No. 873,950. PATENTED DEC. 17, 1907.

H. KOCH.

MUSIC ROLL.

APPLICATION FILED APR. 4, 1907.

Fig. 1.

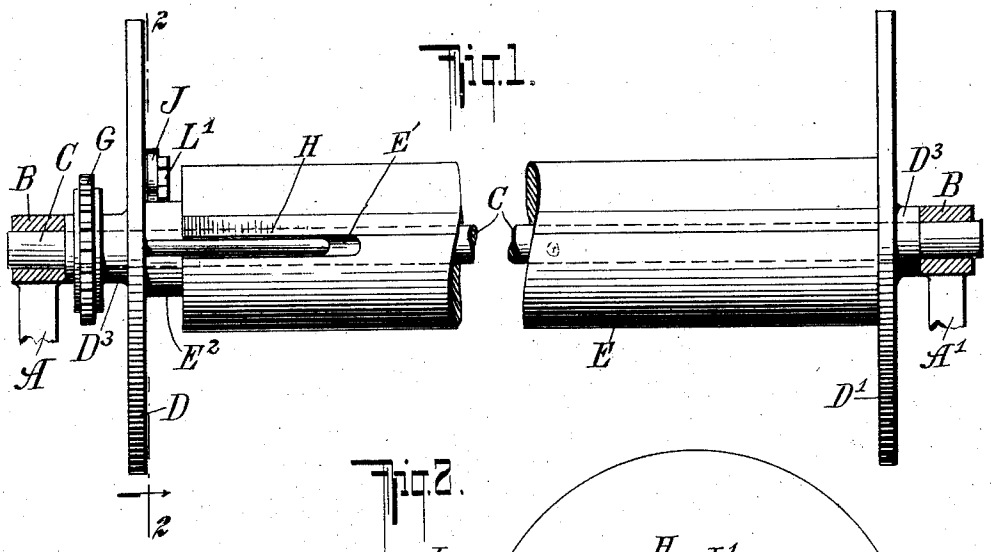


Fig. 2.

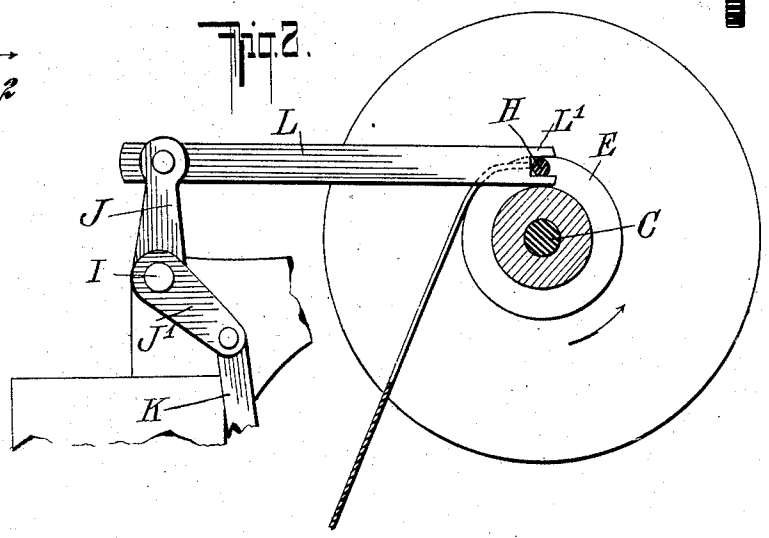


Fig. 3.

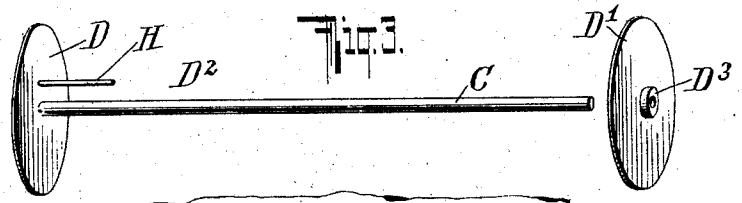
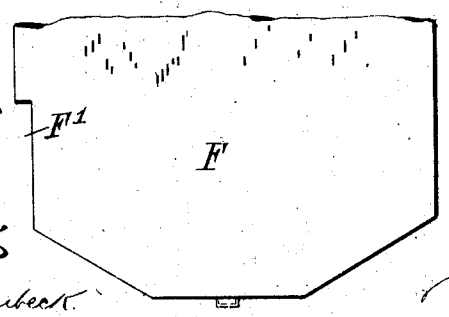


Fig. 4.



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MUSIC-ROLL.

No. 873,950. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed April 4, 1907. Serial No. 366,310.

To all whom it may concern:

Be it known that I, HENRY KOCH, a citizen of the United States, and a resident of Rahway, county of Union, State of New Jersey, have invented certain new and useful Improvements in Music-Rolls, of which the following is a specification.

