Aug. 29, 1961 G. M. PFUNDT 2,998,255

TONE ARM RETAINING DEVICE

Filed Dec. 20, 1957

FIG. 1.

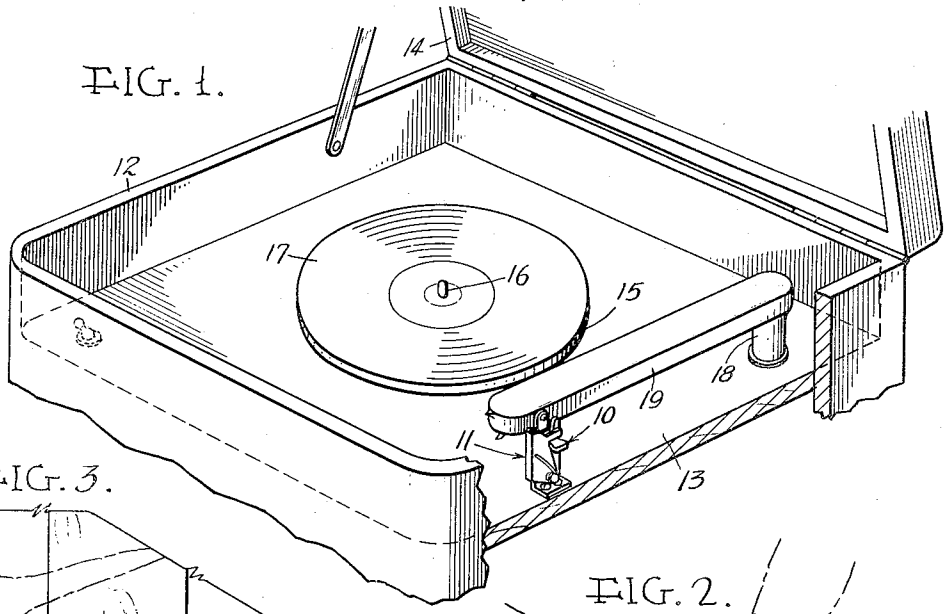


FIG. 3.

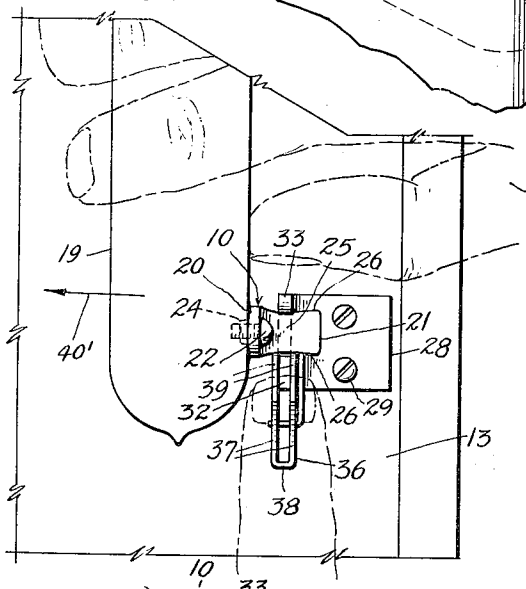
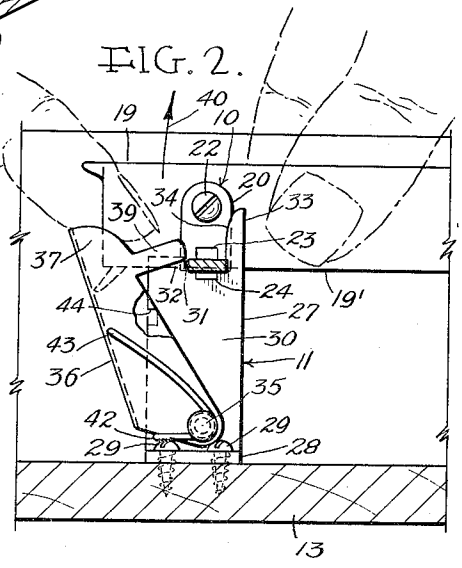


FIG. 2.



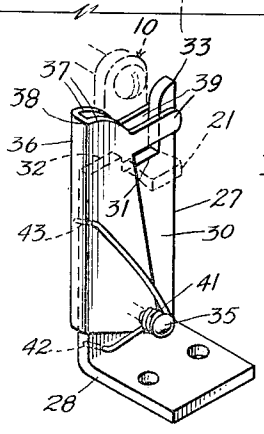


FIG. 4.

Inventor:
GEORGE M. PFUNDT
By.
Howard E. Thompson
Attorney

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TONE ARM RETAINING DEVICE

George M. Pfundt, Bustleton Pike, Churchville, Pa.

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This invention relates to phonographic machines for reproducing records. More particularly, the invention deals with a device for engaging and definitely retaining a tone or pickup arm against movement in the cabinet regardless of the position of the cabinet in the handling thereof.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a diagrammatic perspective view of the upper portion of the cabinet of a phonographic machine, illustrating the use of my improved devices in retaining a tone arm against movement, parts of the construction being broken away and in section;

FIG. 2 is a sectional side view of part of the structure, as seen in FIG. 1, on an enlarged scale and diagrammatically showing in dot-dash lines, the method of attaching and detaching an arm with the retaining device.

FIG. 3 is a partial plan view of the structure seen in FIG. 2 also indicating in dot-dash lines the manner of at tachment and detachment of the arm; and

FIG. 4 is a perspective view of one of my improved devices detached and indicating in dot-dash line its associated lock element part.

