

No Model.)

M. GALLY.

ORGAN REED.

No. 344,443.

Patented June 29, 1886.

Fig. 1.

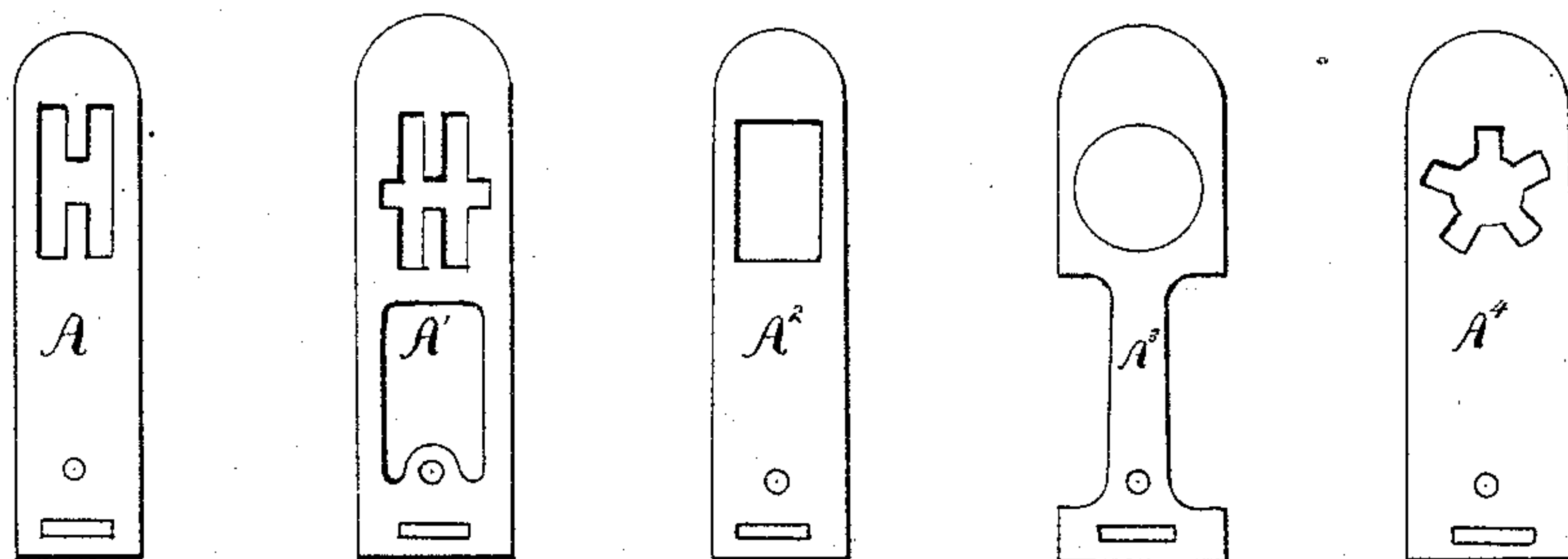


Fig. 2.

