

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in Gramophones.

We, BARNETT SAMUEL & SONS LIMITED, a company organised under the laws of Great Britain, and FRANK SAMUEL, a British subject, both of 32, 34 and 36, 5
Worship Street, London, E.C. 2, do hereby declare the nature of this invention to be as follows :—

This invention relates to portable and other gramophones, which are enclosed 10
within a casing of limited dimensions, and provided with a lid.

In order to enable a sound conduit to be used of correct taper and of much greater length than has been hitherto 15
possible in gramophones of the above type, the tone arm is connected to a portion of tapering horn situated in the casing below the motor board surrounding the motor and connected at its larger 20
end to a further portion of horn situated in the lid and having its flare or mouth directed in any suitable direction, but preferably towards one or more deflecting surfaces in the lid.

The sound conduit is thus composed of 25
three parts, namely, the tone arm, the part within the casing and the part within the lid, and it is thus possible to make the conduit of considerably greater 30
length than usual and of correct shape, and moreover to effect this in such a manner that the lid can be closed with the parts of the conduit intact, so that the portability or compactness of the 35
instrument is in no way impaired.

In one form, the part of the horn within the casing is arranged to finish with its larger end at one end of the casing, and the lid is adapted, when 40
opened, to be set down adjacent to this

end, so as to effect a connection between the lower end of the part of the horn within it and the said end of the part within the casing. In this form the lid 45
may be fitted with a single or double arched or concave deflector.

In another form the lid is merely hinged to the casing and the adjacent ends of the two parts of the horn are bevelled, so that when the lid is raised 50
they meet to form a proper connection. The end of the casing near the hinge is provided with a curved shield to cover the apertures of the horn when the lid is closed. 55

In a further form the larger end of the horn within the casing opens out upwards, for instance, at the motor board, and the part within the lid has a hinged 60
or pivoted connecting portion, which, by means of levers or other mechanism, may be moved automatically into connection with the mouth of the portion within the casing.

The portions of horn within the lid 65
and the casing are preferably of substantially rectangular cross section, with rounded corners, although an oval, circular or other section may be adopted.

When a deflector is fitted in the lid the 70
adjacent portion of horn may be curved or flared to direct the sound waves onto the deflector.

Dated this 11th day of April, 1927.

MATHYS & SQUIRE, 75
Chartered Patent Agents,
52, Chancery Lane, London, W.C. 2.

COMPLETE SPECIFICATION.

Improvements in Gramophones.

We, BARNETT SAMUEL & SONS LIMITED, a company organised under the laws of Great Britain, and FRANK SAMUEL, a British subject, both of 32, 34 and 36, 5 Worship Street, London, E.C. 2, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to portable and other gramophones, which are enclosed within a casing of limited dimensions, and provided with a lid.

15 In order to enable a sound conduit to be used of practically correct taper and of greater length than has been hitherto possible in gramophones of the above type, the tone arm is connected to a portion of tapering horn which is situated 20 in the casing, for example, below the motor board, and is adapted to be connected at its larger end to a further portion of horn which is situated in the lid and has its flare or mouth directed in any suitable direction, but preferably towards one or more deflecting surfaces in the lid.

The sound conduit is thus composed of 30 three parts, namely, the tone arm, the part within the casing and the part within the lid, and it is thus possible to make the conduit of greater length than usual and practically of correct shape, 35 and moreover to effect this in such a manner that the lid can be closed with the parts of the conduit intact, so that the portability or compactness of the instrument is in no way impaired.

40 In the accompanying drawings illustrating one form of the invention:—

Figure 1 is a perspective view of the complete machine with the lid upright.

45 Figure 2 is a sectional elevation of the machine with the lid upright, the section being taken on II—II, Figure 3, but showing the motor board and tone-arm.

Figure 3 is a sectional plan with the motor board and tone-arm omitted, the section being taken on III—III, 50 Figure 4.

Figure 4 is a sectional elevation on IV—IV, Figure 3, but showing the motor board, the tone-arm being omitted, 55 but the position of the turntable and motor being indicated in dotted lines.

Figure 5 is a similar section of part of the machine shown in Figure 4, but with

the lid closed, the position of part of the tone-arm being indicated in dotted lines. 60

Figure 6 is a side view of a hinge for the lid.

