No. 746,609. PATENTED DEC. 8, 1903.

P. VOGEL.

SPEAKING APPARATUS.

APPLICATION FILED MAR. 19, 1903.

NO MODEL.

Fig. 1.

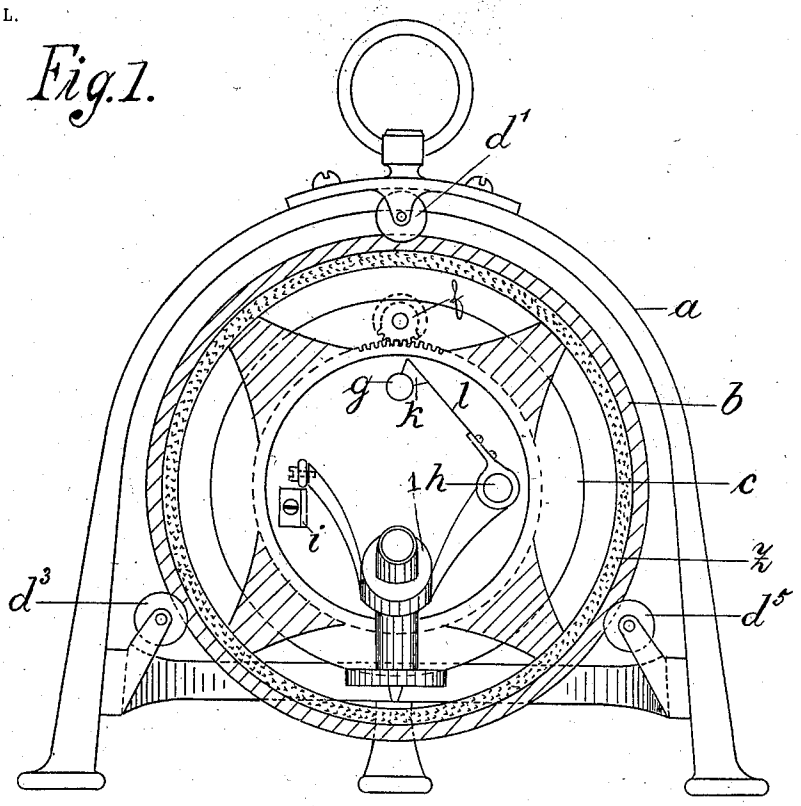
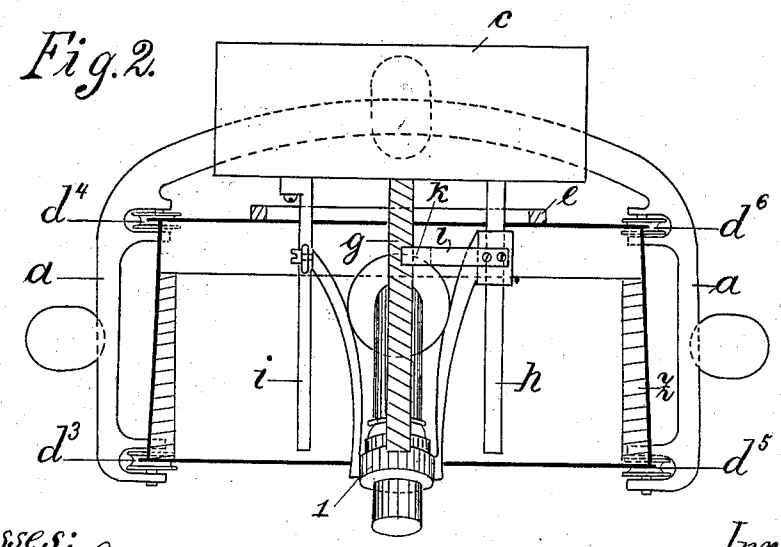


Fig. 2.



Witnesses:
Helen Louise McElhone
W. M. Kuehne

Inventor:
Paul Vogel
By Richards
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 746,609. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

PAUL VOGEL, OF BERLIN, GERMANY.

SPEAKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 746,609, dated December 8, 1903.

Application filed March 19, 1903. Serial No. 148,638. (No model.)

To all whom it may concern:

Be it known that I, PAUL VOGEL, a subject of the Emperor of Germany, residing at Berlin, Germany, have invented certain new and useful Improvements in Speaking Apparatus, of which the following is a specification.

My invention relates to speaking apparatus in which the sound-waves are engraved in the usual manner of phonographs, but on the inner side of the hollow body or record-cylinder.

The device is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the device. Fig. 2 is a plan showing a section of the roller space.

In the drawings, *a* is the stand, *b* the drum for carrying the body or record-cylinder, and *c* the clockwork for driving the device, *z* being the record-cylinder or body containing the sound-waves.

The reference-letters d' to d^6 represent grooved rollers suitably attached to the stand *a* and which are adapted to carry the drum *b* and to form a roller-bearing for the same.

Secured to the rear of the drum *b* is a spur-gearing *e*, which meshes with a gear *f*, driven by the clockwork. In the hollow space of the interior of the drum a spindle *g* projects. This spindle is screw-threaded and is secured to the clockwork, so as to be rotated thereby. Guiding-rods *h* and *i* are secured to a stationary part of the clockwork *c* and project into the space in the interior of the drum. The usual membrane sliding carriage 1, having sliding connection with the rods *h* and *i*, is also provided. This carriage is operated by means of a threaded segment *k*, carried by a spring *l*, which is connected to one of the sliding connections of the carriage. The screw-threads of the segment engage with the threads of the spindle *g*. Thus as the latter rotates the segment is moved forward, carrying with it the carriage.

By the employment of the inner surface of the cylinder a more exact touching of the cylinder by the reproduction-pointer is obtained than by having the sound-waves on the outer side of the cylinder. Then, again, the grooves are protected from damage in packing, and the roller-drum does not act as a wedge or in a spreading manner, as in the old style of device, but as a hoop, tending to keep the cylinder together.

I claim as my invention—

In an apparatus for reproducing sounds, a hollow rotating body having an inner surface for carrying the record thereon, and stylus mechanism operatively engaging said inner surface.

In witness whereof I have hereunto set my hand in presence of two witnesses.

PAUL VOGEL.

Witnesses:

HENRY HASPER,

WOLDEMAR HAUPT.