With phonographic machines of the type and kind under consideration and particularly with the portable type of machine, it is desirable to retain the tone or pickup arm against movement in the cabinet and, for this purpose, I have provided a retaining device comprising an L-shaped lock element **10** fixed at a suitable position to the forward free end portion of the arm and a coupling assemblage **11** of the retaining device suitably fixed to a part of the cabinet of the machine.

In illustrating one adaptation and use of my invention, I have shown in FIG. 1 of the drawing the upper portion **12** of a phonographic machine having a recessed top wall portion **13**, a hinge cover indicated in part at **14**. At **15** is a rotatable table having a protruding center pin **16** for positioning of a record thereon, the record being diagrammatically illustrated at **17**. At **18** is illustrated the upstanding post of a tone arm **19** and, in the construction shown, the lock element **10** is fixed to one side of the free end portion of said tone arm as diagrammatically illustrated.

Again, in illustrating one adaptation and use of my invention, the assemblage **11** of the device is fixed to the wall **13** at a position to register with the element **10** as later described. The element **10** is in the form of an L-shaped plate defined by angularly disposed walls **20** and **21**, the wall **20** being apertured to receive a fastening screw or other device **22**, and this wall is also cut out, as seen at **23** in FIG. 2 of the drawing, to form a downwardly extending tongue **24** which acts as a key engaging the lower surface **19'** of the arm **19** in preventing rotation of the element **10** on the arm. The wall **21** of the lock element **10** has side edges recessed to form a neck portion **25**, the neck being partially formed by outwardly flared side edges **26** on said element, as best noted in FIG. 3 of the drawing. It will be understood that the tongue **24** becomes a downward extension of wall **21**.

The assembly **11** comprises a more or less L-shaped receiving bracket **27**, the bracket having a short wall **28** apertured to receive fastening or mounting screws **29** and

a long wall **30**, the free end of which has a notch or socket **31** bordered by a short extending wall portion **32** and a long tongue-like wall portion **33** preferably having a curved inner surface **34**, as clearly noted in FIG. 2 of the drawing.

Pivoted to the lower portion of the wall **30** on a rivet, pin or the like **35** is an element retaining member **36**. The member **36** is generally of channel cross-sectional form or, in other words, defined by irregularly shaped side plates **37** joined by a crosshead **38**. The plates **37** are contracted toward their free end portions and these end portions include projecting parallel fingers **39** so positioned as to pass freely but snugly over the lock element **10** or the wall **21** thereof when the device is in operative position, as diagramatically illustrated in FIG. 4 of the drawing. In this position, the wall **21** of the element **10** is disposed in the notch **31** with the neck portion **25** in alignment with the tongue **33**, as will appear from a consideration of FIG. 3 of the drawing. It will be apparent that the notch **31** retains the element **10** against movement longitudinally with respect to the length of the arm **19**, whereas the fingers **39** prevent displacement of the element **10** in the direction of the arrow **40** of FIG. 2. It will also be understood in this connection that the neck portion **25** also prevents movement of the arm **19** in the direction of the arrow **40'** of FIG. 3.

In order to insure positive retention of the member **36** in its operative position, as seen in FIG. 4 of the drawing, a spring has its coil portion **41** arranged on the pin or rivet **35**, note FIG. 4. One end of the spring is fixed to the lower portion of the wall **30**, as seen at **42**, whereas the other end of the spring is mounted in the plates **37** adjacent the crosshead **38** as indicated at **43**, the spring normally maintaining the member **36** in its operative position as seen in FIG. 4 of the drawing. It will also appear from a consideration of FIG. 2 of the drawing that one side of the wall **30** is notched as seen at **44** to clear the spring end **43**.

In order to detach the arm **19** to position the same for reproducing use on a record, the member **36** must first be depressed, as diagrammatically illustrated by a finger of one hand in FIG. 2 of the drawing, while manually raising the arm in the direction of the arrow **40**, as also diagrammatically illustrated in FIG. 2, to withdraw the element **10** from the notch **31** and also from displacement with respect to the tongue **33**. In replacing the arm **19** in its retained position in the device the above operation is reversed. In other words, the member **36** is depressed to clear the notch **31** for reception of the neck portion **25** of the element **10**, whereupon the arm **19** can be moved to position the neck portion of the element **10** properly in the notch **31**, whereupon pressure is released from the member **36** and the spring will automatically move said member into the operative position as illustrated in FIG. 4 of the drawing.

I claim:

1. In phonographic machines, a tone arm retaining device comprising a lock element fixed to and projecting outwardly from the free end portion of a tone arm, a coupling assemblage fixed to the cabinet of the machine in registering alinement with said element, said assemblage comprising a stationary L-shaped bracket, a member of channel cross-sectional form, a pivot pin and a spring, said bracket and element having cooperating means for retaining the tone arm against swinging movement, said pivot pin pivotally supporting said member on the bracket with a part of the bracket arranged in the channel of said member, said member having means operatively engaging said element and said part of the bracket in retaining said arm against vertical movement, and said spring being mounted on said pin and opera-

tively engaging said member to normally retain the same in operative position.

2. A device as defined in claim 1, wherein said member includes a portion extending above said last named means, and said portion facilitating manual movement of said member into inoperative position against the action of said spring in coupling and uncoupling said element with said bracket.

3. A device as defined in claim 1, wherein said cooperating means comprises a notch in said part of the bracket, and a neck portion on said element adapted to seat in said notch.

4. A device as defined in claim 3, wherein the means on said member comprises a pair of fingers adapted to overlie the neck portion of said element seated in said notch in retaining the element against displacement from said notch.

5. A device as defined in claim 4, wherein said part of the bracket has at one side of the notch an upwardly extending tongue-like portion, and said tongue-like portion having a curved surface for guiding the element into said notch.

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