Figures 7 and 8 are two side sectional elevations of a detail.

In the form of the invention illustrated 65 a portion of horn 1, preferably of rectangular cross section and practically of correct taper, is fitted in the casing 2, below the motor board 3 and so curved as to leave a space 4 for the motor. The smaller end 5 of this portion of horn is bent upwards and provided with a flange 6 abutting against a panel 7. A tone-arm 8 has a downwardly bent portion 9 75 mounted in a ball-bearing 10 carried on the panel 7, so that the tone-arm forms as it were an adjustable extension of the horn. The tone-arm has a swinging neck 11 preferably screwed into a socket 12 on the tone-arm. 80

A further portion of horn 13 fitted in the lid 14 has a bend 15 shaped to conform to the adjacent larger end of the portion of horn 1 so that it fits it when the lid 14 is raised into an upright position, as shown in Figure 4. 85

A packing strip 15^a of velvet, leather or other material is preferable provided on the top and two sides of the portion 1 and a similar strip 15^b on the bottom of the portion 15 to ensure a sound tight fit and to avoid undesirable vibration. 90

The bottom of the portion 15 is also slotted for the reception of the adjacent edges 28 of the two sides of the portion 1, as indicated in dotted lines at 29, Figure 3. 95

In the drawings the thickness of the material of the sound conduit and of the packing strips is shown somewhat 100 exaggerated for the sake of clearness; with thinner material the portions 1 and 15 may be made to merge into one another to maintain a more correct taper.

The flare or mouth 16 of the portion 105 of horn 13 is preferably curved or directed towards a deflector such as an arched deflector 17 fitted in the lid, and the edge of the panel 7 is bevelled at 27 to allow the part 15 to clear the panel 110 when the lid is being opened and shut.

The complete sound conduit comprising the portions of the tone-arm 8 and 11 and portion of horns 1 and 13 may be of correct taper, and longer than hitherto 115 obtainable in portable or other gramo-

phones having casings of equal or like dimensions, and the portability or compactness is in no way impaired.

5 The lid can be closed with the portion of horn 13 intact as shown in Figure 5.

A plate 18 is preferably fitted in the lid around the lower part of the portion of horn 13.

10 In order to accommodate the adjacent portion of the tone arm 8, when the lid is closed, the plate 18 is slotted as indicated at 29 in Figure 3. A flap 19 is preferably provided as shown in Figures 1, 2, 5, 7 and 8 for the purpose of closing the slot 29 when the lid is opened. 15 The flap has a spring hinge 20 which yields when the lid is opened and the flap is thrust backward by the plate 18 into the horizontal position indicated in Figures 2 and 8. As the lid is closed, the flap 19 follows the plate 18 under the action of the spring hinge 20 until a stop 21 on the flap engages with the stationary part of the hinge as shown in Figures 5 and 7 so that the flap is held in a substantially upright position and the slot is clear to receive the adjacent portion of tone-arm.

30 In the example shown the casing 1 is open at the end to which the lid is hinged and when the lid is closed this is closed by a hinged flap 22. The lid is connected to the casing by hinge plates 23. The flap 22 has pins 24 engaging in slots 25 in the plates 23, so that it is opened and closed with the lid.

35 The manner in which the portion of horn within the lid may be connected to that within the casing and the form of connection between the lid and the casing may be varied to suit the type of casing or other requirements. The particular form of hinge for the lid described is not claimed per se as it forms the subject matter of an Application for 40 Patent No. 15,849/27.

45 The form of deflector in the lid may be varied for instance it may be divided by a central ridge as indicated by the

dotted lines 25 in Figure 3, or it may be formed as a complete bowl in which case the lower part of it will replace the plate 18.

No claim is made to a cabinet gramophone, the hinged lid of which is provided at the sides with vertical partitions which when the lid is closed slide or drop down into the machine, and when the lid is raised are lifted with it to form the sides of the mouth portion of a horn situated in the cabinet.

60 Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. A gramophone having the tone arm connected to a portion of tapering horn which is situated in the casing, and is adapted to be connected at its larger end to a further portion of horn which is situated in the lid and has its flare or mouth directed towards one or more deflecting surfaces in the lid, or in any other suitable direction, substantially as and for the purposes hereinbefore set forth.

