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2,489,685

RECORD DISK CUTTING DEVICE

Filed Aug. 20, 1947

2 Sheets-Sheet 1

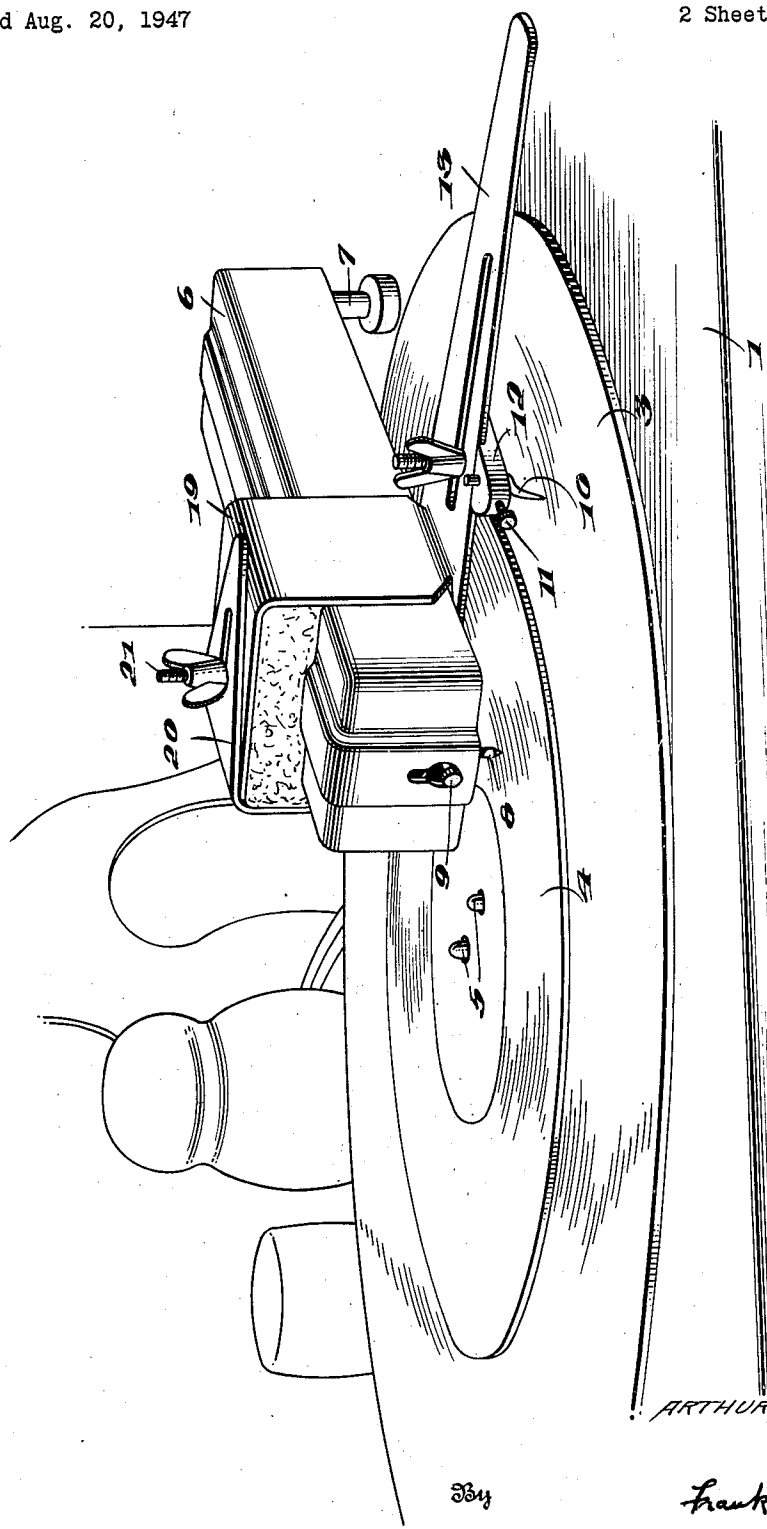


Fig. 1.

