

Dec. 2, 1969

C. MEYER

3,481,069

TOY BLOWING INSTRUMENT

Filed Nov. 7, 1966

2 Sheets-Sheet 1

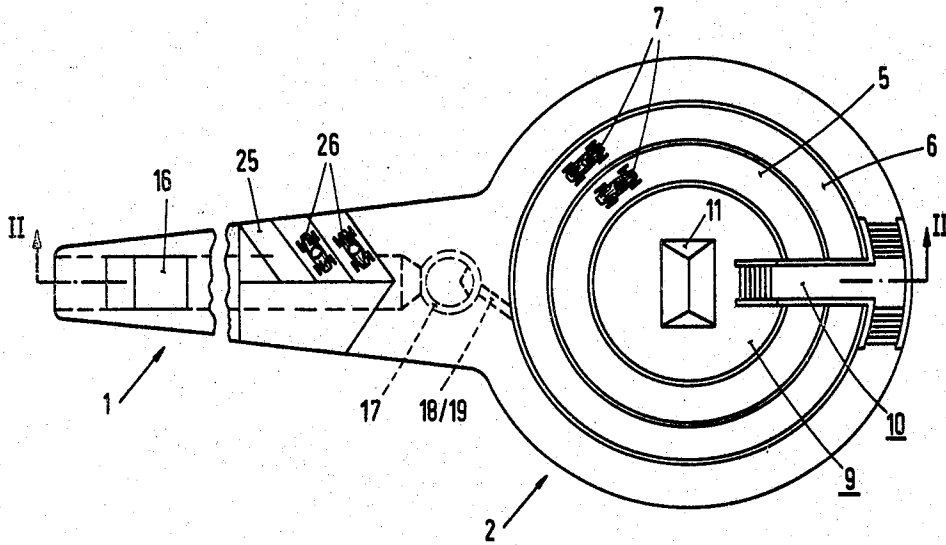


FIG. 1

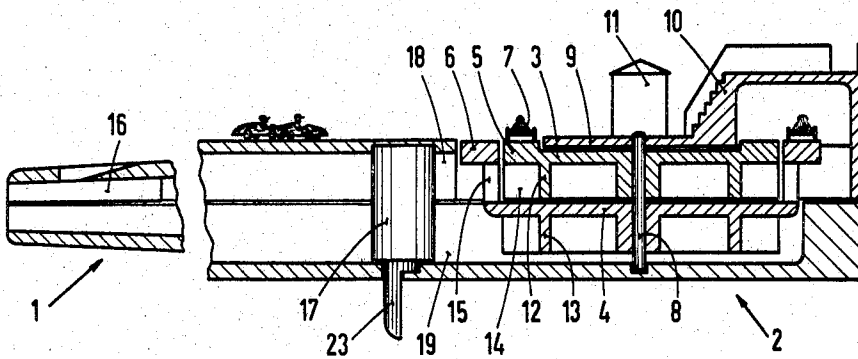


FIG. 2

INVENTOR
Christian Meyer
BY
Harwood, Dickey & Ponce
ATTORNEYS

Dec. 2, 1969

C. MEYER

3,481,069

TOY BLOWING INSTRUMENT

Filed Nov. 7, 1966

2 Sheets-Sheet 2

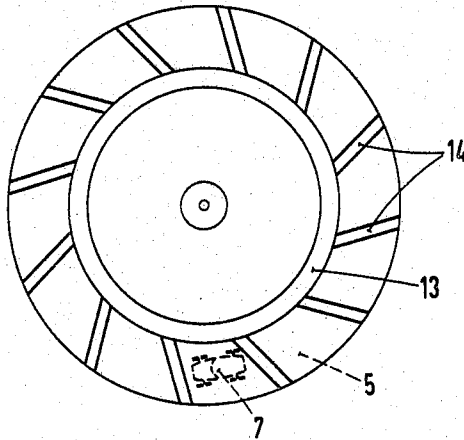


FIG. 3

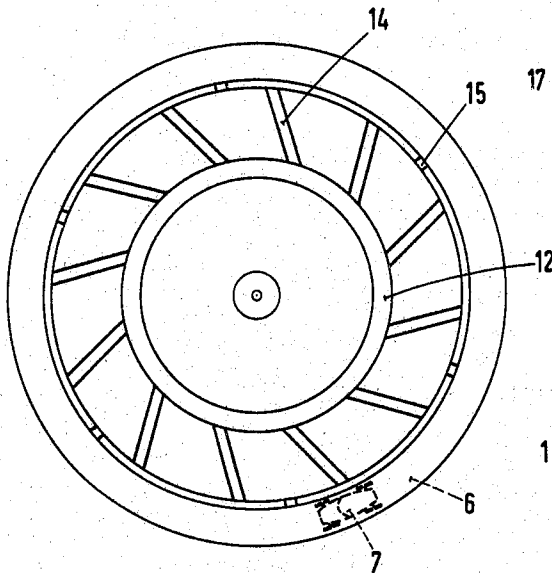


FIG. 4

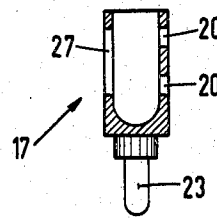


FIG. 5

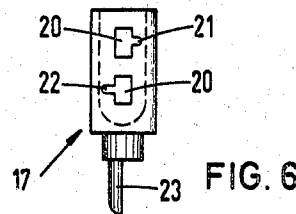


FIG. 6

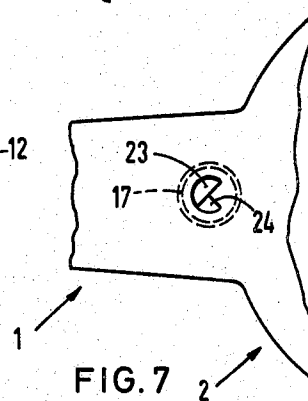


FIG. 7

INVENTOR

Christian Meyer

BY

Harness, Dickey & Pierce
ATTORNEYS

1

2

3,481,069

TOY BLOWING INSTRUMENT

Christian Meyer, Nuremberg, Germany, assignor to
Leonhard Hoffer, Furth, Bavaria, Germany

Filed Nov. 7, 1966, Ser. No. 592,668

Claims priority, application Germany, Jan. 15, 1966,

H 54,270

Int. Cl. A63h 29/16

U.S. Cl. 46-44

7 Claims

ABSTRACT OF THE DISCLOSURE

A toy blowing instrument having a plurality of turbine wheels that simulate runways of a race track and upon which small toy vehicles are mounted. A control valve is provided that permits adjustment of the relative speeds of the turbine wheels so that a race between the toy vehicles mounted on the turbine wheels may be effected by the user.

The present invention relates to toys, and more particularly to a toy blowing instrument which is provided with an air-driven turbine, the turbine wheel of which carries toy figures.

Prior to this invention, I have disclosed a similar toy which comprises a blowing tube which is provided at one end with a mouthpiece and carries on its other end a turbine. The wheel of this turbine is disposed horizontally and carries on its upper side a covering disk which is freely accessible from above and carries a plurality of toy vehicles. When air is blown through the tube against the turbine, the latter is set into rotation and the covering disk and the toy vehicles thereon are then driven in a circular direction. At the same time, a whistling sound is produced by a whistling nozzle which is provided on the blowing tube.

It is an object of the present invention to provide a toy blowing instrument of the type as above described in which several toy vehicles or figures are movable along at least two circular tracks at different speeds either in the same direction or in opposite directions. This toy blowing instrument has the advantage over the one-track instrument as above described that it is much more interesting and amusing and therefore of greater practical and commercial value.

For attaining this object, the invention provides the toy blowing instrument with at least two turbine wheels which are freely rotatable and extend coaxially to each other. On their upper sides these turbine wheels carry covering disks or rings on which any desired toy figures may be placed. The turbine wheels may be either in the form of axial or radial turbines and be rotatable either in the same direction or in opposite directions.

