

(No Model.)

2 Sheets—Sheet 1.

M. O. CLAUS, T. B. PÜTTMANN & H. E. C. FELIX.
MECHANICAL MUSICAL INSTRUMENT DAMPER.

No. 580,376.

Patented Apr. 13, 1897.

Fig. 1.

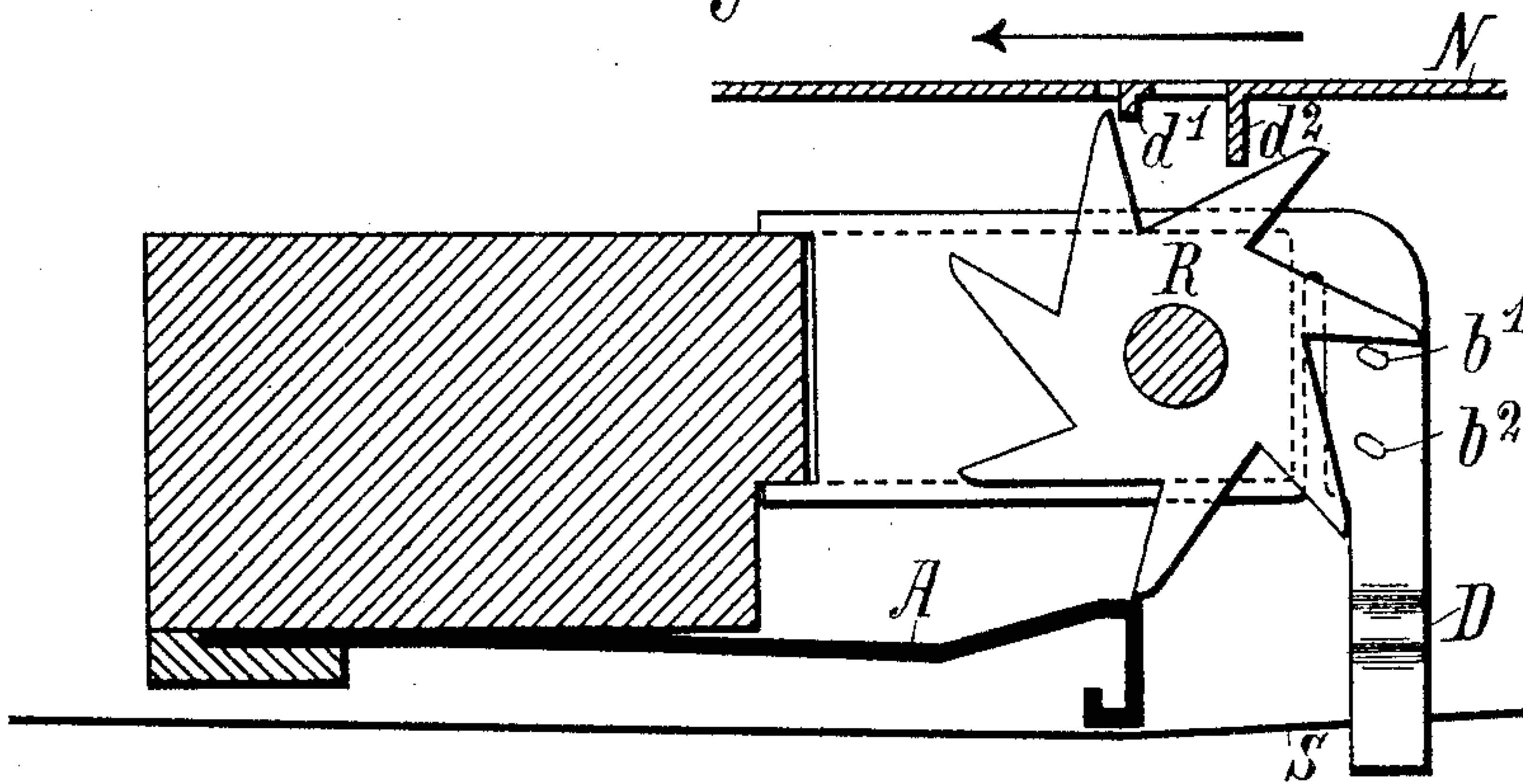


Fig. 2.