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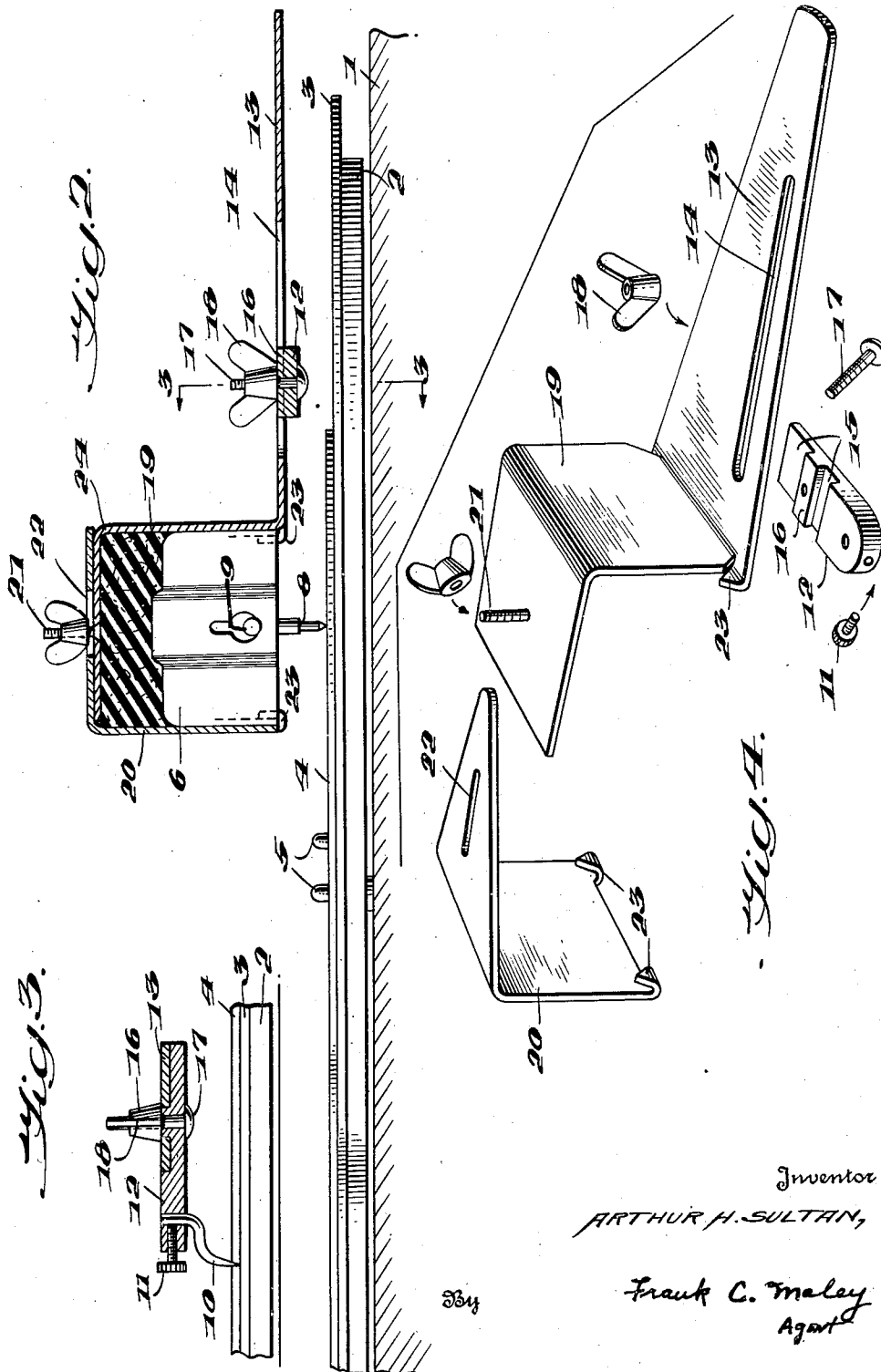
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2 Sheets-Sheet 2



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RECORD DISK CUTTING DEVICE

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3 Claims. (Cl. 274—13)

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This invention relates to improvements in record disc cutting devices, particularly of the character for cutting record grooves in phonograph record blanks.

The object of this invention is to improve the construction of devices for this purpose, to provide for the cutting of spaced grooves on a record blank by the action of a phonograph recorder, using the groove of one record as a guide for the cutting head that forms a groove in another record blank.

This object may be accomplished according to one embodiment of the invention by an attachment for the standard magnetic or crystal recording head, which attachment includes a guide that will follow the sound groove of one record disc to cause the recording head to cut a corresponding sound groove in another coating record disc. This attachment has a trolley member adjustably carried on an arm, to which the guide needle may be secured. The attachment is capable of being secured to any standard recording head, having provision for adjustment according to the size thereof, while the trolley is adjustable also to the supporting arm, according to the size of record used.

This embodiment of the invention is illustrated in the accompanying drawings in which:

Fig. 1 is a perspective view of the record disc cutting device applied to a recording machine;

Fig. 2 is a longitudinal sectional view through the attachment with parts of the recording machine in elevation;

Fig. 3 is a cross section therethrough on the line 3—3 of Fig. 2; and

Fig. 4 is a disassembled perspective view of the parts of the attachment.

The invention is shown as applied to a recording machine generally designated by the numeral 1, which may be of standard construction and is shown as provided with the usual turntable 2, for supporting record discs, two of which are shown at 3 and 4, respectively, held in place on the turntable 2 by the usual pins 5.

A recording head is shown at 6, having a suitable support 7 therefor on top of the machine. The recording head 6 is provided with the usual recording stylus 8, adjustably secured in place by a screw 9. The foregoing structure is illustrated and described merely for purpose of illustration, and any suitable mechanism for the purpose may be used in connection with this invention, and to which the invention may be applied.

The attachment which is shown as an embodiment of this invention is adapted to be applied

to the recording head 6 to support an auxiliary stylus which is illustrated generally at 10. The stylus 10 may be in the form of an ordinary phonograph needle where it is not used for cutting a record groove, but instead follows a groove in the master record 3 as a guide for cutting a groove in the record 4. However, these parts may be reversed when it may be desired to cut a groove in the record 4. The stylus or needle 10 is secured in place by a set screw 11 within an opening of a trolley 12.

