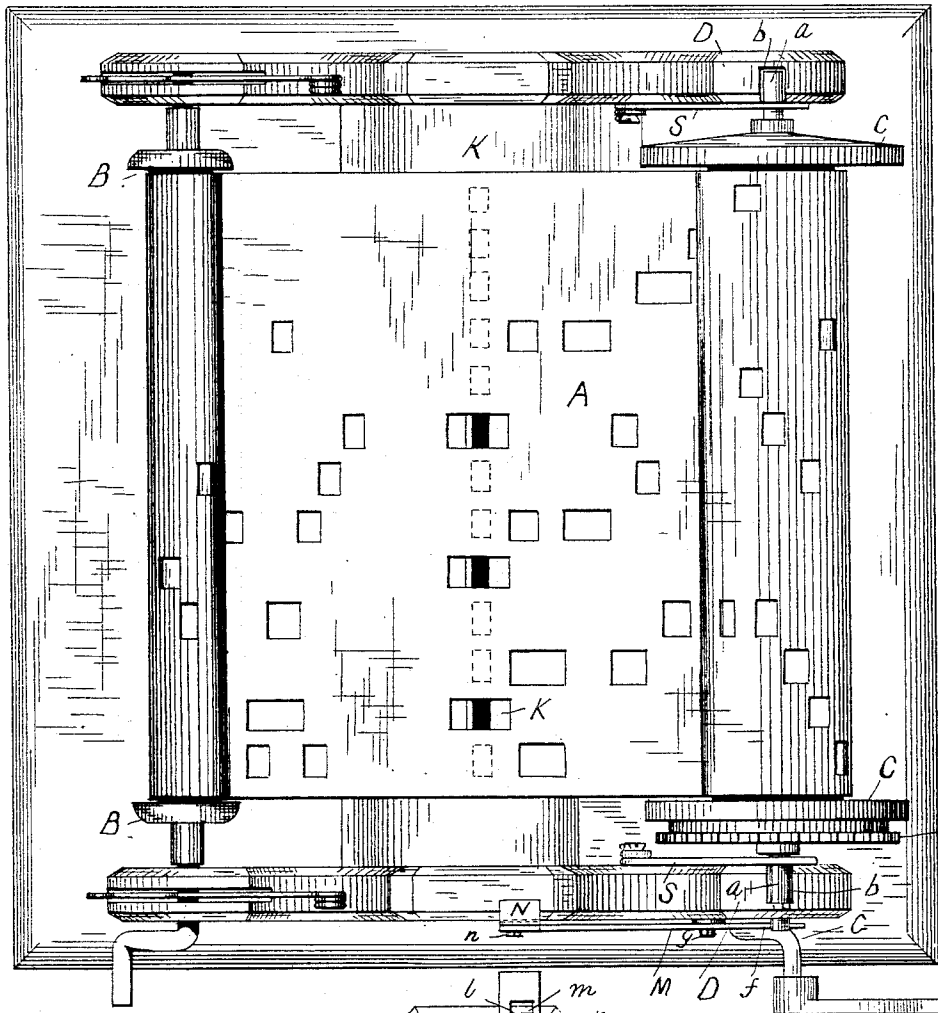
(No Model.) 2 Sheets—Sheet 1.

J. E. TREAT.

MECHANICAL MUSICAL INSTRUMENT.

No. 369,667. Patented Sept. 6, 1887.

FIG. 1.



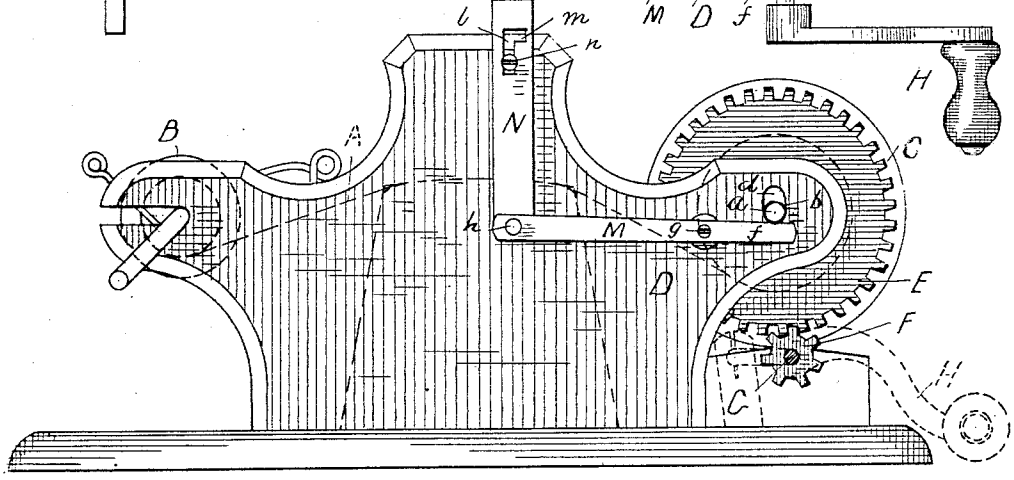


FIG. 2.