A preferred feature of the invention consists in providing separate air ducts for blowing the air against the different turbine wheels. Another feature of the invention consists in providing a rotary control valve for dividing the volume of the air current which is blown into the mouthpiece of the instrument and for distributing different volumes of air to the different turbine wheels. This control valve preferably comprises a hollow cylindrical valve member which is provided at one side facing the air inlet channel of the mouthpiece with a longitudinal inlet slot and at the opposite side with outlet openings leading to the separate air ducts for the different turbine wheels. When the valve member is turned, the volume of air flowing to one turbine wheel may be increased, while that flowing to the other wheel will be reduced. In this manner it is possible to vary the speeds of the two turbine wheels at will relatively to each other. If the two wheels

are provided with upper surfaces forming concentric runways simulating a racetrack on which small toy vehicles in the form of race cars are mounted, the operator of the toy instrument may carry out a race between several cars by manipulating the control valve while blowing into the mouthpiece.

The turbine wheels which are disposed above each other are preferably separated from each other by covering disks so that the individual wheels cannot interfere with each other. These separating covering disks may be rigidly secured to the housing or, more simply, they may be provided on the upper side of one turbine wheel.

The above-mentioned as well as further features and advantages of the present invention will become more clearly apparent from the following detailed description thereof which is to be read with reference to the accompanying drawings, in which:

FIGURE 1 shows a top view of a blowing instrument according to the invention;

FIGURE 2 shows a longitudinal section which is taken along the line II-II of FIGURE 1;

FIGURES 3 and 4 show bottom views of the two turbine wheels;

FIGURES 5 and 6 show, respectively, a longitudinal section and a side view of the rotary control valve for distributing the blown air to the two turbine wheels; while

FIGURE 7 shows a bottom view of the control valve with stops for limiting its rotary movement.

As illustrated in FIGURES 1 and 2, the blowing instrument according to the invention comprises a tubular pipe stem 1, the rear end of which forms a mouthpiece, while this other end merges into a circular cup-shaped part 2 which forms a housing for two turbine wheels 3 and 4 which are disposed coaxially one above the other and which carry circular tracks 5 and 6 simulating individual runways. The tracks 5 and 6 are located adjacent to each other and within the same plane and carry simulated race cars affixed thereto as by gluing.