The trolley 12 preferably is formed as a block of suitable material, such as plastic, which may be fashioned or molded for the purpose. The trolley 12 is adapted to fit against the under side of an arm 13, having an elongated slot 14 extending at an acute angle to the lengthwise axis of the arm as shown in Fig. 4. The upper face of the trolley 12 is undercut at 15, with a rib 16 therebetween that fits into the slot 14, as shown in Fig. 3, where the trolley is secured in place on the arm 13 by a bolt 17. This bolt is shown of the type having a wing nut 18 thereon, to permit ready adjustment by hand for sliding the trolley lengthwise of the slot 14 to an adjusted position with respect to the arm 13, after which it may be secured in place by tightening the wing nut 18.

The arm 13 extends laterally from a clamp section 19 that extends partially around the recording head 6, and coacts with a clamp section 20 that extends around the opposite side of the head 6, for supporting the arm 13 and trolley 12 on the head. These clamp sections 19 and 20 are adjustably connected together by means of a bolt 21 on the section 19, and a slot 22 in the section 20, in the form illustrated, whereby the sections may be adjusted toward and from each other to fit any size recording head as used expressly for recording sound on blank records.

The clamp 19—20 is secured to the recording head 6 by hooks 23 on the lower edges of the sections 19 and 20, as shown in Figs. 2 and 4, which hooks engage under the edges of the opposite sides of the head 6. A block of cushioning material 24, preferably in the form of sponge rubber, is shown as fitted within the clamp between the latter and the top of the recording head as an automatic take-up and for cushioning the connection of the clamp with the head.

In applying the attachment to the recording head, the clamp 19—20 is lowered over the recording head 6 in the position shown in Fig. 2, and is secured beneath the head by the hooks 23. During this securing action, the sections are dis-

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connected, but after the hooks are engaged, these sections are drawn together by the bolt 21 and tightened with the wing nut thereof. The sponge rubber pad 24 will take up unused space in the depth of the arm, according to the size of the latter.

With the nut 18 loosened, the trolley 12 may be moved along the slot 14 in the arm 13 until both the guide needle in the trolley and the recording needle on the head 6 rest about one-eighth of an inch from the outside edge of each of the records 3 and 4. Then the trolley is secured by the tightening of the bolt 17—18. Then the guide needle 10 may be lowered until it rests by its own weight in the groove of the guide record, when the set screw 11 should be tightened to hold the needle in place.

Then upon operation of the turntable 2, the records 3 and 4 will be rotated. A sound groove will be cut in the record 4 identically like the master groove previously formed in the record 3, which constitutes the master record for the purpose.

While the invention has been illustrated and described in one embodiment, it is recognized that variations and changes may be made therein without departing from the invention, except as specified in the claims.

I claim:

1. In a record disc cutting device adapted for use with a recording head operative over a recording turntable, an attachment for said recording head comprising an elongated arm, a stylus trolley adjustably mounted on the arm for adjustment lengthwise relative thereto, means for securing the trolley to the arm in adjusted position, and means connected with one end of the arm for clamping connection with the recording head, said clamping means comprising a clamp section upstanding from the arm with an upper end portion offset therefrom to extend respectively beside the recording head and over the top thereof, an upturned hook at said end of the arm in position to engage the under edge of the recording head in opposed relation to the offset portion and coacting therewith to hold the clamp section on the recording head, and a second clamp section connected with said offset portion in position to embrace the opposite side of the recording head.

2. In a record disc cutting device adapted for use with a recording head operative over a recording turntable, an attachment for said recording head comprising an elongated arm, a stylus trolley adjustably mounted on the arm for adjustment lengthwise relative thereto, means

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for securing the trolley to the arm in adjusted position, and means connected with one end of the arm for clamping connection with the recording head, said clamping means comprising a clamp section upstanding from the arm with an upper end portion offset therefrom to extend respectively beside the recording head and over the top thereof, an upturned hook at said end of the arm in position to engage the under edge of the recording head in opposed relation to the offset portion and coacting therewith to hold the clamp section on the recording head, a second clamp section having a hook portion in position to engage under the opposite edge of the recording head with an offset upper end portion in overlapping relation with the offset upper end portion of the first mentioned clamp section, and means for adjustably fastening said offset end portions together.

3. In a record disc cutting device adapted for use with a recording head operative over a recording turntable, an attachment for said recording head comprising an elongated arm, a stylus trolley adjustably mounted on the arm for adjustment lengthwise relative thereto, means for securing the trolley to the arm in adjusted position, including an interfitted rib and slot connection between the trolley and the arm for sliding of the trolley along the arm, and means connected with one end of the arm for clamping connection with the recording head, said clamping means comprising a clamp section upstanding from the arm with an upper end portion offset therefrom to extend respectively beside the recording head and over the top thereof, an upturned hook at said end of the arm in position to engage the under edge of the recording head in opposed relation to the offset portion and coacting therewith to hold the clamp section on the recording head, and a second clamp section connected with said offset portion in position to embrace the opposite side of the recording head.

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