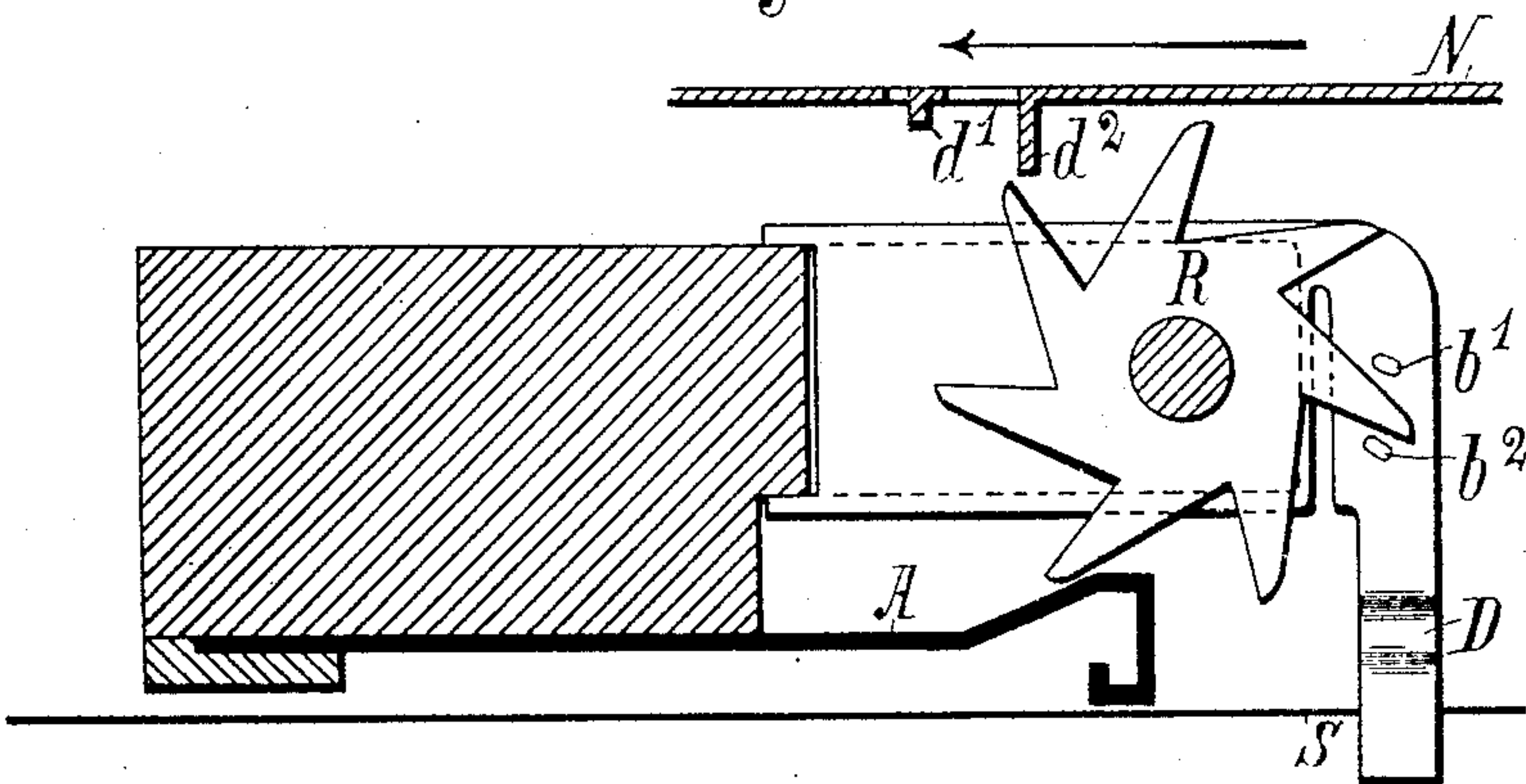
