(No Model.)

M. S. WRIGHT.

REED ORGAN.

No. 409,814. Patented Aug. 27, 1889.

FIG. 1.

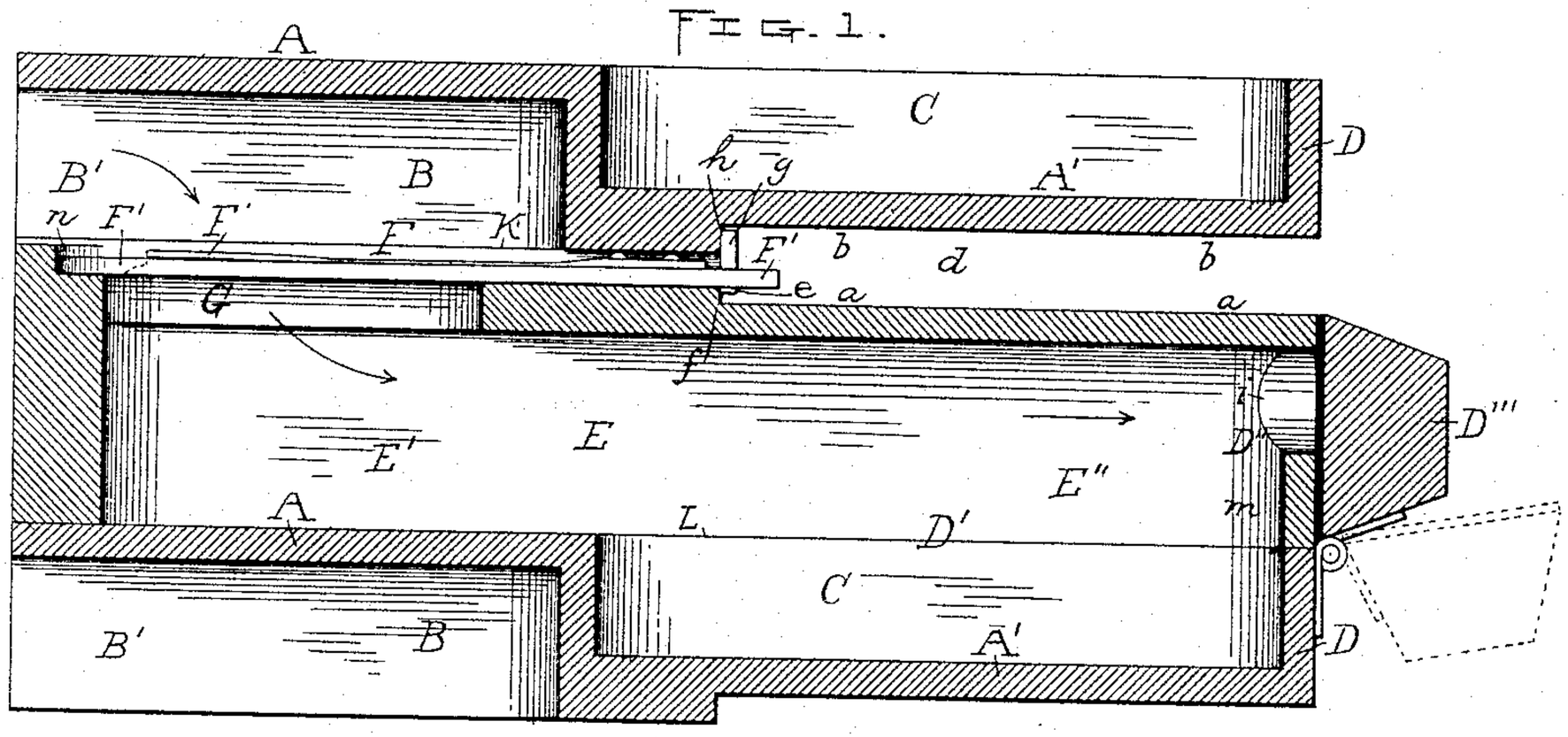
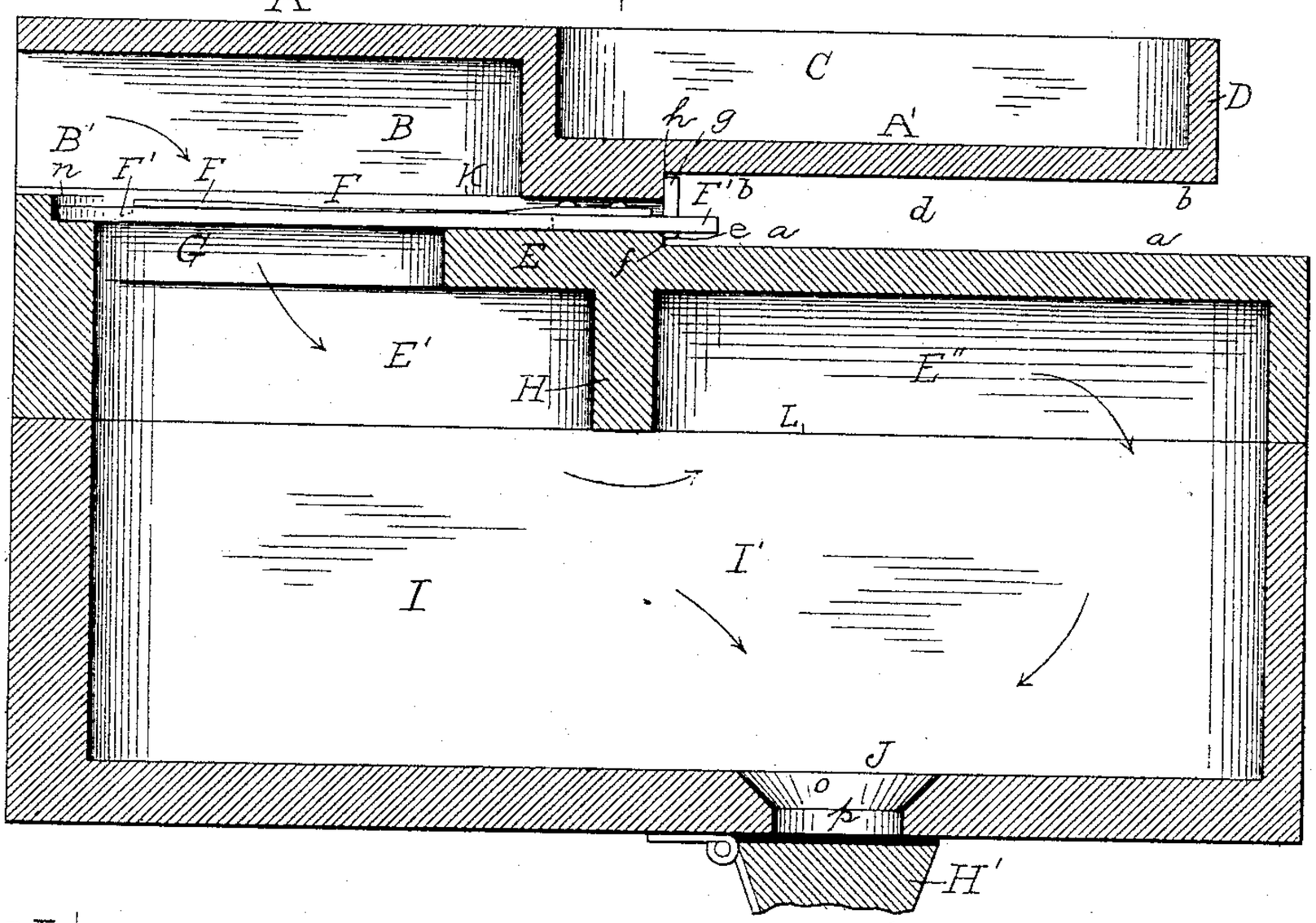


