

(No Model.)

A. RICHTER.
DAMPER FOR MUSICAL INSTRUMENTS.

No. 527,811.

Patented Oct. 23, 1894.

Fig. 1

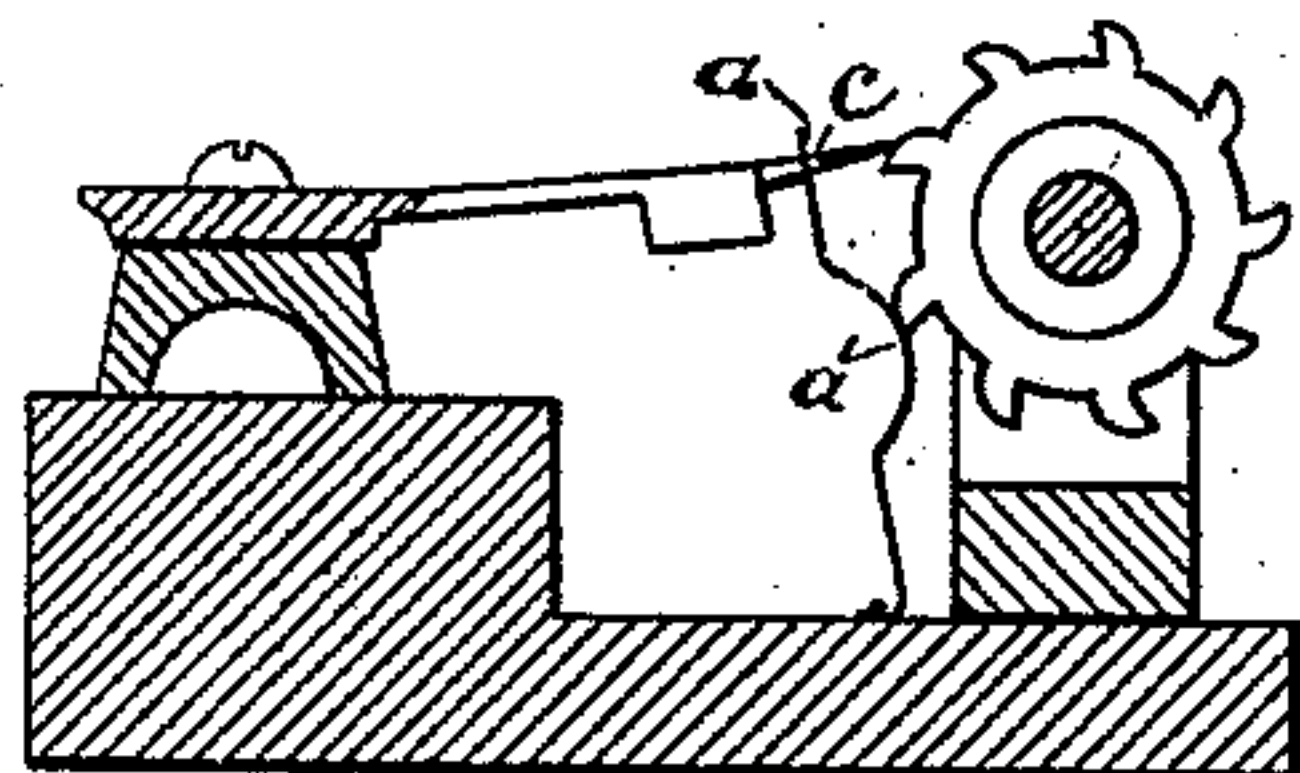


