

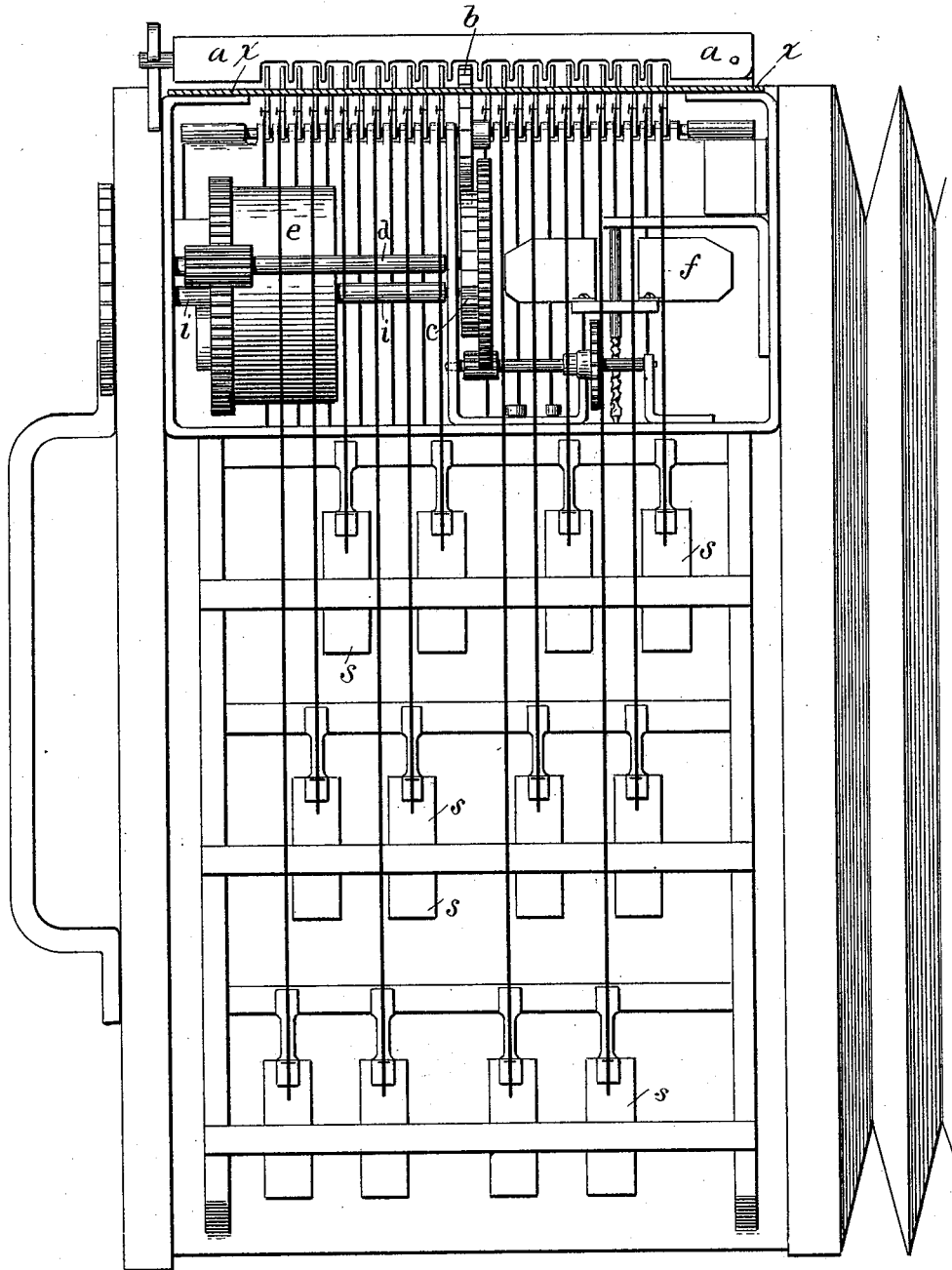
(No Model.)

3 Sheets—Sheet 1.

F. A. RICHTER.  
MUSICAL INSTRUMENT.

No. 518,329.