WITNESSES.
Wm. E. Bellows
J. C. Greene.

JAS. E. TREAT,
INVENTOR
PER Brown Bros.
ATTYS.

(No Model.) 2 Sheets—Sheet 2.

J. E. TREAT.

MECHANICAL MUSICAL INSTRUMENT.

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FIG. 3.

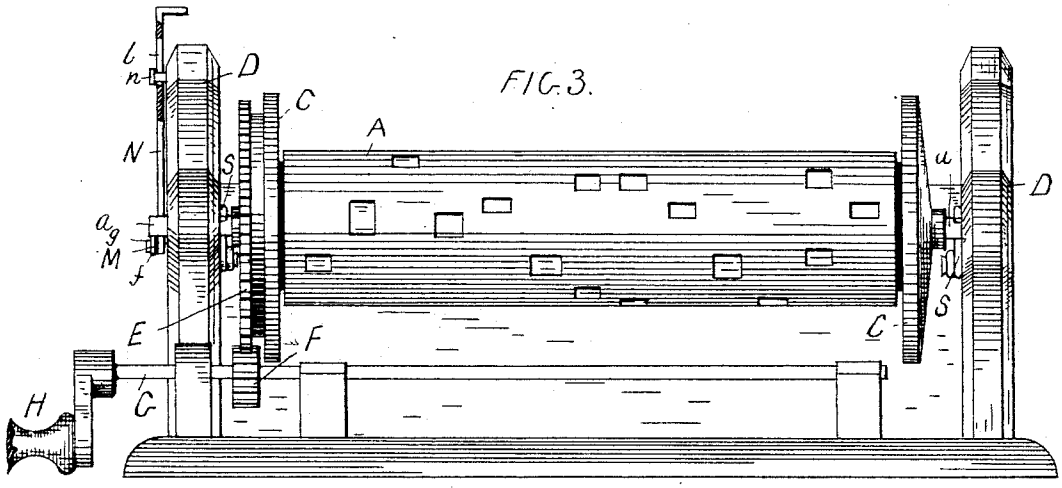


FIG. 4.

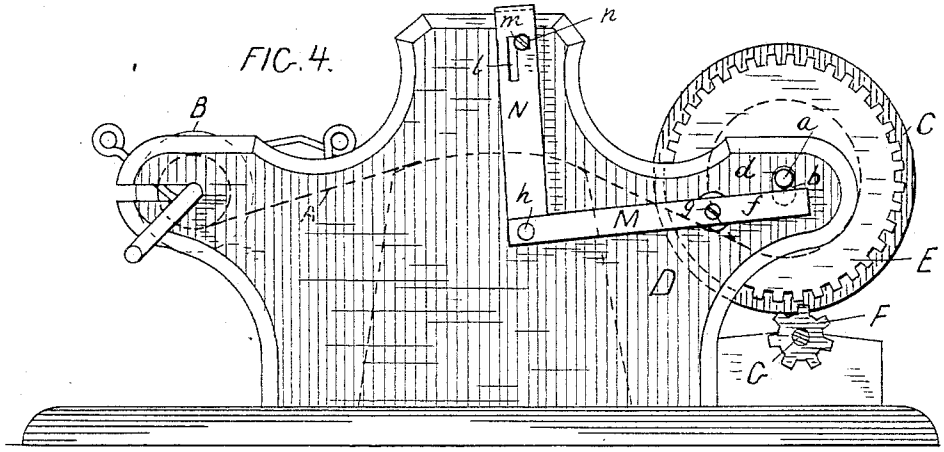


FIG. 5.

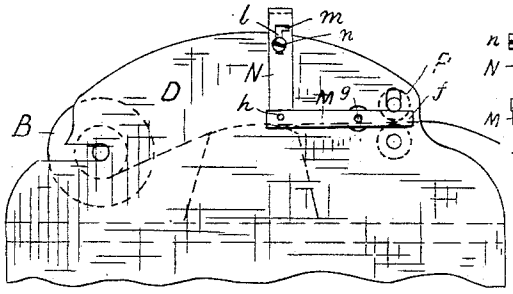


FIG. 6.