The two turbine wheels 3 and 4 are freely rotatable on a vertical shaft 8. The lower end of this shaft 8 is rotatably mounted in the bottom of the cup-shaped part 2. The upper end of shaft 8 is journaled in a supporting disk 9 which is connected to the turbine housing by a bridge-shaped part 10 which is provided with stairs. The supporting disk 9 carries a small toy building 11.

The turbine wheels 3 and 4 are provided in the form of flat disks with rings 12 and 13 projecting from their lower sides. The rings 12 and 13 carry turbine blades 14 that extend outwardly therefrom in a substantially tangential direction. On its outer peripheral side, the lower turbine wheel 4 is in addition provided with upwardly projecting connecting webs 15 which carry the outer track or runway 6.

Adjacent to its rear end which serves as a mouthpiece the tubular stem 1 is provided with a whistle 16 through which a small part of the air blown into the mouthpiece escapes with a whistling sound. The main part of this air, however, flows in the direction toward the turbine wheels 3 and 4 so as to propel the same.

The turbine wheels may be driven independently of each other by conducting the air thereto through separate ducts 18 and 19. In front of these ducts 18 and 19 a rotary control valve consisting of a valve member 17 is provided which serves for controlling the air current and for selectively distributing it to the two turbine wheels. This valve member 17 consists of a hollow cylinder, the wall of which is provided with a longitudinal inlet slot 27 and opposite thereto with two outlet openings 20 one above the other. The air is then blown through the main inlet channel in the stem 1 and flows

3

through the slot 27 and the two outlet openings 20 to the turbine wheels. The walls of the outlet openings 20 are provided with recesses 21 and 22 which extend in opposite directions to each other. Depending upon the position to which the valve member 17 is turned, the position of the openings 20 together with the recesses 21 and 22 will be changed relative to the air ducts 18 and 19, and a smaller or larger air current will then pass through the two air ducts 18 and 19. The air which is blown into the mouthpiece may thus be distributed at any desired ratio to the two turbine wheels so as to drive them at the same speed or at different speeds.

The shaft 23 of the valve member 17 is flattened on one side and projects downwardly through an opening in the wall of the housing which has a sector-shaped projection 24, the radial edges of which form stops for limiting the extent of the rotation of the valve member 17.

The pipe stem 1 is further provided on its upper side with a flat surface 25 upon which additional vehicles 26 may be placed and affixed as by gluing.

Having thus fully disclosed my invention, what I claim is:

1. A toy blowing instrument comprising a housing having a supporting portion and a tubular mouthpiece extending substantially perpendicularly to said supporting portion for viewing of the upper surface of said supporting portion by a user, a plurality of turbine wheels supported upon said supporting portion for rotation independently of each other, said turbine wheels having means thereon disposed in a path of air flow for rotation of said turbine wheels upon the user's blowing into said mouthpiece, said turbine wheels being supported for rotation about an axis adapted to be disposed in a substantially vertical direction when in use and having portions thereon simulating separate track raceways and disposed for observation by a user when blowing into said tubular mouthpiece, and toys mounted on each of said raceways for simulating a race when a user blows into said tubular mouthpiece.

2. A toy blowing instrument as defined in claim 6 in which said tubular member contains separate air ducts each leading to a respective one of the turbine wheels.

3. A toy blowing instrument as defined in claim 1 wherein the portions of the turbine wheels disposed for observation lie in a common plane.

4

4. A toy blowing instrument as defined in claim 3 wherein the toys affixed to said portions of the turbine wheels simulate vehicles.

5. A toy blowing instrument as defined in claim 6, further comprising at least one separating plate intermediate each adjacent pair of said turbine wheels for separating the turbine blades of said wheels from each other.

6. A toy blowing instrument comprising a housing, a plurality of turbine wheels having turbine means thereon and mounted coaxially in said housing and freely rotatable relative to each other, toys affixed to each of said turbine wheels, a tubular member connected to said housing and having a mouthpiece at one end thereof for blowing air against said turbine means of said turbine wheels for rotating said turbine wheels, a control valve in said tubular member disposed in the path of air flow therethrough, and separate air ducts each leading from said control valve to a respective one of said turbine wheels, said control valve being adapted to be adjusted for distributing the air blowing through said tubular mouthpiece at different strengths to said turbine wheels for varying their relative speeds of rotation and for simulating a race between said toys when the user blows through said mouthpiece.

7. A toy blowing instrument as defined in claim 6, in which said control valve comprises a hollow cylindrical valve member having a longitudinal inlet slot at one side communicating with said mouthpiece and several outlet openings at the opposite side and communicating with said air ducts leading to the different turbine wheels, said outlet openings being at least partly angularly offset relative to each other.

References Cited

UNITED STATES PATENTS

627,019	6/1899	Streubel	-----	137—625.47	XR
1,407,621	2/1922	Ananian	-----	46—56	
2,588,038	3/1952	Pagenhardt	-----	46—44	

LOUIS G. MANCENE, Primary Examiner

H. DINITZ, Assistant Examiner

U.S. Cl. X.R.

46—53, 56, 58; 273—86