2. A gramophone according to Claim 1, wherein the portion of horn carried by the lid is adapted to make a connection with the portion of horn in the casing when the lid is raised into a substantially upright position.

3. A gramophone according to Claim 1 or 2, wherein the flared end of the horn is situated within an arched deflector or bowl in the lid, substantially as hereinbefore described.

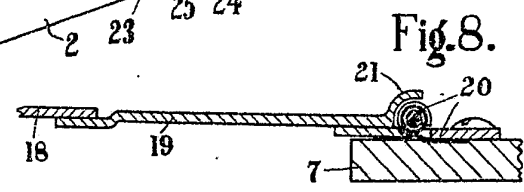
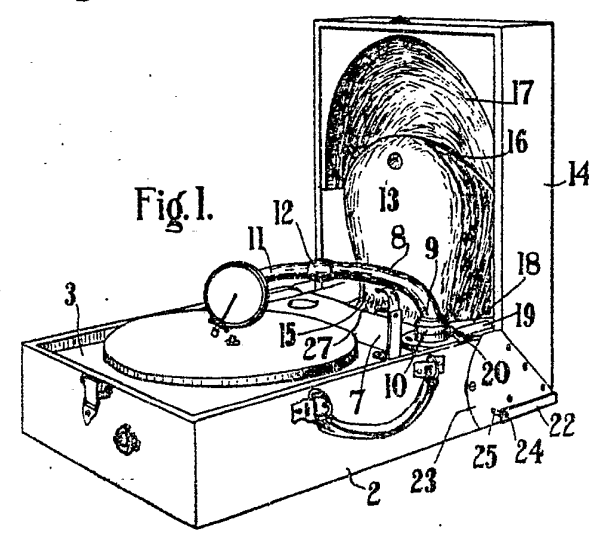
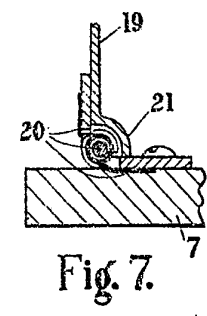
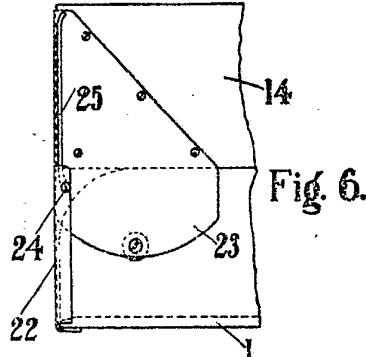
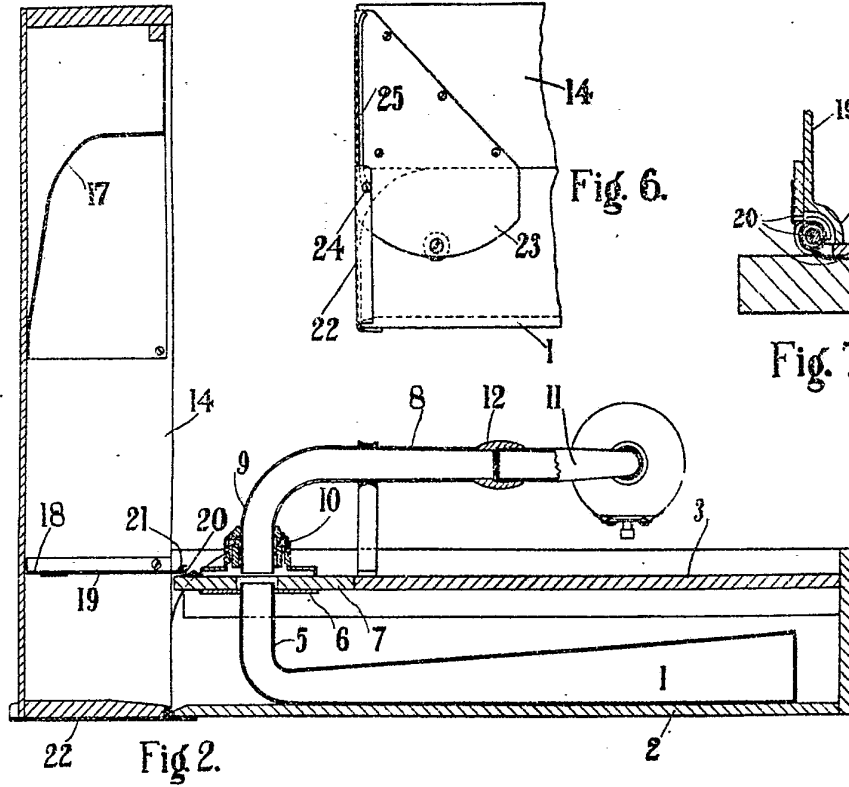
4. A gramophone constructed and adapted for use, substantially as hereinbefore described with reference to the accompanying drawings.