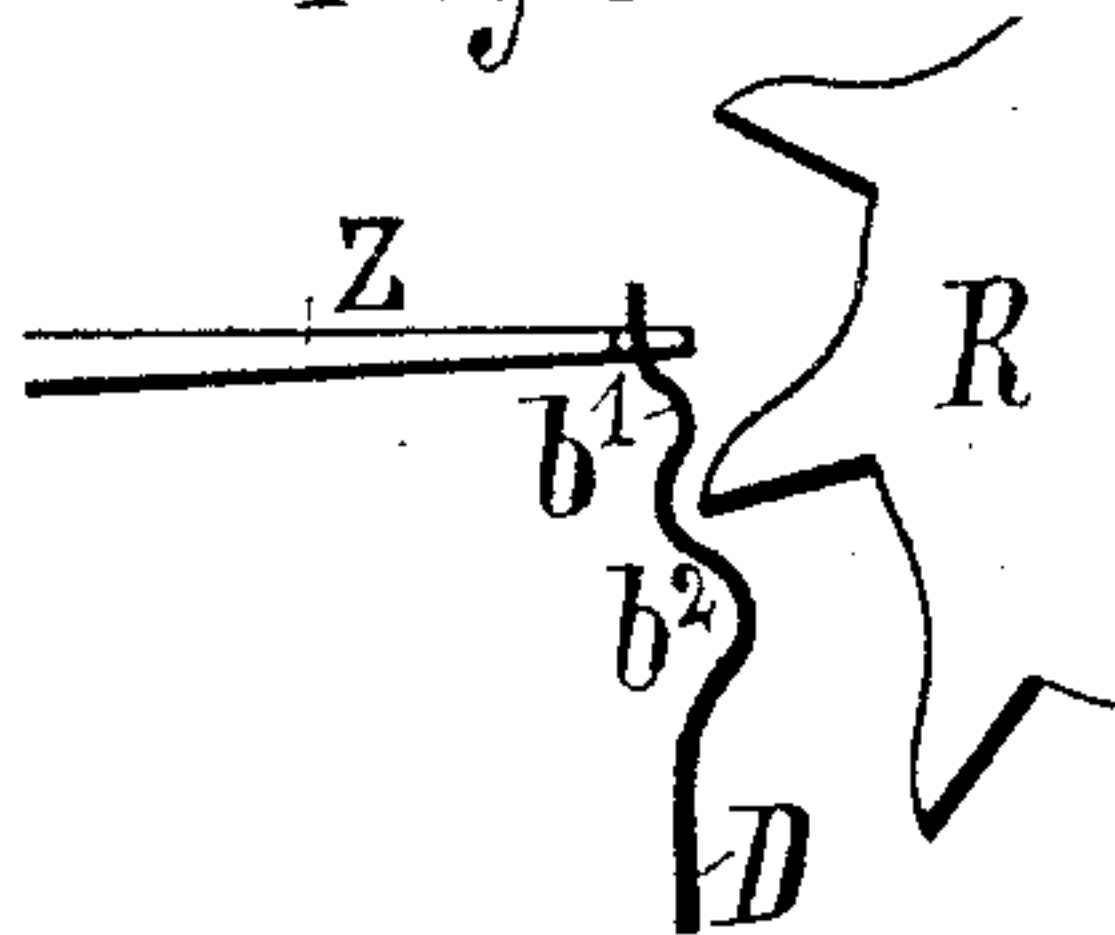


