No. 802,189. PATENTED OCT. 17, 1905.

C. D. HASKINS.

MUSIC ROLL.

APPLICATION FILED OCT. 28, 1904.

Fig. 1.

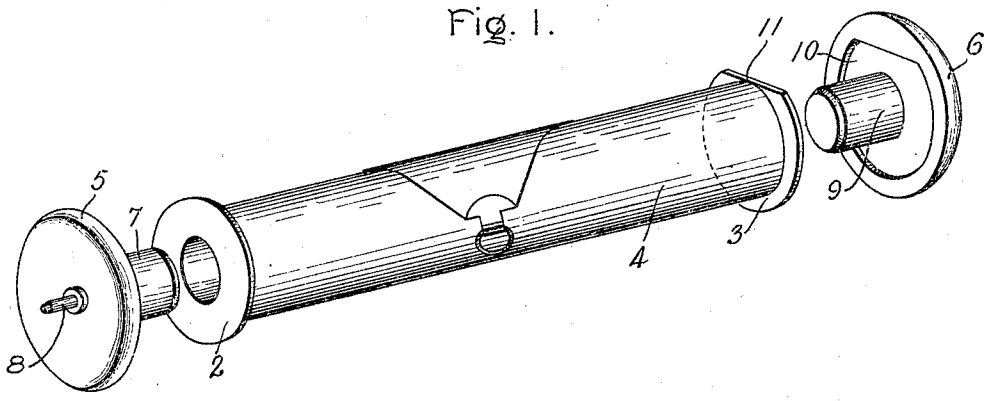


Fig. 2.

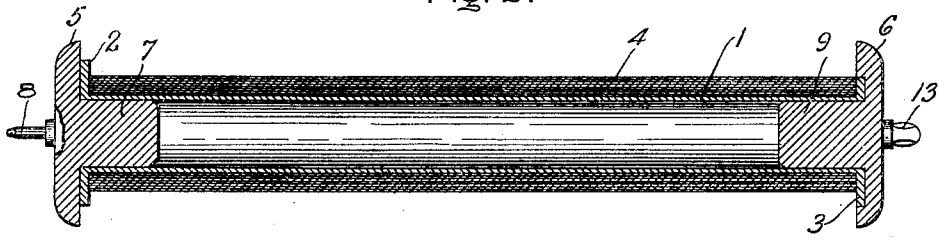


Fig. 3.

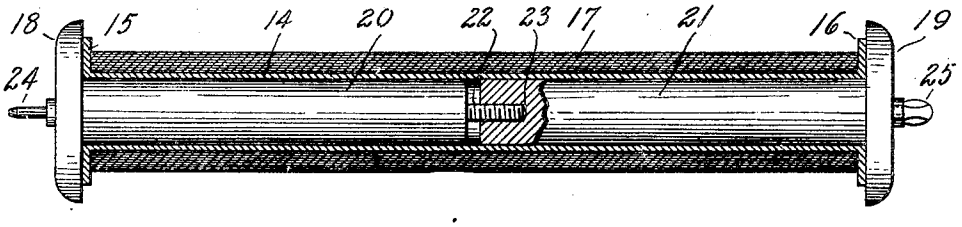
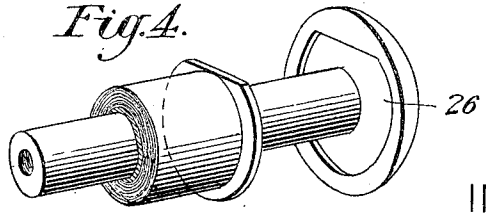


Fig. 4.



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UNITED STATES PATENT OFFICE.

CARYL D. HASKINS, OF SCHENECTADY, NEW YORK.

MUSIC-ROLL.

No. 802,189. Specification of Letters Patent. Patented Oct. 17, 1905.

Application filed October 28, 1904. Serial No. 230,302.

To all whom it may concern:

Be it known that I, CARYL D. HASKINS, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Music-Rolls, of which the following is a specification.

The invention hereinafter described relates to perforated music-rolls such as are used in automatic or other mechanically-operated musical-instrument players, and has among its other objects a reduction in the weight of the spool proper and a simplification of the construction as a whole. To this end I make use of a flanged spool having a hollow barrel upon which the perforated paper sheet is rolled. Each outfit or set of rolls of this character includes a pair of heads, one adapted to fit into one end of a music-roll spool and the other into the other end. These heads have axially-projecting trunnions or spindles for engaging the centering devices by which the roll is carried in the musical-instrument player. When it is desired to use a roll, the heads are inserted in the spool, and the combination is then ready for use in the player. When the roll is no longer required, the heads may be removed. One pair of heads may thus serve for any number of spools or rolls.

The various features of novelty which characterize my invention are set forth with particularity in the appended claims. The invention itself, however, will be better understood by reference to the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a music-roll and its appurtenances embodying my invention. Fig. 2 is a sectional view of the roll shown in Fig. 1, and Figs. 3 and 4 are sectional views of modifications.

