



Date of Application, 26th July, 1894—Accepted, 1st Sept., 1894

COMPLETE SPECIFICATION.

Improvements in and connected with Music Sheets for Mechanical Musical Instruments.

I, Dr. FRIEDRICH ADOLF RICHTER, of Rudolstadt, in the Empire of Germany, Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 Heretofore the metallic and paperboard music sheets of mechanical musical instruments have either been rotated from the centre or have been moved along by toothed gear or by friction rollers. Now the movement by means of toothed gear is always accompanied with a certain amount of noise, whilst movement by means of friction rollers requires an expenditure of too much power.

10 According to my present invention I provide only the outer edge or border of circular and annular music sheets, with suitable projections say for a width of about $\frac{1}{2}$ an inch; or in the case of circular or annular music sheets of large size the same are provided with suitable projections situated within or between the lines of the music in the direction of the rotation of the circular or annular sheets
15 so as to form actuating ways. In the case of music sheets in the form of strips or ribbons, these actuating ways are composed of suitable projections arranged in the longitudinal direction of the strips, and both outside of, and inside of, the lines of music according to the width of the music strips.

20 The onward motion or travel of the music sheets is effected by means of two rollers arranged one over the other and covered with elastic material (caoutchouc or the like) and located over and underneath the actuating way. The elastic actuating rollers act after the manner of toothed wheels, because the projections of the actuating way are pressed into the yielding covering of the rollers, whereby the actuating of the music sheet is rendered easier, and interruptions of the uniform
25 travel of the strips or sheets (which are of frequent occurrence with the ordinary driving gear) are completely obviated. The rollers are rotated either by hand or by any other power in the usual manner. If the projections of the actuating way are provided only on one side of the music sheet, then only the roller which engages with the projections need be furnished with an elastic covering.

30 My invention will be more readily understood by the following description having reference to the accompanying drawing whereon is shown several arrangements and constructions of the actuating ways for music sheets.

In the case of metallic music sheets, the projections which serve as teeth are pressed up or stamped out, and may have the shape of the longitudinal ribs *a* or of
35 undulating or corrugated ribs *b*, arranged at equal distances apart, as shown in Figs. 1, 2, 5, 6 and 7. Or the actuating ways may have the form of conical projections *c* as shown in Figs. 4, 8, 9 and 10, or of egg-shaped or elliptical projections *d*, as shown in Figs. 3 and 10.

40 Figs. 11 and 12 show respectively a plan and a section through the conical projections *c*, drawn to a larger scale than the previous figures.

In the case of music sheets of paper, cardboard or the like, the projections of the actuating way are formed by the insertion of wire staples *f*, Fig. 13, or by the insertion of studs *g* with heads of conical or elliptical form as at Fig. 14.

Figs. 15 and 16 illustrate the arrangement of the actuating rollers.

45 In Fig. 15 only the lower roller is furnished with an elastic covering; and the upper roller serves solely as a pressure roller.

In Fig. 16, both rollers are covered with elastic material, because the projections of the actuating way project on both sides of the music sheet.

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Richter's Impts. in and connected with Music Sheets for Mechanical Musical Instruments.

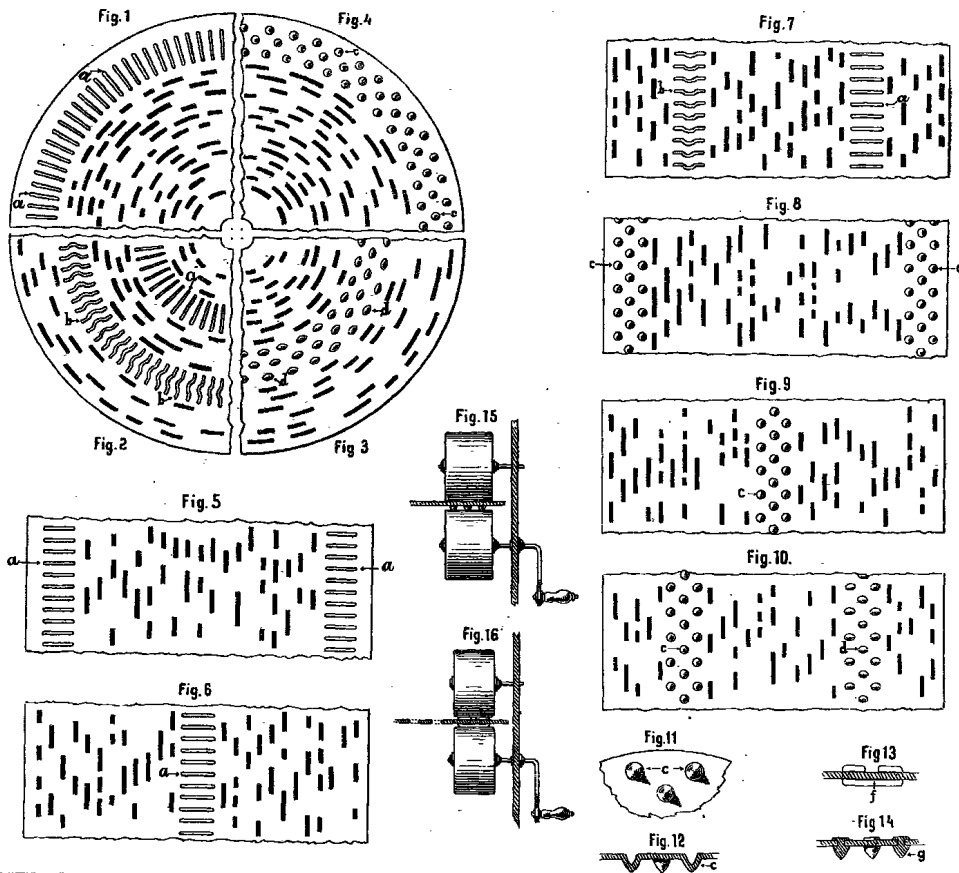
Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. In mechanical musical instruments, the means for actuating the metallic, paper, or cardboard music sheets therein, one or more actuating ways being formed or provided on the music sheets, which are caused to pass between two rollers arranged one above the other, one or both of which rollers are furnished with an elastic covering, into which the projections of the actuating way are pressed whereby a noiseless, easy and uniform travel of the music sheet is effected, all substantially as and for the purposes hereinbefore described. 5 10

