J. REHBOCK.

PLECTRUM ACTION.

APPLICATION FILED FEB. 15, 1909.

935,271.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

Fig. 1

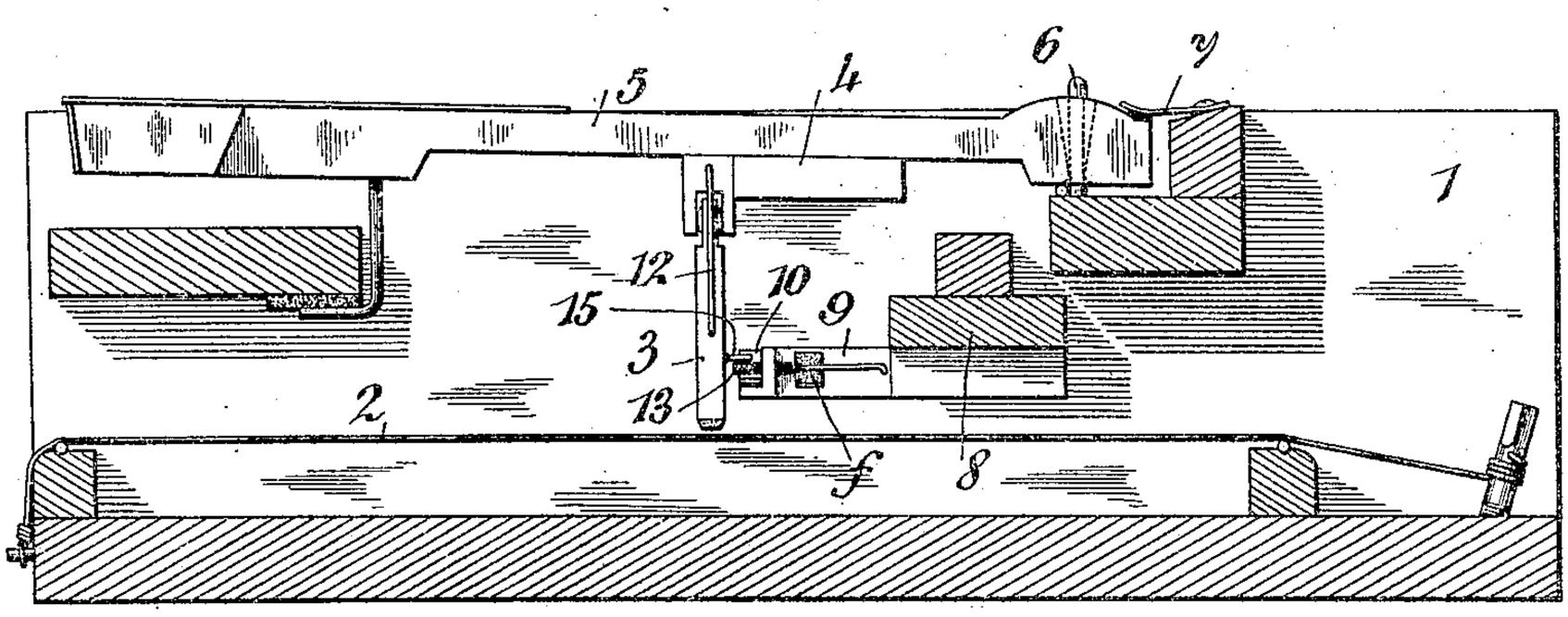


Fig. 6 Fig. 5 Fig. 4 Fig. 3

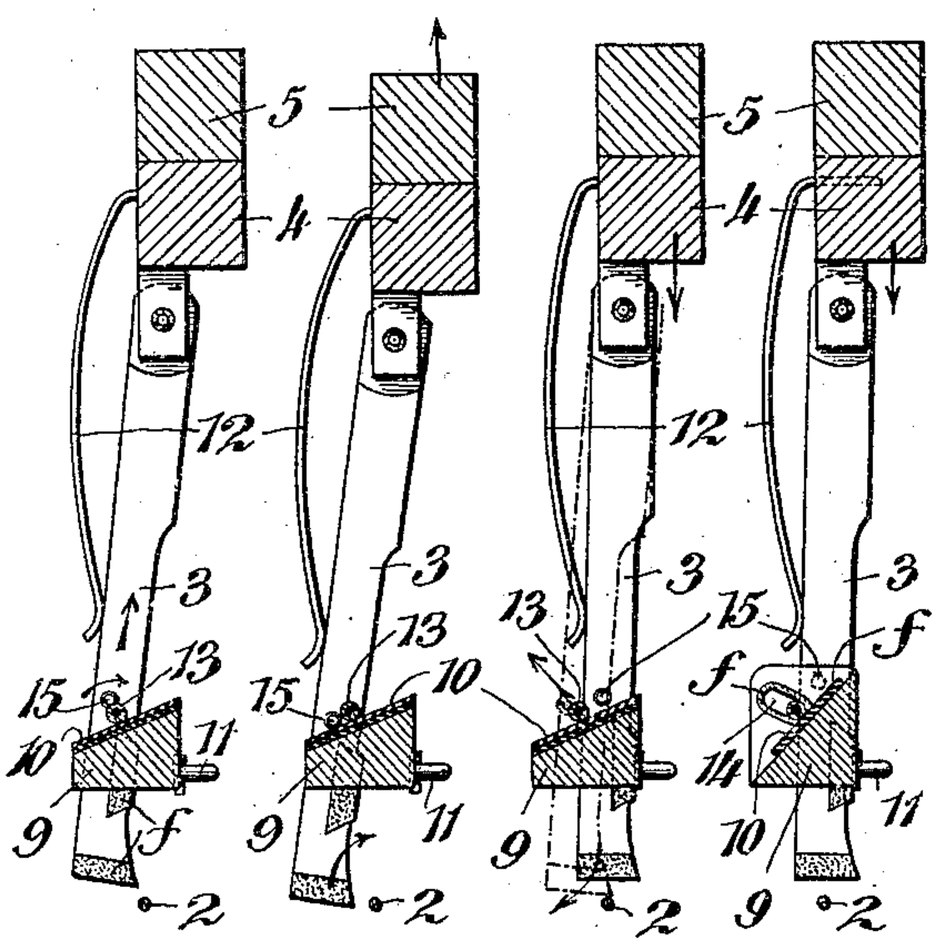
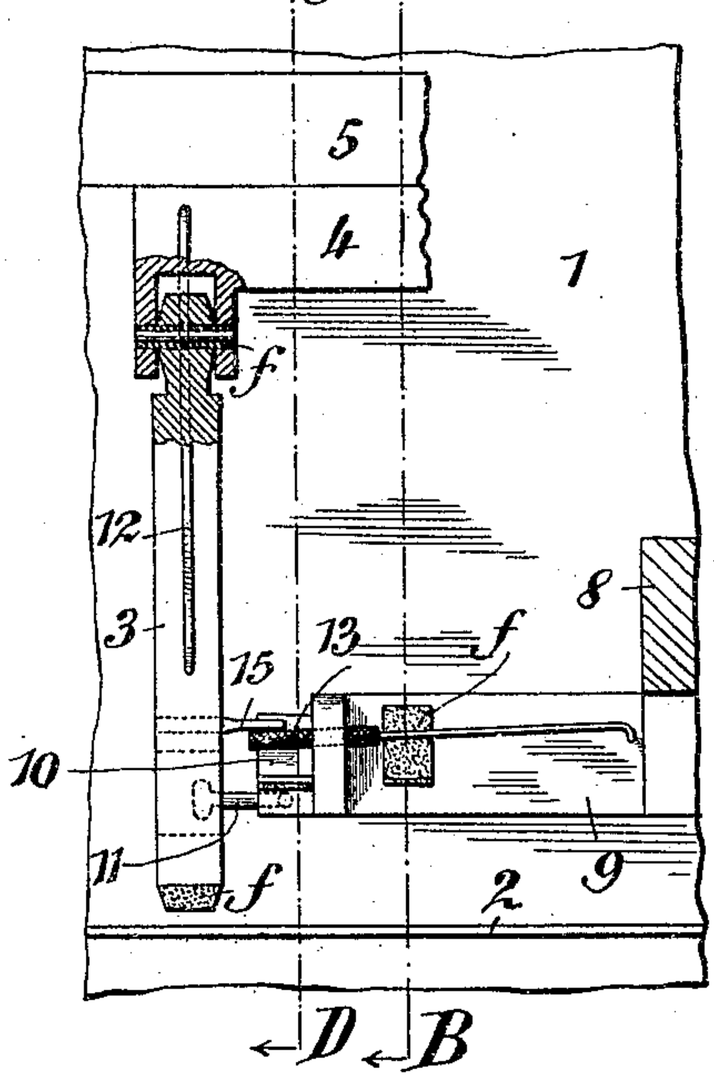


