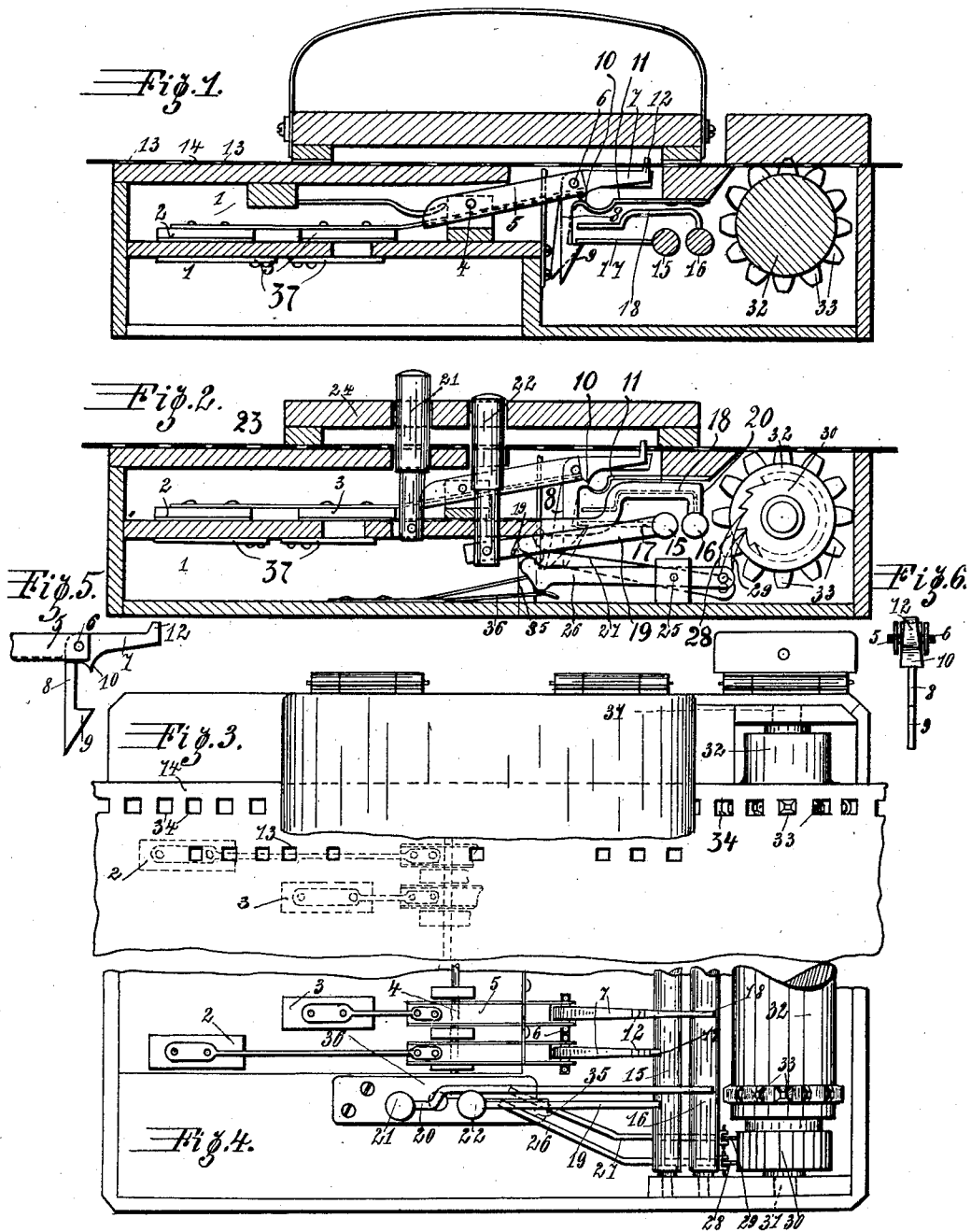


R. GLIER.
 OPERATING MECHANISM FOR AUTOMATIC ACCORDIONS AND THE LIKE.
 APPLICATION FILED DEC. 29, 1910.

1,018,661.

Patented Feb. 27, 1912.



Witnesses:

Gerry Kemmer
Hugh Weidlich

Inventor:

Reinhold Glier

UNITED STATES PATENT OFFICE.

REINHARDT GLIER, OF KLINGENTHAL, GERMANY.

OPERATING MECHANISM FOR AUTOMATIC ACCORDIONS AND THE LIKE.

1,018,661.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed December 29, 1910. Serial No. 599,941.

To all whom it may concern:

Be it known that I, REINHARDT GLIER, a subject of the Emperor of Germany, residing at Klingenthal, Saxony, Germany, have invented an Operating Mechanism for Automatic Accordions and the Like, of which the following is a specification.

