

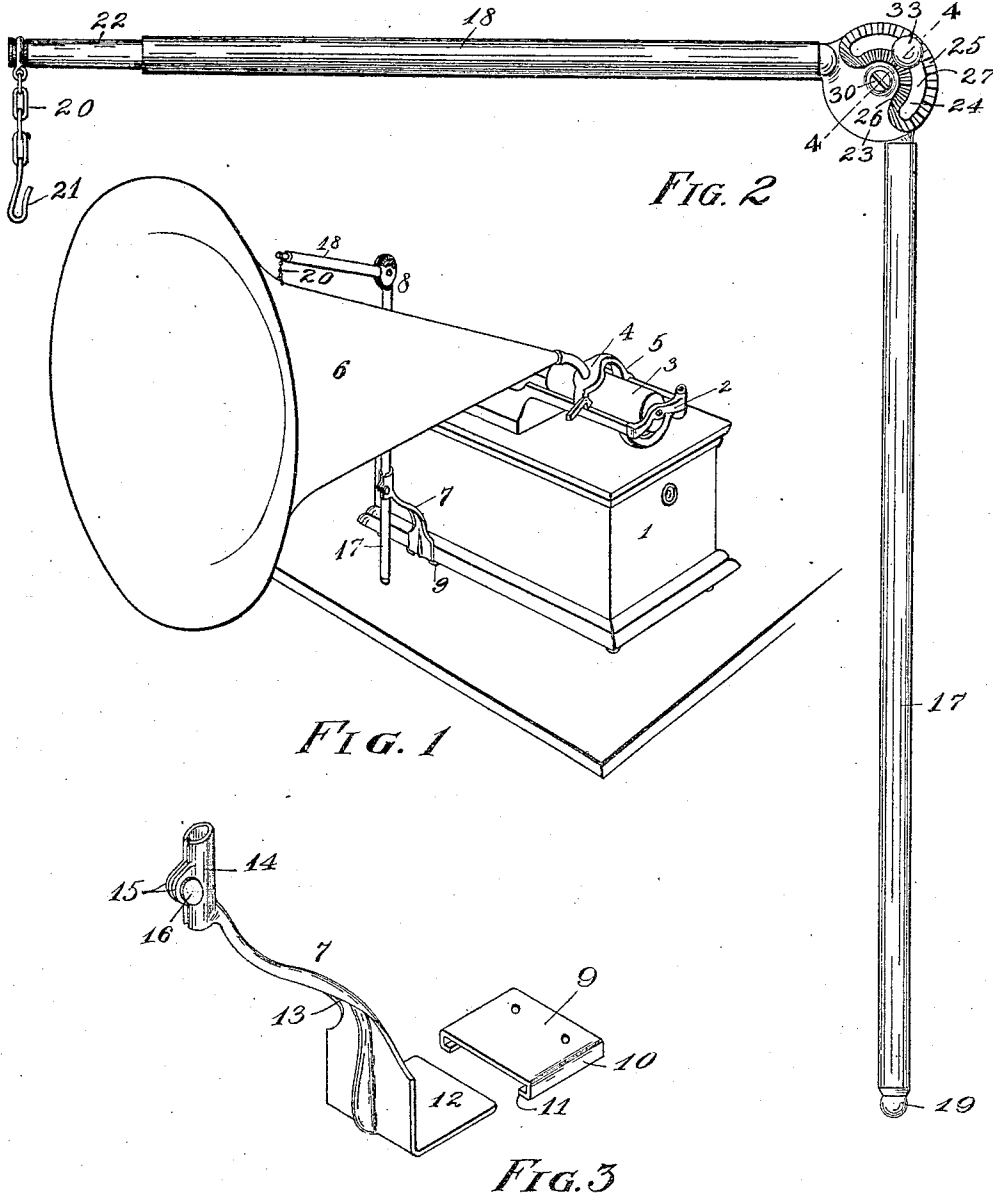
H. H. TURNER & H. M. R. GLOVER,
MEANS FOR SUPPORTING PHONOGRAPH HORNS.

943,492.

APPLICATION FILED JULY 8, 1907.

Patented Dec. 14, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

Brennan & West.

