March 30, 1937. E. W. CRESWELL 2,075,703

TOY SPARKING PIPE

Filed June 17, 1936

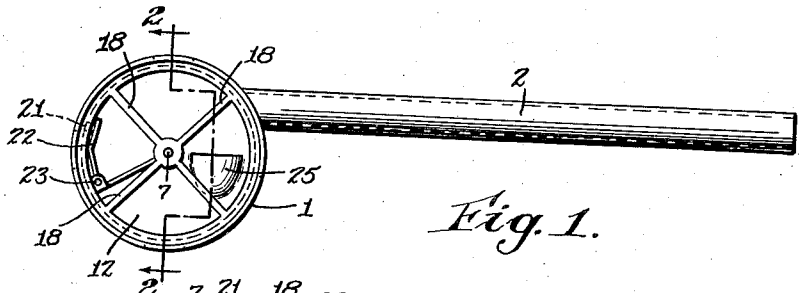


Fig. 1.

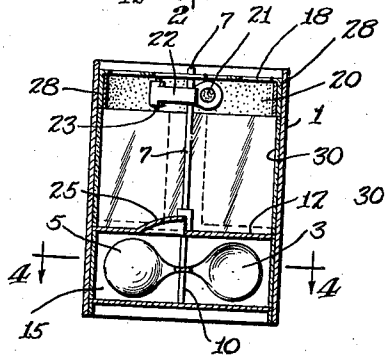


Fig. 2.

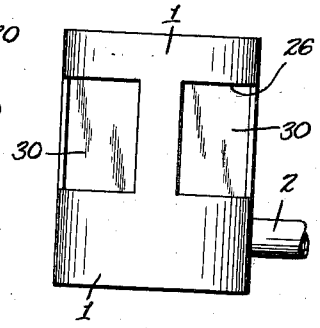


Fig. 3.

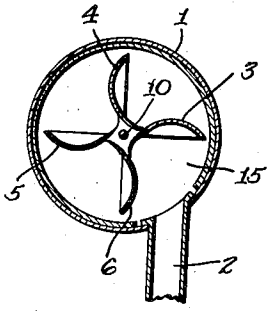


Fig. 4.

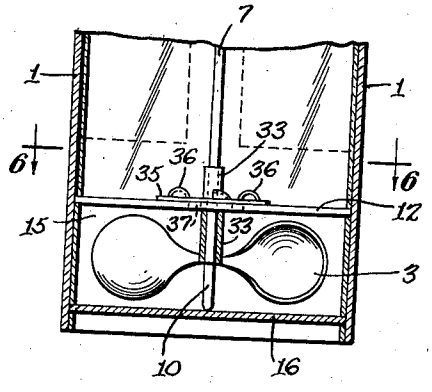


Fig. 5.

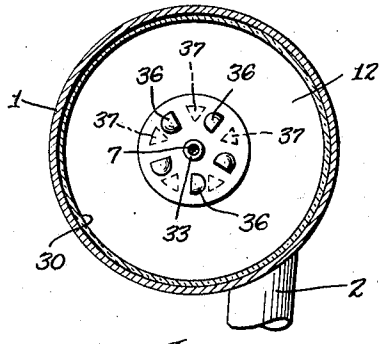


Fig. 6.

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TOY SPARKING PIPE

Everett W. Creswell, Auburn, Mass.

Application June 17, 1936, Serial No. 85,679

1 Claim. (Cl. 46—48)

My present invention is a novel and improved toy in the form of a pipe constructed and arranged to emit a series of fire-like sparks by blowing thru said pipe.

In the development of certain types of toys, games, or the like such for example as shown by my prior application Ser. Nos. 22,207, and 77,200 filed May 18, 1935 and Apr. 30, 1936, I have discovered that a toy or game wherein a sparkling effect is produced renders the same highly attractive and salable and, therefore, I have developed a sparking pipe which by simply blowing thru the normal pipe stem will produce a fire-like sparking effect and thus render the same both interesting and attractive.

In carrying out my present invention I utilize any suitable size or convenient form of pipelike apparatus comprising a bowl and a pipe stem, which may be simply a typical corncob, meerschaum, or briar pipe, or the like. I secure in the bowl portion a rotor which will readily revolve upon the user's blowing thru the pipe stem. Such rotor may be a wheel, fan, or the like; and attached thereto is a spark-creating element, or elements, such as a strip of emery paper, and a traveling plug of flint to pass over the same, relative motion therebetween being effected by the rotor.

In the present application and drawing I have illustrated a simple embodiment of my spark-creating pipe and also a modification showing the attachment of a siren-like effect, so that the blowing into the pipe will produce not only a spark but a siren simulating the siren sound of a fire engine, together with the fire-like sparks thrown out of the top of the bowl of the pipe.

Also, I may form the pipe bowl with one or more openings and with vari-colored transparencies in the openings so that a somewhat kaleidoscopic effect is obtained.

Referring to the drawing illustrating preferred forms of my invention,

Fig. 1 is a plan view of one form of my novel sparking pipe device;

Fig. 2 is a cross-sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a plan view of the bowl portion of the pipe;

Fig. 4 is a horizontal cross-sectional view on the line 4—4 of Fig. 2;

Fig. 5 is a fragmentary cross-sectional view on a slightly larger scale, illustrating both a sparking and siren effect, and

Fig. 6 is a cross-sectional view on the line 6—6 of Fig. 5.