FIG. 2.



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MORRIS S. WRIGHT, OF WORCESTER, MASSACHUSETTS.

REED-ORGAN.

SPECIFICATION forming part of Letters Patent No. 409,814, dated August 27, 1889.

Application filed February 8, 1889. Serial No. 299,206. (No model.)

To all whom it may concern:

Be it known that I, MORRIS S. WRIGHT, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Reed-Organs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this description, and in which—

Figure 1 represents a longitudinal vertical section of one set of reed-chambers, as will be hereinafter more fully described; and Fig. 2 represents a similar section of the lower set of reed-chambers, which are constructed in a modified form, as will be hereinafter more fully described.

To enable those skilled in the art to which my invention belongs to make and use the same, I will now describe the invention more in detail.

My present invention constitutes improvements in the reed-organ for which Letters Patent were granted to me on the 27th day of March, A. D. 1888, No. 380,071.

In the drawings I have shown a section of one of the reed-chambers in Fig. 1. This section is sufficient to illustrate the construction of all the other chambers above this lower set, since they are duplicates of the one shown in Fig. 1.

The nature of my present improvements consist, first, in the combination and relative arrangement of the parts making up the reed-chamber for a single reed, as hereinafter described, whereby the joints are all parallel with the reed, and separate dividing-boards, separate plug-pieces, and separate qualifying-tubes with separate end caps are all avoided, as will be explained hereinafter, and in combination therewith a convex wind part; second, in the combination with the bottom of the lower reed-chamber and closed ends, of a bottom valve, as will be hereinafter described.

In Fig. 1 the parts marked A A′ are formed from single pieces, being cut out at B to form the air-ingress passage B′ and at C to form the lower side of the qualifying-tube D. The part E is also in one piece, being cored or cut out to form a long air-chamber E′ E″, the latter space forming the upper half of the qualifying-chamber D′ in the qualifying-tube D. The upper right-hand ends of the qualifying-tubes D are cut away, as shown at *a*, while the lower right-hand ends of the tubes D are cut away, as shown at *b*, to form the long reed-space *d*, and through which the reeds F are pushed into place, the projection *e* on the lower side of the reed-frame F′ striking against the shoulder *f* of the part E, and the projection *g* on the upper side of reed-frame F′ striking against the shoulder *h* on the part A′, the shoulders *f* and *h* serving the functions of plug-pieces, whereby a tight and perfect joint is produced at the base of the reed between the reed-frame and the parts forming the air-chambers of the reed-pan proper, and which construction obviates the necessity of separate plugging-pieces, as found in my said patent of March 27, 1888, thereby not only saving much in expense, but rendering the instrument far more desirable both in tone and durability. The part E is cut out at G, leaving an open space for the air to pass from ingress-chamber B′ down by the reed-tongue F″ into and out of the qualifying-tube D at the convex port D″ when valve or stop D‴ is open.

