

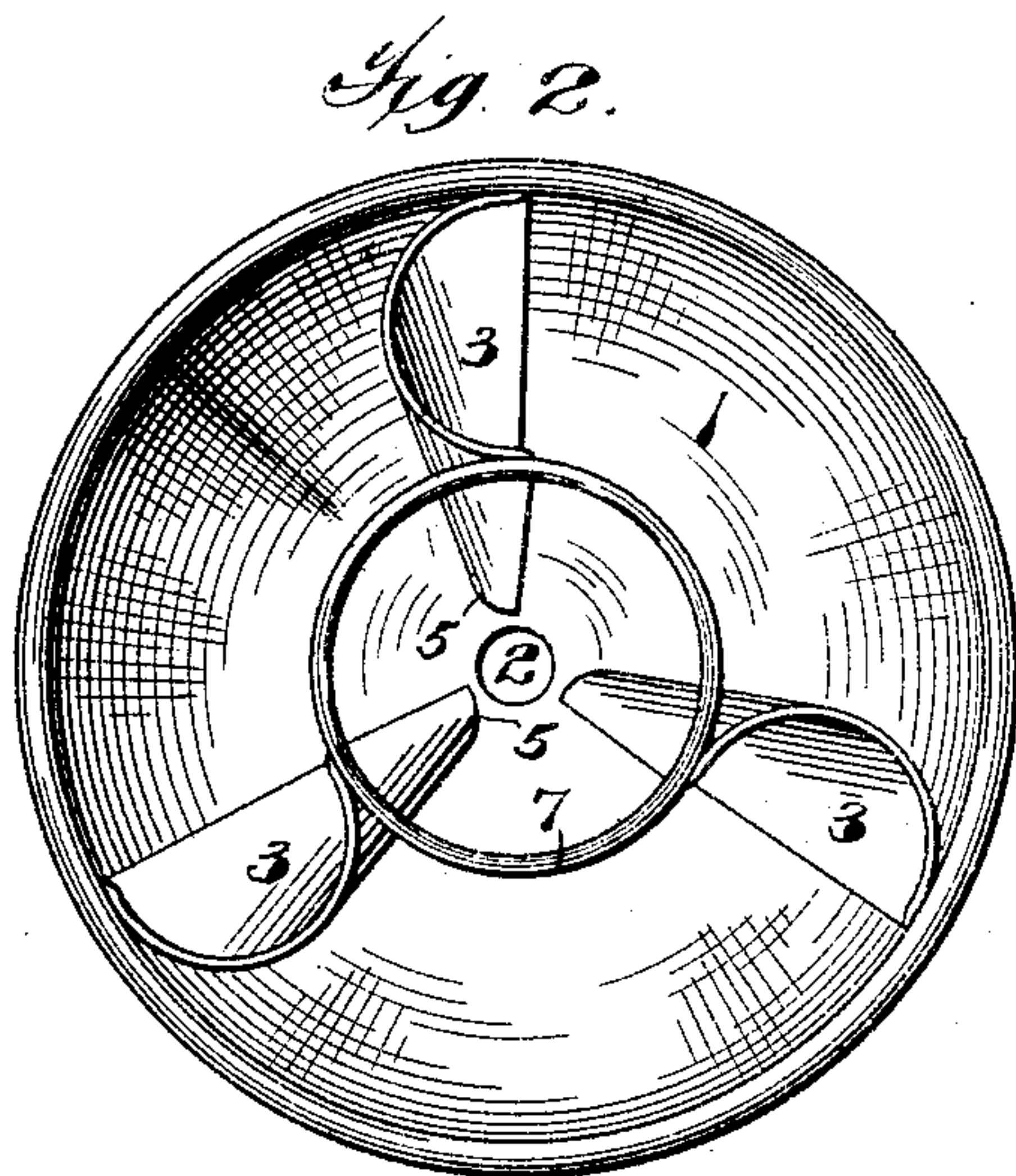