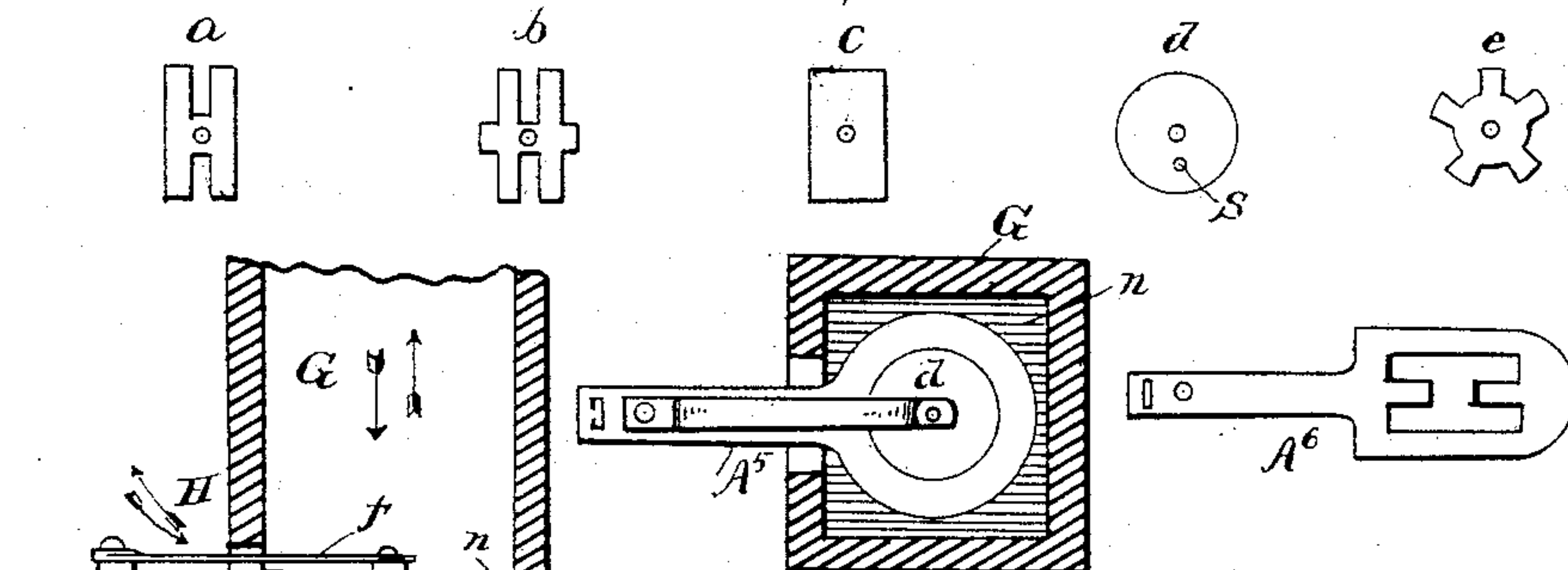


Fig. 3.