Patented Apr. 17, 1894.



WITNESSES:

*W. B. Shepard,*  
*Ed. C. Morse,*

Fig. 1.

INVENTOR

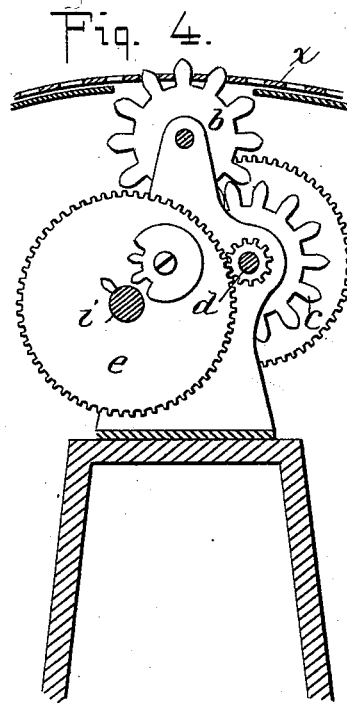
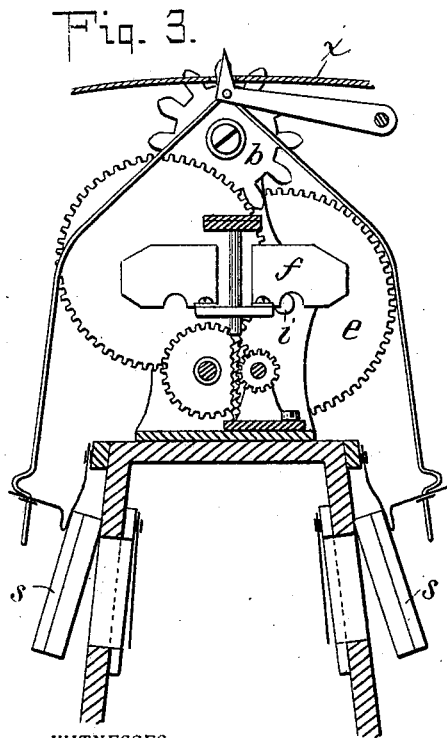
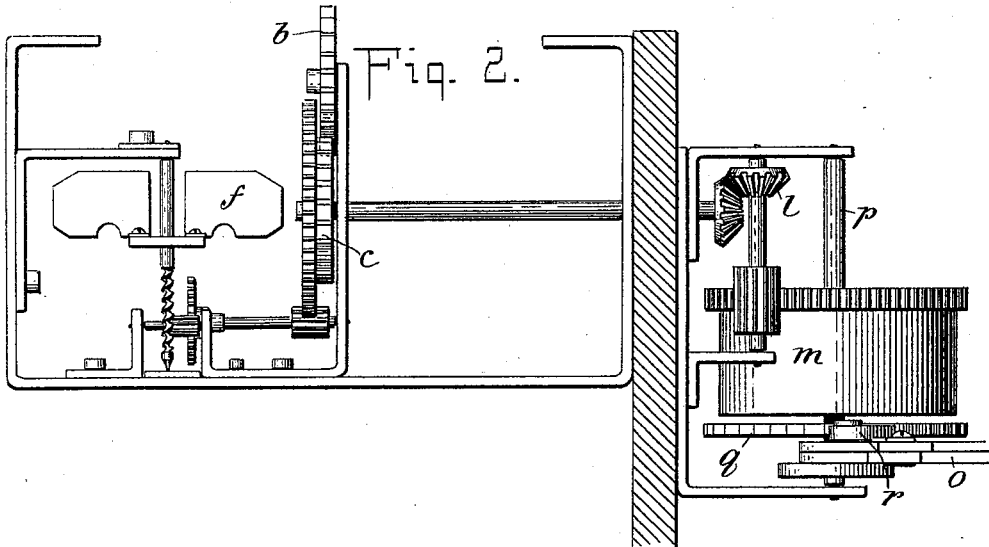
*Friedrich A. Richter,*  
BY *Briesen Knautz*

ATTORNEYS.