Fig. 2

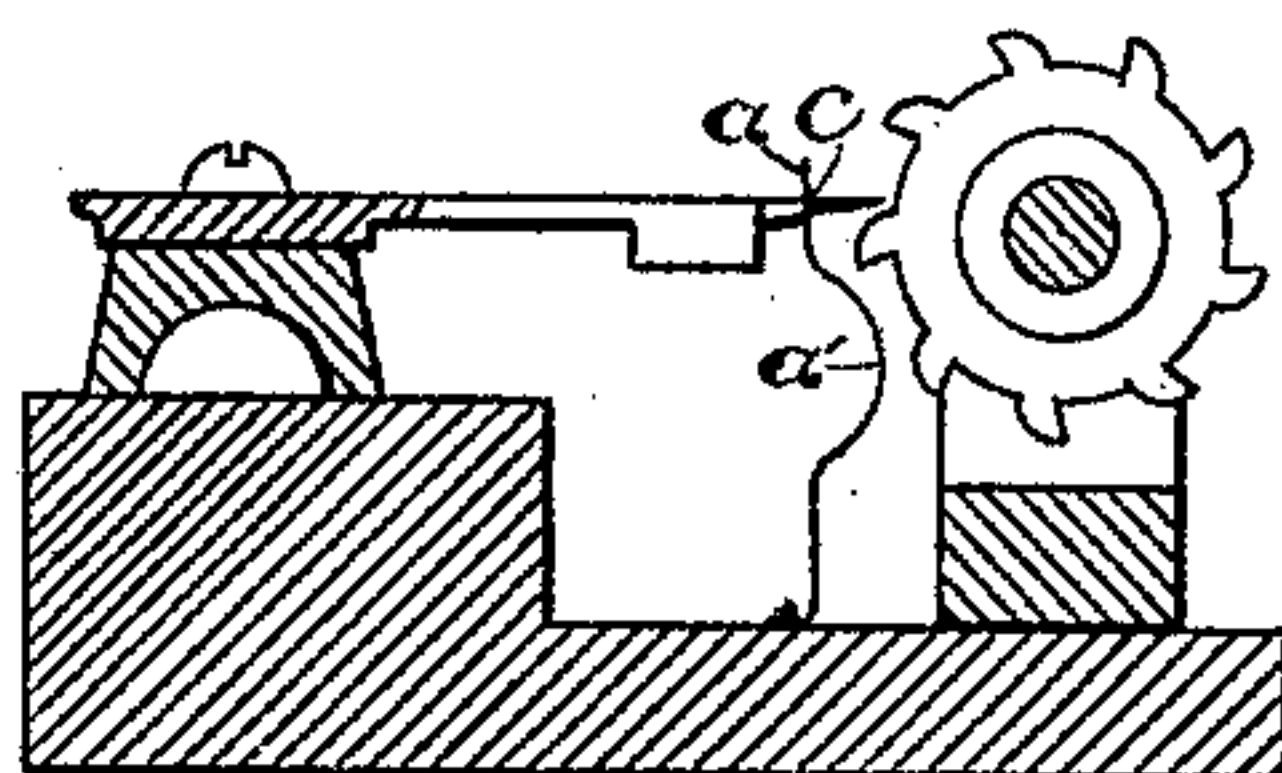


Fig. 3

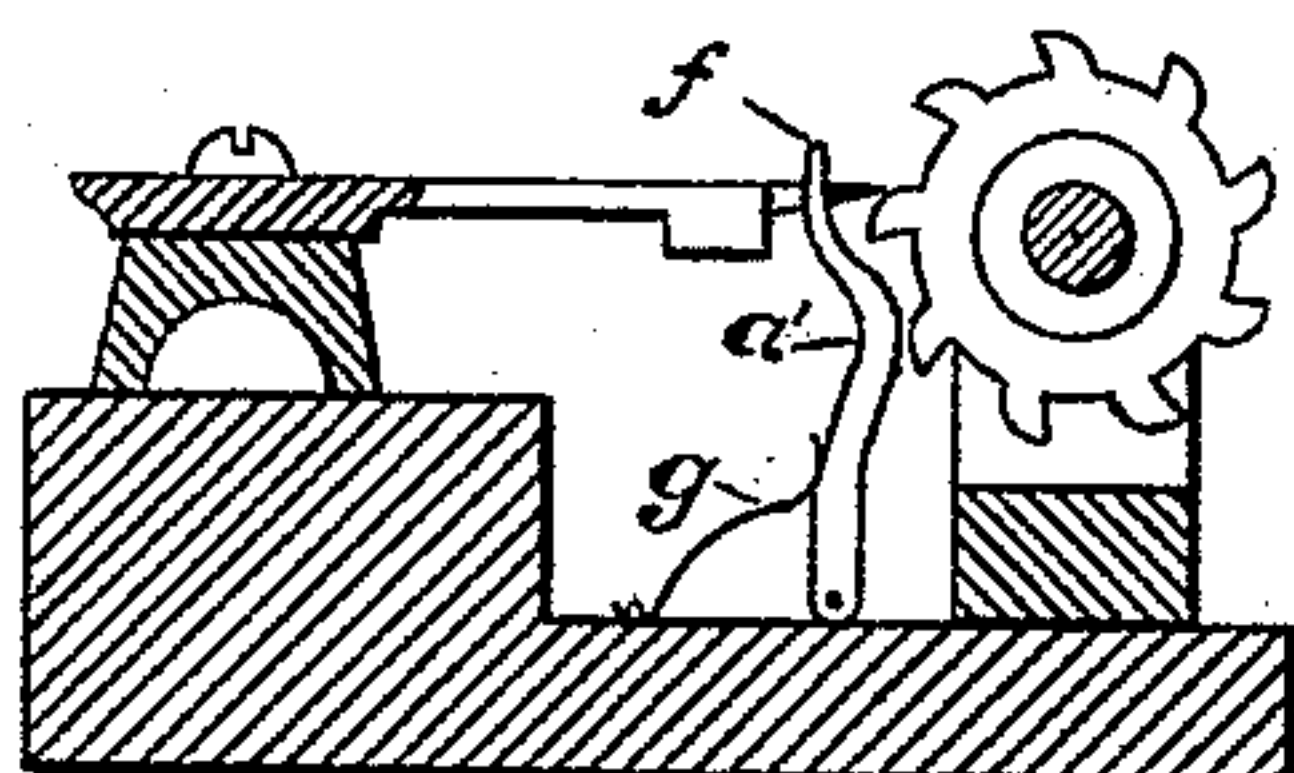


Fig. 4

