

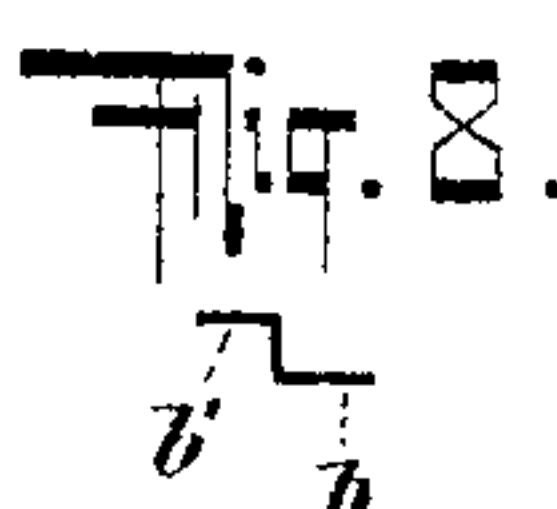
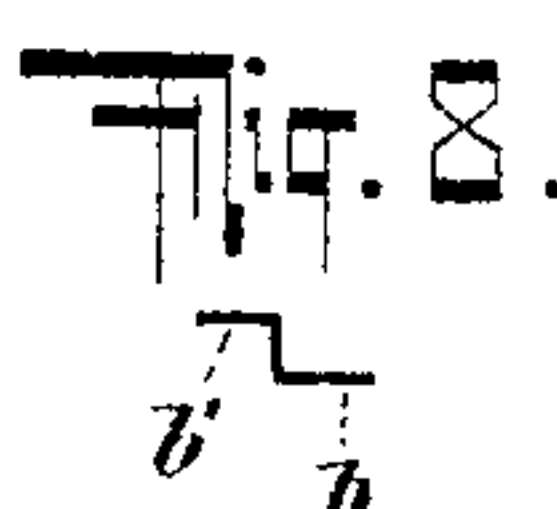
