

JOHN R. LOMAS.

Improvement in Motors for Tremolos and Musical Instruments.

No. 121,390.

Fig. 1

Patented Nov. 28, 1871.

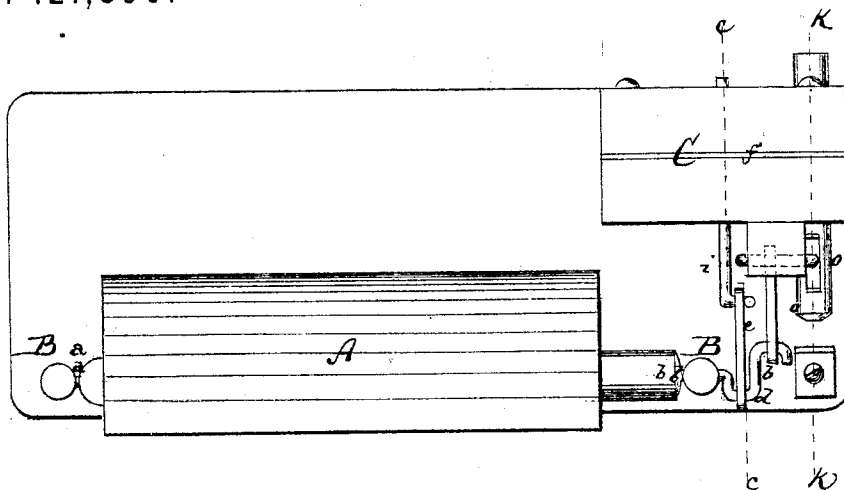


Fig. 3.

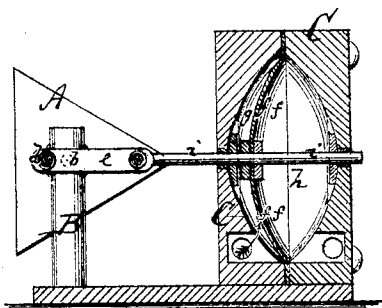


Fig. 2.

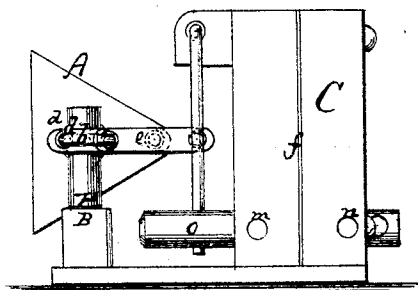
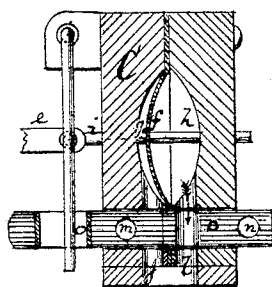


Fig. 4.



Witnesses:

E. Wolff.
Francis McArdle.

Inventor:

John R. Lomas
PER Mumf Co

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN R. LOMAS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO B. SHONINGER,
OF SAME PLACE.

IMPROVEMENT IN MOTORS FOR TREMOLOS OF MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. 121,390, dated November 28, 1871.

To all whom it may concern:

Be it known that I, JOHN R. LOMAS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Motor for Tremolos of Musical Instruments; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a plan or top view of my improved motor for tremolos. Fig. 2 is an end elevation of the same. Figs. 3 and 4 are vertical transverse sections of the same taken, respectively, on the planes of the lines *c c* and *k k*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention has for its object to provide a steady and economical mechanism for operating tremolos of organs or other musical instruments; and consists in the use for that purpose of a wind-engine, which acts directly on the crank of the tremolo.

Various means have ere this been proposed for the working of tremolos in musical instruments; but all were objectionable either on account of uncertainty of action, or because they wasted more power than was required, or were finally too apt to get out of order and difficult to retain in action.

In the drawing, A represents a tremolo of prismatic or other suitable form, hung in a fixed frame, B, by means of projecting pins *a* and *b* at the ends, so that it will readily revolve in its bear-

ings. One of the pins *b* contains a crank, *d*, which is, by a pitman, *e*, connected with the operating mechanism of a wind-engine. This engine consists of a hollow case or box, C, containing within its cavity a flexible diaphragm or partition, *f*, which divides it into two channels, *g* and *h*. The diaphragm is directly, or by means of a rod, *i*, connected with the pitman *e*. Air for operating the engine is let into the chambers through apertures *j* and *l*, respectively, and exhausted through apertures *m* and *n*. A slide, *o*, which is connected with the crank-pin *b*, and set by the same at every half revolution of the tremolo, has suitable posts, and serves to regulate the inlet and outlet of air to and from the chambers *g* and *h* alternately, in the same manner substantially as the slide-valve in a steam-engine regulates the admission and exhaust of steam. The air is, by suitable mechanism, either forced into or sucked from the engine C. Instead of the diaphragm *f* a sliding piston may be used, the former being preferable, as it requires less friction to operate.

I do not confine myself to the particular style or kind of air-engine shown, as that may be considerably varied; but

I do claim as new, and desire to secure by Letters Patent—

A rotary tremolo having cranked journals *b d*, and a wind-instrument, C, combined, with connecting mechanism *e i*, as and for the purpose specified.

JOHN R. LOMAS.

Witnesses:

JULIUS TWISS,
HENRY ROGERS.

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