Nathan F. Fetter

FIG. 4

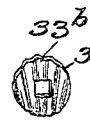
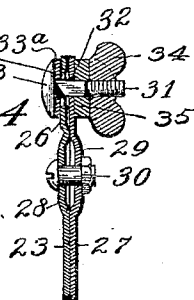


FIG. 8

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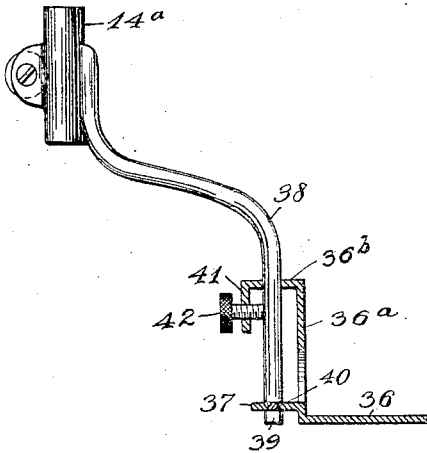


FIG. 5

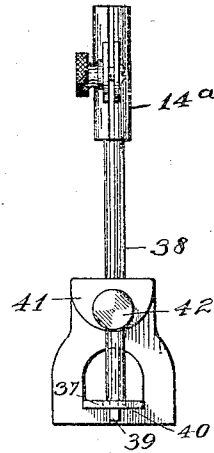


FIG. 6

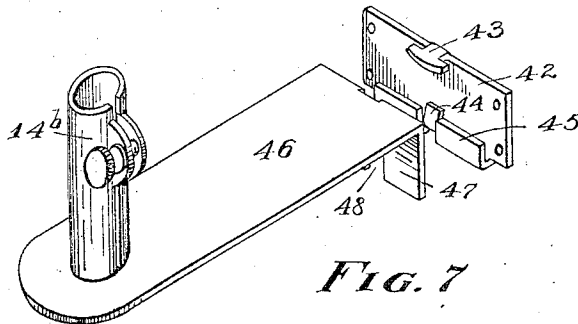


FIG. 7

WITNESSES:

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UNITED STATES PATENT OFFICE.

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MEANS FOR SUPPORTING PHONOGRAPH-HORNS.

943,492.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed July 8, 1907. Serial No. 382,725.

To all whom it may concern:

Be it known that we, HENRY H. TURNER and HARRY M. R. GLOVER, a citizen of the United States and a subject of the King of Great Britain, respectively, residing at Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Means for Supporting Phonograph-Horns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Our invention relates to means for supporting horns of phonographs, and has for its object to provide a device of this character which may be conveniently applied to and removed from the box or cabinet on which the reproducer and record are supported; which is provided with a particularly efficient form of connection between the members of the crane or support by means of which the outer end of the horn is suspended; which is so constructed as to relieve the point of connection between said crane or support and the box from injurious strain; and which shall be simple and economical of production and efficient in operation.

Generally speaking, the invention may be defined as consisting of the combinations of elements embodied in the claims hereto annexed.

Referring to the drawings, Figure 1 represents a perspective view showing a phonograph with our crane applied thereto. Fig. 2 represents a side elevation of the vertical and horizontal arms of the crane. Fig. 3 represents a perspective detail of the bracket and of the plate by means of which the bracket may be connected to the base of a box. Fig. 4 represents an enlarged sectional detail on the line 4-4 of Fig. 2. Fig. 5 represents a detail, partly in elevation and partly in section, of a modified form of bracket. Fig. 6 is a front elevation of the bracket shown in the preceding figure. Fig. 7 represents a still further modified form of bracket and plate, the same being particularly adapted for application to a vertical face of a box; and Fig. 8 represents a perspective view of the washer comprising part of the clamping means for the crane members.

