith about the longitudinal axis of said shaft; and

a second flexible flag secured to said second flag engaging means for rotation therewith about the longitudinal axis of said shaft.

3. A baton as claimed in claim **1** wherein said shaft is tubular and said baton is further characterized to include weights inserted in each end of said tubular shaft and frictionally engaged therewith whereby said weights can be removed from said shaft.

4. A baton as claimed in claim **1** and further characterized to include a plastic flange extending radially outwardly from each of said cylindrical sleeves, and wherein said flags each include an edge portion folded around the respective plastic sleeve and secured to the remaining portion of said flag with the flange of the respective sleeve between, and secured to said edge portion and a part of said remaining portion.

5. A two-flag baton for twirling comprising:

an elongated, tubular shaft having a cylindrical central portion and a first and second end;

a first synthetic resin, generally cylindrical sleeve rotatably surrounding said shaft between said central portion and one end thereof;

a second synthetic resin, generally cylindrical sleeve

rotatably surrounding said shaft between said central portion and the second end thereof;

collars detachably secured to said shaft at the opposite ends of each of said cylindrical sleeves and limiting the longitudinal movement of the sleeves along the shaft;

weights inserted and frictionally retained in the ends of said tubular shaft and having a cylindrical shank portion projecting beyond the ends of said shaft of substantially the same outside diameter as said shaft;

ball tips pressed over the shank portions of each of said weights;

a first flag secured by an edge portion to one of said sleeves for rotation therewith about the longitudinal axis of said shaft; and

a second flag secured by an edge portion to the other of said sleeves for rotation therewith about the longitudinal axis of said shaft.

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