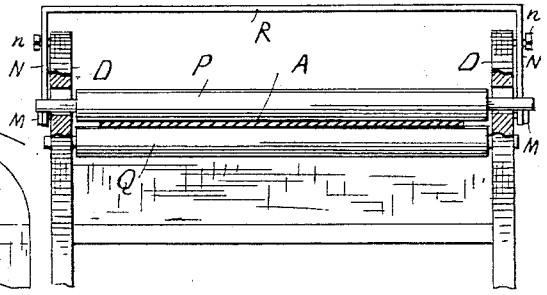
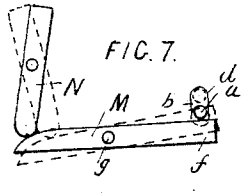


FIG. 7.



WITNESSES.

Wm. E. Bellows.

J. F. Greene.

JAS. E. TREAT,
INVENTOR.

PER Brown Bros.
ATTYS.

UNITED STATES PATENT OFFICE.

JAMES E. TREAT, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE AUTOMATIC MUSIC PAPER COMPANY, OF SAME PLACE.

MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 369,667, dated September 6, 1887.

Application filed November 17, 1882. Serial No. 77,027. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. TREAT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Mechanical Musical Instruments, of which the following is a full, clear, and exact description.

This invention relates to that class of mechanical musical instruments—such as the "orguinette" and "organina"—in which a traveling music sheet or strip provided with perforations to represent the various notes of a tune is used as a valve, or as a means to control the sounding of the reeds or other sound-producing devices of the instrument; and the main object of this invention is to adapt such instruments for the travel of the music-sheet through them to be arrested from time to time, as may be desired, without interference with the operation of the other working parts—such as the bellows of the instrument—and all so that the sounding of the note or notes at any given part or parts of the tune being played may be prolonged, as desired, to give a better expression to the tune, while at the same time the playing of the tune of the perforated sheet is in every other sense carried on as ordinarily. For this purpose this invention consists of mechanical devices which are applied to and combined with the mechanism of the instrument employed to draw or feed the music-sheet through the instrument—for instance, the take-up roll or the feed and presser rolls, and their respective operating-gearing or other operating mechanism—all in a manner that being suitably manipulated with the hand the travel of such music-sheet can be arrested without interference with the running of the other operating parts of the instrument.

In the accompanying plates of drawings this invention is illustrated in two forms, the one in connection with the take-up music-roller and the other in connection with the feed and presser rolls, and Figures 1 to 4, inclusive, are illustrations of the first and Figs. 5 and 6 of the second named form.

Fig. 1 is a plan view. Figs. 2 and 4 are elevations at the same side of the instrument, the one illustrating the operating mechanism of this invention in a position for the travel of the music-sheet to occur, and the other in a position to arrest the travel of the music-sheet, all as will hereinafter appear. Fig. 3 is an elevation at the end of the instrument having the take-up roller for the music-sheet. Fig. 5 is a side elevation of a sufficient portion of the upper part of the instrument to show the application of this invention to the feed and presser rolls of the instrument; and Fig. 6, an end view of Fig. 5, with the casing of the instrument at the portions making the bearings for the upper or presser roll of the feed and presser rolls in broken section. Fig. 7 is a view illustrating a modification in construction, as will hereinafter appear.

In the drawings, A is a perforated music-sheet carried by a music-roller, B, from which it is drawn off and made to travel through a mechanical musical instrument and as it so travels act as a valve or as means to control the sounding of the reeds or other sound-producing devices of the instrument, all as ordinarily in instruments such as the orguinette, the organina, and others of like character, and therefore needing no particular description herein, as the same is well known and forms no part whatever of the present invention.