Describing the parts by reference char-

acters, 1 represents a phonograph box having thereon the frame 2, the mandrel or record carrier 3, the reproducer 4, the carriage 5, and the horn 6. The parts mentioned may be of any standard type and, in themselves, form no part of our invention. For the purpose of sustaining the outer end of the horn, we employ the supporting means which will now be described. This means comprises generally a bracket 7, crane 8, and attaching plate 9. The attaching plate is applied to any convenient portion of the box and is adapted to detachably support the bracket which, in turn, assists in supporting the crane. In the construction shown in Figs. 1, 3, 5 and 6 of the drawings, the bracket is adapted to be applied to the bottom of the box and, for the purpose of applying the bracket to this portion of the box, we employ the attaching plate 9, which comprises a base plate provided at opposite sides thereof with flanges 10 projecting at right angles therefrom, the ends of said flanges being bent inwardly at 11, substantially parallel with the base of the plate to form therewith means for engaging the opposite edges of the base plate 12 of the bracket, said bracket being applied to the attaching plate 9 by slipping the same between the jaws provided by flanges 10 and 11 and the base of said plate.

The bracket may be made in numerous forms, but comprises generally a portion adapted to be removably fitted to the attaching plate and an extension projecting laterally therefrom and provided with a tubular guide and clamp constituting a support for the vertical member of the crane. In Figs. 1 and 3, the bracket arm 13 extends upwardly and outwardly from the plate 12 and is provided at its upper and outer extremity with a split tube 14, preferably integral therewith. The bracket may be made as an integral piece of sheet metal bent in the shape shown in Figs. 1 and 3, the lower portion of which is flattened to form a continuation of the plate 12 and the upper portion of which is substantially U-shape in section to better resist a strain tending to bend the same in a vertical direction, which is the strain to which it will be mainly subjected by the crane. A longitudinally extending reinforcing rib will also be preferably provided to assist in stiffen-

ing the bracket. The edges of the split tube 14 are provided with lugs 15 through which extends a screw 16 whereby the tube may be clamped about the vertical member 17 of the crane.

The crane comprises a pair of members 17 and 18 pivoted together with means for clamping them at any desired angle with respect to each other. The member 17 may be tubular and will be provided at its lower end with a buffer 19 of cork, rubber, or similar material which enables said member to be supported by the top of a table or other article without injury to the surface thereof. The member 18 may be either solid or tubular, and in either event will be provided at its outer end with a flexible support, as a chain 20, provided with a hook 21 for supporting the horn. If desired, the chain 20 may be carried by a rod 22, telescoping within the member 18. As a means for connecting members 17 and 18, we employ the following construction. 23 denotes a plate which forms a part of member 18, said plate being preferably circular in contour and being provided, between the center and the circumference thereof, with an arc-shaped slot 24, which may be of any desired extent sufficient to accommodate all desirable ranges of movement of members 17 and 18 with respect to each other. In the drawing, this arc is substantially 180 degrees in extent and will permit the arm 18 to be adjusted from a position constituting a vertical extension of member 17 to a position substantially coincident therewith. On opposite sides of said slot are provided toothed or milled racks 25 and 26, the teeth of which are coincident with radii drawn from the center of plate 23. These racks may be conveniently formed of the same metal as plate 23, and the teeth may be pressed from the metal thereof. The member 17 is provided with a plate 27, similar in shape to the plate 23. These plates, as will appear more particularly from Fig. 4, are provided at their central portions with outwardly projecting hollow bosses 28 and 29, respectively, connected by a short bolt 30 extending therethrough. These bosses and the bolt constitute a spring pivot for the central portions of the plates.

In order to clamp the members in any adjusted position, we employ a bolt 31, having a squared body projecting through slot 24 and a square aperture 32 in plate 27 and provided with a head 33 between which and the racks 25 and 26 is interposed a metallic washer 33^a having teeth 33^b adapted to engage the recesses between the teeth on said racks. The teeth 33^b, like the teeth on racks 25 and 26, extend in the direction of radii drawn from the pivot of plates 23 and 27. The end of the bolt shank is threaded and is provided with a wing nut 34, a washer 35

being inserted between said nut and the plate 27. The construction just described provides a very efficient means for clamping the members 17 and 18 in any desired position.

