(No Model.)

R. RICHARDSON.

MUSICAL TOP.

No. 347,199. Patented Aug. 10, 1886.

Fig. 1

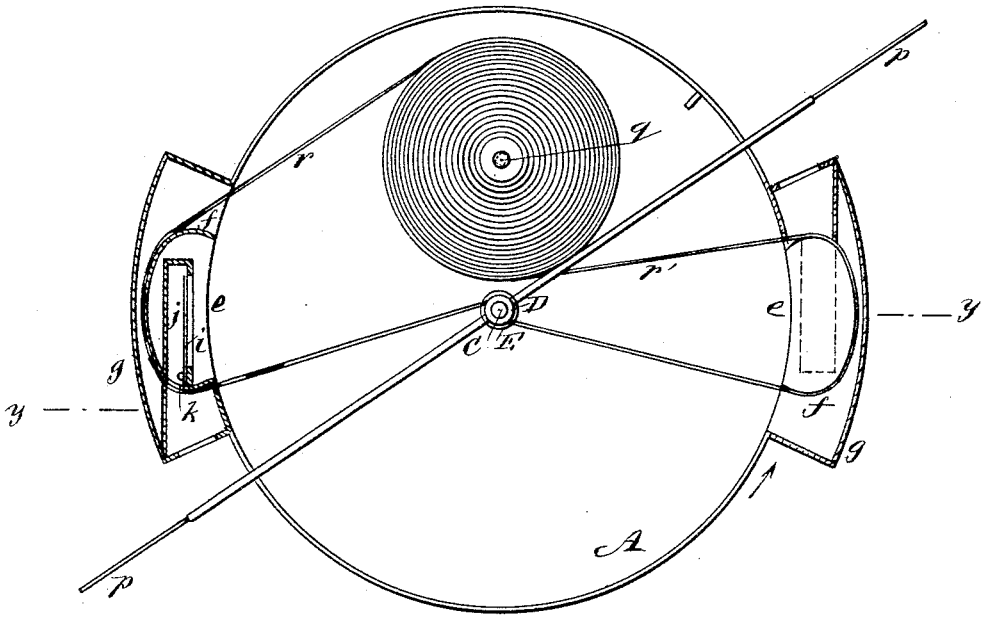
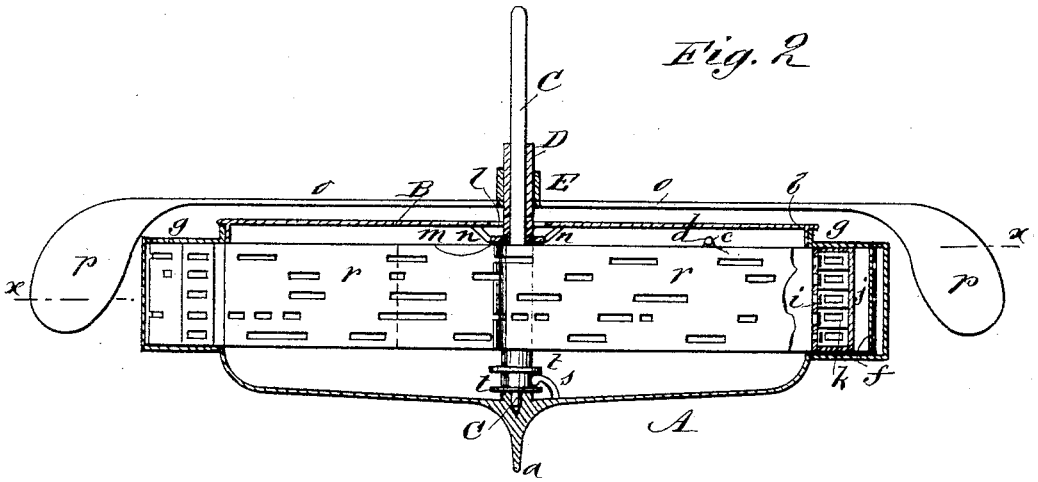


Fig. 2



WITNESSES:

C. Neveux

E. Sedgwick

INVENTOR:

R. Richardson

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT RICHARDSON, OF DETROIT, MICHIGAN.

MUSICAL TOP.

SPECIFICATION forming part of Letters Patent No. 347,199, dated August 10, 1886.

Application filed January 18, 1886. Serial No. 189,752. (No model.)

To all whom it may concern:

Be it known that I, ROBERT RICHARDSON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Musical Tops, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a sectional plan view taken on line *x x* in Fig. 2. Fig. 2 is a vertical transverse section taken on line *y y* in Fig. 1.

Similar letters of reference indicate corresponding parts in the different figures of the drawings.

The object of my invention is to construct a top in which the rotary motion of the top will move perforated music-paper across the apertures of one or more reed-organs similar to the ordinary mouth-organs, the rotary motion of the top gathering sufficient air to operate the reeds of the organs.

