



Date of Application, 9th June, 1894—Accepted, 28th July, 1894

COMPLETE SPECIFICATION.

Improvements in or connected with Musical Instruments.

I, 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 The dampers or deadening devices usually employed in connection with the steel or other tongues or reeds of musical instruments act either by lateral pressure, or by braking or arresting the tongue from below or from above, or by the damper or deadening device being placed in front of the tongue. Now according to my invention and as hereafter described, the dampers act in
10 opposition to the curve of vibration of the tongues and therefore deaden the vibration or sound thereof quicker and more effectually than heretofore.

My invention will be readily understood by reference to the accompanying drawing, Figures 1 to 5 being elevations, or partial elevations, Figures 6 and 7
15 plan views of constructions shown at Figs. 1 and 2, and Figure 8 a plan on a larger scale than the previous figures showing the tongues in greater detail.

The tongues are formed either with a lateral excision or notch such as *b* in Fig. 8, or with a slit or slot such as *b*¹, Fig. 8, and the elastic damper projecting into the excision or notch or into the slot, is furnished on its side nearest to the star wheel or equivalent, with a bulge or prominence, the object being
20 immediately before the tongue is vibrated, to cause the damper to be pushed away or distanced from the shoulder *c*, (Fig. 8) by the teeth of the star wheel into the position shown at *d*, Fig. 8, so that the said tongue is allowed to vibrate freely.

The bulge or bend *a*¹ of the damper spring *a*, Figs. 1 and 2, or of the
25 damper lever *f*, Figs. 3 and 5, is of such a shape that the damper (Figs. 1, 2 and 3) will, before the tongue is again vibrated, bear firmly against the shoulder *c*, Fig. 8, and in this manner stop the vibration of the tongue.

Figs. 6 and 7 are plan views showing the positions of the damper shown in Figs. 1 and 2, Fig. 6 showing the damper in its "off" position, and Fig. 7
30 showing it in its "on" position, that is to say acting as a damper.

In the arrangement shown in Fig. 3, the damper consists of a rigid piece of metal *f* adapted to pivot about a shaft and pressed by a separate leaf or flat spring *g* against the shoulder *c*, Figure 8, of the tongue.

In Figs. 1 and 2, the damper consists of a bent leaf spring which tapers to a
35 point at the top and is pressed by its own elasticity against the edge *c* of the tongue.

Of course, spring wire could be used instead of a leaf spring.

The damper may also be arranged and constructed in such a manner that it is pressed, not by spring action, but by the teeth of the star wheel against the other
40 edge *e*, Fig. 8, of the tongue, and thereby arrests the vibration of the latter. In this arrangement the damper spring *a*, Figure 4, must be arranged in such a manner that it is situated free and unimpeded in the notch or slot in the tongue; and in order to obtain this result with the damper lever *f*, the latter must be provided at its lower part with a shoulder or stop *f*¹, Figure 5.

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

1. In musical instruments, the steel or other tongues in which a notch *b* or a
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slot *b*¹, Figure 8, is provided for the purpose of allowing a damper to act against the front or rear edge of the notch or slot substantially as and for the purposes herein described with reference to the accompanying drawings.

2. In musical instruments having steel or other tongues of the kind specified in Claim 1, and wherein the dampers are pressed by their own elasticity or by separate springs *g*, Fig. 3, against the front edges *c* of the notch or slot substantially as and for the purposes described with reference to the accompanying drawing. 5

3. In musical instruments having steel or other tongues of the kind specified in Claim 1, and wherein the damper is pressed by the vibrating or striking wheel against the rear edge *e* of the notch or slot, and is repelled from said edge by its own elasticity or by a separate spring, substantially as and for the purposes described with reference to the accompanying drawings. 10

Dated this 8th day of June 1894.

BREWER & SON, 15
London and Leeds, Agents for Applicant.

Fig. 1

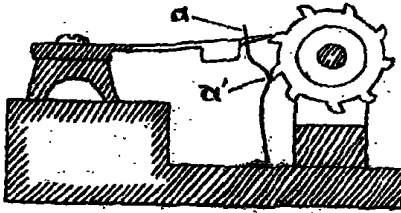


Fig. 2

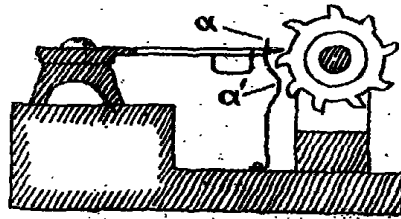


Fig. 3

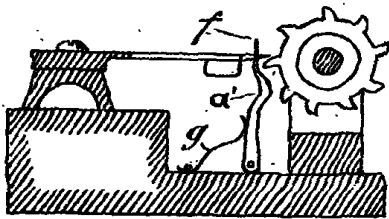


Fig. 4

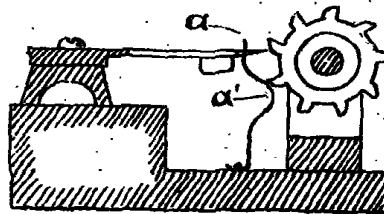


Fig. 5



Fig. 6

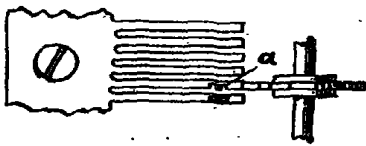


Fig. 7.

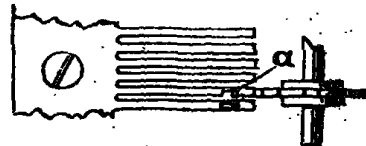
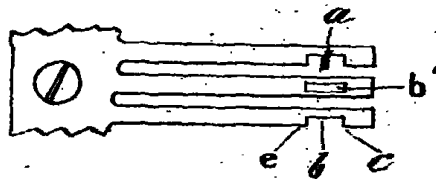


Fig. 8



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