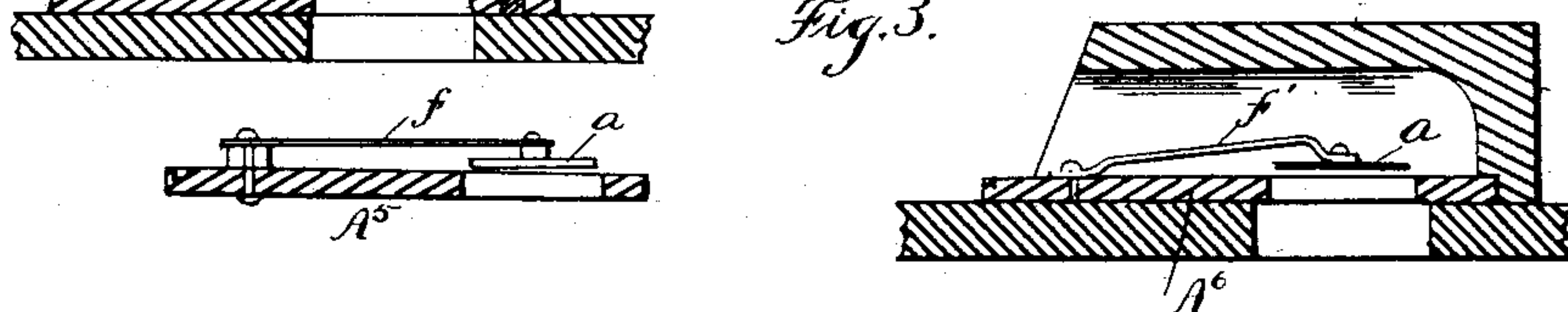
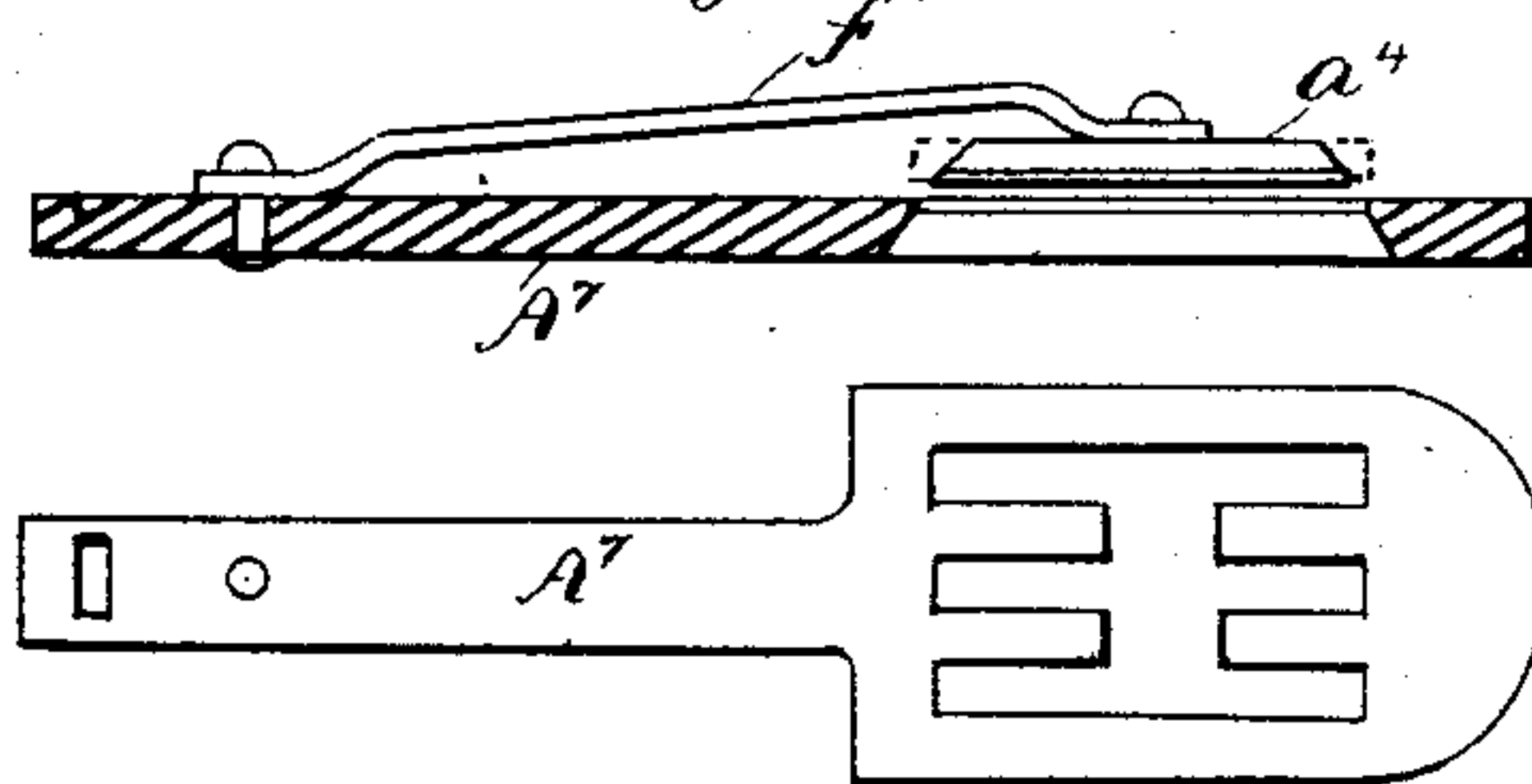


Fig. 4.



Witnesses:

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Inventor.

# UNITED STATES PATENT OFFICE.

MERRITT GALLY, OF NEW YORK, N. Y.

## ORGAN-REED.

SPECIFICATION forming part of Letters Patent No. 344,443, dated June 29, 1886.

Application filed April 27, 1885. Serial No. 163,536. (No model.)

*To all whom it may concern:*

Be it known that I, MERRITT GALLY, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Organ-Reeds, of which the following is a specification, reference being had therein to the accompanying drawings.

In the accompanying drawings, Figure 1 is a plan view of the reed-block in several modifications, showing the opening in the block in several different shapes for receiving plates of various forms. Fig. 2 is a plan of the plate in several modifications. Fig. 3 shows the reed in plan and in section, and its application to reed-cell and reed-pipe; and Fig. 4 shows the reed in plan and section, the plan representing a portion of the reed-block cut away or formed with a slim butt for the purpose of saving metal in the manufacture.

In my patent for improvement in organ-reeds, No. 314,234, dated March 24, 1885, I broadly claimed "the combination, with a reed-block having a branching slot, of a reed-tongue having prongs corresponding with the branches in the slot, as described." In the present case I show a construction peculiarly adapted to desirable forms of vibrators, which operate in connection with a reed-block having a branching slot and other desirable forms, as the case may require. The greater part of the tone of a reed is produced by that part of the reed-tongue most distant from its point of attachment to the reed-block. That part of the reed-tongue nearer the point of attachment acts simply as a spring to produce the vibrations by reaction against the pressure of air upon the vibratory extremity.