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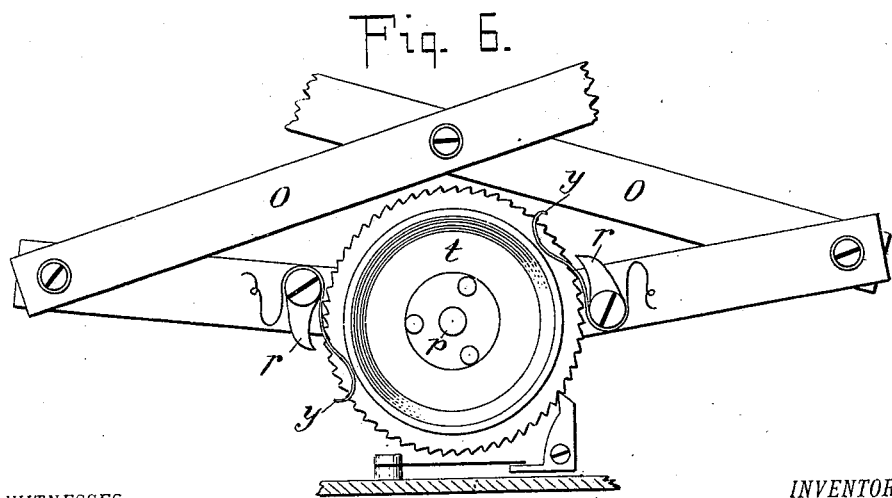
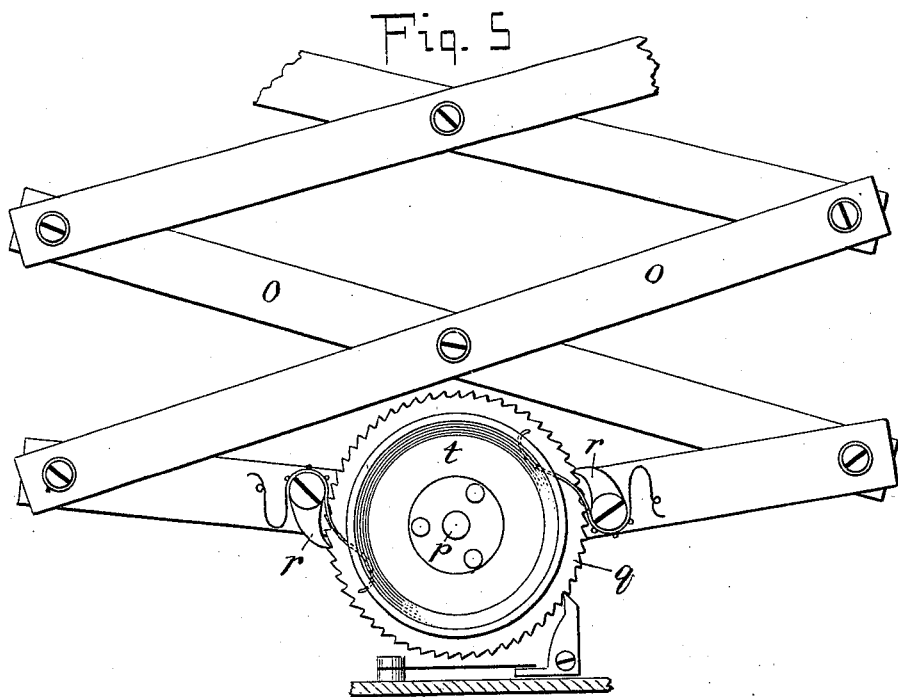
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3 Sheets—Sheet 3.

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Patented Apr. 17, 1894.



WITNESSES:

*W. B. Shepherd,*  
*Ed. C. Moore*

INVENTOR

*Friedrich A. Richter,*  
BY *Briesen Knauth*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

FRIEDRICH ADOLF RICHTER, OF RUDOLSTADT, GERMANY.

## MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 518,329, dated April 17, 1894.

Application filed March 28, 1893. Serial No. 467,963. (No model.)

