

N^o 14,941



A.D. 1902

Date of Application, 4th July, 1902—Accepted, 21st Aug., 1902

COMPLETE SPECIFICATION.

“Improvements in connection with Mechanical Musical Instruments.”

I, FRIEDRICH ADOLPH RICHTER, Doctor of Philosophy, of Rudolstadt, Germany, do hereby declare the nature of my said invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

5 The present invention relates to that class of mechanical musical instruments in which the tunes are produced by the contact of the points or teeth of a set of star wheels with the teeth of suitably arranged combs, and its object is to provide the said wheels with a damper for each tooth or point, which may easily be taken out and replaced by a new one if broken.

10 In order to render the present specification easily intelligible reference is had to the accompanying drawing in which similar letters of reference denote similar parts throughout the several views:—

Figs 1 and 1^a are front elevation and section of one form of embodying the invention.

15 Figs 2 and 2^a are similar views of a modified form.

Figs 3 and 3^a are similar views of a further modification and

Fig 4 is a sectional elevation of the star wheel together with the comb.

20 Star wheels of the class of musical instruments above mentioned, are known, in which the points of the said wheel are provided with stuff or fabric wound on to the same and adapted to project in front of the tooth or point and contact with the comb and damp the same. This arrangement has the disadvantage that the stuff easily frays out and becomes ineffective for the purpose, or it gets clogged up with dust oil and the like and hardens so that it not only does not damp the tone but causes a jarring noise by contact with the comb teeth.

25 A further disadvantage is that if one of these stuff dampers becomes injured or defective the whole wheel is rendered useless—

These disadvantages are obviated in the present arrangement in that a separate damper is provided for each point or tooth of the star wheel, the said dampers being easily interchangeable and consisting of steel wire or other suitable wire. 30 The damper wire is screwed, rivetted or soldered or otherwise attached to the face of the wheel and its free end is bent round laterally so as to lie a short distance in advance of the end or point of the tooth and thus to contact with the end of the tooth of the comb before the point of the star wheel strikes and vibrates the same. If the note sheet or disc of the instrument is provided with 35 teeth or playing edges arranged very closely together, in which case there is a danger of the next lying set of the playing edges contacting with the damper of the wrong star wheel and injuring it, the teeth of the star wheel are advantageously provided with grooves made at a suitable distance from the points of the same, in which groove the free end of the wire damper lies, so that it 40 no longer projects laterally. The same result may be attained even more advantageously by providing the ends of the star wheel teeth with slots, in which the bent round end of the damper wire is placed and thus entirely preserved against injury. In both the latter modifications, the wire may be countersunk in the face of the wheel, at its point of attachment so that the whole damper

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Richter's Improvements in connection with Mechanical Musical Instruments.

wire will lie in the plane of the groove or slot of the tooth and a star wheel provided with such a set of dampers will have as plain a face as one without dampers.

In Figure 1 a star wheel is illustrated having nine metal dampers. The damper wires *a* are rivetted to the face of the wheel at *b* and lie with their free ends at the side of the wheel a slight distance from the point of the teeth. In Figure 2 the damper wire is countersunk in the face of the wheel at *b* and the star wheel teeth are provided with grooves near their points in which the bent round ends of the dampers lie, so that they do not project laterally beyond the face of the wheel. In Figure 3 the end of the damper wheel lies in a slot or recess formed in the tooth of the star wheel. In Figure 4 the parts are illustrated in the position they occupy when the tooth of the comb is about to be struck, the damper lying against the comb tooth. In all three modifications the ends of the damper wires are free and being elastic will spring back to their original position after they have passed the comb tooth.

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:—A star wheel for operating the comb tongues or teeth of mechanical musical instruments, in which each tooth of the said wheel is provided with a separate easily interchangeable wire damper substantially as described.

