(No Model.)

M. GALLY.

ORGAN REED.

No. 314,235. Patented Mar. 24, 1885.

Fig. 1

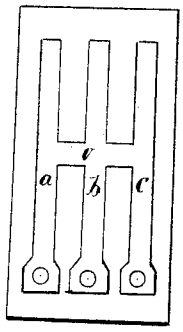


Fig. 2

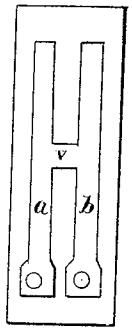


Fig. 3.

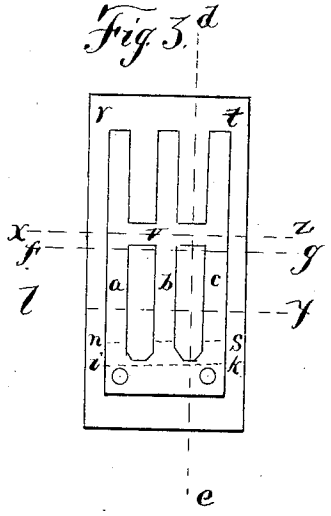


Fig. 4.



Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

MERRITT GALLY, OF NEW YORK, N. Y.

ORGAN-REED.

SPECIFICATION forming part of Letters Patent No. 314,235, dated March 24, 1885.

Application filed February 25, 1884. (No model.) Patented in England May 14, 1884, No. 7,708.

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 Organ-Reeds, of which the following is a specification.

This invention is patented in England, No. 7,708 of May 14, 1884.

The object of my invention is to produce a simple reed, easy of manufacture and of durable construction, which shall possess not only all the desirable qualities of a group of "tied reeds," but also be superior to them in richness and purity of tone and quickness of speaking capacity, by the construction hereinafter described and claimed.

In the accompanying drawings, Figures 1 and 2 are plan views of organ-reeds embodying part of the features of my invention. Fig. 3 is a plan view of an organ-reed embodying additional features. Fig. 4 is a longitudinal section of the reed as shown in Fig. 3, and Fig. 5 is a transverse section of the same.

In the construction of what are ordinarily termed "tied reeds" the tongues of two or more reeds are tied together by means of a staple or loop, which passes from one tongue to another either under or over a part of the reed-block. One of the principal defects in these reeds arises from the fact that the connecting loops or staples are either soldered or riveted to the reed-tongues. If soldered, the parts of the tongues to which the loops are soldered lose part of their temper by soldering, and the tongues, together with the connecting parts, are not of homogeneous metal. If riveted, the tongues being pierced for the rivets not only weakens the tongues, but also breaks the vibrating lines in the metal of the tongues, and produces impurity in quality of tone. Another defect arises from the fact that the tying loops or staples, not being operated upon by the pressure of the air which vibrates the tongues, act as weights to retard the desired promptness of speaking capacity of tied reeds, so that tied reeds cannot be used for executing rapid movements, and are therefore not adapted for many kinds of music. Another defect arises from the fact that the tongues are liable to be held in a cramped or strained condition, as they are complete and independent each in itself, except as they are mechanically tied together; and it is quite evident that only the greatest skill could do this in a perfect manner.

In the reed shown in Fig. 1, instead of a number of reeds tied together mechanically by means of staples or loops, the reed-block A is provided with three longitudinal slots, and a transverse slot connecting the longitudinal slots together, forming a single irregular opening in the block. A reed-tongue formed of one piece of metal, *a b c v*, is made to correspond with the opening of the block. This reed has a much fuller and purer quality of tone than a group of tied reeds, and as it has no retarding-weight, but presents an entire surface to the action of the air, it is more prompt in its speaking capacity. The reed, as shown in Fig. 1, has, however, one defect: the tongue is liable to be strained by the rivets that hold it to the reed-block, and the base of vibration is divided. I prevent this defect by the construction shown in Fig. 3, in which the reed-tongue has one complete base. This tongue is firmly held to the block without strain in any part, and gives most satisfactory results.

By means of punch and die the tongue is manufactured very cheaply.

In the longitudinal section, Fig. 4, is shown the transverse slot of the reed-block at *x*, and the transverse portion of the reed-tongue which vibrates therein. This transverse portion of the tongue does not in any wise act as a retarding-weight, but, on the contrary, the additional surface for air-pressure fully prevents any such effect, and the reed is not only prompt in its speaking capacity, but the tone has increased "body" and volume.

The letters *rt ns* designate the boundary of that portion of the opening in the reed-block which passes entirely through the block. The opening is, however, beveled backward from the line *ns*, so that the base of vibration of the tongue is through the line *i k*. This secures unity of vibration, which is more important than unison of vibration, as the latter cannot be practically absolute, but only more or less approximate.

What I claim as my invention is—

1. An organ-reed the reed-block of which has two or more longitudinal slots extending

from its base and connected by a transverse slot.

2. The combination, with a reed-block having two or more longitudinal slots extending from its base and connected by a transverse slot, of a reed-tongue the vibrating portion of which is made to conform to the opening through the reed-block formed by the several slots.

3. The combination, with the reed-block having two or more slots extending from its base and connected by a transverse slot, of a reed-tongue the vibrating portion of which is made to conform to the opening in the reed-block formed by the several slots, the reed-tongue being formed of a single piece of metal.

4. The reed-tongue formed to correspond with two or more longitudinal slots connected by a transverse slot in the reed-block, the tongue having a common base of vibration.

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Witnesses:
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