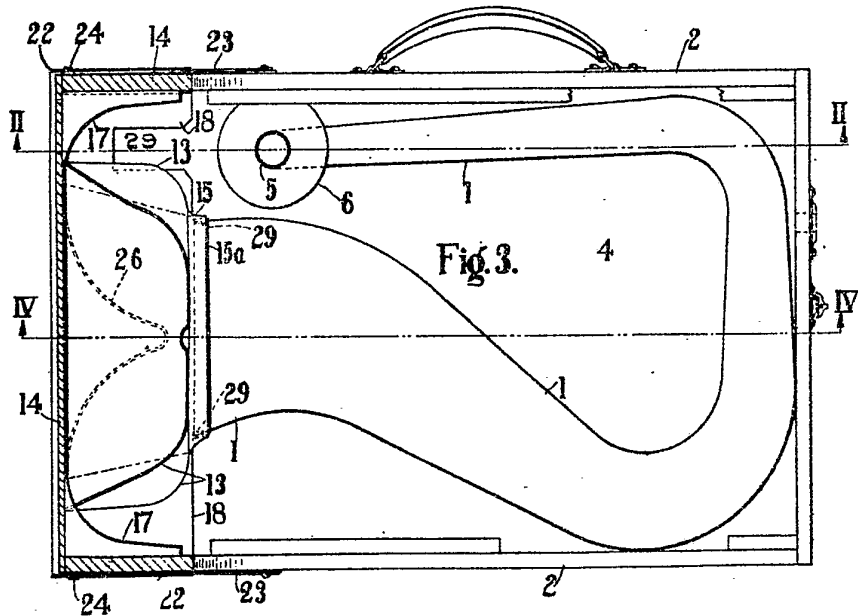
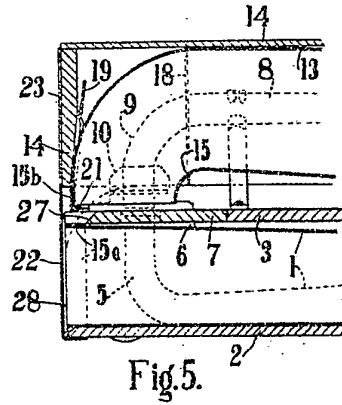
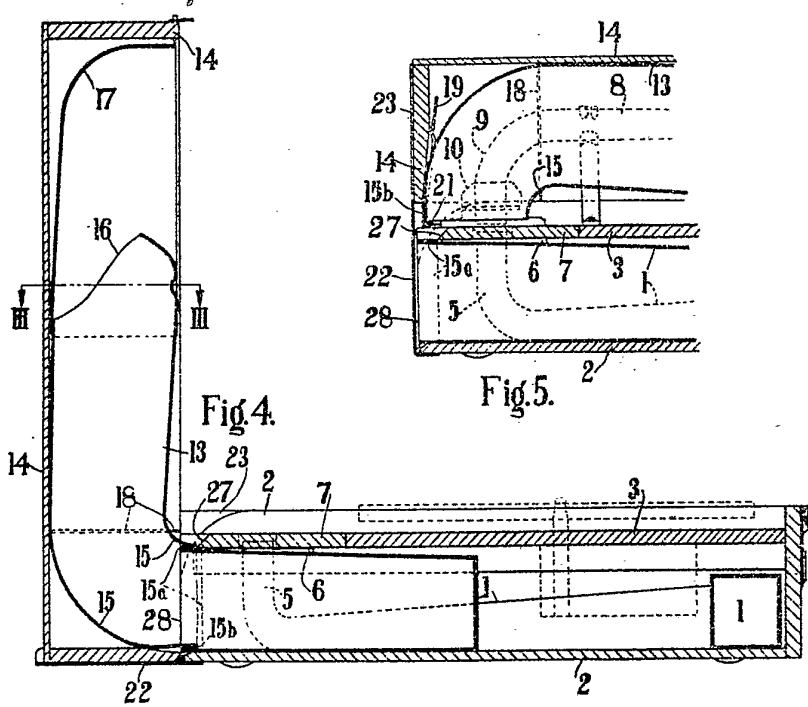
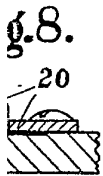
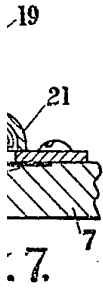
Dated this 29th day of August, 1927.

