

(No Model.)

M. GALLY.

MECHANICAL MUSICAL INSTRUMENT.

No. 282,877.

Patented Aug. 7, 1883.

Fig. 1.

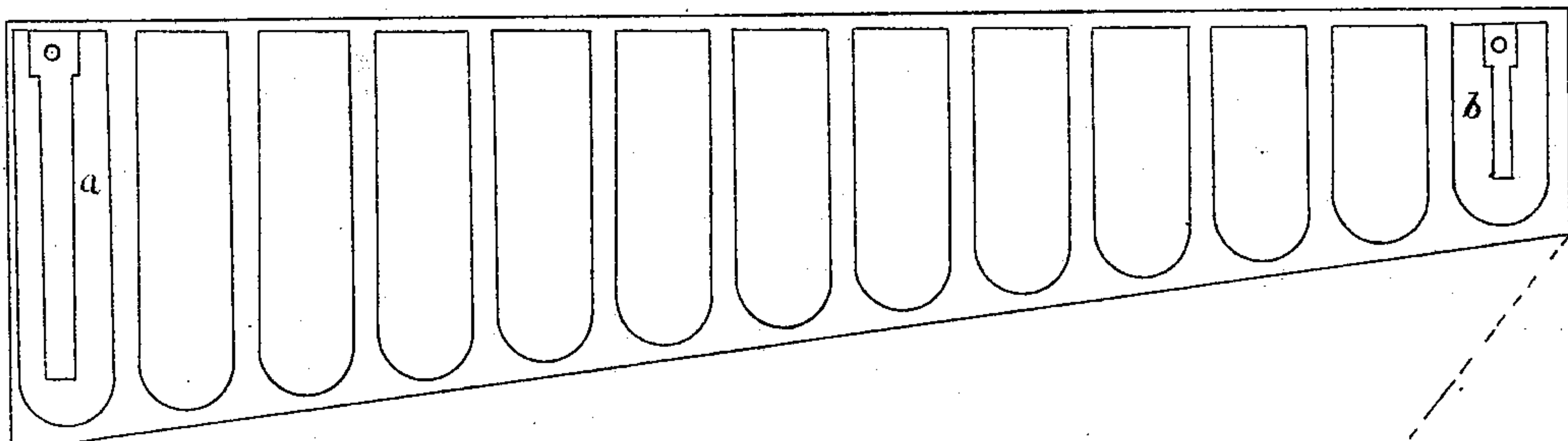


Fig. 2.