*To all whom it may concern:*

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

This invention relates to mechanically or partially mechanically acting musical instruments such as accordions, fitted with perforated music-sheets and adapted to be played by mechanical means, the onward movement of the music sheets being effected by means of a spring-actuated clock mechanism, the spring of which may be wound either before playing by means of a key, or during playing by means of ratchet mechanism.

An accordion constructed according to my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a general elevation of the side presented to the performer. Fig. 2 is a side view with parts removed, showing the means for winding the music sheet mechanism and Figs. 3 to 6 illustrate details.

The movement of the perforated music sheet *x* over the points of the levers under the bridge piece *a*, Fig. 1, is effected by means of the toothed wheel *b*, Fig. 4, which engages in suitable holes in the music sheet. The toothed wheel *b* is actuated by the toothed wheel *c* fixed on the shaft *d*; and the shaft *d* is operated by rotation of the spring box *e*, Figs. 1, 2, and 4. The speed is regulated by the fly *f*, Figs. 1, 2, and 4. The spring box is wound either before playing, by means of a suitable key or by the arrangement illustrated in Figs. 5 and 6. In this latter arrangement, the perforated music sheet *x* is caused to move onward in the required manner, by the employment of the bevel pinion *l*, Fig. 2 and a spring box *m*, the spring being in this case kept constantly wound during the performance by the movements of the bellows through the medium of tongs *o*, Figs. 2 and 6, situated in the interior of the bellows *k*, Fig. 1, the arrangement being such that the ratchet wheel *q* fixed on the spring-box shaft *p* is rotated slowly by the engagement of the pawls *r* at each movement of the tongs *o*.

One end of the multiple tongs is of course fixed to the cover of the bellows *k*, Fig. 1, for

the purpose of causing it to be actuated by the bellows. In this arrangement therefore, the spring in the spring box remains under constant strain, whereby the instrument is enabled to continue playing for any desired length of time.

In the accordion described the reeds or stops are arranged preferably on two sides of the reed or stop box, Fig. 3, and the lever rods are correspondingly led on two sides over the driving apparatus to the elastic reed or stop valves *s*, see also Fig. 1. This arrangement has the advantage of imparting to the stop box dimensions such that the whole accordion remains of nice handy size.

The music sheet *x* has the shape of a band or strip, and in order to guide the same properly, the reed box with the driving apparatus for the music sheet is arranged in such a manner that the music band slides over the casing (made round or with rounded corners) of the reed box, or in the case of an endless music band, travels around said casing; but in both cases leaves the cover and the handle of the reed box free.

The use of a spring box for moving perforated music sheets in accordions adapted to be played in a mechanical manner, is quite novel and has not yet been employed by any other persons.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. A musical instrument such as an accordion of the kind specified, having a music-sheet controlling the reeds and uniformly advanced by means of a spring-actuated clock-work, and a winding device actuated by the movement of the instrument and operating to automatically wind the clock-work, substantially as described.

2. In a musical instrument such as an accordion the combination of a clock-work, multiple tongs or a jointed device *o* connected with and operated by the bellows of said instrument and means substantially as described connected with said tongs and clock-work for winding the same, substantially as set forth.

3. In a musical instrument such as an accordion of the kind specified, the combination

of reed-stops or valves on two sides of the reed-box, and lever rods on two sides over the driving apparatus to the elastic reed stops or valves substantially as set forth.

5 4. In a musical instrument such as an accordion of the kind specified, the combination of the bellows, the reed-box, spring actuated driving apparatus for outwardly moving the music-sheet over the casing of the reed-box,  
10 and a winding device for the driving apparatus actuated by the movement of the bellows, substantially as set forth.

5. In a musical instrument of the character described, the combination of a clock work

for moving a music sheet, a ratchet wheel 15 connected with the winding arbor of said clock work, tongs or jointed device connected to the bellows and adapted to operate the said ratchet wheel when the bellows is operated, substantially as specified. 20

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

FRIEDRICH ADOLF RICHTER.

Witnesses:

W. HAUPT,

A. VOGT.