As shown in Figs. 1 to 4, inclusive, the travel of the music-sheet A through the instrument is secured by the rotation of the take-up roller C for the music-sheet. This roller has journals *a*, turning in bearings *b* of the side uprights, D, of the instrument, and the journal at one end of the roller is provided with a gear-wheel, E, meshing with a pinion gear-wheel, F, carried by a shaft, G, having a winch-handle, H, for convenience in turning it and connected in the ordinary manner to the bellows of the instrument, so as to operate them as the shaft G is turned, and thus secure the sounding of the reeds, &c., as the perforations of the music-sheet pass over the upper open ends of the reed-chambers in the reed-block K. This is all as ordinary and well known; but under this invention, however, the bearings *b* for the take-up roller C are elongated vertically, as shown in Figs. 2 and 4 at *d*, and under the journal *a* at one end of the roller C projects one end, *f*, of a horizontal lever, M. This lever M turns upon a horizontal fulcrum-pin, *g*, of the side upright, and at *h* it is pivoted to the lower end of an upright vertical operating arm or

lever, N. This vertical lever N has a vertical slot, *l*, in its upper portion, which slot has at its upper end a side notch, *m*, and the lever by its said slot is arranged to be moved up and down over the shank of a headed pin or screw, *n*, fastened in the side upright.

Pressing the lever N in a downward direction depresses the end of the horizontal lever M, to which it is connected, and raises the opposite end of said horizontal lever, which is under the journal *a* of the take-up roller C, and thus the take-up roller is lifted and its gear-wheel E placed out of connection with the pinion gear-wheel F of the driving-shaft G, and as a consequence the travel of the music-sheet is arrested, while at the same time the operation of the other parts of the instrument can continue if the turning of the driving-shaft G is then continued.

When the take-up roll is lifted, as above described, it may be so maintained by interlocking the side notch, *m*, of the slot *l* in the operating-lever N with the headed pin *n*, and, again, the roller may be released at any time for its gear-wheel to reconnect with its operating pinion-wheel F by swinging the arm N, so as to break its engagement, above described, with the headed pin, this reconnection of the gear of the take-up roller occurring because of its own weight and parts carried by it.

By means of the mechanism and its arrangement in connection with take-up roller C, above described, it is plain the travel of the music-sheet through the instrument can be arrested at any part or parts of the length of the sheet, thus enabling the sounds of the notes at such part or parts to be prolonged as may be desired, and then the again forward travel of the music-sheet secured, and all by simply depressing the lever N and securing it or holding it depressed and then setting it free for the gear of take-up roller to re-engage with its operating-gear, as described.

In Figs. 5 and 6 the levers N and M are arranged to lift the upper or presser roll, P, of feed and presser rolls Q P from contact with the music-sheet, while at the same time the rotation of the feed-roller Q and the consequent operation therefrom of the bellows of the instrument can continue. In this case it is best to lift both ends of the presser-roll, and so levers N and M are arranged at both ends of the roll, the same as described for the take-up roller C, and the two operating-levers joined by a bar or rail, R, so that they can be operated to lift the presser-roll at both ends simultaneously. By this arrangement and combination of mechanism with the presser-roll P it is obvious the retardation or arresting of the travel and the again forward travel of the music-sheet through the instrument can be secured the same as before described in reference to the take-up roller, and in substantially and practically a similar way.

In Fig. 7 the lever N is shown as arranged to bear upon the lever M to operate it instead of being pivoted to it, and it is plain the lever M can be secured against movement, and thus the take-up roller C or presser-roller P kept in position to prevent any forward movement of the music-sheet by simply swinging the arm N sufficiently to place it at right angles to the lever M, as shown by dotted lines in said Fig. 7.

When the take-up roller C or presser-roll P is placed out of operating position, as has been described, it is plain the music-sheet is then free to be rolled back upon the music-roller if it be so desired. To hold the take-up roller C, which also will insure its return to its operating position, springs S are arranged to bear upon its shaft *a*, the usual spring on the presser-roller P serving same purpose.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a mechanical musical instrument, the combination, with mechanism for the forward travel of the perforated music-sheet through the instrument, of levers N and M, said lever M being pivoted to the case or frame, one end, *f*, of which extends to and under the shaft *a* of the take-up roll for it, when operated by the lever N, to raise said roll and disconnect its gear E with the gear F of the driving or other shaft, whereby the travel of the perforated sheet is arrested without interfering with the operation of the other working parts of the instrument, substantially as and for the purpose specified.

2. In a mechanical musical instrument, the combination, with mechanism for the forward travel of the perforated music-sheet through the instrument, of levers N and M, the lever N provided with means for locking the same, and lever M pivoted to the case or frame, one end, *f*, of which extends to and under the shaft *a* of the take-up roll for it, when operated by the lever N, to raise said roll and disconnect its gear E with the gear F of the driving or other shaft, whereby the travel of the perforated sheet is arrested without interfering with the operation of the other working parts of the instrument, substantially as and for the purpose specified.

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

JAMES E. TREAT.

Witnesses:
EDWIN W. BROWN,
ALBERT W. BROWN.