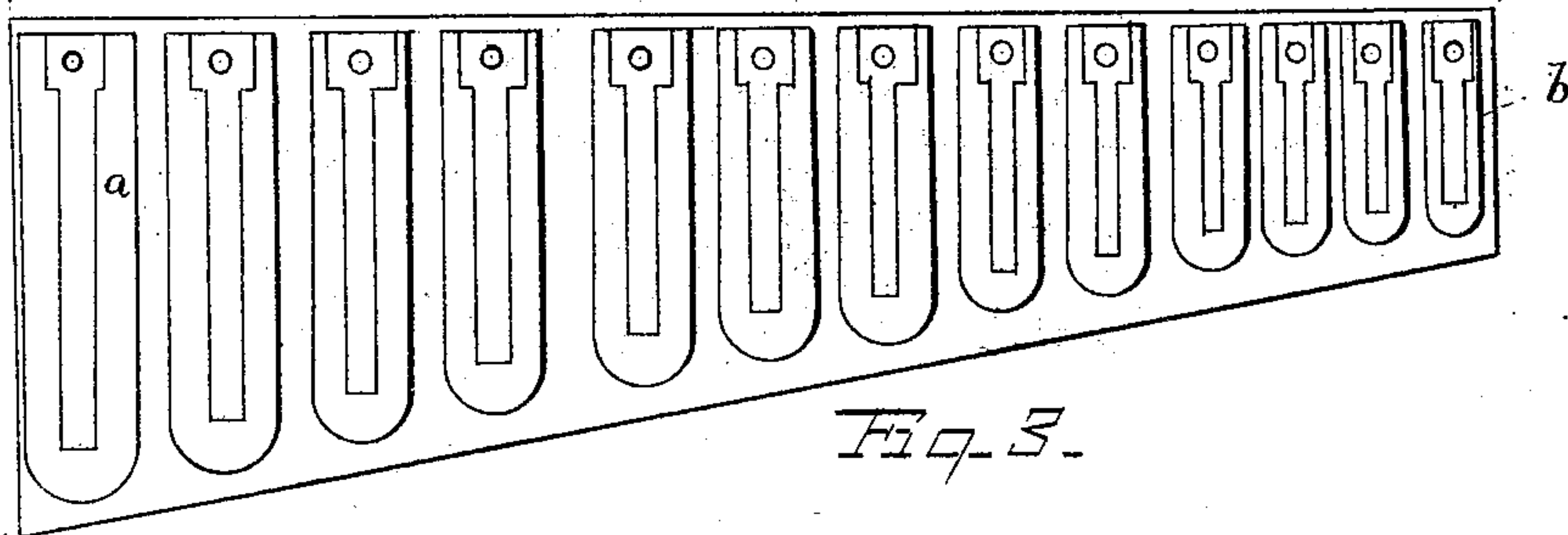


Fig. 3.

