(No Model.)

C. D. ROGERS.

MUSICAL TOY.

No. 376,611. Patented Jan. 17, 1888.

FIG. 1.

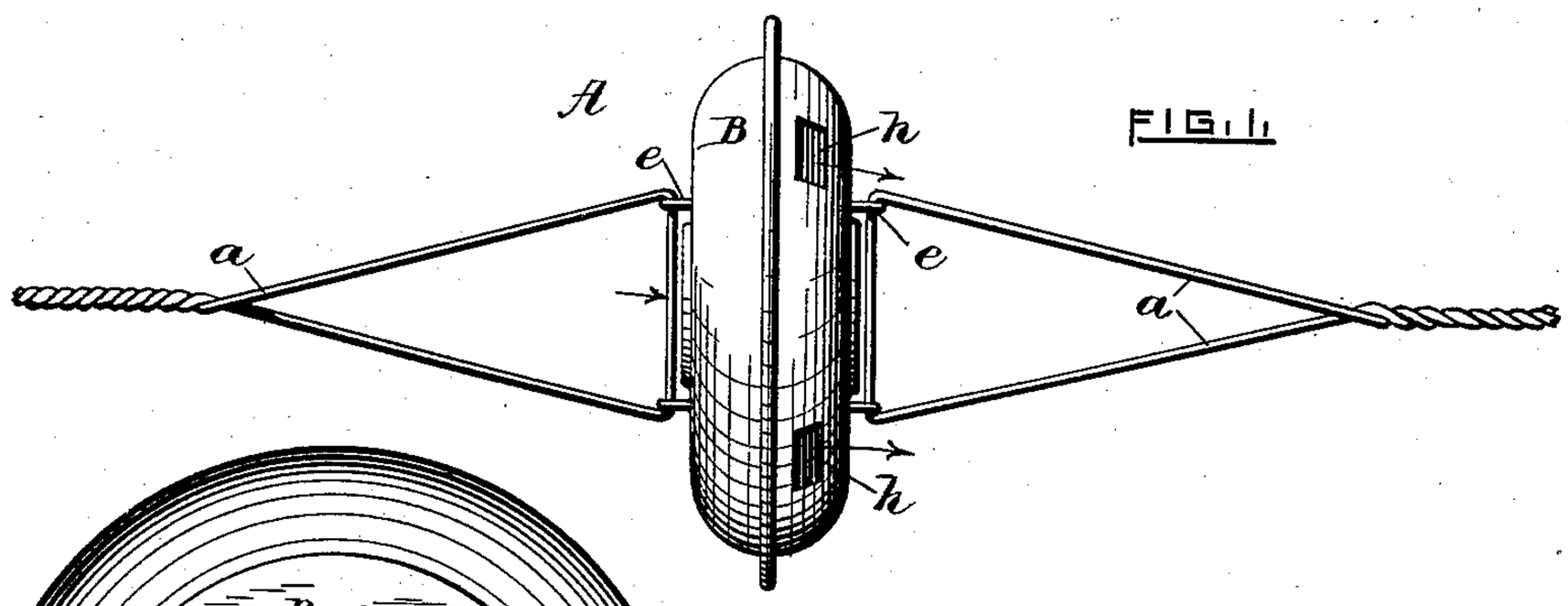


FIG. 3.