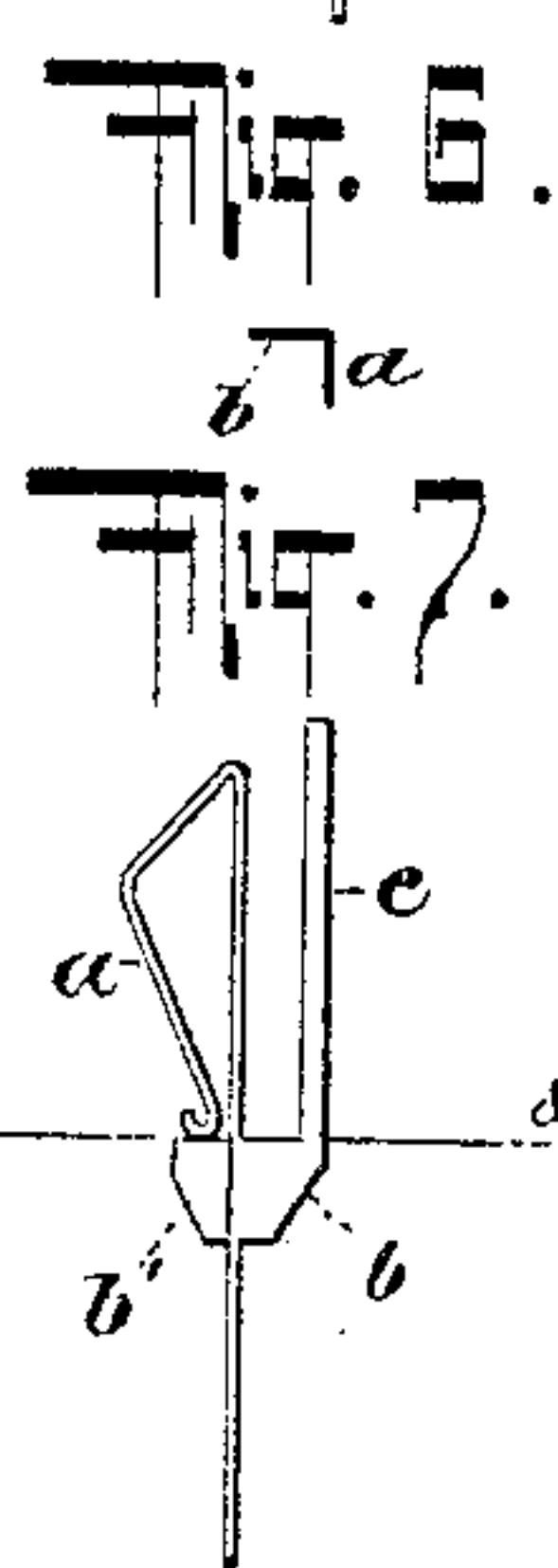