It will be noticed that the inner edge *i* of port D″ is made convex, whereby the air as it leaves the qualifying-tubes is centered and passes out in a freer and more uniform manner than it does when the faces of the inner walls of the port are flat, as in my said patent of March 27, 1888, and as a practical result the tone is smooth and even and not liable to harshness of expression. To make this form of port, a tool is used which cuts the ends of the chamber in curved form, as seen at *m*, so that when the port-hole D″ is formed or bored out the inner edge *i* is convex, as fully indicated in the drawings.

The reed-frame F′ fits in side grooves cut in the part A, and the front end of said frame is also supported in a curved groove *n*, which extends from one side groove to the other.

The lower set of air-chambers is shown in Fig. 2, and in which case the parts for supporting the reed are made like the corresponding parts in Fig. 1, while the parts below the reed are made somewhat differently for producing a deep and heavy tone. The chambers corresponding to chambers E′ and E″ in Fig. 1 are divided by the partition H,

while below that the bottom piece I is cored or cut out to form a large qualifying-chamber I′, with a concave port J in the bottom, but to the right or to one side of the partition H, said port being provided with a valve or stop H′.

In operation the air takes the course indicated by the arrows, and by this form of construction these heavy tones are mellowed or muffled somewhat, thereby giving to the ear a more pleasant and desirable sound. Port J is made concave, as seen at *o*, whereby the same general result is obtained as by the convex ports in the upper air-chambers, the air being centered before it reaches the outer part *p* of the port. The glue-joints K and L are the only ones used in my present improved reed-organ, both horizontal. It will be understood that the ingress-air passages are closed by valves, as shown in my said former patent or in any other well-known manner, and also that such valves are connected with the keys in any well-known manner; also, that the stops or valves D‴ and H′ are properly connected to the well-known mechanism employed by the player to operate such stops in reed and other organs.

To make up a full reed-pan for an organ the parts shown in Fig. 1 are duplicated and attached together, as shown, until the desired number of series of reeds and their air-chambers are combined to form an organ, with the exception of the bottom series, which are of the construction shown in Fig. 2 of the drawings.

The pieces A, A′, E, and I are of any desired length to make the designated number of air-chambers, reed-supports, and qualifying-tubes for the size of reed-organ to be made.

It will be seen that I have by the present improvements greatly simplified the construction of reed-organs, while at the same time rendering them more substantial, less liable to get out of order, and more perfect in tone, since the glue-joints are reduced to really two to each set or series of air-chambers and reeds.

The piece marked A and A′ and the piece marked E extend the whole length of the instrument from end to end and may be longer or shorter, as desired, while the part E supports the reeds, as shown, and the piece marked A A′, when attached to the part E, serves for an ingress air-passage to the reed below, and also makes up the lower half of the qualifying-tube for the reed next above.

By this mode of construction there are no cross glue joints, and the entire central part of the reed-pan is composed of single pieces properly cut or cored out to form the air-chambers and qualifying-tubes, while air-exit ports are formed by boring through the solid part of the piece E. The parts being thus reduced to only two pieces of different form or construction for the entire central part of the organ, renders its construction less expensive and far more durable than by any of the modes in use prior to my present invention.

It will be understood that the reed and the parts forming the reed-chambers may be arranged in vertical or inclined positions without change of construction or departing from the principle of my invention.

I prefer to arrange and construct the organ so that the reeds and the joints K and L will be horizontal, as shown in the drawings; but other manufacturers can use either arrangement, as preferred.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, in a reed-pan for a reed-organ, with the reed-supporting piece E, cut or cored out, as described, of the single piece marked A and A′, cut or cored out, as shown at B and C, to form an ingress air-passage B′, and the lower half of the qualifying-tube D, substantially as and for the purposes set forth.

2. The combination, with the reed F and the projections *e* and *g* on the base of the reed-frame F′, of the shoulders *f* and *h*, whereby a separate plugging-piece is avoided, substantially as and for the purposes set forth.

3. The combination, with the air-chamber B and reed F, of the reed-frame supporting-piece E, extended beyond the base of the reed-frame F′ and cored out to form the air-chambers E′ and E″, and provided with shoulder *f* on its upper side, substantially as and for the purposes set forth.

4. The combination, with the reed-supporting piece E and air-chambers E′ and E″, cut or cored therefrom, of the convex port D″, as and for the purposes set forth.

5. The combination, with the qualifying chamber I′ and air-chambers E′ E″, of the bottom concave port J, substantially as and for the purposes set forth.

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Witnesses:
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