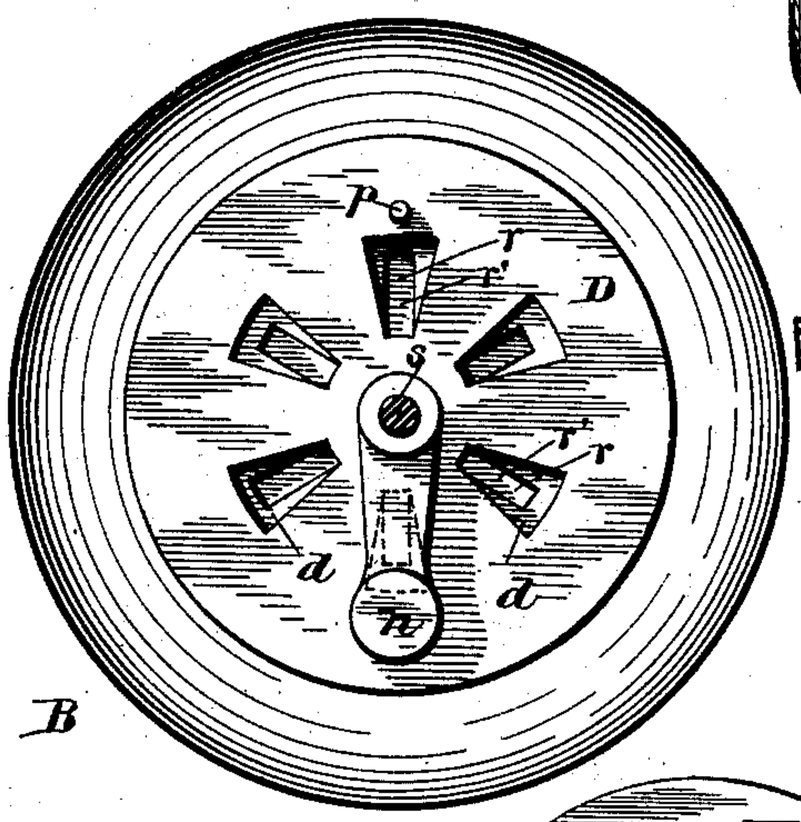


FIG. 2.

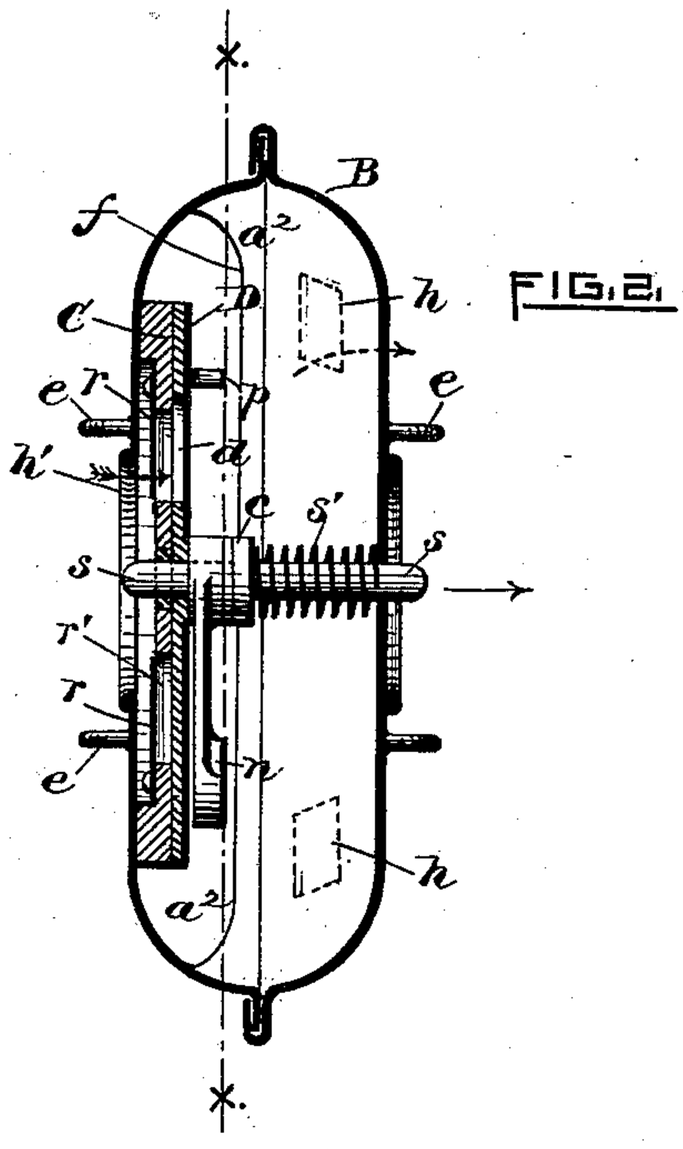


FIG. 4.