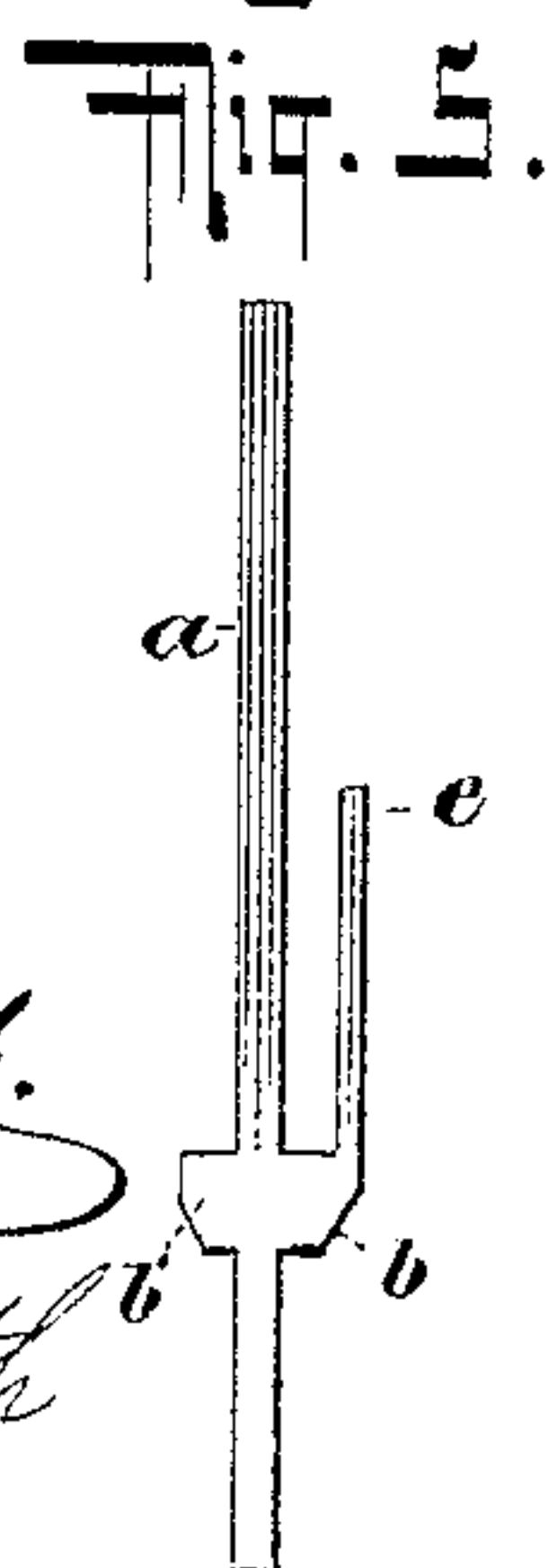
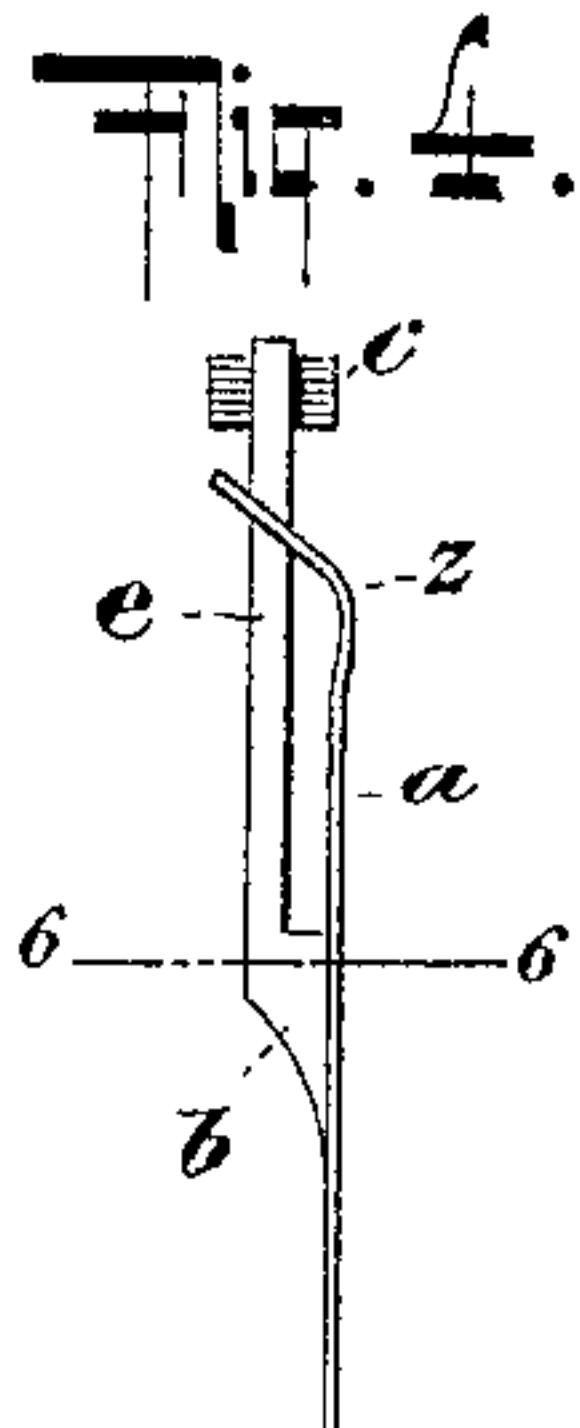
