

No. 777,957.

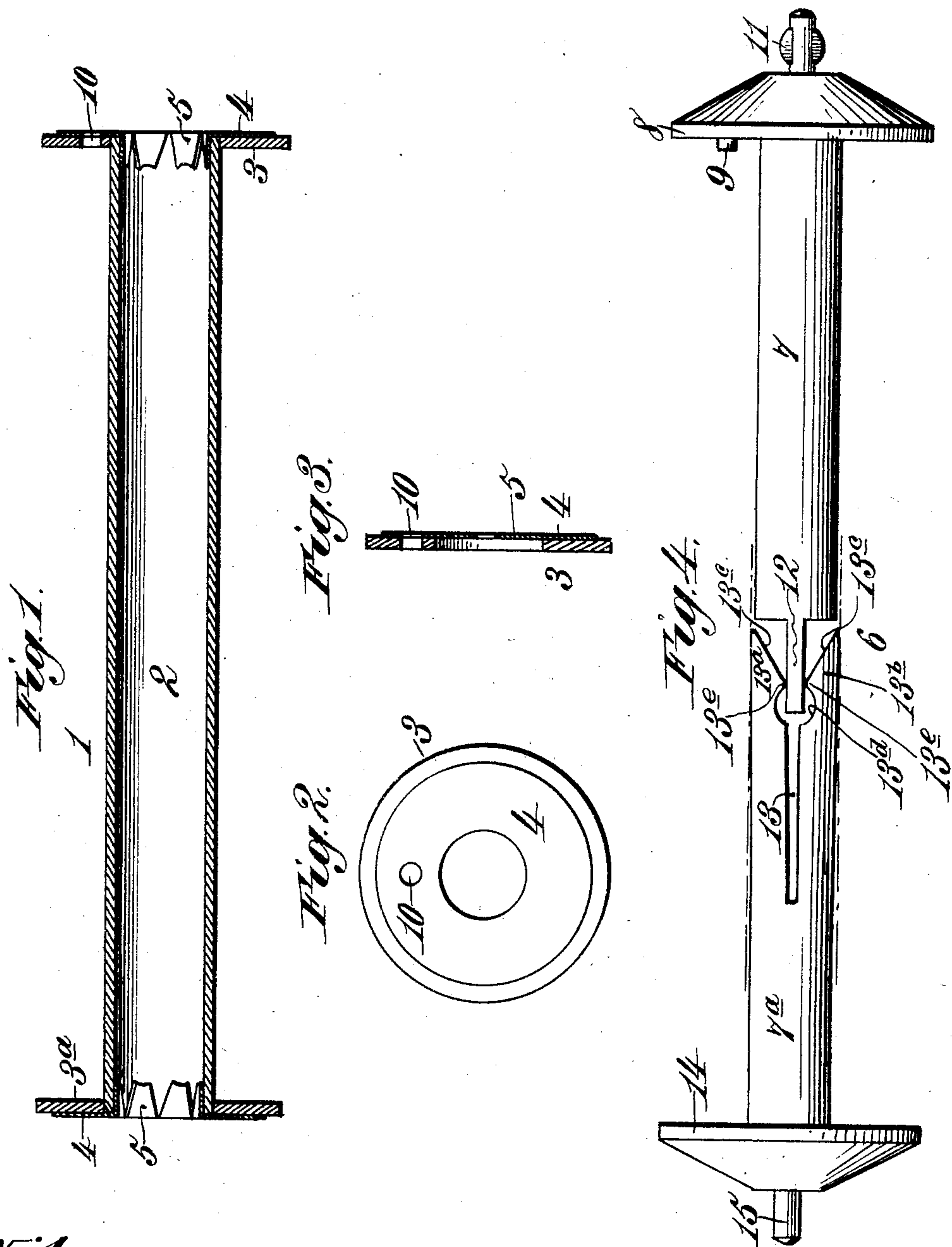
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G. B. KELLY.

MUSIC ROLL FOR MECHANICAL MUSICAL INSTRUMENTS.

APPLICATION FILED JULY 18, 1904.

NO MODEL.



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UNITED STATES PATENT OFFICE.