The music roll or spool which forms a part of my present invention consists of a hollow or tubular shell or barrel, (shown in cross-section at 1 in Fig. 2,) provided at either end with retaining-flanges 2 and 3. The spool may be formed with integral tube or barrel and flanges and may be made, for example, of fiber, paper-pulp, hard rubber, metal, or the like, or it may be formed from a tube of suitable material with heads separately made and attached thereto. It is desirable, however, that the tube should be as thin and light as possible consistent with strength and durability. Upon this spool the perforated music-sheet is rolled. This music-sheet, rolled on the spool, is indicated in section at 4 in Fig. 2 and in external view at 4 in Fig. 1. The music-roll thus described forms the completed article, corresponding to any particular piece of music. It is relatively light in weight, and therefore may be shipped with a minimum of expense. The packing or retaining box for the individual roll may be smaller, simpler, and cheaper in construction than the ordinary box, since no special protective end pieces need to be provided, as is necessary in the case of the ordinary music-roll, to prevent the trunnions or centering devices on either end of the roll from puncturing or injuring the retaining-box.

In order to use a roll such as indicated in a mechanical piano-player or similar instrument, I provide a pair of plug-heads 5 and 6. The head 5 has a plug 7, which fits closely into one end of the music-roll and with its flange close against the flange 2 of the spool, as shown in Fig. 2. The parts are shown separate in Fig. 1. This plug-head in the present instance is provided with a projecting pin or trunnion 8 for engaging one of the centering bearings of the music-player. The other head 6 likewise has a plug 9, adapted to fit closely into the opening in the other end of the music-roll. Unlike the first-mentioned plug, however, this plug is provided with some suitable means for engaging the flange 3 of the music-roll so as to turn the same. Numerous devices may be employed for this purpose. In the drawings I have by way of illustration shown one of the means which may be employed for this purpose. In this case the flange of the plug 6 has a recess sunk therein on its inner side of a contour such as to fit the flange 3. The flange 3 is made of irregular outline, so that when the flange 6 of the plug-head is fitted over it, as indicated in Fig. 2, the plug-head will serve to turn the music-roll. The form of flange 3 chosen for illustration is one in which a segment of the circular flange has been cut away to form a flat edge 11. This flat or straight edge engages a corresponding flattened portion of the periphery of the recess 10. When the parts are assembled as shown in Fig. 2, the winged pin 13 when inserted in the turning-head of the piano or other player serves to transmit motion to the head 6 and the music-roll proper. It is evident that the flange 3 in order that a driving connection

may be formed with the recessed head or plug 6 may have almost any polygonal or non-circular shape.

It is neither necessary nor is it intended that each music-roll should be provided with a pair of heads 5 and 6, as described. On the contrary, only one pair of heads need be provided for an entire oufit of music-rolls, since the heads are intended to be assembled with each music-roll as it is played.

Instead of providing a positive turning connection between the music-roll and the driving-head I may accomplish much the same result by a suitable frictional connection between the plug-heads and the music-roll. In Fig. 3 I have illustrated such an arrangement. The tubular spool 14, with its heads or flanges 15 and 16 and the music-sheet 17 rolled thereon, is the same as that already described, except that the flanges 15 and 16 may be plain disks without any turning or driving surface, such as at 11 in Fig. 1. The supporting or driving heads 18 and 19 are provided, respectively, with axially-extending cylinders or plugs 20 and 21. These plugs are longer than those shown in preceding figures and, in fact, have a combined length which may approximate that of the spool or music-roll. One of these plugs, as the plug 20, is provided with a screw 22, which screws into a threaded opening 23 in the opposing end of the plug 21. The plugs when pushed into place may thus be screwed together so as to cause the music-roll to be clamped tightly between the flanges of the heads 18 and 19.

Of course, if desired, one or more of the flanges 15 and 16 of the music-roll might be arranged so as positively to engage the corresponding plug-head. This engagement may be accomplished by causing the head with an irregular recess therein to engage the appropriate music-roll flange shaped to correspond, as shown at 26 in Fig. 4. The heads 18 and 19, it should be mentioned, are provided, as before, with the trunnions or pins 24 and 25 common to the ordinary type of music-roll.

As I am aware that my invention may be embodied in a variety of different forms other than those described above by way of illustration, I do not wish to be limited to the exact details described.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of a flanged, hollow, music roll or spool, and heads therefor one at least of which locks into non-turning relation to said spool.

2. The combination of a flanged, hollow, music roll or spool, and heads removably fitting openings in said spool, one at least of said heads having a recess to receive and lock with one of the flanges of said roll or spool.

3. The combination of a music roll or spool having flanged ends, one at least of said ends having a non-circular outline, and heads for said spool, one of said heads having a driving connection with said flanged end of non-circular outline.

4. The combination of a spool having a tubular body portion and end flanges integral therewith, a perforated music-sheet wound thereon, and heads adapted to clamp said spool between them.

5. The combination of a spool having a tubular body portion and end flanges, one of said flanges having a non-circular periphery.

6. The combination of a music-roll consisting of a flanged hollow spool carrying a note-sheet, and clamping-heads therefor removably engaging said spool or roll.

7. The combination of a flanged music-roll, one of the flanges having a non-circular edge, and a driving-head adapted to form a driving connection with said non-circular edge.

8. The combination of a music-roll consisting of a tubular spool with end flanges, removable heads each having a plug for engaging said spool, and connecting means for said plugs.

9. The combination of a music-roll having a tubular spool with end flanges, and heads provided with means for clamping said roll between them and forming a driving connection therewith.

In witness whereof I have hereunto set my hand this 26th day of October, 1904.

CARYL D. HASKINS.

Witnesses:
EDWARD WILLIAMS, Jr.,
ALEXANDER D. LUNT.