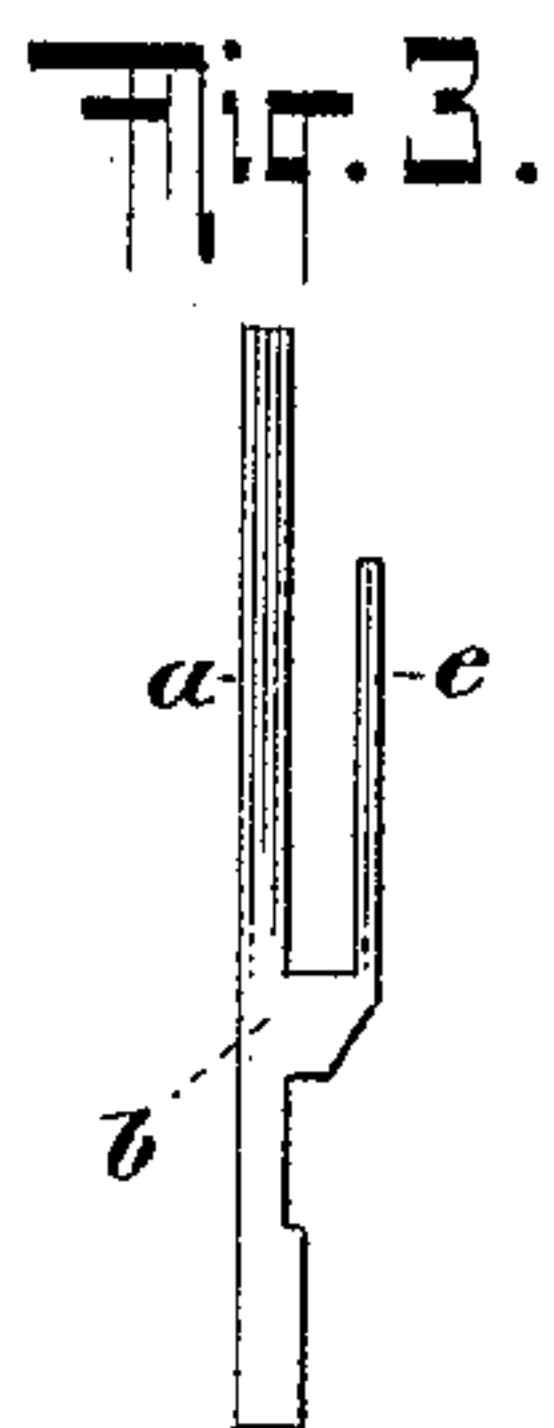
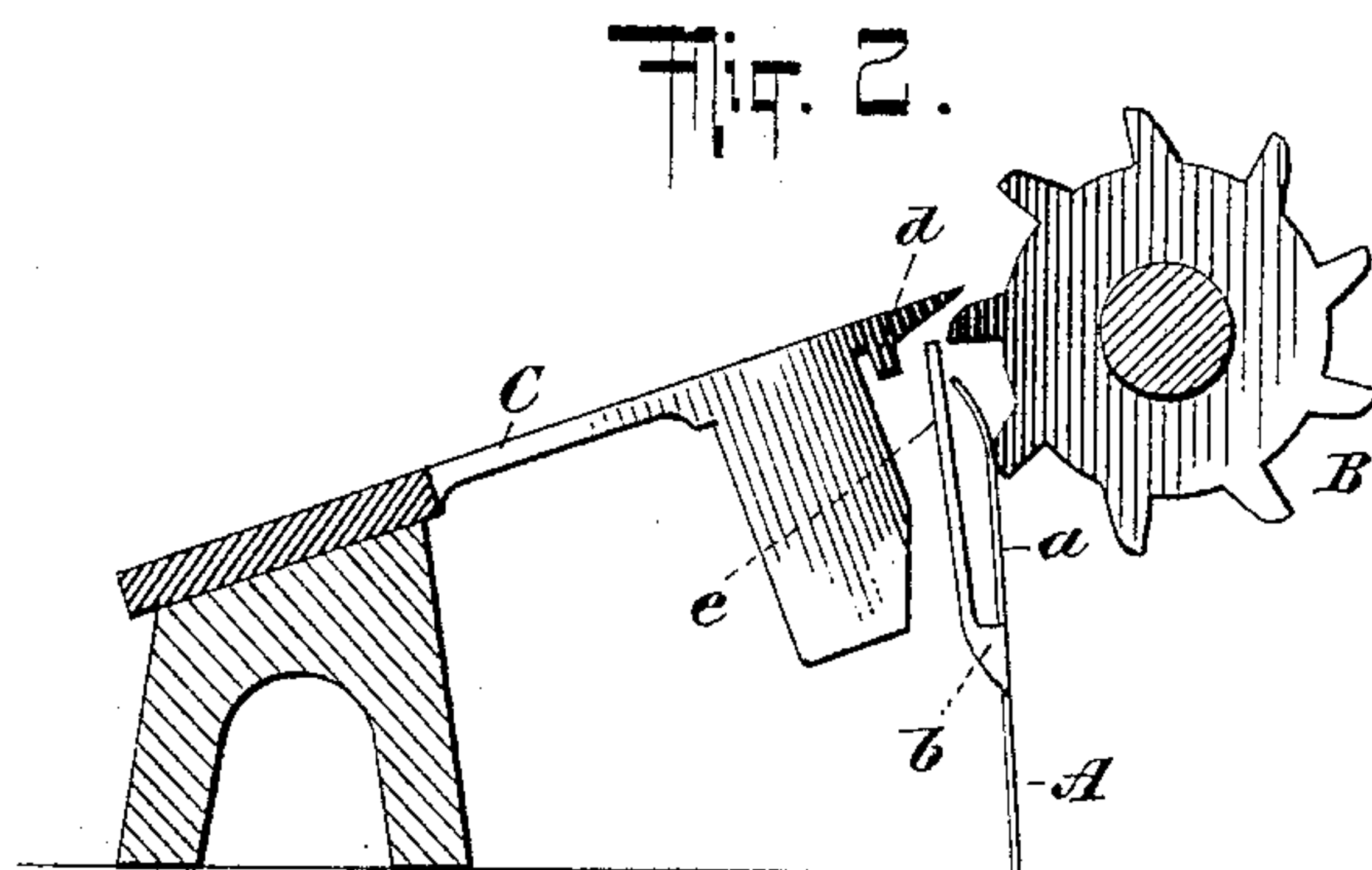