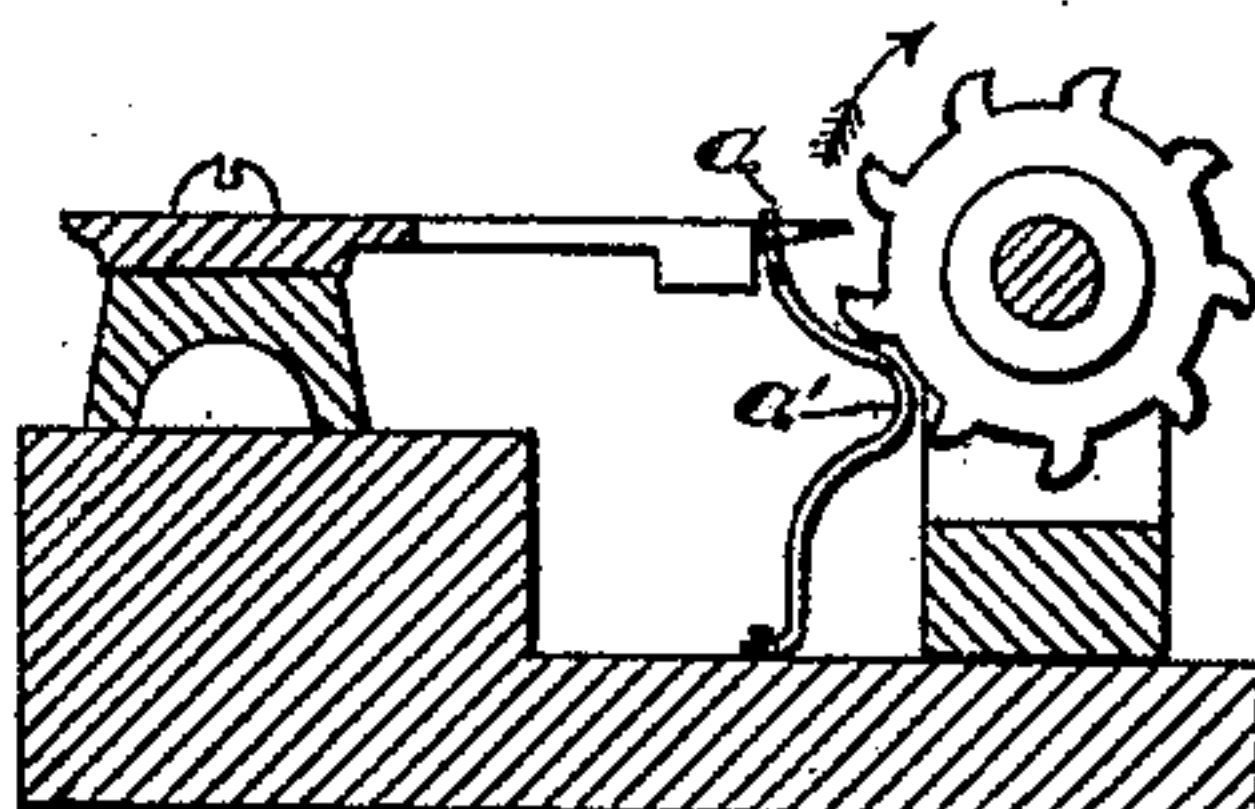


Fig. 5

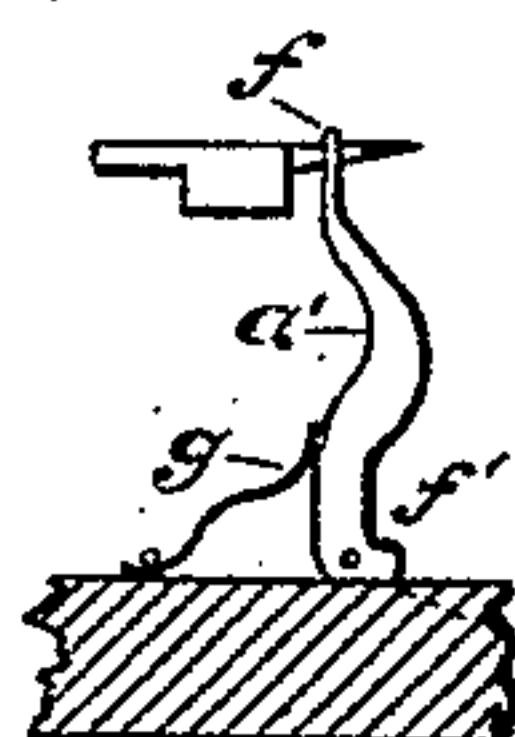


Fig. 6

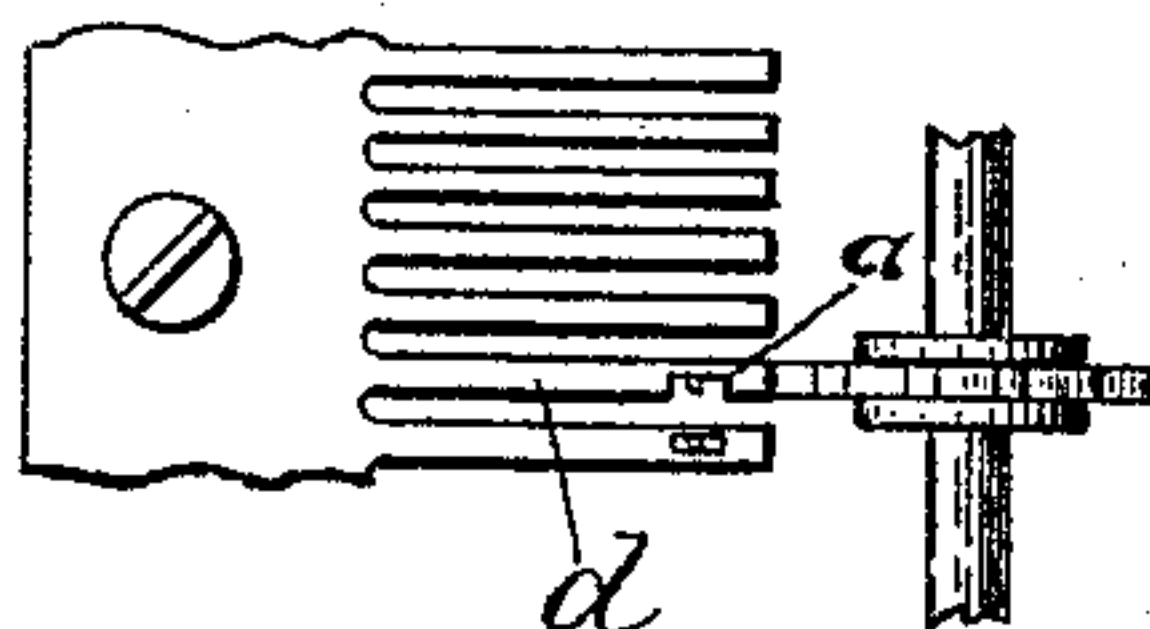


Fig. 7

