

(No Model.)

F. E. P. EHRLICH.  
MECHANICAL MUSICAL INSTRUMENT.

No. 368,080.

Patented Aug. 9, 1887.

Fig. 2.

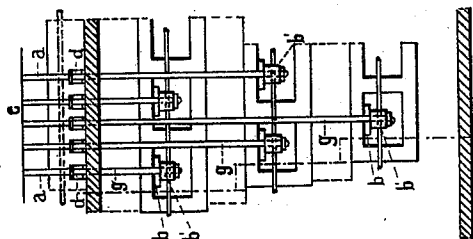
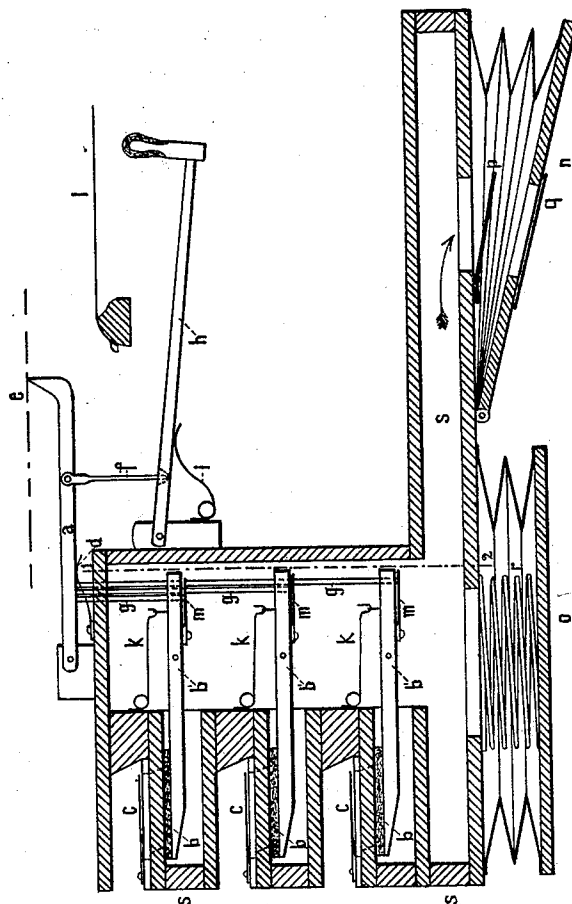


Fig. 1.



Witnesses:  
Ewell A. Dix  
M. A. Curtis

Inventor:  
F. E. Paul Ehrlich  
by Marshall Bailey  
his attorney

# UNITED STATES PATENT OFFICE.

FRIEDRICH ERNST PAUL EHRLICH, OF GOHLIS, NEAR LEIPSIC, SAXONY,  
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## MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 368,080, dated August 9, 1887.

Application filed January 17, 1887. Serial No. 224,627. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH ERNST PAUL EHRLICH, a subject of the King of Saxony, and residing at Gohlis, near Leipsic, in the Kingdom of Saxony, Germany, have invented new and useful Improvements in Mechanical Musical Instruments, whereof the following is a specification.

My invention relates to mechanical musical instruments in which the note-producing parts are caused to operate in accordance with the perforations or recesses of music-sheets or their known equivalents through the medium of levers having beaks capable of engaging with the said perforations or recesses.

The invention will first be described by reference to the accompanying drawings, and will then be more particularly pointed out in the claim.

On the annexed sheet of drawings, Figure 1 shows in sectional elevation the main part of an instrument involving my improvements. Fig. 2 is a portion of a section thereof on line 1 2.

In Fig. 1, *e* is the note-sheet, and *a* one of the levers having a beak formed to be capable of engaging with the perforations of the sheet *e*, the said lever being pressed upward against the latter by a spring, *d*. *l* is the string to be operated by the hammer *h*, actuated by the spring *i*, and *b b b* are the valves of three reeds, *c*, superposed in oblique lines, as shown by Fig. 2. The levers *b'* of the valves *b* are provided with springs *k*, tending to open the valves. Each lever *a* is so connected to the corresponding hammer by a rod, *f*, and to the valve-lever *b'* by a rod, *g*, that when the lever *a* is pressed down by a full or imperforate

part of the note-sheet the hammer is kept in its position of rest and the valve closed. Upon the beak of the lever *a* dropping into a hole of the music-sheet the hammer *h* will be released and impelled by the spring *i* against the string *l*, while the valve of the reed is opened by the spring *k* belonging thereto. By the following full or imperforate part of the sheet the hammer is depressed again and the valve reclosed. In order that the valve may be pressed close against its seat, the rod *g* bears against a spring, *m*, fixed to the lever *b'*.

For causing the bellows *n* to produce a suction-current through the reeds the valve *p*, controlling the communication between the reed-box *s* and the bellows, is arranged to open inwardly in respect to the latter, while the valve *q* opens outwardly. Moreover, the regulating-bellows *o* are provided with a spring, *r*, tending to expand the same.

I claim as my invention—

The combination, with a music-sheet, *e*, having perforations or recesses, a lever, *a*, having a beak capable of engaging with the said perforations or recesses, and a spring, *d*, of a string, *l*, hammer *h*, spring *i*, rod *f*, connecting the lever *a* with the hammer, reed *c*, valve *b*, attached to the lever *b'*, spring *k*, and rod *g*, extending from the lever *a* to the lever *b'*, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRIEDRICH ERNST PAUL EHRLICH.

Witnesses:

ALFRED A. WHITMAN,  
CARL BORNGRAEBER.