2. The general arrangement and construction composing my improvements in and connected with music sheets for mechanical musical instruments all combined and acting as and for the purposes herein described with reference to the accompanying drawings. 15

Dated this 26th day of July 1894.

BREWER & SON,
London and Leeds, Agents for Applicant.



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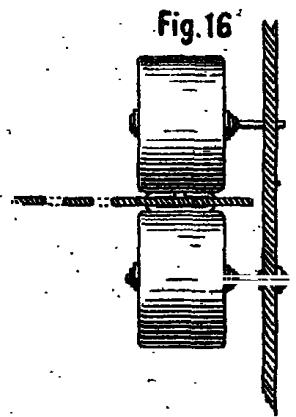
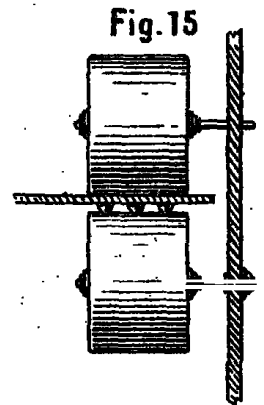
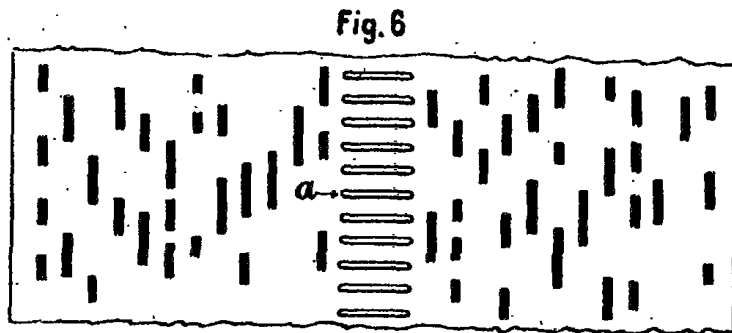
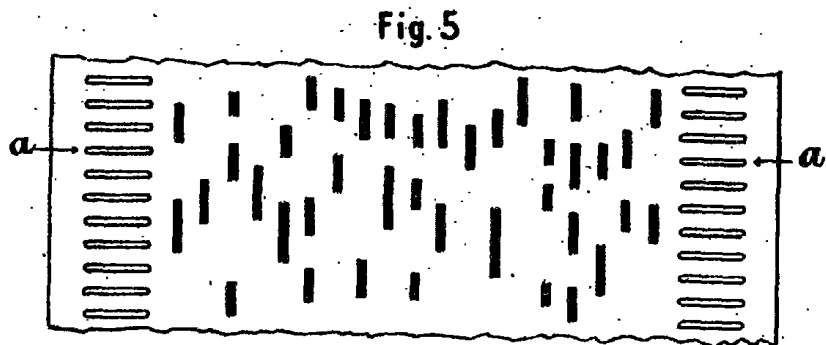
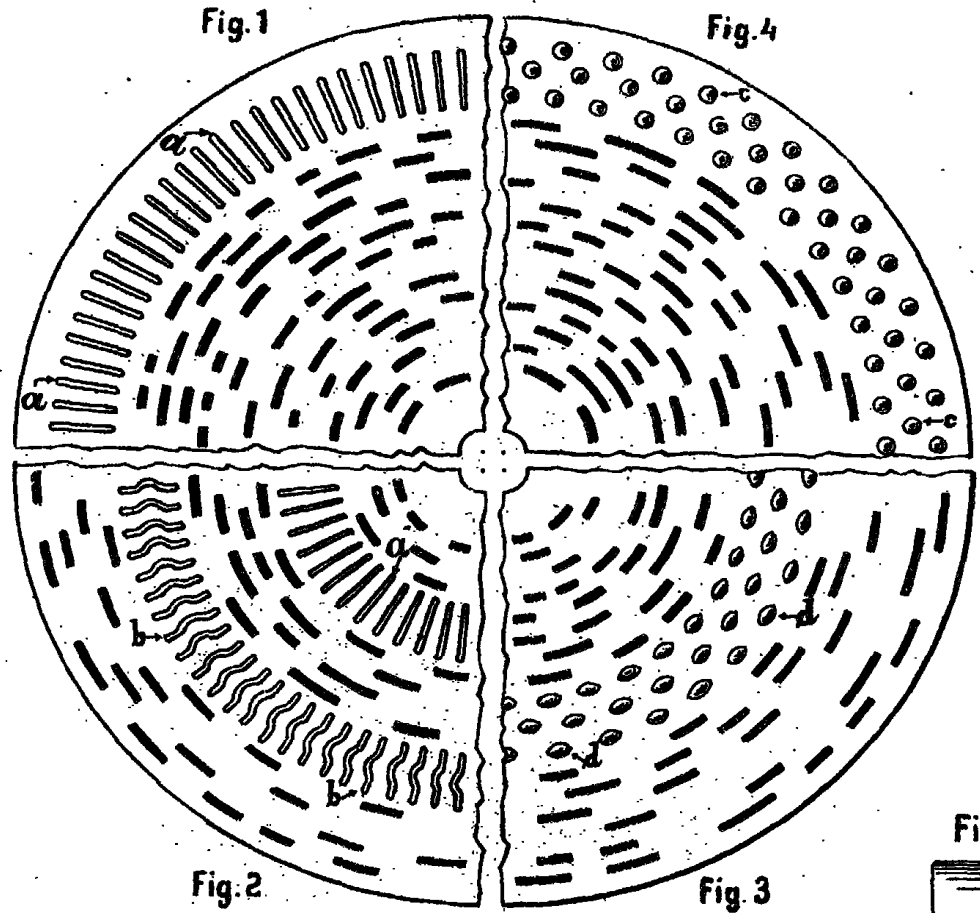