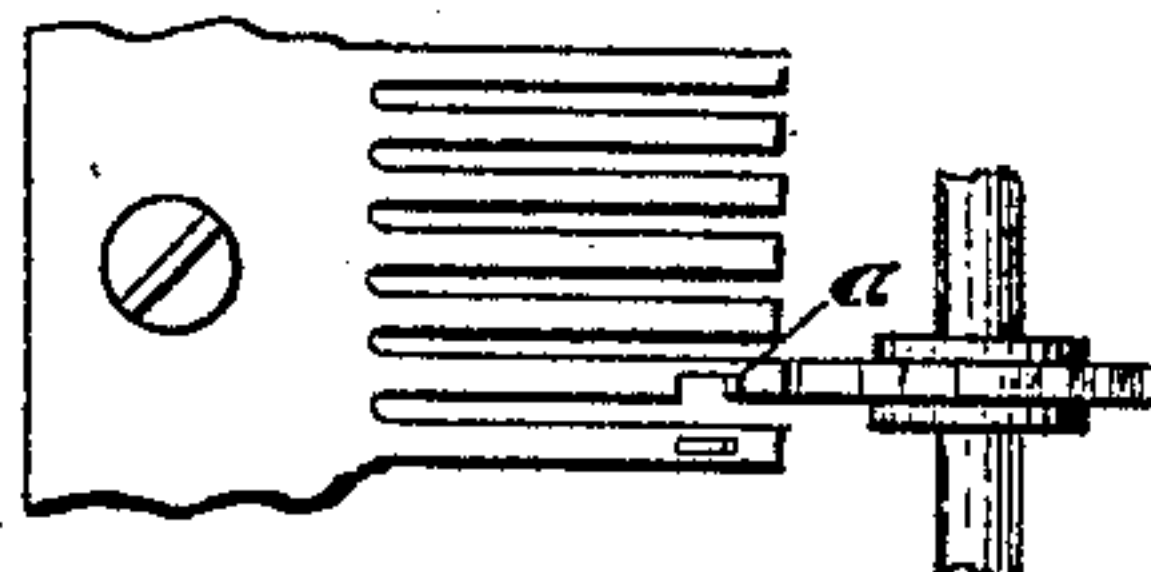
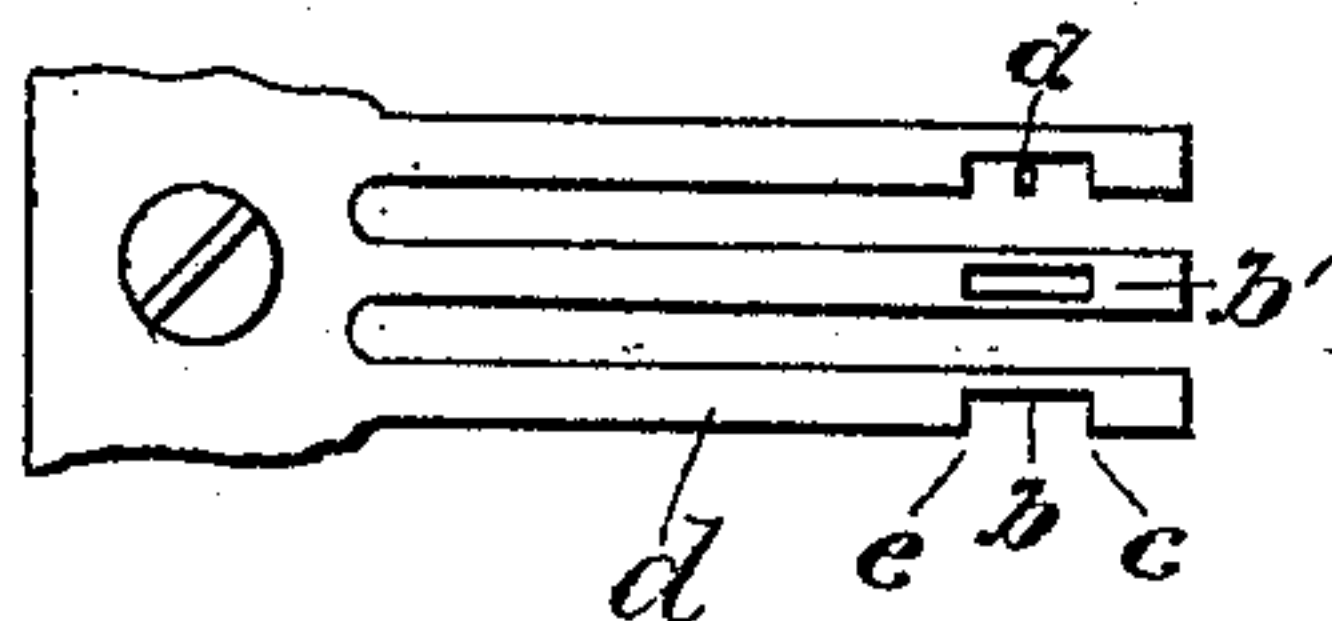


Fig. 8



WITNESSES:

Edmund A. House,
For E. House,

INVENTOR

Adolf Richter,

BY Briesen & Knautz

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ADOLF RICHTER, OF RUDOLSTADT, GERMANY.