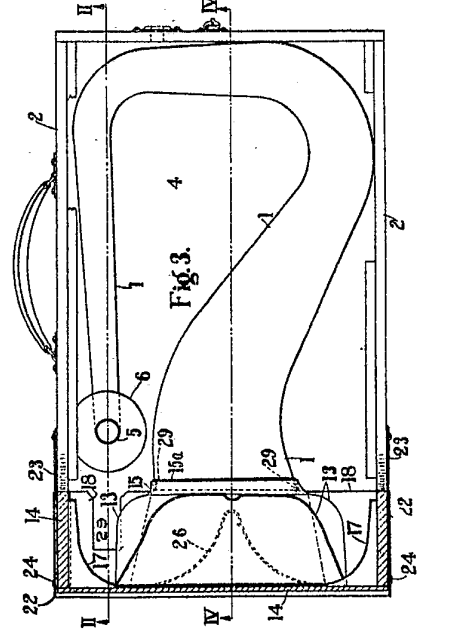
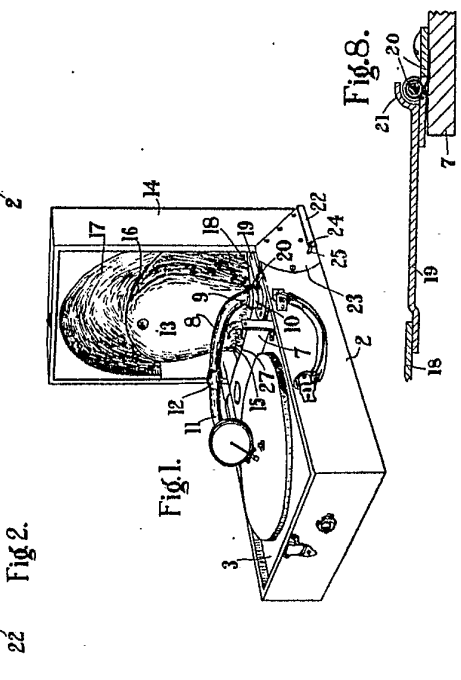
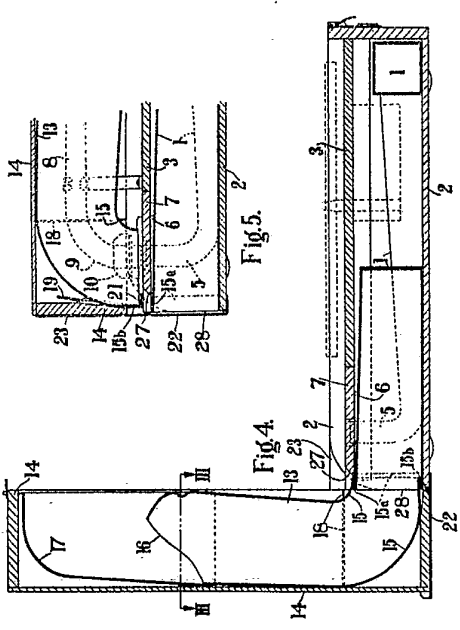
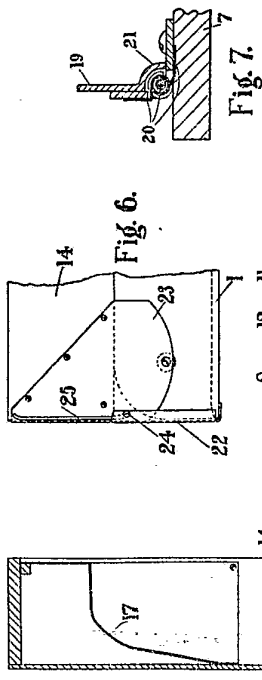
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2nd Edition

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