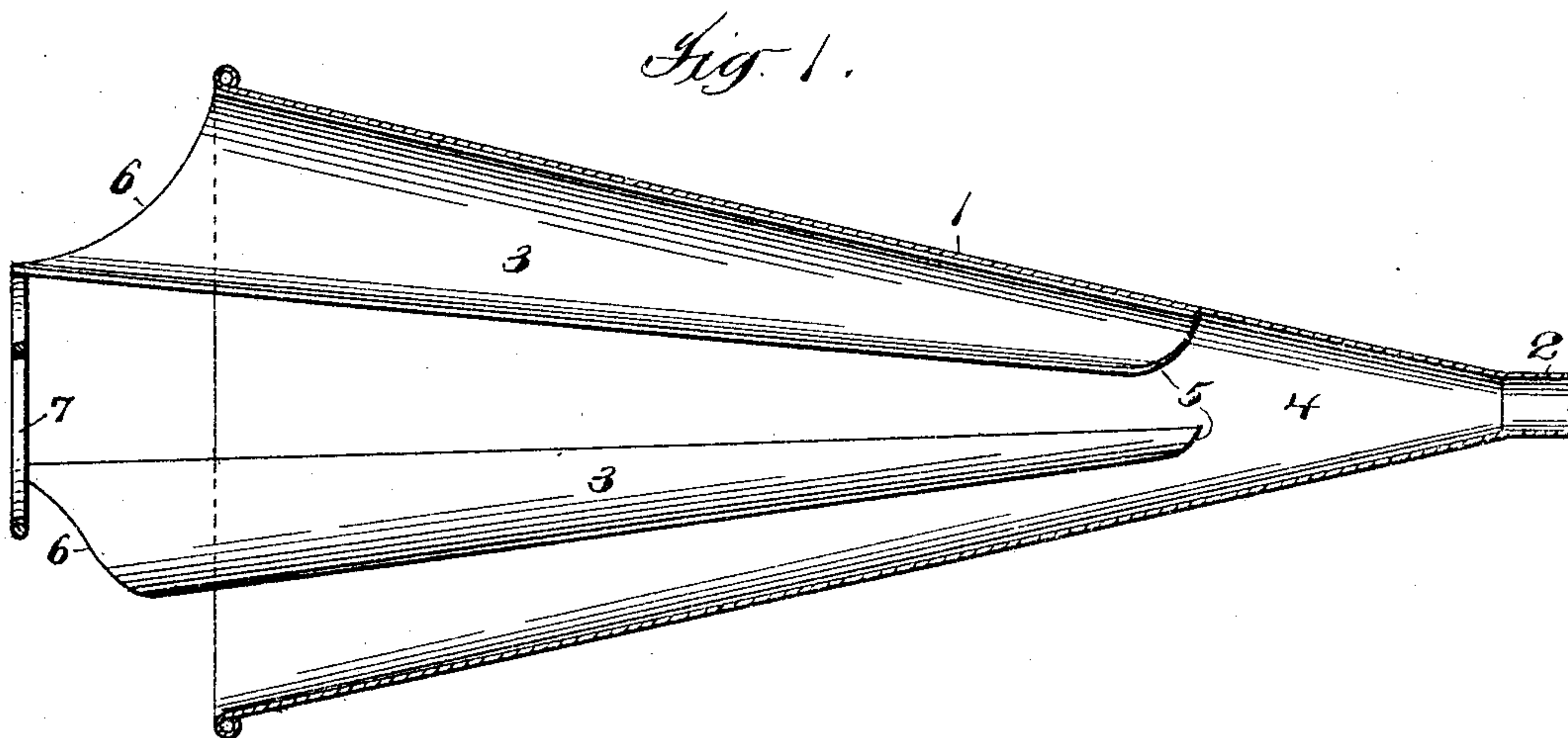
No. 776,070.