DAMPER FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 527,811, dated October 23, 1894.

Application filed July 6, 1894. Serial No. 516,726. (No model.)

To all whom it may concern:

Be it known that I, ADOLF RICHTER, a subject of the King of Bavaria, residing at Rudolstadt, in the Principality of Schwarzburg-Rudolstadt, Germany, have invented certain new and useful Improvements in Dampers for Musical Instruments, of which the following is a specification.

The present invention consists of a damper device for employment in connection with mechanical musical instruments.

In mechanical musical instruments, in which the tones are produced by the action of the pins of a barrel on metallic tongues, the damper has been applied to the said tongues, hitherto, either from above or below, or laterally, or in some cases directly in front of the same.

The damper forming the object of the present invention presses against the tongue in a direction exactly opposed to the direction of the curve of vibration of the said tongue and consequently operates more reliably and more quickly than has hitherto been the case.

In order to make the present specification more easily intelligible reference is had to the accompanying drawings in which similar letters denote similar parts throughout the several views.

Figure 1 is a sectional elevation showing the damper out of contact with the tongue; Fig. 2, a similar elevation showing the damper in operation. Figs. 3 and 5 are similar elevations showing a damper lever actuated by a spring instead of a spring damper. Fig. 4 shows a modified form of the invention, in which the damper is normally out of contact with the tongue and actuated against the same by the toothed disk. Figs. 6 and 7 are plan views of Figs. 1 and 2 respectively and Fig. 8 is a part plan of the tongues showing the arrangement of the slots in the same, drawn to a larger scale.

Referring to Figs. 1 and 2: *a* is the spring damper having a bend *a'* at its upper part bulging out in the direction of the disk or pin barrel.

b (Fig. 8) is a slot in the tongue *d* or instead of the slot a lateral rectangular notch *b'* may be provided, into which the upper end of the damper *a* extends.

In Figs. 1 and 2 the upper end of the damper

a is normally in contact with the front end *c* of the slot or lateral notch.

The device operates in the following manner: On the rotation of the toothed disk or pin barrel to strike or lift the metallic tongues, to produce the sounds, before the tooth lifts the tongue, the next tooth below it contacts with the bend *a'* of the damper and pushes the upper end of the same away from the end *c* of the slot or notch, during the act of striking the tongue, as shown in Figs. 1 and 6. As soon however as the tooth has passed the tongue the second tooth has also passed the bend in the spring damper and the same springs back into contact with the end of the slot or notch, effectually muffling the vibrations of the said tongue, as shown in Fig. 2.

The same description applies to Figs. 3 and 5 with the exception that instead of a spring damper *a*, a damper lever *f* is employed, which is actuated by a spring *g* to normally contact with the end *c* of the slot *b*, said lever *f* being pivoted to the base plate of the instrument at *f'*. A flat spring may also be employed as a damper being tapered at the top, or instead of a flat spring a spring wire may be used.

It is evident that instead of making the damper to normally contact with the end of the slot or notch, the operation may be reversed without departing from the nature of the present invention. Thus, as shown in Fig. 4 the damper may be normally out of contact with the end of the slot or notch *b*, and may be actuated against the opposite end *e* of the same, by the tooth of the disk.

I wish it to be clearly understood that I do not confine myself to the particular construction of the damper and damper mechanism hereinbefore described.

What I claim as my invention is—

1. In mechanical musical instruments, a damper device, consisting of a slot or notch arranged in the tongue and a damper to contact with one end of said slot or notch substantially as described.

2. The combination of a slot or lateral notch *b* in the metallic tongue, and a spring damper *a* and means for operating the said damper substantially as described.

3. The combination of a tongue, having a slot or lateral notch *b*, and a spring damper, having a bend, *a'*, and a disk or pin barrel to

contact with the tongue and with the bend of the damper in the manner and for the purpose substantially as described.

4. The combination of a tongue, having a
5 slot or lateral notch *b*, a spring damper having in its upper part a bend *a'* and having its upper end lying within the said slot or notch, but normally out of contact with the same, and means for actuating the said damper against
10 the end *e* of the said slot immediately after

the tongue has been struck substantially as described.

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

ADOLF RICHTER.

Witnesses:

W. HAUPT,
A. VOGT.