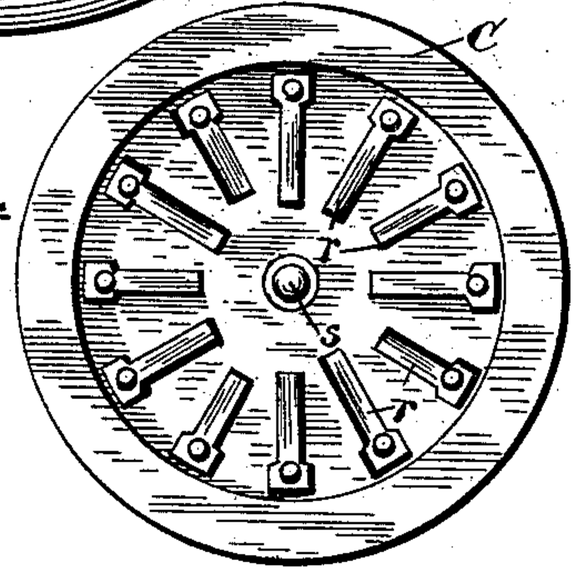
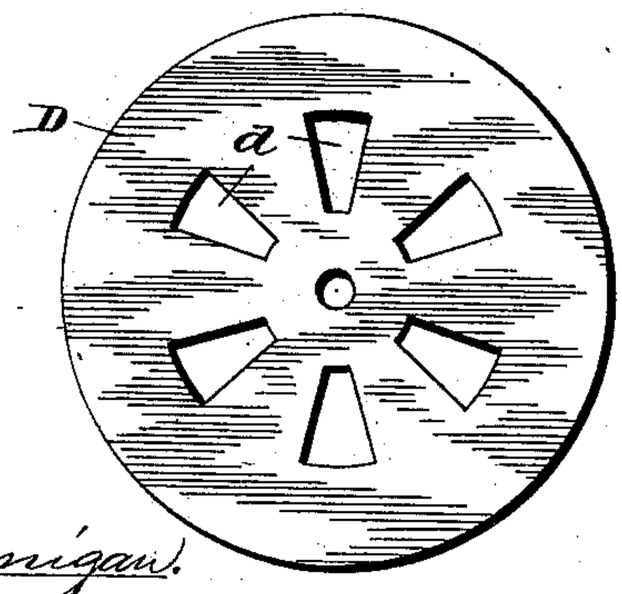


FIG. 5.



WITNESSES.

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MUSICAL TOY.

SPECIFICATION forming part of Letters Patent No. 376,611, dated January 17, 1888.

Application filed November 5, 1887. Serial No. 254,384. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. ROGERS, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Musical Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of toys which are rapidly revolved by the alternate tension and relaxation of a cord or cords secured to a disk. Such toys in alternately revolving emit a buzzing sound, from which fact the term "buzz" is obviously applied to them to distinguish them from tops or other toys which on being spun rotate or gyrate rapidly in one direction.

The object of my invention is to provide a toy of the buzz class with means whereby in alternately rotating it will emit or send forth a musical sound, the volume and quality of which is automatically varied by the action of the toy itself, all as will be more fully hereinafter set forth and claimed.

In the accompanying sheet of drawings, illustrating my improved toy, Figure 1 represents a perspective view thereof complete. Fig. 2 is a sectional view taken through the center, the spindle and some of the contiguous parts being in elevation. Fig. 3 is a transverse sectional view taken on line *x x* of Fig. 2, showing the loosely-mounted apertured disk and a loosely-mounted weight, the latter adapted by centrifugal force to engage a pin and thus change the relative position of the disk to the stationary reed-carrying disk. Fig. 4 is a front view of the reed-carrying disk, and Fig. 5 is a similar view of the apertured disk.

The following is a detailed description of my improved buzz and the manner of its operation.

A, referring to the drawings, designates the buzz as a whole, complete, and as shown in Fig. 1.

B designates the shell or body portion of the toy, the same consisting of two sides, each being made of sheet metal spun out or otherwise made to a cup-shaped form, the parts being secured together and forming a chamber, a^2. One of the sides is provided with a series of exit-openings, *h*, through which a current of air may escape. The other or opposite side is provided with an enlarged central opening, *h'*, into which the said air enters, and after passing through the reeds, &c., about to be described, escapes through said openings *h*. A pair of eyes or hooks, *e*, is secured to each face of the shell, the same serving to receive the operating-cords, as shown in Fig. 1.

C indicates the reed-carrying plate or disk, the same being provided with a series of "reeds," *r*, so called, which may be of ordinary construction. The reeds may be of varying lengths, thereby adapting them to produce notes of different pitch or tone. The disk C is secured to the inner face of the shell adjacent to the opening *h'* and centrally therewith.

A spindle, *s*, is loosely mounted through the axis of the shell B, one end thereof bearing in the shell and the other end being supported by and journaled in the center of the reed-plate C, as clearly shown in Fig. 2. A collar, *c*, is formed on the spindle intermediate of its ends. At the back of the fixed plate C a disk or circular plate, D, is loosely mounted upon the spindle *s*. In this plate are a number of openings, *d*, which are arranged to coincide with the reeds *r*, before described. The number, as well as the size, of these openings may be more or less than those formed in the reed-plate. By means of this construction a combination of musical sounds may be emitted from the toy.