Fig. 3.



Witnesses

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2 Sheets—Sheet 2.

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Fig. 4.

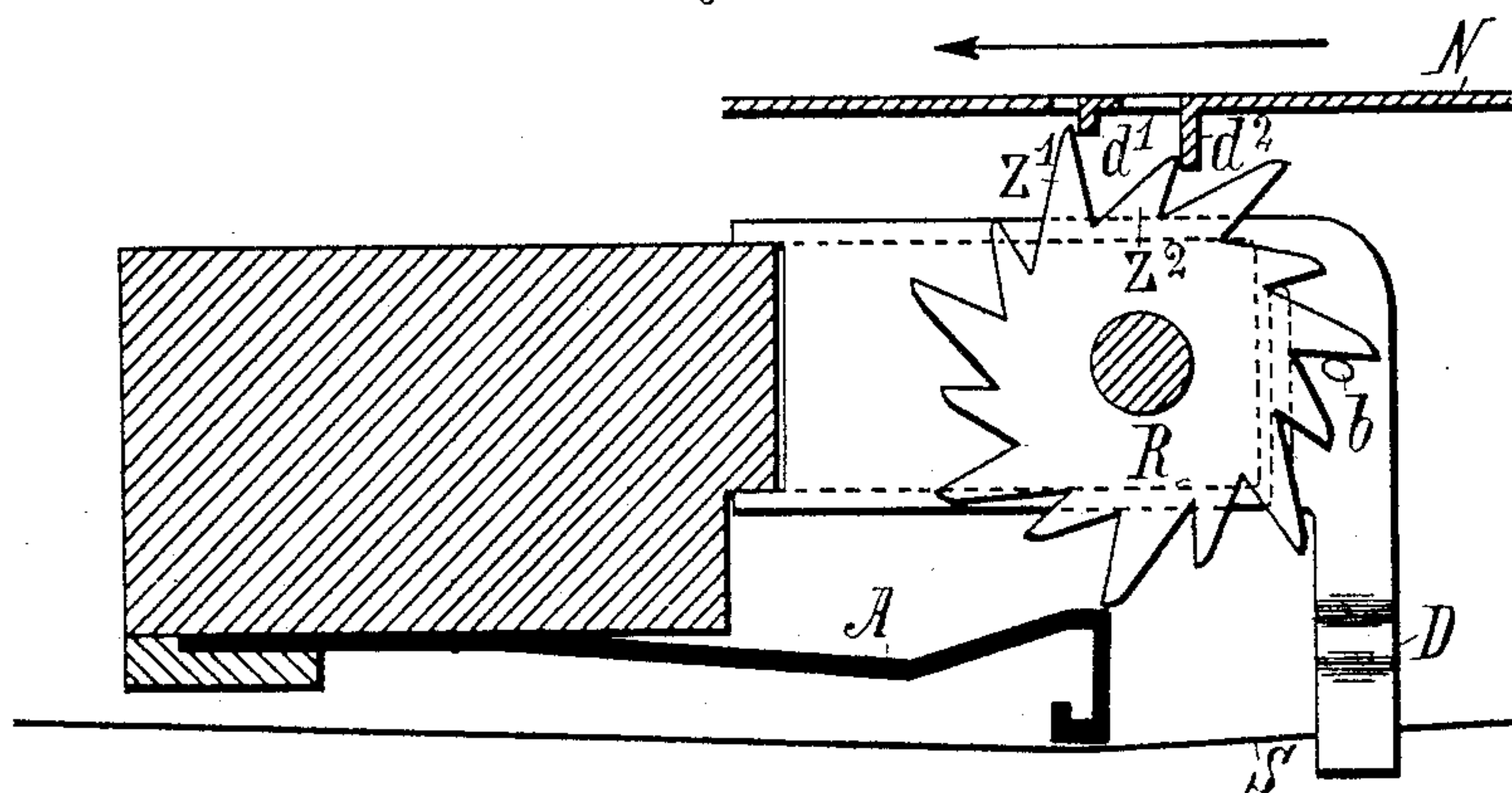
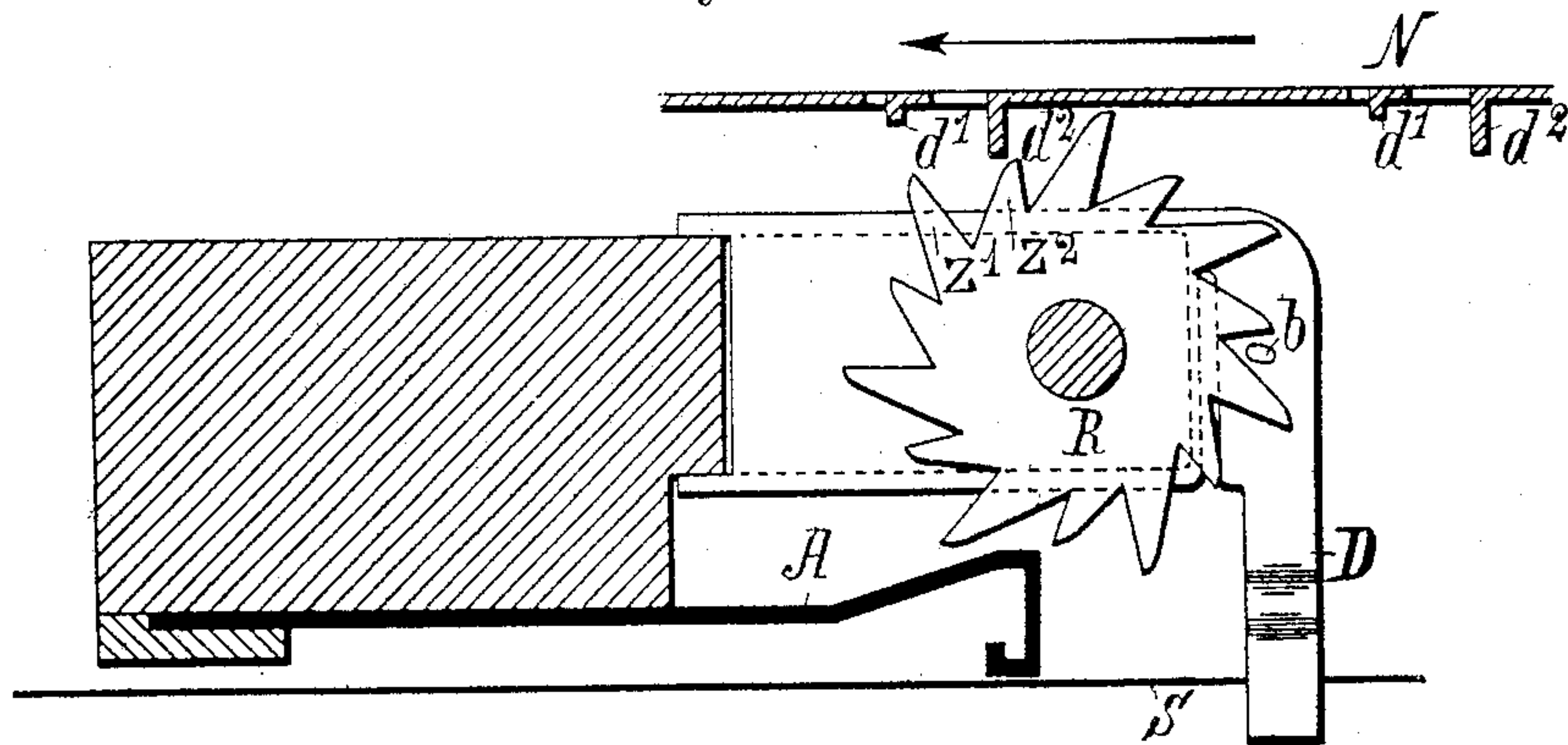