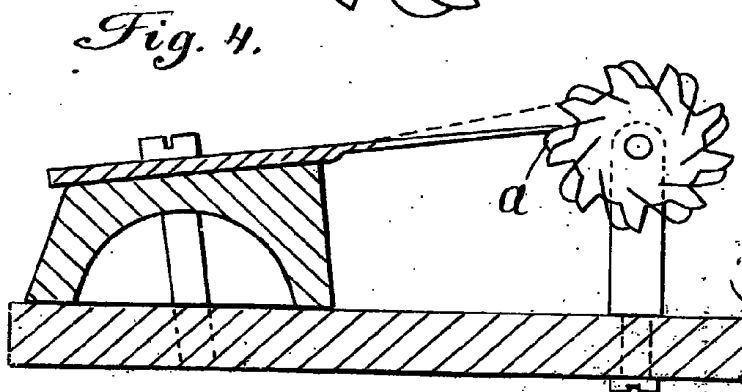
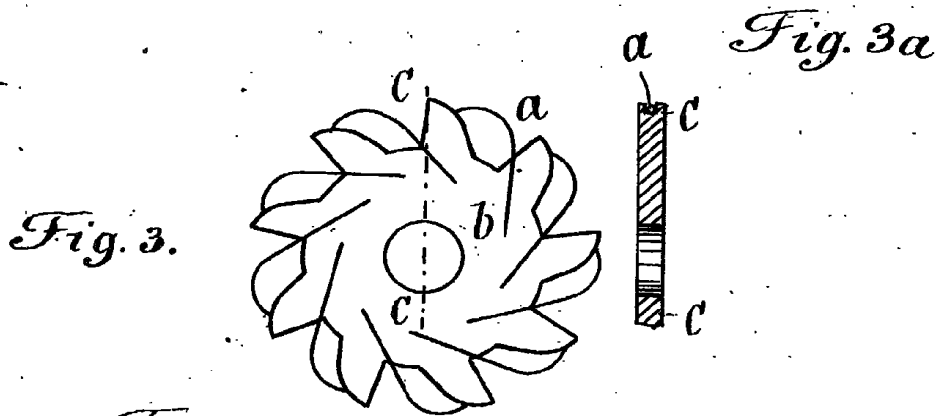
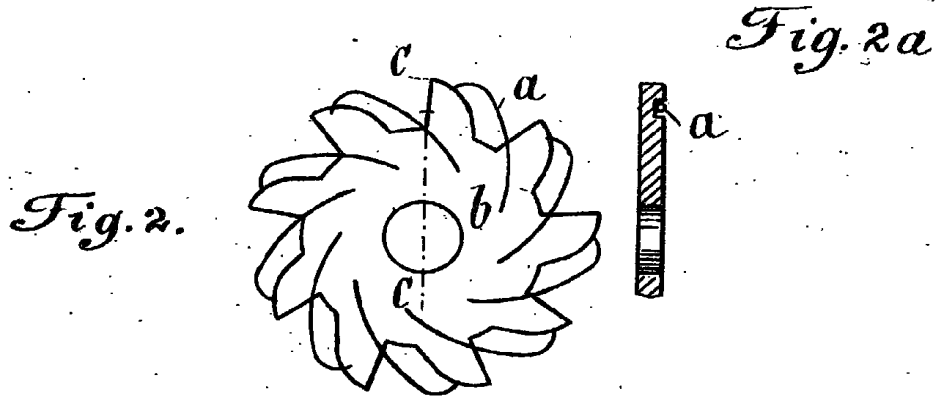
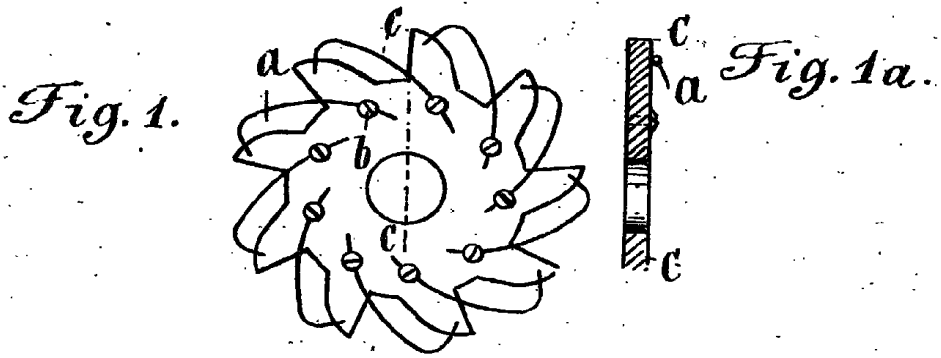
2:—A modified form of the device covered by Claim 1, according to which the free end of the wire damper lies in a lateral groove of the tooth of the star wheel substantially as described.

3:—A modified form of the damper covered in Claim 1 according to which the end of the wire lies in a slot or recess in the edge of the tooth of the star wheel and is thus protected at both sides.

4: A star wheel having a series of wire dampers arranged as specified and as illustrated in the accompanying drawing for the purpose described.

Dated this 4th day of July 1902.

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[This Drawing is a reproduction of the Original on a reduced scale.]