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MUSIC-ROLL FOR MECHANICAL MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 777,957, dated December 20, 1904.

Application filed July 18, 1904. Serial No. 217,049.

To all whom it may concern:

Be it known that I, GEORGE B. KELLY, a citizen of the United States, residing at Jamaica Plain, Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Music-Rolls for Mechanical Musical Instruments, of which the following is a specification.

My invention relates to improvements in music-rolls for mechanical musical instruments.

Heretofore the item of manufacturing and furnishing music-rolls has been a very material expense. It is the object of my invention by a novel construction of music-roll and a novel means of incorporating the same into the mechanism of a mechanical musical instrument to materially reduce this expense.

With the stated object in view my invention consists in a music-roll constructed as hereinafter described, and set forth in the accompanying clauses of claim, and in such music-roll in combination with a novel means for receiving, supporting, and incorporating the same into a mechanical musical instrument.

That which is regarded as new will be set forth in the accompanying clauses of claim.

In the accompanying drawings, illustrating my invention, Figure 1 is a longitudinal sectional view of the music-roll. Fig. 2 is an end view thereof. Fig. 3 is a vertical sectional view of one of the end disks for the music-roll, and Fig. 4 is an elevation of the music-roll shaft and appurtenant devices.

In the said drawings the reference-numeral 1 designates generally the music-roll, which consists of a tube 2, hollow throughout and constructed of paper, pasteboard, or like light and economical material. At the opposite ends of this tube are provided end flanges 3 3^a, constructed of paper, pasteboard, or like material. These flanges are arranged upon the tube and secured thereto in any suitable manner, so as to be flush with the ends of the tube, as by means of cement, glue, or in a similar suitable manner. The arrangement of the flanges upon the tube is insured by means of an auxiliary securing means consisting of a

disk 4, of strong paper, linen, or like material, pasted, cemented, or otherwise secured to the outer faces of the flanges and having centrally-located attaching-flaps 5, which are inwardly bent and cemented, glued, or otherwise suitably secured to the interior wall of the tube 2. By this means a very simple and economical music-roll is provided and one which is of adequate stability to withstand the work intended therefor. The flanges are secured in an efficient way in the novel manner set forth and serve to maintain the music-sheet in proper wound position on the music-roll. One of the end flanges, as 3, is provided with a perforation 10, adapted for interconnection with a stud or pin 9, with which the music-roll shaft is provided, whereby said music-roll is caused to rotate in unison with said shaft.

The numeral 6 designates the music-roll shaft, preferably of wood, which is constructed of two parts or sections 7 7^a. One of these parts or sections is provided with a collar 8 at one end, designed to define or determine the position of the music-roll upon said shaft, the said music-roll being intended to be arranged upon said shaft with its end flange 3 in contact with said collar. The collar 8 is provided with a laterally-extending pin or stud 9, adapted to engage with the perforation 10, with which the end flange 3 is provided, thus connecting the music-roll with the shaft for rotation therewith. This section 7 of the music-roll shaft is also provided with a clutch device 11, fashioned to engage with mechanism for rotating said shaft and the music-roll, and it is provided also with a projecting tongue 12 at its inner end. The other section, 7^a, of the music-roll shaft is constructed with a slitted end 13, the members of which, 13^a 13^b, constitute spring clutch members. The extremities of the spring clutch members are beveled, as shown at 13^c, to guide and facilitate the entrance therebetween of the tongue 12 of the section 7 of the shaft. Immediately behind the beveled ends of the spring clutch members the said members are cut away, as shown at 13^d, providing gripping-points 13^e, behind

which is a clearance to facilitate ease of connection and disconnection of the shaft. When the two sections of the shaft are assembled with the music-roll arranged thereon in operative position, the tongue entering between the spring clutch members forces them apart and causes them to frictionally engage the music-roll at or about its middle portion, and by reason of the inherent clasping tendency of the members of the slitted end they engage frictionally with the tongue of the section 7, whereby the two sections of the music-roll shaft are held together to constitute a practically operative integral shaft, readily separable, however, to enable the arrangement upon and removal from the shaft of different music-rolls, as may be required.