Fig. 5.



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UNITED STATES PATENT OFFICE,

MAX OTTO CLAUS, THEODOR BRUNO PÜTTMANN, AND HANS EUGEN CURT
FELIX, OF LEIPSIC-GOHLIS, GERMANY.

MECHANICAL-MUSICAL-INSTRUMENT DAMPER.

SPECIFICATION forming part of Letters Patent No. 580,376, dated April 13, 1897.

Application filed October 5, 1896. Serial No. 607,933. (No model.)

To all whom it may concern:

Be it known that we, MAX OTTO CLAUS, THEODOR BRUNO PÜTTMANN, and HANS EUGEN CURT FELIX, subjects of the Emperor of Germany, and residents of Leipsic-Gohlis, Kingdom of Saxony, Empire of Germany, have invented certain new and useful Improvements in Mechanical-Musical-Instrument Dampers, of which the following is a specification.

This invention relates to an apparatus for damping before and after the sound in mechanical musical instruments. If strings or tongues are brought into vibration, they generally continue to oscillate for some time, and they are also easily brought into vibration by shock or jar of any kind, and the strings or tongues not intended to be played sound easily in sympathy with the others which are played. By means of this invention one damper is operated twice for each sound, so that the string or tongue when it is to be played is damped twice—that is, once shortly before it is played and once at a shorter or longer interval after it is played, according to the desired duration of the sound.

Figures 1 and 2 are sections illustrating two positions of the improved mechanism, showing part of a music-sheet, a plucking-wheel, a vibratory key, a sounding-string, and a damper. Fig. 3 illustrates a modification of this mechanism, showing a plucking-wheel, dampers, and vibratory sounding-tongue. Figs. 4 and 5 illustrate two positions of a modification of the device shown in Figs. 1 and 2.

Figs. 1 and 2 show a before and after damping for stringed instruments, in which the wheel R has equally long teeth and the damper D is provided with two projections b' and b^2 .

Fig. 1 shows the apparatus with the short projection d' of the music-sheet N in the act or immediately after operating a tooth of the wheel R for the preliminary damping by means of the projection b' and of the thereon following playing of the string.

In Fig. 2 is shown how the long projection d^2 of the music-sheet N touches the same tooth and turns the wheel R farther for the after damping, moving another tooth over the projection b^2 of the damper D, so that the said tooth remains between the two damper projections b' and b^2 for a next operation.

Fig. 3 on the same sheet of drawings shows the application of a damper D with two projections b' and b^2 for application to vibrating tongues, which damper is operated by the wheel R in a similar way, the tooth of the wheel first deflecting the projection b' and plucking the tongue Z, whereupon the succeeding tooth deflects the projection b^2 .

In Figs. 4 and 5 on Sheet 2 there has been used one damper moved twice for damping before and after the sound. The toothed wheel R has for this purpose longer teeth Z' and shorter teeth Z^2 , which are operated by corresponding projections d' d^2 upon the music-sheet N. First the short projection d' , as will be seen from Fig. 4, operates the longer tooth Z' , and thereby the damper D is brought against the string S shortly before the key A touches the string. Before playing the string the damper D is again made free. After a certain time the short projection d' on the music-sheet is followed by a longer one, d^2 , as will be seen from Fig. 5, the short tooth Z^2 is operated, and the damper D is again pressed against the string without the key A being operated, because now a short tooth of the wheel R passes over the key and is not of sufficient length to touch and compress the key.

We claim as our invention in mechanical musical instruments—

1. The combination with a vibratory sound-producer and a wheel having projecting teeth adapted to coöperate with said sound-producer, of a damper having two projections adapted to be operated by the teeth of said wheel respectively before and after the operation of the sound-producer.

2. The combination of a vibratory sound-producer and a wheel for vibrating the same, with a damper adapted to be operated by the wheel so that it is operated twice for each sound and a music-sheet having alternately short and long projections for operating said wheel.

In witness whereof we have signed this specification in presence of two witnesses.

MAX OTTO CLAUS.
THEODOR BRUNO PÜTTMANN.
HANS EUGEN CURT FELIX.

Witnesses:

RUDOLPH FRICKE,
CONRAD BAUM.