Referring to the drawing, a typical pipe-like bowl 1 and hollow stem 2 are shown, the bowl 1 being of any suitable contour, size, or shape and simulating standard types of pipes, if desired. The hollow pipe stem 2 may also be curved or straight, as desired, and as herein illustrated I fit the pipe stem 2 at one side of the bowl 1 to produce an initial tangential blast therein to more effectually and efficiently rotate the rotor. In the present form, the rotor is illustrated as a set of fan blades 3, 4, 5, and 6 secured to a hub 7, which in turn is keyed to and supported by a rotating spindle 10. Fitted slightly above the rotors I affix a partition 12, thus forming an air chamber 15 in the base of the pipe in which the air blown thru the tube 2 will necessarily rotate the fan blades and revolve the spindle 7. The partition 12 also supplies a bearing for the spindle 10, a further point or indentation in the bottom 16 of the pipe affording a rest and bearing for the spindle; and at the top of the pipe a cross-brace of four arms, or the like 18, affords the top bearing so that the spindle 7 will revolve easily and accurately and with but slight friction, permitting relatively high speed with a simple blowing action thru the hollow stem 2.

Secured at an appropriate distance within the pipe bowl 1 I provide the spark-creating instrumentalities, which consist preferably of a simple strip of emergy or carborundum paper and a flexible arm carrying a plug of flint which is attached to the spindle 7 so that as the fan blades and the rotor revolve, the flint will be forced over the strip of emery, creating a series of sparks.

Any suitable arrangement for such flint and emery contact can be effected and provided with the emery affixed either in a vertical plane on the inside of the bowl, or affixed on a partition horizontally and with a suitable flexible arm and flint-holding attachment to cooperate therewith. In the drawing and in the present form, which seems most economical and feasible, I secure the strip of emery 20 around the interior of the bowl and attach to the spindle 7, in a position below the top cross-arms 18 and to contact with the emery 20, a flint plug 21 secured to a carrier 22 therefor, which carrier is pivotally mounted at 23 to an arm 24 secured to the spindle 7.

Thus as the spindle 7 is rotated, the pivoted carrier 22 will be thrown outwardly by centrifugal force and the flint plug 21 affords contact with

the emery strip 20 as the same revolves, thus producing the desired sparking effect which will be kept up as long as air is blown thru the pipe 2 in sufficient force or quantity to operate the fan blades 3 and rotate the spindle 7. This arrangement, with the flexible carrier, also compensates automatically for any wear in the plug 21 and emery strip 20, insuring at all times a good spark contact between these two spark-creating elements.

As air is blown thru the pipe stem 2 into the chamber 15 it is, of course, necessary to permit an exit therefrom so that there will be a flow and current of air thru, and therefore I may provide in the partition 12 an exit 25 by stamping out a recess thru a portion of the partition 12, as clearly illustrated in Figs. 1 and 2.

Also I may desire to form the bowl 1 with a plurality of openings to facilitate the sparking effect, such openings being shown at 26—26; and preferably also I cover these openings by transparent material, such for example as a cylindrical sheet of isinglass or celluloid, or the like, 30 which may be fitted within the interior of the bowl 1, thus giving a window-like effect, and of varying colors if desired. The cross-arms 18 may be fitted to the bowl in any suitable way, and as herein shown I form the same as a part of the metallic band 28 to which the emery strip 20 may be secured, and the arms 18 stamped therefrom and bent at right angles thereto, as clearly illustrated in the drawing, or in any other suitable or desirable manner.

In Figs. 5 and 6 I have illustrated a construction wherein a siren-like effect is produced during the rotation of the fan blades 3, 4, 5, and 6. This may be accomplished in various ways, but as herein shown I attach to the spindle 7 a hub 33 extending thru the partition 12. Secured to said hub in close proximity above the partition 12 is a blade 35, having thereon a plurality of openings formed by stamping out sections 36—36, these openings extending from the bottom of the blade upwardly and outwardly. A series of recesses in the line of rotation of said stamped openings 36 are formed in the partition 12, as shown at 37, which permit an exit of air blown into the chamber 15 and as the openings 36 are secured to the spindle 7 and rotate thereover, they will produce a siren-like effect when passing the openings 37 and permitting a blast of air thereby thru upwardly and outwardly therefrom thru the openings 36, as will be readily understood.

Thus I combine both a spark-creating and siren-like or signaling sound in a pipe, which will add still further to its attractiveness as a child's toy.

While I have herein illustrated and described my present invention as applied to a device simulating a pipe, it will be appreciated that I may utilize the principles hereof in other wind-blown types of toys or the like wherein the spark instrumentalities are utilized to create an attractive fire-like effect; and I therefore wish to claim these various and novel features herein broadly.

I claim:

A spark-creating pipe of the kind described comprising a pipe bowl, a hollow pipe stem communicating with the lower portion of said bowl positioned to deliver an air blast tangentially within said pipe bowl, fan blades within the pipe bowl, a partition confining said fan blades in an air chamber adjacent the pipe-stem delivery position, means permitting exit of air from said chamber during the rotation of the fan blades, and spark-creating devices within the bowl actuated by the rotation of the fan blades.

EVERETT W. CRESWELL.