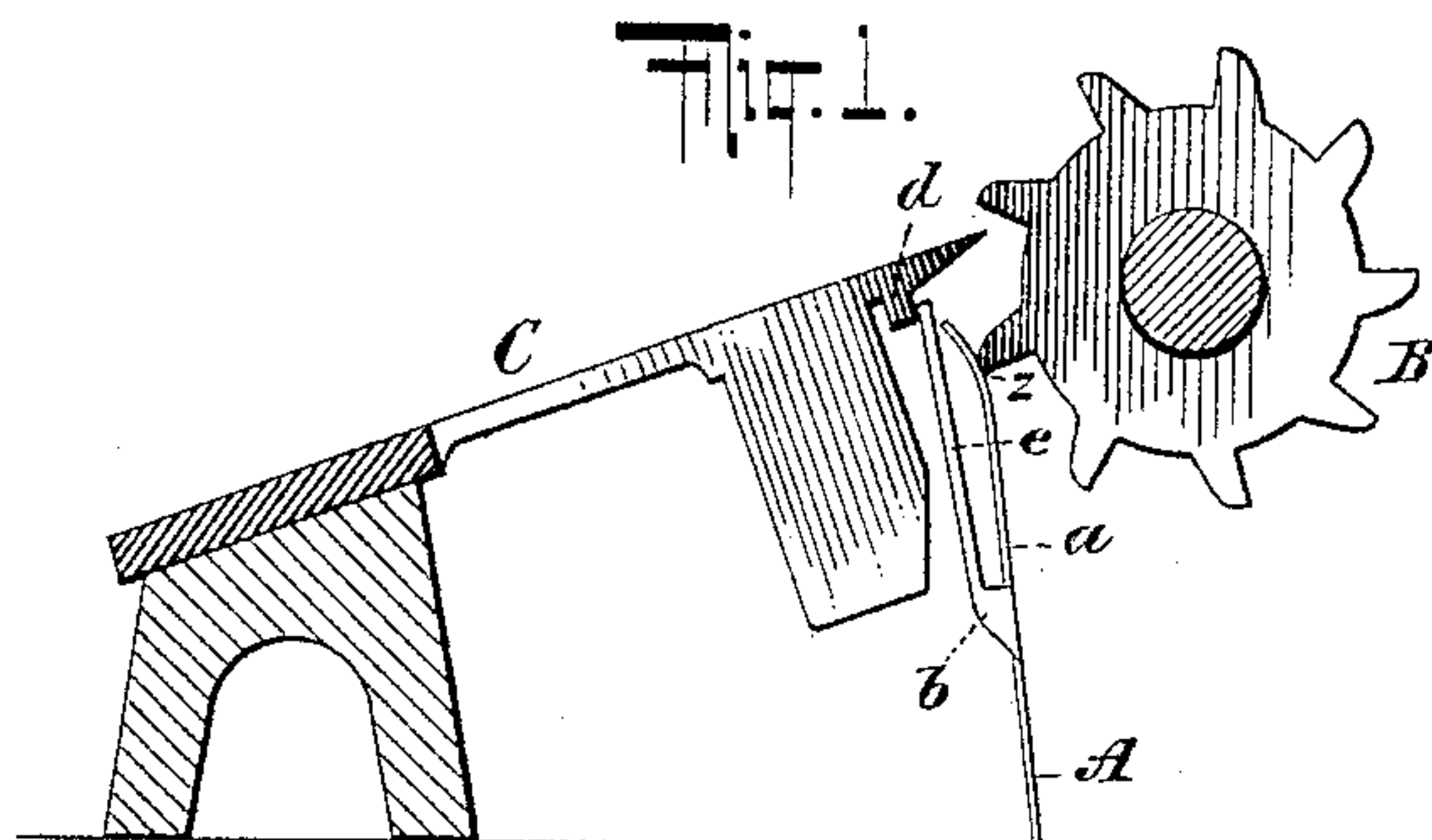
(No Model.)

