T. P. Sanborn,

Tremolo.

No. 107,549. Patented Sept. 20. 1870.

Fig. 1

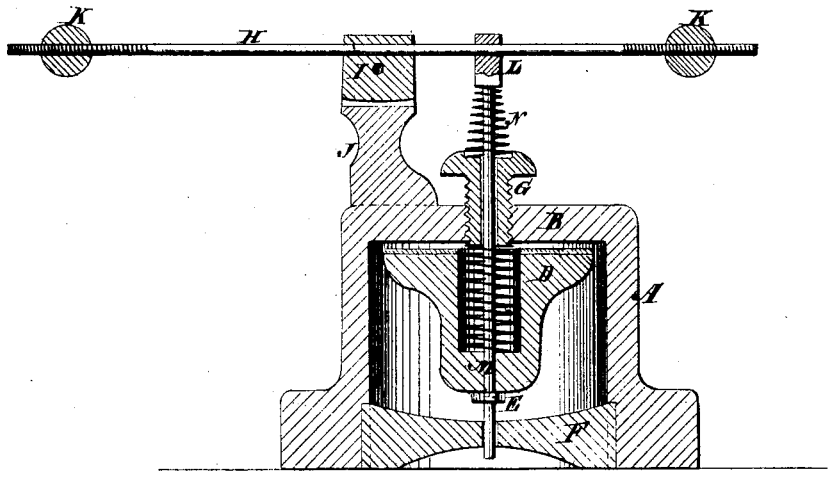
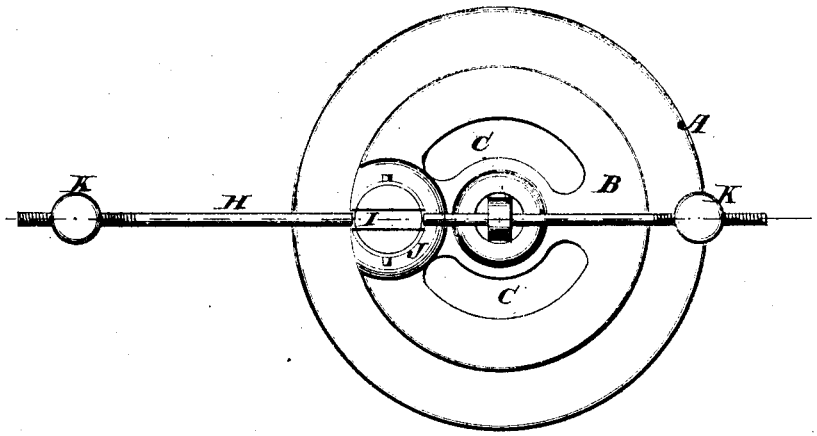


Fig. 2.



Witnesses:

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THOMAS PRENTISS SANBORN, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 107,549, *dated September* 20, 1870.

IMPROVEMENT IN ORGAN-TREMULANTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS PRENTISS SANBORN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Organ-Tremulant; 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 part of this specification.

This invention relates to a new and useful improvement in a device for producing the tremulous sound of the pipes of the church-organ, and consists in a cylinder and valve, with a vibrating rod, with balls or weights thereon, and with a thumb-screw for regulating the motion of the valve, arranged to operate as hereinafter more fully described.

In the accompanying drawing—

Figure 1 represents a vertical section of my improved tremulant, taken on the line *x x* of fig. 2.

Figure 2 is a top view.

Similar letters of reference indicate corresponding parts.

A is the cylinder, which may be made of either wood or metal.

B is the top of the cylinder, the under side of which top is the valve-seat.

C C are openings in the top, for the escape of the air.

D is the valve, and

E is the valve-stem.

F is a guide-piece for the lower end of the stem.

G is a regulating-screw, through which the valve-stem works, as seen in fig. 1.

H is a vibrating rod, supported in the pivot-piece I on the stand J.

K K are balls or weights on the rod, which are made adjustable thereon by means of screw-threads.

The top end of the valve-stem is connected with this rod at the point L.

M is a spiral spring, which is placed in a recess in the valve, for balancing the wind pressure.

N is a spring, which bears upon the top of the regulating-screw, and presses upward on the valve-stem, and limits the motion of the valve.

The vibration of the rod H is regulated by the adjustable balls K K.

The pressure of the air upon the under side of the valve, as it passes through the cylinder, causes the vibration and tremulous sound.

The valve is closed against the pressure of the spring M, but the reaction permits the valve to drop, the effect being not unlike that of water upon the valve of a hydraulic-ram, producing a concussion, which causes the tremulous sound of the organ-pipes.

This is a most simple and compact arrangement, sure and uniform in its action, under all circumstances, whether one or all the stops in the organ are drawn, or a full chord is played, and is entirely independent of the action of the bellows.

The adjusting arrangement is so perfect that the valve may be rendered as sensitive as may be desired.

Having thus described my invention,

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

In combination with an organ-tremulant, the cylinder A, valve D, seat B, regulating-screw G, and vibrating rod H, with the adjustable balls or weights K K, when the same are arranged to operate substantially as and for the purposes herein shown and described.

THOMAS PRENTISS SANBORN.

Witnesses:

MOODY MERRILL,

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