Between the back of the loose disk D and the face of the collar *c* a weighted arm, *n*, is loosely mounted upon the spindle. By means of this arm, in connection with a pin, *p*, secured to the back of the loose disk, the latter is turned more or less on its axis, according to the amount of centrifugal force imparted to the arm by the rotation of the shell B. A spring, *s'*, surrounding the spindle and lying between the shell and collar *c*, serves to maintain the apertured disk D in normal contact with the adjacent face of the reed-plate.

The operation is substantially as follows: The ends of the cords *a a* are first grasped by the hands of the operator and the shell B rotated in the well-known manner employed in

operating a buzz until the necessary twist or torsion of the cords is attained. Now, upon gradually separating the hands (at the same time maintaining considerable tension) the shell correspondingly revolves in a reverse direction to that of the twisted cords, the speed rapidly accelerating until the twist is taken from them and they resume their normal length. At this instant the momentum of the revolving shell causes the cords to again twist, but in an opposite direction, until it stops, the hands being drawn together corresponding to the shortening of the cords. Upon again separating the hands the shell is caused to revolve as before, but in a reverse direction, the cords untwisting and then retwisting in unison with the speed of rotation of the shell, the operation being continuously repeated at will. During the before-described movement of the shell B air is drawn into the shell through the central opening, *h'*, and thence, passing through the uncovered reeds, escapes through the peripheral openings *h*, thereby producing and emitting a musical sound or series of sounds corresponding to the pitch of the reeds.

The quality of the sound is automatically controlled by the action of the weight *n* as it engages and actuates the disk D through the medium of the pin *p*. As soon as the speed slackens somewhat, or, in other words, when the centrifugal force does not exceed the weight of the arm, the latter instantly resumes its normal position by gravity, the shell revolving around it and the disk D until the acceleration of the shell again exceeds or overcomes the force of gravity, when the arm rotates, (more or less,) carrying with it the loose disk, and thus uncovers another series of reeds, the operation being repeated during each operation of twisting and untwisting the cords. As the said operations or impulses are somewhat irregular, so, also, are the sounds emitted, the result being a constantly-varying volume of musical sounds or harmonies.

A thin fixed web or partition, *f*, Fig. 2, extends across the chamber a^2. The front edge of said web, which meets the inflowing air, is cut back sufficiently to permit the weighted arm *n* to swing without striking it. By means of the introduction of said partition the air in its passage through the shell is prevented from forming eddies, which latter seriously affects the volume of emitted sound.

I would add that by the use of the loose disk D, and without the weighted arm, the former (being nearly or quite balanced) is without means for positively effecting a change in its relation to the reeds. The action of the air in passing through the toy serves to keep the disk in close contact with the reed-disk. By the addition of the loosely-mounted unbalanced arm *n*, however, the latter acts in connection with the pin *p*, secured to the disk, to axially rotate the disk, thereby, obviously, changing the relative position of the disk-openings and those of the reed-disk when the toy is in operation.

I do not claim, broadly, a toy provided with means adapted to emit a musical sound while revolving.

I claim as my invention—

1. A toy of the buzz type having an apertured shell, a series of fixed reeds, a loosely-mounted apertured disk, a loosely-mounted unbalanced arm adapted to engage said disk, and a fixed partition, as *f*, the whole constructed and arranged whereby during the rotation of the buzz the relation of the disk-openings to the reeds is automatically changed, substantially as hereinbefore described.

2. A toy of the class hereinbefore described having an apertured shell, a perforated plate secured to the shell, a series of reeds mounted on said plate, a loosely-mounted disk provided with openings arranged to coincide with the reeds, a weighted arm adapted to change the position of said disk, a center spindle on which the arm, disk, &c., are mounted, and means for rotating the shell, substantially as set forth.

3. The combination, with an apertured shell having a series of reeds mounted and arranged therein, of a loosely-mounted apertured disk having a pin, as *p*, a loosely-mounted arm adapted to engage said pin, and a center spindle having a collar and spring and carrying said disk and arm, substantially as hereinbefore described, and for the purpose specified.

In testimony whereof I have affixed my signature in presence of two witnesses.

CHARLES D. ROGERS.

Witnesses:
CHARLES HANNIGAN,
GEO. H. REMINGTON.