In Fig. 1, A A' represent reed-blocks having branching slots near the front end of the block to receive plates of branching form to correspond with the slots. This plate forms the part of the reed-tongue which beats the air and produces the tone, and has the advantage of cutting the air around its entire boundary-line. As the spring portion of the tongue is not employed to produce the tone by breaking the air, it is unnecessary to slot the reed-block to receive it. I therefore attach the spring to the plate at one end and to the reed-block at the other, as shown by  $ff'$ , Fig. 3, removing the spring sufficiently from the face

of the block to prevent contact with the block of its vibrating portion. By this means I avoid the labor of fitting any portion of the tongue to the slot in the reed-block, except that which produces the tone, and secure to this portion its greatest extent of boundary-line. This construction is not only applicable to other forms of branching plates, as  $A^4$ , or other desirable forms, but also to disks, as  $A^3$ , or rectangular plates, as  $A^2$ , or other angular forms as desired to produce different effects. The disk  $d$ , Fig. 2, may be attached to the spring-bar of the reed at its center or at a point on the nodal line of the disk between its center and circumference, as at  $s$ , or at any other suitable point on the face of the disk, according to the effect to be produced when the plates are thin enough to have vibrations independent of the vibration of the spring-bar.

In Fig. 3 the spring  $f$  is shown as raised on a thick washer, through which the rivet passes which holds the spring to the reed-block, and a separating-piece is also shown between the disk and the spring. This is to prevent the spring from striking the face of the reed-block. This is also accomplished at  $f'$  by offsetting the ends of the spring, as shown.

When considerable width of reed-block is required for the opening in which the plate is to vibrate, I save metal in the construction of the block by cutting away a portion from such part of the body as can be removed without injury to the perfectness of the reed completed.

In  $A'$ , Fig. 1, the central portion of the body is punched out, leaving the entire boundary edge to be held in the groove to which it is fitted in the instrument. Somewhat more material is saved in the form  $A^3$ , and still more in  $A^5$ ,  $A^6$ , and  $A^7$ . The matter of cutting away the body portion of the block to save material is also applicable to branching reeds, in which the reed-tongue is formed of one piece of metal.

In Fig. 3 the application of the reed to a reed-pipe is shown. The pipe  $G$  is of that kind which has an opening at its base for the emission of a part of the tone of the reed. This opening serves in this case also another purpose, as it provides for the vibration of the tongue  $f$ . The reed, however, may be placed upright in the pipe and entirely inclosed, as



in ordinary reed-pipes. The vibrating end of the tongue of a large bass-reed is necessarily heavy, and therefore thick. The edge of this portion of the tongue is usually at right angles to the plane of its face, and therefore in order to have the throw of the reed sufficiently great to give the proper results the reed requires a great tension of air. It is sometimes desirable to avoid this, and when such is the case I bevel the edges of the tongue or plate, as shown at  $a^4$ , Fig. 4. This construction produces a reed which will operate under very low tension with good results.

I am aware that in patent to Briggs, No. 15,921, of October 21, 1866, a reed is described consisting of a ring and a thin disk forming a vibrator suspended within said ring by a stem extending to a spring above the vibrator. In such construction the spring was not attached to the reed-block, but to a support on the reed-board, and it was necessary to maintain the vibrator centrally in the ring by a rod extending down through a hole in a bar below the vibrator. I make use of no such device, and make no claim thereto.

What I claim as my invention is—

1. An organ-reed block having a perforation therethrough, a tongue-plate conforming

to the outline of said perforation, and a separate stem narrower than the plate, attached to the plate and to the block, said plate and stem together forming the reed-tongue, substantially as described. 30

2. An organ-reed block having a perforation therethrough, a plate conforming to the outline of said perforation, and a separate spring-stem narrower than said plate, attached to the plate and to the reed-block, and offset to lie above the plane of the block, all combined as stated. 35 40

3. In combination with a reed-block having a broad body portion provided with an aperture, in which the reed-tongue plays, and a narrow extension for the attachment of the tongue, a reed-tongue having its vibrating portion corresponding to the slot in the block, and having a narrow spring-extension attached to the narrow extension of the block, substantially as described. 45

In testimony whereof I affix my signature in presence of two witnesses. 50

MERRITT GALLY.

Witnesses:

ROBT. A. GALLY.

A. HEWITT.