Fig.7

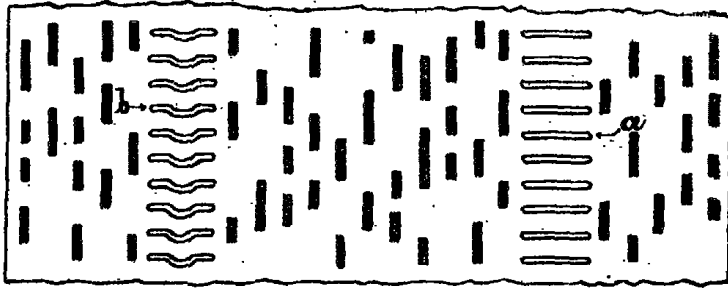


Fig.8

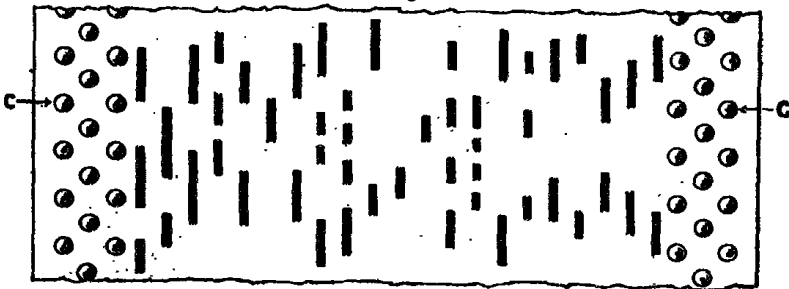


Fig.9

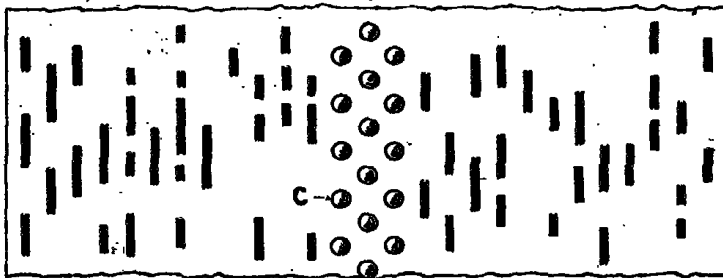


Fig.10.

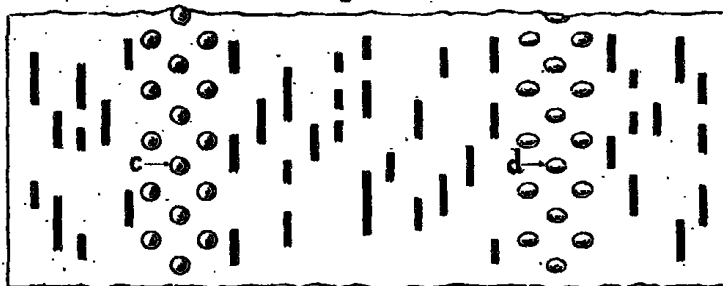


Fig.11

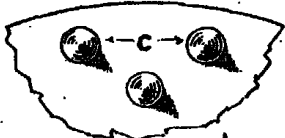


Fig.12



Fig.13

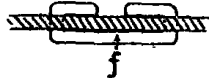


Fig.14



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