Fig. 2



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2 SHEETS—SHEET 2.

Fig. 9

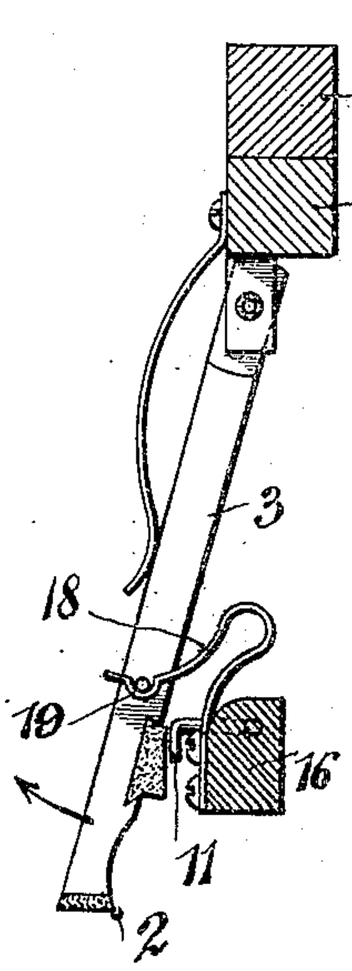


Fig. 8

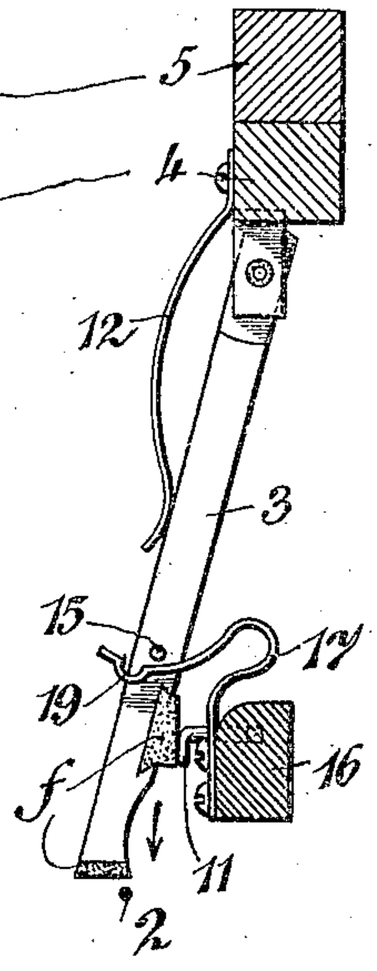


Fig. 7

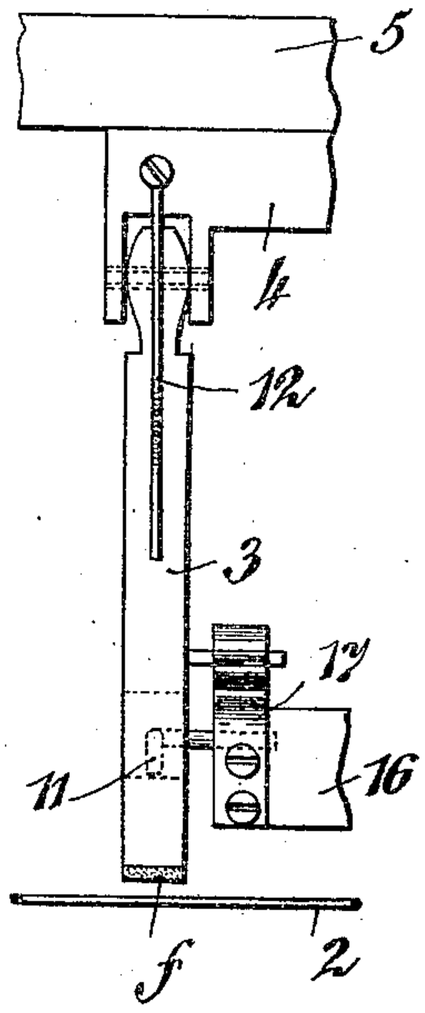
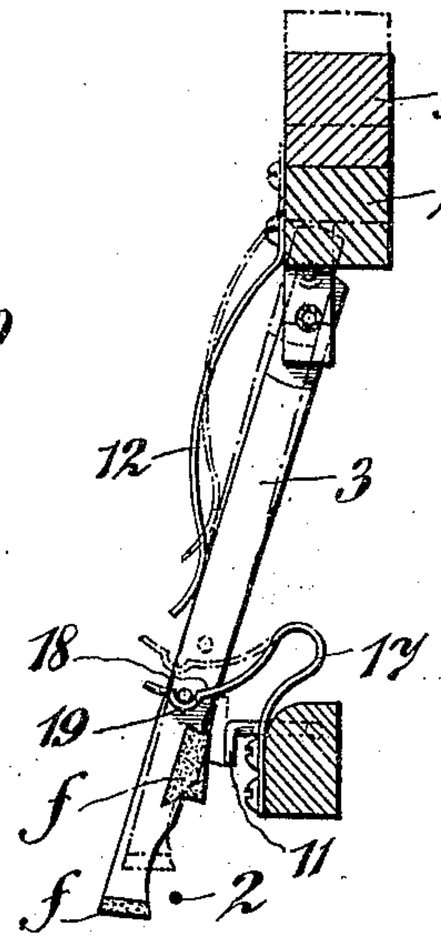


Fig. 10



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PLECTRUM-ACTION.

935,271. Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed February 15, 1909. Serial No. 478,111.

To all whom it may concern:

Be it known that I, JOHANNES REHBOCK, a subject of the Emperor of Germany, residing at Dorfstrasse 46, Zurich, Switzerland, have invented certain new and useful Improvements in Plectrum-Actions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to stringed instruments and has reference in particular to an improved plectrum-action operated by keys to which the plectra are pivoted. From each plectrum there projects a pin, which, when the key is struck, slides down an inclined surface, guiding the plectrum in such manner that it plucks the string. Means are also provided whereby on release of the key the plectrum returns to its position of rest above the string without again contacting with the latter.

Two constructional forms of my invention are illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view showing the new plectrum-action applied to a stringed instrument. Fig. 2 shows a portion of Fig. 1 drawn on a larger scale, the upper part of the plectrum being shown in section. Fig. 3 is a section on the line A—B of Fig. 2. Fig. 4 is a section on the line C—D of Fig. 2. Figs. 5 and 6 are like views to Fig. 4, but showing the operative parts in successive positions. Fig. 7 is a side elevation of a modification of the invention. Figs. 8–10 are sectional views of this modification, showing the operative parts in successive positions.

Referring to Fig. 1, 1 indicates the box or case of a musical instrument having strings 2 and keys 5. Each key is pivoted at 6 and is actuated by a spring 7 which has the tendency to hold the key in its normal position, as shown in Fig. 1. Secured to the underside of the key is a bracket 4, to which there is pivoted a jack 3, constituting the plectrum, and of such length that in the normal position of the key the end of the plectrum is located above the corresponding string 2.