PATENTED NOV. 29, 1904.

F. S. KINNEY.
HORN FOR SOUND REPRODUCING INSTRUMENTS.

APPLICATION FILED APR. 9, 1904.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANCIS S. KINNEY, OF BUTLER, NEW JERSEY.

HORN FOR SOUND-REPRODUCING INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 776,070, dated November 29, 1904.

Application filed April 9, 1904. Serial No. 202,321. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS S. KINNEY, a citizen of the United States, residing at Butler, county of Morris, and State of New Jersey, have invented certain new and useful Improvements in Horns for Sound-Reproducing Instruments, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in horns for sound-reproducing instruments, such as phonographs or graphophones, and has for its object to produce a simple and efficient horn by which the sound-waves are
15 collected and carried to the recorder.

With this and other objects not specifically referred to in view the invention consists in a certain construction hereinafter described and then specifically pointed out in the claims
20 hereunto appended.

Referring to the accompanying drawings, Figure 1 is a longitudinal section of the horn embodying the invention, and Fig. 2 is an end view.

25 Referring to the drawings, the improved horn is, as is usual, of funnel shape, the body of the horn being marked 1. The horn is provided with the usual junction-section 2, by which it is secured to the reproducer. The
30 horn is provided with a plurality of vanes 3, these vanes being at their outer edges in contact with the body of the horn and being preferably secured thereto. These vanes taper from the outer end of the horn inwardly,
35 but stop some distance short of the inner end of the horn, so as to leave a sound-receiving chamber 4 at that end of the horn.

In the preferred construction the inner ends of the vanes will be rounded, as indicated at
40 15, and they will be concavo-convex, as shown. The inner edges of the vanes will be disconnected from each other, so as to leave a central unobstructed passage therethrough. In the preferred construction, furthermore, the
45 outer edges of the vanes will terminate flush with the mouth of the horn, but the inner edges will be carried out beyond the mouth of the horn. The outer ends of the vanes will preferably be inwardly curved or con-
50 cave, as indicated at 6.

While the vanes might be supported simply by being connected to the body of the horn in any suitable manner, in the preferred construction they will be further supported by a sustaining device—such, for instance, as
55 a ring 7—to which the outer ends of the inner edges of the vanes are connected.

Experiment has shown that with a horn having the vanes before described greatly improved records are produced. While the proportions of the several parts may be varied, the best results have been attained where the proportions were substantially those illustrated in the drawings. The number of vanes may of course be varied; but the best results
65 are obtained by horns provided with three vanes.

What is claimed is—

1. A horn of funnel shape for sound-reproducing machines, said horn having a plurality
70 of inwardly-tapering vanes located therein, the vanes terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the vanes being connected to the body of the horn and the inner
75 edges being disconnected from each other, substantially as described.

2. A horn of funnel shape for sound-reproducing machines, said horn having a plurality
80 of concavo-convex inwardly-tapering vanes located therein, the vanes terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the vanes being connected to the body of the horn and the inner edges being disconnected from
85 each other, substantially as described.

3. A horn of funnel shape for sound-reproducing machines, said horn having a plurality
90 of inwardly-tapering vanes located therein, the vanes terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the vanes being connected to the body of the horn and terminating substantially flush with its mouth and the inner edges extending beyond the mouth of
95 the horn and being disconnected from each other and the outer end of each vane being concave, substantially as described.

4. A horn of funnel shape for sound-reproducing machines, said horn having a plurality
100

of concavo-convex inwardly-tapering vanes located therein, the vanes terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the
5 vanes being connected to the body of the horn and terminating substantially flush with its mouth and the inner edges extending beyond the mouth of the horn and being disconnected from each other and the outer end of each
10 vane being concave, substantially as described.

5. A horn of funnel shape for sound-reproducing machines, said horn having a plurality of inwardly-tapering vanes located therein, the inner ends of the vanes being rounded and
15 terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the vanes being in contact with the body of the horn and the inner edges being separated from each other, substantially
20 as described.

6. A horn of funnel shape for sound-reproducing machines, said horn having a plurality of concavo-convex inwardly-tapering vanes located therein, the inner ends of the vanes
25 being rounded and terminating short of the inner end of the funnel so as to leave a cham-

ber at that end, the outer edges of the vanes being in contact with the body of the horn and the inner edges being separated from each other, substantially as described. 30

7. A horn of funnel shape for sound-reproducing machines, said horn having a plurality of inwardly-tapering concavo-convex vanes located therein, the concave face of each vane facing the convex face of an adjacent vane, 35 the vanes having rounded ends and terminating short of the inner end of the funnel so as to leave a chamber at that end, the outer edges of the vanes being in contact with the body of the horn and terminating substantially flush 40 with its mouth and the inner edges being separated from each other and extending beyond the mouth of the horn, the outer ends of the vanes being concave, substantially as described. 45

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANCIS S. KINNEY.

Witnesses:

J. A. GRAVES,

W. H. KENNEDY.