My invention relates to rolls for carrying perforated sheets of music of the kind used in automatically operated musical instruments and has for its object to construct rolls of this kind in such a manner as to be interchangeable and capable of being easily shipped.

My invention will be fully described hereinafter and the features of novelty will be pointed out in the appended claims.

My improved roll is particularly adapted to instruments of the class shown and described in my pending application for a United States patent filed October 16, 1905, Serial No. 282,982.

Reference is to be had to the accompanying drawings in which

Figure 1 is a front elevation partly broken away showing my improved roll in operative position; Fig. 2 is a sectional view thereof on the line 2—2 of Fig. 1; Fig. 3 is a detail view of the spool for supporting my roll and Fig. 4 is a face view of a portion of the music sheet.

A and A′ represent stationary portions of a musical instrument and are provided with forks or bearings B for the reception of the ends of the shaft C which in connection with the flanges D and D′ forms a spool D^2 which is intended to remain permanently connected with the instrument.

E is a core made of suitable material to which one end of the music sheet F is attached and provided with an axial opening, so that said core E with the music sheet F rolled thereon may be placed in operative position on the spool hereinbefore mentioned. The flange D′ is removable so that the shaft C may be easily inserted into the axial opening of the core E after which the flange D′ is again placed in position on the shaft C. It is of course to be understood that the spool D^2 is removed from the instrument before the music roll is placed thereon.

Each of the flanges D and D′ is provided with bosses D^3, the boss of the flange D′ abutting against the portion A′ and the boss of the flange D engaging a gear wheel G which is secured to the shaft C and which in turn engages the other support or portion A. The spool with the music roll thereon is thus held in operative position and is prevented from moving lengthwise of the shaft C.

To prevent the core E from rotating relatively to the shaft C, the flange D is provided with a pin H which enters a slot E′ in the core E and serves as a means for keying the core to the shaft. The said core E is provided with a reduced portion E^2 the purpose of which will be more fully described hereinafter.

The gear wheel G is adapted for engagement with suitable driving mechanism to rotate the music roll and is used chiefly for re-rolling the music on the core E after all the selections on the roll have been played. In playing the pieces or selections the gear wheel G is disengaged from this re-rolling mechanism and the music is thus free to be unrolled by any suitable mechanism.

I will now briefly describe the mechanism for starting the re-rolling mechanism which may be of the same character as described in my pending application hereinbefore referred to.

I is a shaft, journaled in a stationary part of the instrument, and carrying the arms J and J′. The arm J′ is connected by means of a link K with the re-rolling mechanism and the arm J carries a member L having a fork L′ adapted to engage the exposed portion of the pin H which is adjacent to the reduced portion E^2 of the core E, as can be clearly seen by referring to Fig. 2. Thus when the music is entirely unwound from the core the member L is permitted to drop into a position where the fork L′ will be in the path of the exposed pin H, the music sheet F being cut away near its end as indicated at F′ for this purpose. Thus as the spool continues to rotate in the direction indicated by the arrow in Fig. 2, the pin H will enter the fork L′ and force the member L to the left in Fig. 2. This will cause the shaft I to be partially rotated and the link K will be raised and the re-rolling mechanism thrown in commission. It is to be understood that the forked end of the member L rests on the music sheet before the cut-away portion F′ is reached.

With my device the parts forming the spool D^2 are sold and remain with the instrument and the music rolls are sold separately and are interchangeable as can be readily

seen. Heretofore each music roll consisted of a complete spool so that each time a new series of selections was to be played a complete new spool had to be placed in position. These spools were very heavy and cumbersome and were bulky to ship. With my improvement the heavy parts of the device are shipped only with the instrument. My improved roll is thus light and easy to handle and also easy to pack and ship.

Various modifications may be made without departing from the spirit of my invention as brought out in the claims.

I claim

1. A spool for automatic musical instruments, comprising a shaft having a flange secured thereto at a distance from one end, and a pin projected from said flange parallel with the shaft toward the other end, and another flange arranged to be slipped on and off the said other end of the shaft.

2. A spool for automatic musical instruments, comprising a shaft with flanges adjacent to its ends, one of said flanges being arranged to be slipped on and off the shaft, and one of the flanges having an eccentric pin projected toward the other flange parallel with the shaft.

3. A music roll for automatic musical instruments, comprising a shaft with a fixed flange adjacent to one end and a removable flange adjacent to the other end, one of said flanges having an eccentric pin projected toward the other flange parallel with the shaft and a core having an axial bore to receive the shaft and an eccentric recess for said pin.

4. The combination with the spool shaft having flanges adjacent to each end and a pin projected from one of the flanges toward the other parallel with the shaft, of the core fitted between said flanges and having an axial bore to receive the shaft, a recess for said pin and a reduced portion adjacent to the flange from which said pin is projected, so as to expose a portion of the pin and mechanism arranged to be engaged by said exposed portion of the pin when the note sheet is unwound.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY KOCH.

Witnesses:

MAURICE CHAILLET,

JOHN BOSE.