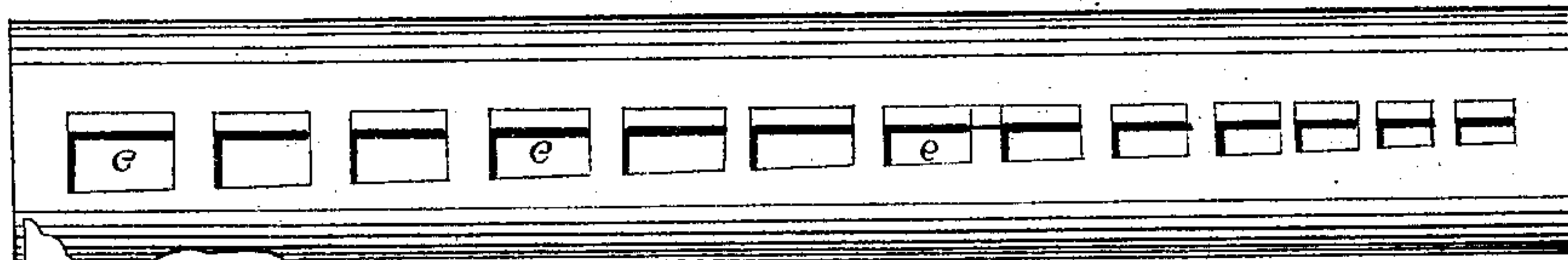
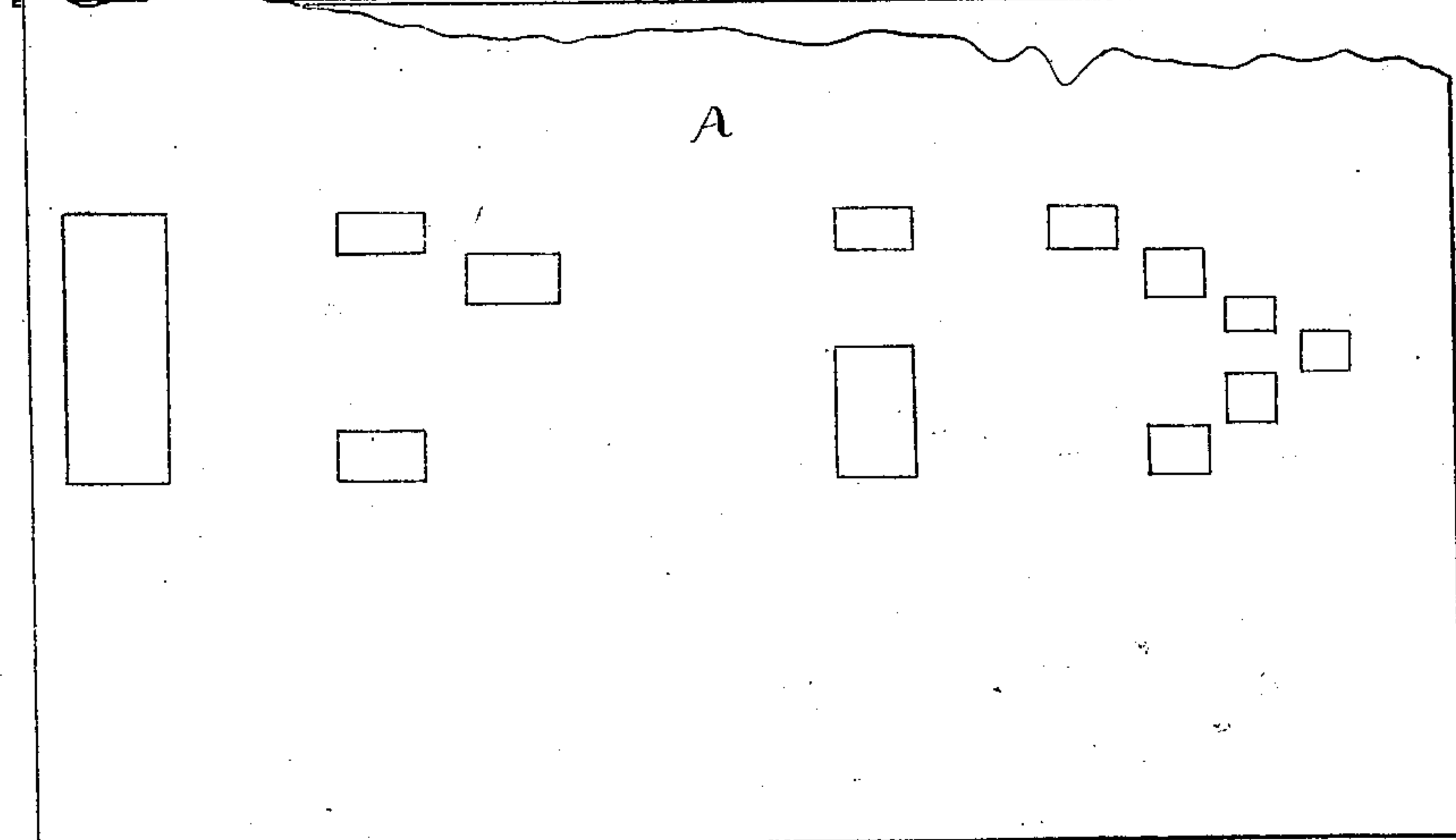
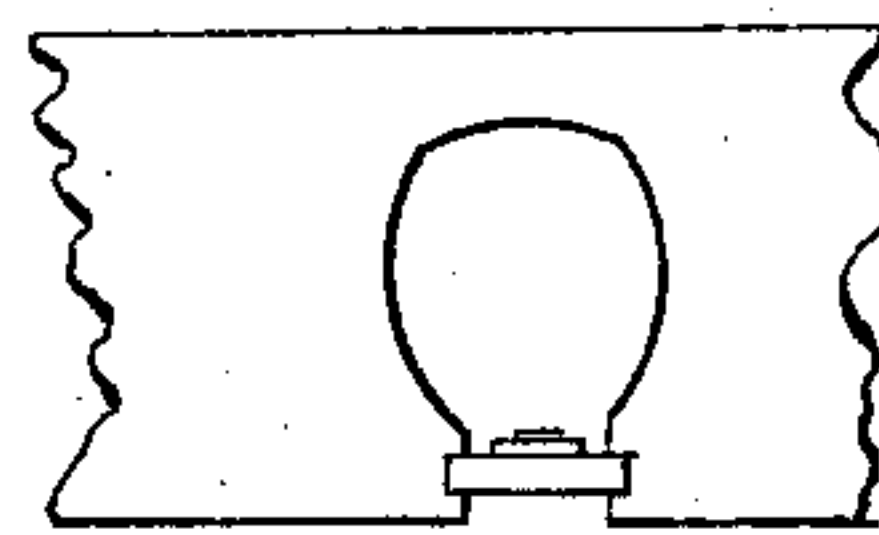
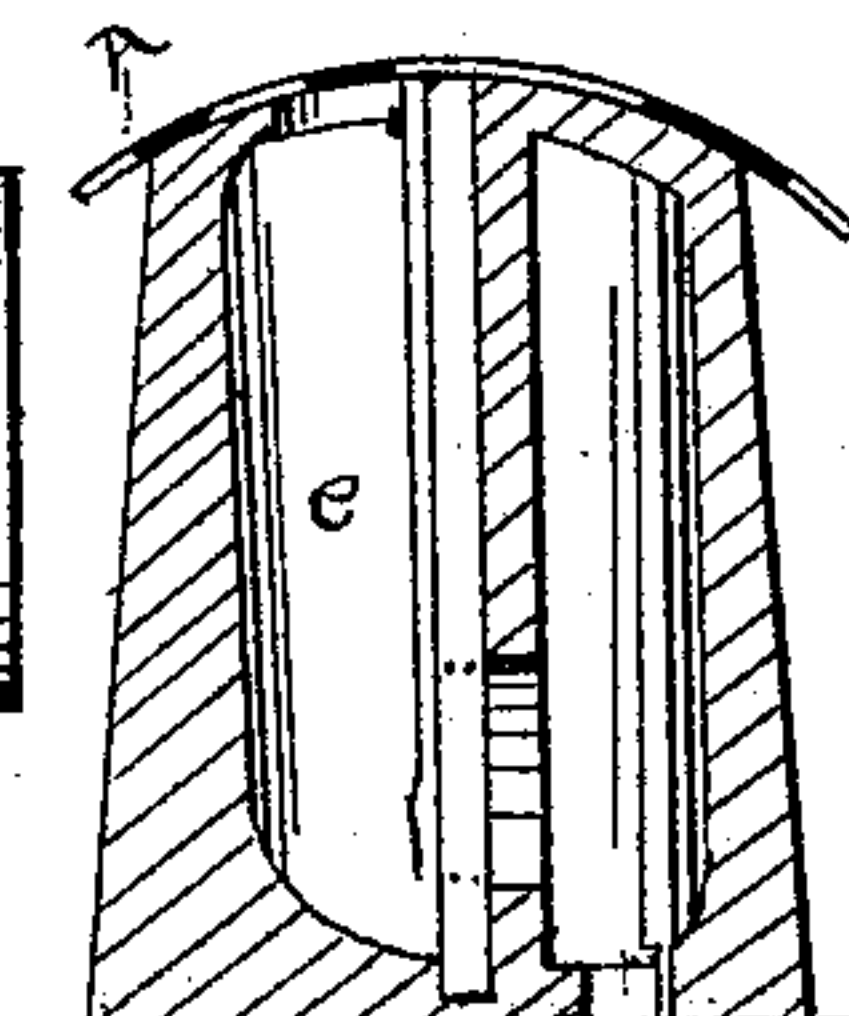