8 designates a rail to which is secured for each plectrum an arm 9 having an inclined plane 10 formed on its free end. From said free end of the arm 9 projects a stop 11 and to the bracket 4 is attached a spring 12, which has a tendency to press the plectrum against said stop. Mounted in the arm 9 is a spring-pin 13 the free end of which projects through a guide slot 14 formed in a projection on the arm 9, said slot being inclined to the plane 10. The free end of pin 13 normally lies against the inner end of slot 14 and close to the plane 10 and in this position it protrudes into the path of a guide pin 15 which projects from the side of the plectrum.

To prevent noise from percussion or friction, the surface of one of every two parts which strike or rub on each other is faced with felt *f* in well-known manner.

The operation of the device is as follows: In the position of rest of the plectrum 3, the latter is located over the corresponding string 2, and its guide-pin 15 lies above the pin 13 (Figs. 1, 2, 3). If the key 5 is now struck, the plectrum 3 will be moved downwardly and its guide-pin 15 will strike the inclined plane 10 and will slide down it, push the pin 13 upward in its slot 14 and sliding under it will cause plucking of the string 2 against the action of the spring 12 (see dotted-line position in Fig. 4). On the key being released the spring 7 will cause it to rise, with the plectrum, and the spring 12 acting on the latter will press its guide-pin 15 against the pin 13 lying in its path (Fig. 5). The guide-pin 15, however, will not (as was the case on the descent of the plectrum) force the pin 13 outward, but will push it against the inner end of the slot 14, and must pass above the pin 13 (Fig. 6). Thus on returning to its position of rest the plectrum 3 does not contact with the string 2.

Referring now to the modification illustrated in Figs. 7–10 (in which those parts which are shown in Figs. 1–6 are marked with the like reference numerals), flat springs 17, one for each plectrum 3, are secured to a common rail 16, and bent in such manner as to present an inclined surface 18 and a notch 19. On the key 5 being struck the plectrum 3 will descend and its guide-pin 15 will bear upon the surface 18 of the spring 17 and will depress it and snap into the notch 19. The moment in which the

guide-pin enters the notch is the instant at which the plectrum plucks the string 2 (Fig. 9). When the key is released the plectrum 3 will at once return to its normal position, its guide-pin 15 owing to the pressure exerted by the spring 17 remaining temporarily in the notch 19. The plectrum is thus prevented from contacting with the string 2 (Fig. 10, full-line position). Shortly before the plectrum actually reaches its initial position of rest the guide-pin 15 will leave the notch 19 (Fig. 8), the spring 17 being no longer in a state of tension.

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. A plectrum-action for stringed instruments comprising an actuating key, a depending spring-controlled plectrum pivoted thereto, a pin on the latter, an incline on which said pin slides during the depression of the plectrum to guide the latter into engagement with a string, and means to guide the pin out of contact with the incline on the return of the plectrum.

2. A plectrum action for stringed instruments comprising an actuating key, a depending spring controlled plectrum pivoted thereto, a laterally projecting pin on the latter, an incline on which said pin slides during the descent of the plectrum, and a resilient member bearing on the incline to raise the pin during the ascent of said plectrum.

3. A plectrum action for stringed instruments comprising an actuating key, a depending spring controlled plectrum pivoted thereto, a laterally projecting pin on the latter, an incline on which said pin slides during the descent of the plectrum, and a resilient member bearing on the incline to be raised by the pin during the descent of the plectrum and to raise the pin during the ascent of said plectrum.

4. A plectrum action for stringed instruments comprising an actuating key, a depending spring controlled plectrum pivoted thereto, a laterally projecting pin on the latter, an incline on which said pin slides during the descent of the plectrum, a spring normally resting on the incline raised by the pin during the descent of the plectrum, and a guide through which the spring projects positioned at an angle to the incline.

5. A plectrum action for stringed instruments comprising an actuating key, a depending spring-controlled plectrum pivoted thereto, a laterally projecting pin on the latter, a support having an inclined surface on which the pin slides during the descent of the plectrum, a projection on the support, a spring mounted on the support and extending through a slot formed in the projection at an angle to the incline, said spring movable in the slot by the pin during the descent of the plectrum and held against said movement during the ascent of the plectrum whereby said pin rides over the spring.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JOHANNES REHBOCK.

Witnesses:
ERNST FISCHER,
M. SCHUMANN.