In Figs. 5 and 6, there is illustrated a modification of the bracket shown in the preceding figures. In the latter figures, the upwardly and outwardly extending arm of the bracket is separate from the portion by which a detachable connection is made with the plate carried by the phonograph box. In this construction, 36 denotes the plate by means of which the bracket is attached to the plate 9 carried by the box. Plate 36 projects at right angles from an integral vertical plate 36^a which has pressed therefrom an outwardly projecting ledge or shelf 37 adapted to receive and support the lower end of the bracket 38, which in this case is shown as a rod. The lower end of the bracket arm is T-shaped and is applied to ledge 37 by being turned at right angles to the position shown in Fig. 5, enabling the lower end 39 of the T to be inserted into the elongated slot 40 in said shelf. On rotating the rod 38 to any other position than at right angles to that shown in Fig. 5, the rod will be effectively locked to said shelf. The upper end of the plate 36^a is bent outwardly at 36^b and thence downwardly to form a depending flange 41, which receives a set screw 42, by means of which the rod 38 may be clamped in any desired position, said rod extending through the portion 36^b. Rod 38 is provided with a tubular sleeve 14^a, similar in all respects to sleeve 14.

In Fig. 7, there is shown a modification of the bracket and attaching plate, which is particularly well adapted for application to one of the vertical faces of the box. In this view, 42 denotes the plate which is fixed to the vertical face of the box. This plate is provided at its upper end with a central T-shaped lug or projection 43 extending outwardly therefrom and is provided at its bottom with an upturned central lug 44 the end of which is in substantial engagement with the body of plate 42. On each side of lug 44 there is provided an upwardly extending flange 45. The bracket which we employ with this plate comprises a body 46, preferably of sheet metal, having a downwardly projecting flange 47 of substantially the depth of plate 42. This flange is provided with a central vertical slot, the width whereof is substantially equal to the width of the body of the T-shaped lug 43 and lug 44. In assembling, the flange 47 is applied to plate 42 with the bottom of the slot 48 just above the body of the T-shaped lug 43. By pushing the bracket downwardly, the lower end of the flange 47 will be seated within the upwardly projecting flanges 45, with the lug 44 in the bottom of the slot and the head of

the T-shaped lug in engagement with the inner surface of said flange and the under surface of the body 46. This makes a very firm connection between the bracket and the plate 42, which, however, permits the easy removal of the bracket from the plate. The body 46 is provided with a tubular clamp 14^b, which is similar to the corresponding clamps of the preceding figures.

While, for the purposes of illustration, we have shown our invention applied to a phonograph of the "cylinder" type, it will be obvious that it is equally applicable to one of the disk type.

Having thus described our invention, we claim:

1. The combination, with a phonograph comprising a box, of a horn, means for supporting said horn, said means comprising a plate, a member projecting from said plate and provided with a shank and a head, a bracket having a slot adapted to receive the shank of the member just mentioned, the head of the said member engaging the bracket upon the side of the slot, a supporting member carried by said bracket, a crane support coöperating with the supporting member, and connections between the horn and the crane support.

2. The combination, with a phonograph comprising a box, of a horn, means for supporting said horn, said means comprising a plate attached to the phonograph box, an integral member projecting from said plate and provided with a shank and a head, a bracket having a slot adapted to receive the shank of said member, the head of the member engaging the slot upon opposite sides thereof, there being flanges formed upon the lower part of said plate for engaging the ends of the bracket adjacent the slot, a supporting member carried by said bracket, a crane support coöperating with said supporting member, the crane support being provided at its lower end with a buffer of suitable material, and connections between the horn and the crane support.

3. The combination, with a phonograph comprising a box, and a horn, of means for supporting said horn, said means comprising a plate carried by said box, said plate having at the upper end thereof a shouldered projection and at the lower end thereof a projection in alinement with the shank of the former projection and a pair of upstanding flanges, one on each side of the bottom projection, a bracket having a plate provided with a central slot adapted to receive the shank of the upper projection and also the lower projection, said plate having a lower edge adapted to be embraced by the upstanding flanges, and a crane supporting member carried by said bracket.

4. A crane for phonograph horns comprising a pair of arms each having a plate,

said plates being in engagement, one of said plates being provided with a slot, a rack carried by said plate adjacent the slot, and means including a member which is clamped in position upon the rack for holding the plates in adjusted position.