F. A. RICHTER.

DAMPING DEVICE FOR MECHANICAL MUSICAL INSTRUMENTS.

No. 580,955.

Patented Apr. 20, 1897.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FRIEDRICH ADOLF RICHTER, OF RUDOLSTADT, GERMANY.

DAMPING DEVICE FOR MECHANICAL MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 580,955, dated April 20, 1897.

Application filed December 29, 1896. Serial No. 617,353. (No model.)

*To all whom it may concern:*

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

This invention relates to mechanical musical instruments; and said invention consists of the novel arrangement and combination of parts and to certain details hereinafter described and claimed.

The object of the invention is to produce a simple and efficient damping device which will act as a drag upon the star-wheels as well as to effectively damp the music-tongues.

In the accompanying drawings, Figure 1 is a side view of a sufficient number of parts of a mechanical musical instrument to illustrate my invention. Fig. 2 is a like view of the same, showing the damper out of contact with the tongue. Fig. 3 is a face view of one of the damper-blanks. Fig. 4 is a side view of a damper with a damping-pad *c* attached thereto. Fig. 5 is a face view of the blank of a modified construction of my improved damper, to be hereinafter described. Fig. 6 is a cross-section on the line 6 6 of Fig. 4. Fig. 7 is a side view of the modified construction of damper. Fig. 8 is a cross-section on the line 8 8 of the device shown in Fig. 7.

Dampers constructed in accordance with my invention are more particularly adapted for use in that character of mechanical musical instruments wherein star-wheels are employed to vibrate the music-tongues.

In Figs. 1 and 2 of the drawings, A represents the damper, B the star-wheel, and C the music-tongue, it being understood that a separate star-wheel and damper is employed for each music-tongue. The damper is struck up from a single piece of spring metal in the form indicated in Figs. 1, 2, and 4 and is forked so as to provide a spring-arm *a*, which is bent near its upper end, as indicated at *z*, and with a damping-finger *e*, which is bent at right angles to the spring-arm, as indicated at *b*, so

as to present the edge of the metal toward the music-tongue and so as to bear against a portion of the tongue, preferably an auxiliary stud or abutment *d*. This damping-finger may be provided with a felt or damping pad *c*, as indicated in Fig. 3, in which case the end of the arm *e* is bent around the pad to secure it in place.

In Figs. 5, 6, and 7 a slightly-different form of damper is shown. In this construction the spring-arm *a*, instead of being bent near the upper end, is bent back upon itself, and the free end thereof bears upon the portion *b'*, which acts as a support therefor. This construction is particularly adapted for devices wherein it is intended to vibrate the tongues from above, whereas the construction represented in Figs. 1, 2, and 3 is intended for devices wherein the star-wheels vibrate the tongues from underneath.

By my invention it will be observed that the spring-arm *a* of the damper is maintained at all times in contact with a tooth of the star-wheel, so as to act as a drag thereon and to prevent any rattling of the damping device while the instrument is in operation.

It is thought that the operation of my device will be obvious from the foregoing description. However, brief reference to the operation will be had.

A star-wheel B having been rotated by suitable means the extent of one tooth will cause the vibration of its tongue C, leaving the parts in the position represented in Fig. 2 of the drawings. A further rotation of the star-wheel will bring the parts to the position represented in Fig. 1, which shows the damper applied, and so on the operation is repeated, the star-wheel alternately vibrating the tongue and applying the damper.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In a mechanical musical instrument, the combination of a damper which consists of a single piece of spring metal struck up into a fork-shaped form, the damping-finger *e* of which is bent at right angles to the spring-



arm *a*, a music-tongue having a bearing stud  
or abutment *d* against which the finger *e* of  
the damper is adapted to bear, a star-wheel  
adapted to operate the damper and against a  
5 tooth of which the spring-arm is adapted at  
all times to bear and to form a drag for said  
star-wheel, substantially as described.

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

FRIEDRICH ADOLF RICHTER.

Witnesses:

A. VOGT,

W. HAUPT.