My invention consists in a hollow top-body provided at diametrically-opposite sides thereof with reed-plates contained within a curved paper-guide, and arranged to be operated by wind gathered by the rotation of the top, one or more perforated paper strips surrounding the organs wound upon a drum carried by the top, and arranged to be unwound from the drum by a sleeve on a spindle of the top, whose motion is retarded by fans while the paper is carried around the spindle by the rotation of the top.

The cylindrical casing A is provided at the bottom with a point, *a*, upon which the top rotates, and at the top with a cover, B, provided with a rim, *b*, fitting into the body of the top, and having a notch, *c*, for receiving a pin, *d*, projecting inwardly from the wall of the body, to cause the cover to register with the body.

In diametrically-opposite sides of the body A are formed apertures *e*, over which are placed the curved paper-guides *f*, which are inclosed by the chambers *g*. The ends of the chambers *g* are open in the direction of the rotation of the body A of the top, and within the paper-guides *f* are placed the reed-plates *i*, which are inclosed by the reed-board *j*. The outer side of the reed-board *j* extends to the corner of the chamber *g*, at the outside of the opening thereof, and between the outer wall of the chamber *g* and the reed-plate *i* there is an opening, *k*, in the paper-guide *f*, which allows the wind entering the chamber *g* to pass into the reed-board *j*, thence through the reeds into the body of the top.

In the center of the cover B is formed an aperture, *l*, below which is supported a plate, *m*, by arms *n*, thus providing an escape for the air entering the top through the reeds.

In the center of the body A of the top is journaled a spindle, C, upon which is placed a sleeve, D, and the sleeve D is journaled in the plate *m*, secured to the cover. Upon the sleeve D, outside of the cover B, is placed a sleeve, E, carrying arms *o*, to the ends of which, beyond the periphery of the body A, are secured wings *p*.

Within the body of the top, and at one side of the spindle C, is journaled a spindle, *q*, around which are wound the perforated music-paper strips *r r'*. These strips pass in opposite directions around the paper-guides *f* in the chambers *g* and return to the sleeve D, to which they are both secured by means of gum or otherwise.

I have preferably arranged the reed-plates *j* so that the two plates will represent all of the notes of the organ, and each of the paper-strips *r r'* carry one-half of the tune.

The top is spun by winding the cord upon the sleeves E D and spindle C, beginning upon the sleeve E and unwinding the cord quickly in the usual way. When the top is in motion, the forward ends of the chambers *g* gather air, which is forced through the reed-plates whenever the openings of the perforated paper strips *r r'* are opposite the openings of the reed-board *j*. The motion of the sleeve D being retarded by the wings *p*, the more rapid movement of the body of the top A causes the paper strips *r r'* to be wound upon the sleeve D and unwound from the spindle *q*, and in their passage from the spindle *q* to the sleeve D around the paper guides *f* they act as valves to the openings of the reed-board *j* and admit air to the reed required to produce the desired note. After the paper strips have been entirely unwound from the spindle *q* and wound upon the sleeve D they may be rewound upon the spindle *q* by means of an ordinary key in-

serted into the spindle *q* or placed upon it. The wings *p* will offer sufficient resistance to the unwinding of the strips upon the sleeve D to cause the paper strips to be wound tightly upon the spindle *q*.

When it is desired to change the tune of the top, the sleeve E is removed from the sleeve D, when the cover B may be taken from the body of the top, and the spindle *q* with the paper strips wound thereon may be removed and replaced by another spindle carrying a different pair of paper strips, and the strips will be passed around the paper-guides *f* and secured to the sleeve D in the manner already described.

To retain the sleeve D in its place in the top while the paper is being rewound on the spindle *q*, an arm, *s*, projects from the bottom of the body A between two flanges, *t*, formed on the lower end of the sleeve D. This arrangement admits of turning the sleeve, while the arm *s* prevents the sleeve from getting out of place.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a musical top, the combination, with the body A, of chambers *g*, formed on opposite sides of the body, paper-guides *f*, reed-plates *i*, reed-board *j*, the perforated paper strips *r r'*, and means for moving the paper strips over the apertures of the reed-board, substantially as herein shown and described.

2. In a musical top, the combination of the body A, having the removable cover B, and provided with openings *e* in opposite sides thereof, the paper-guides *f*, chambers *g*, the reed-plate *i*, reed-board *j*, the spindle *q*, paper strips *r r'*, the sleeve D, and the wings *p*, substantially as herein shown and described.

3. In a musical top, the combination, with the body of the top, of one or more sets of reeds, one or more perforated strips arranged to admit the air to the reeds, a sleeve located axially in the body of the top, and wings connected with the sleeve and arranged to retard the rotation of the sleeve while the paper is wound thereon by the forward movement of the top, substantially as herein specified.

ROBERT RICHARDSON.

Witnesses:
F. X. MERCIES,
P. CHAREST.