Fig. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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MECHANICAL MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 282,877, dated August 7, 1883.

Application filed April 20, 1882. (No model.) Patented in England July 11, 1882, No. 3,291.

To all whom it may concern:

Be it known that I, MERRITT GALLY, a citizen of the United States, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Musical Instruments, of which the following is a specification.

My invention relates, principally, to musical instruments which are operated by air passing through a perforated music-sheet.

The objects of the invention are, first, to reduce as much as possible the width of the music-sheet without reducing the proper volume and power of tone of the instrument; and, secondly, to save material in construction in instruments in which reeds are used as sounding devices.

In the accompanying drawings, Figure 1 is a diagram showing the ordinary construction and spacing of reeds for illustration by comparison. Fig. 2 represents the set of reeds with improved construction and spacing; Fig. 3, a corresponding improved construction of reed-board and music-sheet, and Fig. 4 is a sectional view of reed-board.

In ordinary reed-organs operated by a manual key-board the scale of reeds is usually spaced uniformly to correspond with the positions of the manual keys, and the reed-blocks are usually of uniform width, as shown in diagram Fig. 1. In using reeds for the construction of mechanical musical instruments ordinary reeds are employed having reed-blocks of uniform width arranged in uniform spaces, not taking into account the facts that not only the fingers of the hand were not to be considered, but that less wind is required to pass through the sheet to sound a small reed than to sound a large one. Taking these facts into consideration, I construct a set of reeds with reed-blocks, as shown in Fig. 2, having wide blocks for the wide reed-tongues and narrow blocks for the narrow reed-tongues. I either graduate the reed-blocks in width from the lower to the upper notes somewhat in proportion to the length of the tongues by a regular graduation, or vary their width in groups if fewer widths are more

convenient in manufacture. In this manner I make the scale much shorter than ordinarily, as shown by comparing Fig. 1 with Fig. 2. I then construct the reed-board, as shown in Fig. 3, to correspond with the width of the reed-blocks, and find that I have all the requisites for a properly-graduated scale as to tone. I perforate the music-sheet A to correspond with this scale by making the perforations diminish in width from the lower to the upper notes, as shown. By this means I diminish very much the ordinary width of the music-sheet, which is of great advantage.

It will be seen also that by this invention there is a considerable saving of material in constructing the reeds for the instruments, which are not in the least injured as to quality of tone, and are equally applicable to the ordinary manual organ, without changing the spacing of the scale, by simply making the grooves of the tubes to correspond with the reed-blocks.

It will also be seen that the music-sheet, perforated as described, and the openings of the board e, graduated in width, are equally applicable for blowing a set of pipes instead of reeds, if desired, or both reeds and pipes, as the graduation meets the requirements of the pipes.

What I claim as my invention is—

1. In a mechanical musical instrument, the combination, with air tubes, ducts, or openings for the passage of air, of a music-sheet the perforations or slots of which differ in width for different notes of the scale, and conform to said openings, substantially as specified.

2. The perforated music-sheet having its perforations differing in width and diminishing gradually from the lower to the higher notes of the scale.

3. The perforated music-sheet having its perforations or slots differing in width and graduated, substantially as described.

MERRITT GALLY.

Witnesses:

JOHN THOMSON,
LYMAN H. ESSEX.