At its outer end the section 7^a of the shaft is provided with a music-roll-confining collar 14 and with a pintle or stud 15, by which this end of the music-roll is journaled in a suitable part of the mechanical musical instrument in order that the shaft and roll carried thereby may be properly supported for rotation.

In use the sheet of perforated music is wound upon the music-roll and maintained in proper position thereon by the end flanges. Such a music-roll is incorporated into the mechanism of the mechanical musical instrument by separating the two sections of the music-roll shaft, sliding the music-roll over the section 7, and causing the pin or stud 9 to engage the opening 10 in the end flange 3 of the music-roll, then introducing the other section of the music-roll shaft into the bore of the music-roll until the tongue 12 enters between the spring clutch members 13^a 13^b, whereby the two parts of the music-roll shaft are held together. This causes the spring clutch members to be forced outwardly into frictional engagement with the middle portion of the music-roll, as illustrated in Fig. 4. This is attended with the advantage that instead of having a single positive engagement between the music-roll and its shaft at one end to cause rotation of said music-roll with the shaft, which would possibly result in some undesirable torsional action, the arrangement is such that there is also a driving or frictional connection between the music-roll shaft and the music-roll at a point distant from the end engagement of the former with the latter, insuring a perfect unison of movement between the music-roll and the music-roll shaft.

Having thus fully described my invention, what I claim is—

1. A music-roll consisting of a tube hollow throughout and provided with end flanges arranged flush with the ends of said tube, and reinforcing attaching means for said flanges consisting of disks secured to said flanges and secured also to said tube, substantially as described.

2. A music-roll consisting of a tube hollow throughout and provided with end flanges,

one of which is provided with an opening and a music-roll shaft consisting of two sections, one of said sections having a slitted end constituting spring-clutch members, and the other of said sections provided with a tongue to enter the slitted end of the first-named section, a collar on one of said sections, a clutch for connection with driving mechanism, and means for engaging the opening in the music-roll flange, substantially as described.

3. A music-roll consisting of a tube hollow throughout and provided with end flanges, one of said flanges having means for connection with music-roll shaft, in combination with a music-roll shaft consisting of two sections, one of which is constructed with a slitted end providing spring members having beveled entrance ends, and the other of which is provided with a tongue adapted to enter between said spring members for the purpose of forcing the latter into frictional engagement with the middle portion of the music-roll and to maintain the two sections of the music-roll shaft connected, a collar carried by one of said music-shaft sections, a clutch connected with said section for engagement with driving mechanism, and means for engaging the flange of the music-roll, substantially as described.

4. A music-roll consisting of a tube hollow throughout and provided with end flanges, one of said flanges being provided with an opening, in combination with a music-roll shaft consisting of two sections, one of which is provided with a slitted end forming spring clutch members, and the other section having a tongue to enter between said spring members for the purpose of forcing the latter into engagement with the middle portion of the music-roll and for the purpose of maintaining the two sections of said shaft connected, a music-roll-positioning collar on one of the shaft-sections having a pin to engage the opening in the end flange of the music-roll, a music-roll-confining collar on the other section, a clutch device for connection with driving mechanism, whereby said shaft and music-roll are driven in unison, substantially as described.

5. A music-roll for mechanical musical instruments, consisting of a tube hollow throughout and provided with end flanges arranged flush with the ends of said tube, and reinforcing attaching means for said flanges consisting of a disk having centrally-located laterally-disposed attaching-flaps secured to the interior wall of said tube, substantially as described.

6. A music-roll for mechanical musical instruments, consisting of a tube hollow throughout and provided with end flanges arranged flush with the ends of said tube, and one of which flanges is provided with means for connection with mechanism for rotating the same, and reinforcing attaching means for said flanges consisting of a disk having centrally-

located laterally-disposed flaps secured to the interior wall of said tube, substantially as described.

7. A music-roll consisting of a tube hollow
5 throughout and provided with end flanges,
and a separable music-roll shaft consisting of
two sections provided with interengaging
clutch members, one of said sections provided
with a clutch for connection with the driving
10 mechanism, and means for connecting said

music-roll and shaft for rotation in unison, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE B. KELLY.

Witnesses:

E. C. THOMPSON,

W. C. MANSFIELD.