5. A crane for phonograph horns comprising a pair of arms each having a plate, said plates being in engagement, one of said plates being provided with a slot and a toothed rack carried by said plate adjacent both sides of the slot, means comprising a member having teeth thereon which coöperate with the rack above mentioned, and means for clamping said member in contact with the rack for holding the plates in adjusted position.

6. A crane for phonograph horns comprising a pair of arms each having a plate, said plates being adapted to rotate with respect to each other and the central portions of each of said plates being pressed outwardly and being formed of resilient metal, a bolt extending through the outwardly projecting portions of said plates, a nut for adjusting said bolt, and means additional to said bolt for clamping said plates together, substantially as specified.

7. A crane for phonograph horns comprising a pair of arms each having a plate, means for pivotally connecting said plates, one of said plates being formed with a slot having racks on opposite sides thereof, a clamping bolt mounted in the other of said plates and extending through the slot in the last mentioned plate, a member mounted upon the clamping bolt and coöperating with the racks on the plate having the slot therein, and means for clamping said member to the plate.

8. A crane for phonograph horns comprising a pair of arms each having a plate, a pivotal connection between said plates, one of said plates being formed with an arc shaped slot, a toothed rack on each side of the said slot, a clamping bolt secured to the other of said plates and extending through the slot, a member mounted upon said clamping bolt, said member being formed with teeth which engage with the teeth upon the toothed rack, and a nut upon the bolt for holding the said member in engagement with the rack.

9. A crane for phonograph horns comprising a pair of arms each having a plate, means pivotally connecting said plates, and means for clamping said plates together, said clamping means comprising an arc-shaped slot formed in one of said plates between the pivot and the periphery thereof, an arc-shaped rack on each side of said slot, the center of curvature of said slot and rack being the pivotal point of said plates, teeth formed on said racks and extending in the direction of radii drawn from said pivot, a

bolt projecting through said slot and through the other plate, said bolt being provided with a washer having similarly formed teeth on the under surface thereof, and a nut for said bolt, substantially as specified.

10. A crane for phonograph horns comprising a pair of arms each having a plate, means pivotally connecting said plates, and means for clamping said plates together, said clamping means comprising an arc-shaped slot formed in one of said plates between the pivot and the periphery thereof, an arc-shaped rack on each side of said slot, the center of curvature of said slot and rack being the pivotal point of said plate, teeth formed on said racks and extending in the direction of radii drawn from said pivot, a bolt having an angular shank projecting through said slot and through an angular aperture in the other plate, a member having similarly formed teeth therein, and a nut for said bolt, substantially as specified.

11. A crane for phonograph horns comprising a pair of arms, a plate carried by each of said arms, means for pivotally connecting said plates, and means for clamping said plates together, said clamping means comprising a slot formed in one of said plates, the center of curvature of which is the pivot of said plates, an arc-shaped rack on each side of said slot, the centers of curvatures of said racks being also the pivot between said plates, teeth formed on said racks coinciding with the direction of the radii drawn from said pivot, a bolt projecting through said slot and through an aperture in the other plate, a member having on the under surface thereof teeth adapted to engage the teeth on said racks, and an

adjusting nut on said bolt, substantially as specified.

12. A crane for phonograph horns comprising a pair of arms, a plate carried by each of said arms, means for pivotally connecting said plates, and means for clamping said plates together, said clamping means comprising a slot formed in one of said plates, the center of curvature of which is the pivot of said plates, an arc-shaped rack adjacent to said slot, the center of curvature of said rack being also the pivot between said plates, teeth formed in said rack and coinciding with the direction of the radii drawn from said pivot, a bolt projecting through said slot and through an aperture in the other plate, a member having teeth adapted to engage the teeth on said rack, and an adjusting nut on said bolt, substantially as specified.

13. A crane for phonograph horns comprising a pair of arms each having a plate, the central portion of each of said plates being pressed outwardly, means for pivotally securing said plates through the outwardly projecting portions thereof, a slot formed in one of said plates beyond the pivotal point, a clamping bolt secured to the other of said plates and extending through the said slot, and means coöperating with the clamping bolt for holding the plates in adjusted position.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses.

HENRY H. TURNER.
HARRY M. R. GLOVER.

Witnesses:

E. H. GILMAN,
LEELA E. STULL.