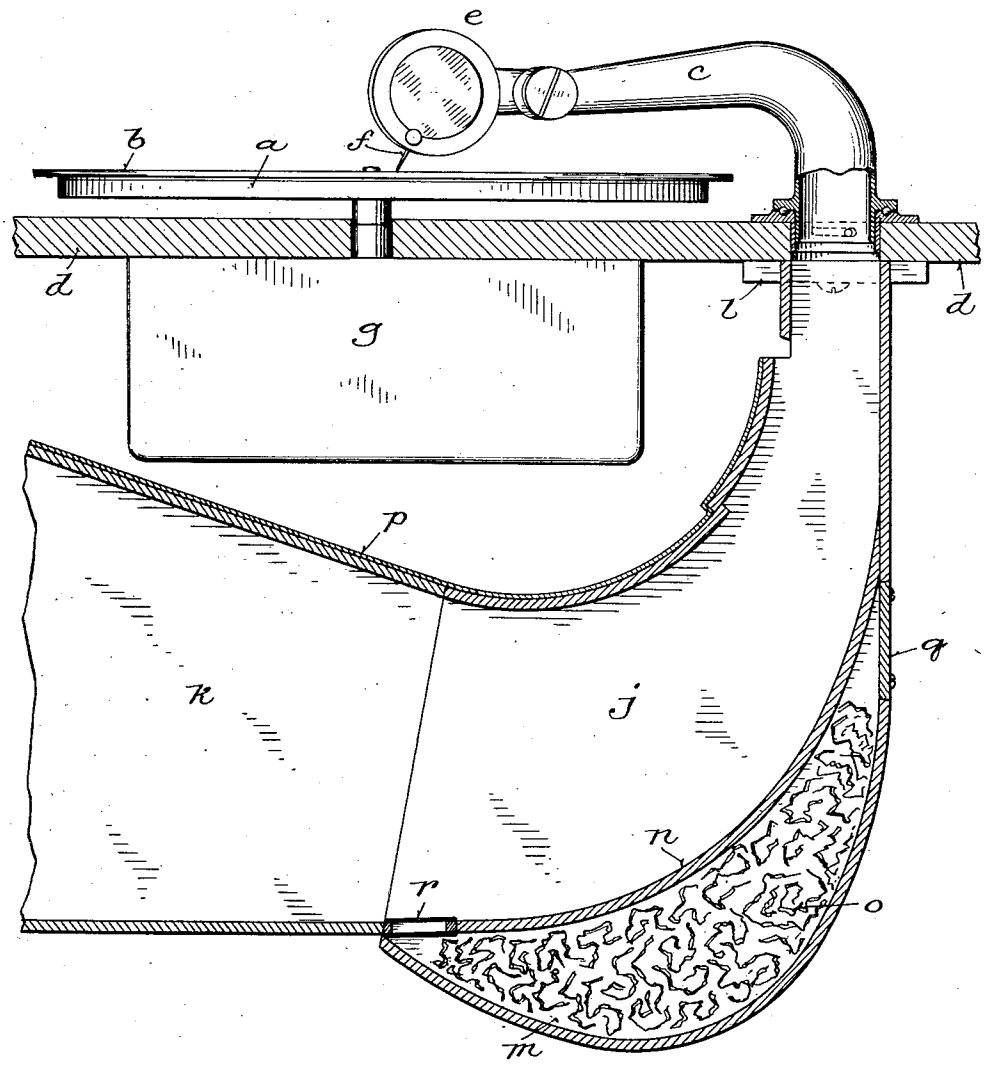
F. F. BLANDIN.

TONE CHAMBER.

APPLICATION FILED NOV. 16, 1918.

1,373,943. Patented Apr. 5, 1921.



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UNITED STATES PATENT OFFICE.

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TONE-CHAMBER.

1,373,943. Specification of Letters Patent. Patented Apr. 5, 1921.

Application filed November 16, 1918. Serial No. 262,887.