The present invention relates to an operating mechanism for accordions and other reed instruments in which the sounding of the notes is effected by means of a traveling perforated tune-sheet.

According to the invention two keys are provided which are alternately depressed and which actuate simultaneously the transporting mechanism for the tune-sheet and the valves for sounding the notes.

The invention is illustrated in the accompanying drawings, Figures 1 and 2 representing different sections through the arrangement, Fig. 3, a plan of part of the same, Fig. 4, a plan of another part with removed cover, and Figs. 5 and 6, details of the mechanism.

The reeds 37 of the instrument are sounded in the usual manner by the opening of the valves 2 and 3 arranged on the side-wall 1. The opening of the valves is effected by means of double-armed levers 5 which are rotatable about a shaft 4 and spring-tensioned. Between forked formations on the outer ends of the levers 5, angle-levers 7 are rotatably mounted by means of trunnions 6. On the upper arm of the lever 7 a nose 12 is provided which slides on the tune-sheet 14 and which snaps into the perforations 13 of the latter owing to the action of the spring 11 pressing against a tapering projection 10 on the lever. The lower arm 8 of the lever 7 is fitted with a catch 9 which, when the nose 12 is disposed in an aperture in the tune-sheet, is engaged by an arm connected to a rock shaft for depressing the arm 5 and sounding the notes. The valves 2 are operated in this manner by means of arms 17, and the valves 3 by means of arms 18, such arms being mounted, respectively, on shafts 15 and 16. For rocking the shafts 15 and 16, two keys 21 and 22 are provided which are guided in the plates 23 and 24 of the side-wall 1. These keys are connected by means of arms 19 and 20 to the shafts 15 and 16 which can thus be turned by the depression of the keys for operating the arms 17 and 18. Double-armed levers 26 and 27, loosely mounted on a shaft 25 and influ-

enced by springs 35 and 36, abut with one end against the arms 19 and 20 and tend to raise the keys. At the opposite ends of the levers 26 and 27, spring-actuated pawls 28 and 29 are provided which work on a ratchet-wheel 30 connected to a roller 32. The latter is the driving roller for the tune-sheet 14; it rotates about journals 31 and engages the sheet by means of teeth 33 working in apertures 34.

From this construction it follows that an alternate depression of the keys 21 and 22 effects a rotation of the roller 32 and of the tune-sheet. At the same time those levers 7 whose noses are admitted in the perforations of the tune-sheet, put their catches into engagement with the arms 17 and 18, the latter causing a depression of the levers and the sounding of the notes. The noses 12 are beveled so that the levers 7 are depressed by the sheet at the end of each perforation for bringing the catches 9 out of reach of the arms 17 and 18.

By the arrangement of two actuating keys, the play is greatly facilitated and improved. The keys are alternately depressed and each depression effects an advance of the tune-sheet and the sounding of the notes as determined by the latter. All kinds of chords may be produced. The performer is himself able to control the time and the length of the notes, as when playing a non-automatic instrument, and the play as a whole is dependent upon the performer's skill and knowledge.

Both sides of the instrument may be provided with the mechanism. The arrangement is also suitable for organs and the like.

I claim:—

1. The combination with a reed instrument, of a perforated tune-sheet, a roller for advancing the sheet, a ratchet-wheel connected to said roller, pawls working on said ratchet-wheel for rotating the roller, keys for actuating the pawls, and connections between said keys and the valves of the instrument for simultaneously sounding the notes as determined by the tune-sheet, substantially as set forth.

2. The combination with a reed instrument, of a perforated tune-sheet, a driving roller for advancing the same, double-armed levers connected to the valves of the instrument for sounding the notes, spring-tensioned angle levers suspended on the outer end of said afore-mentioned levers, noses on

the upper arms of the angle-levers located so as to snap into the perforations of the tune-sheet, catches on the lower arms of the angle levers, rock shafts having arms adapted to engage said catches so as to open the valves and sound the notes when the noses are disposed in the perforations, keys for actuating the rock shafts, and connections between said keys and the driving roller for simultaneously advancing the tune-sheet, substantially as set forth.

3. The combination with a reed instrument of a perforated tune-sheet, double-armed levers connected to the valves of the instrument for sounding the notes, spring-tensioned angle-levers suspended on the outer ends of the double-armed levers, noses

on the upper arms of the angle-levers located so as to snap into the perforations of the tune-sheet, a driving roller for advancing the tune sheet, a ratchet wheel connected to said roller, pawls working on said ratchet wheel, keys connected to said pawls so as to reciprocate the latter and impart a continuous rotation to the roller when alternately depressed, and connections between said keys and the angle levers effecting a simultaneous opening of all valves whose angle levers are in engagement with a perforation in the tune sheet, substantially as set forth.

REINHARDT GLIER.

Witnesses:

OTTO VAIGT,

FRANZ BUSCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."