To all whom it may concern:

Be it known that I, FREDERICK F. BLANDIN, a citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Tone-Chambers, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates to tone or sound chambers of sound-reproducing machines.

The main objects of the invention are to eliminate or suppress the harsh, scratchy and unpleasant noises produced by the needle or stylus traversing record grooves and by the operation of the motor and actuating mechanism; to produce full rich tones; and generally to improve the timbre or quality of the tone of such machines.

It consists in the construction, arrangement and combination of parts as hereinafter particularly described and pointed out in the claims.

Referring to the accompanying drawing, which shows in vertical longitudinal section a tone chamber embodying the invention as incorporated in a sound-reproducing machine of a typical construction, of which only such parts are shown as are essential to a complete and clear understanding of the invention, *a* designates the turn table, *b* a record disk placed thereon, *c* the tone or horn arm pivotally mounted on the top board or plate *d* and provided at its free end with the sound box or reproducer *e*, carrying a stylus or needle *f*, for tracing the spiral groove in a record disk, and an incased motor and actuating mechanism *g* for turning the table *a* with a record disk thereon, all of the usual or any suitable construction and operating according to the well known manner in sound reproducing machines of the class to which the invention relates.

j designates a tone chamber of the usual curved and flaring design, forming a part of the horn *k* and attached at its smaller upper end, as by cleats *l* and screws, to the under side of the top board or plate *d*, so as to register with the larger swiveled or pivoted end of the tone arm *c*.

An extension on the under side of the main or sound-conducting chamber *j*, forms an auxiliary, substantially closed crescent shaped chamber *m*, which is separated from the main chamber by a curved resonant sound board *n*, forming the lower wall of the main sound chamber against which the sound waves from the tone arm *c* impinge and from which they are reflected through the larger flaring end of the horn *k*.

The chamber *m* is filled or partially filled, as indicated in the drawing, with loose bits, scraps or strips of sound or tone modifying material *o*, such as paper or wood of various kinds, more or less compacted according to the nature of the instrument and the quality of tone desired. Among various materials used for this purpose, fluted or crimped spruce shavings have given very satisfactory results. The presence of this loose material *o* in the auxiliary chamber *m*, eliminates or suppresses the harsh or scratchy sounds or noises which are otherwise produced by the needle or stylus traversing the grooves of records and by the action of the mechanism of the instrument, and clarifies, enriches and improves the timbre or quality of the tone of the instrument.

The top wall of the horn *k*, including the main tone chamber *j*, is preferably provided with a non-resonant covering *p* of felt or other suitable material, to intercept vibrations produced by the motor mechanism and prevent their interference with the sound waves produced by the operation of the instrument in the tone chamber and issuing from the horn.

The outer wall of the auxiliary chamber *m* may have a removable section *q*, preferably in the upper part thereof, as shown, to facilitate the insertion of the loose sound or tone modifying material *o* therein.

The sound board or intervening wall *n* between the chambers *j* and *m*, may be formed with one or more openings, for example, an opening in the lower part thereof next to the flaring extension of the horn *k*, such opening being provided with a removable screen *r* of cloth or other suitable material, affording access to the loose filling in the auxiliary chamber *j* and also modifying the tone of the instrument.

Various changes in the details of construction and arrangement of parts may be

made without departure from the principle and scope of the invention as defined in the following claims.

I claim:

1. A tone chamber for sound reproducing machines, having an auxiliary chamber separated from a main chamber by a sound board and provided with loose sound-modifying material.

2. A tone chamber for sound reproducing machines, having an auxiliary chamber separated from the main chamber by a sound board and containing wood shavings.

3. A tone chamber for sound reproducing machines, having an auxiliary chamber separated from a main chamber by a sound board and containing crimped spruce shavings.

4. A tone chamber for sound reproducing machines, having an auxiliary chamber separated from a main sound-conducting chamber by a curved sound board on the under side thereof and containing loose scraps of sound modifying material.

In witness whereof I hereto affix my signature.

FREDERICK F. BLANDIN.