M. PRATT.

Manufacture of Key-Boards for Organs, &c.

No. 165,024. Patented June 29, 1875.

Fig. 1

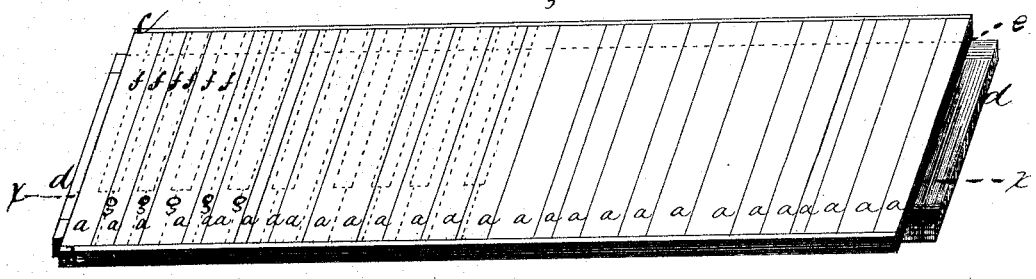


Fig. 3.

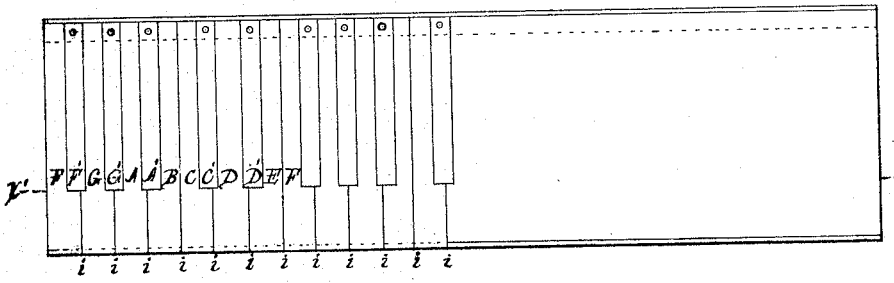
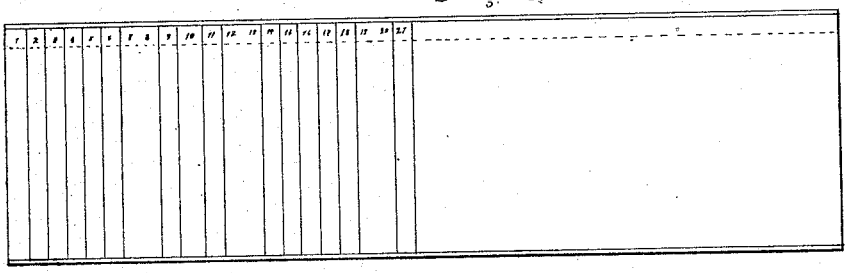


Fig. 4.

Fig. 2.



Witnesses.

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MILON PRATT, OF DEEP RIVER, CONNECTICUT.

IMPROVEMENT IN THE MANUFACTURE OF KEY-BOARDS FOR ORGANS, &c.

Specification forming part of Letters Patent No. **165,024**, dated June 29, 1875; application filed October 14, 1874.

To all whom it may concern:

Be it known that I, MILON PRATT, of Deep River, Middlesex county, Connecticut, have invented certain new and useful Improvements in the Manufacture of Key-Boards for Pianos, Organs, and other similar musical instruments, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a view which I make use of to illustrate the common method of making key-boards. Fig. 2 is a plan view of a board prepared by my new method, preliminary to sawing out the keys. Fig. 3 is a plan view, showing the final sawing out of the keys. Fig. 4 is a side view of one of the pieces for a "sharp" key.

I will first explain, in a general way, the common method of making a key-board, referring to Fig. 1. Pieces of wood *a a*, generally of bass-wood or pine, of about the right thickness, and of the proper length, are glued together side by side, as shown in Fig. 1, no particular regard being paid to the width of these pieces. Veneers *b c*, generally of holly, are glued upon the ends. The faces of the board thus produced are then planed or dressed, so that the whole is of a uniform and desired thickness. Next, gage or scale marks are made on the upper face of the board to denote where the ivory is to be laid, and how the keys are to be sawed out. Next, the board is laid upon and secured to the frame *d*. Next, the holes for the two pins, upon which each key sits, are drilled, and the necessary mortises for the pins made. Next, a series of cuts or mortises is made in the under side of the board, about on the line indicated by dotted line *x x* at the points, where will finally be the front ends of the sharp keys. These mortises are not cut quite through to the top of the board, but nearly through, so that these keys can be readily broken out when the sides are sawed. Next, the ivory is laid. If required, rear edge of the board is grooved its whole length, as indicated by the dotted line *e*. Next, the ivory is planed and polished. Next, the sharp keys are sawed out on the (dotted) lines *f*, and broken out. Next, the front end of the sharp keys are trued up, as are also the shoulders, against which they abut. Next, the keys other than the sharps are sawed out on the (dotted) lines *g*. Next, the sides of the keys are dressed and smoothed, the pins on which the keys rest are driven into the underlying frame, the keys regulated and cleaned, the black finger-pieces are glued upon the sharp keys, and the key-board is, for the present purposes, finished. This, in general, is the common mode of making key-boards, though it may vary considerably from this in different styles of boards.

I will now describe my new method, referring to Figs. 2, 3, and 4: I get out pieces of wood of about the right length and thickness for the finished keys, and of generally uniform width, except that I prefer to make contiguous B and C keys, as well as contiguous E and F keys, of one piece, and of the relative width shown in Fig. 3; also, in some styles, the pieces for the body of each D key is wider than the tails of the other keys, as shown in Fig. 2; but this is not essential, as different makers distribute the width of the spaces between the C and E keys differently. The pieces for forming the sharp keys have a slit, *h*, sawed in their under side at the place where the front ends of the sharps will finally be. This slit does not come quite through to the upper face of the key. They all lie in a line indicated by the dotted line *x x*. The pieces thus gotten out are then glued together side by side, not with glue along the whole length, as in the old method, but from the slits *h* to the front ends only. Next, the veneers are glued on at the ends, and the whole brought to a uniform and desired thickness, as in the old method. I now sever any remaining wood that may be on the sharp-pieces opposite the slit *h* and on a line with dotted line *x x*, and start the front ends of the sharps a little below the surface of the other keys, to prevent the glue from adhering to the sharp in the subsequent process of gluing on the ivory, also the better to distinguish the joints which answer for the gage-lines. Next, the board is secured to the underlying frame and drilled and mortised, the ivory laid, planed, and polished, and, if required, the rear grooved much the same as in the old method. When I come to the sawing I saw off the rear edge of the whole board, so as to just clip off the rear veneer and leave

the keys of the right length. Next, the sharps are removed without any side sawing. The other keys are then sawed out on the lines *i*, and the board finished up the same as in the old method.

My new method has great advantages over the old in economy and accurate results.

The essential feature is the preliminary preparation of the pieces for the sharp keys, and also of the other pieces, as hereinbefore described, of substantially the right width, so that when placed together side by side, in proper order, and glued together only from their front ends to a point on a line with the slit *h*, they shall form the scale desired, the joints in the rear of these slits, when not glued, answering to the gage-lines in the scale, and the spaces between denoting where the ivory tails and black finger-pieces are to be glued on. By this method I avoid the necessity of sawing out the sharps after the ivory is laid, a step that causes much of the imperfection incident to key-making.

It is preferable to make the slits *h* before gluing, and to make the pieces for the D keys and the B C and E F keys of the relative width mentioned, but not indispensable, for it is possible to wholly sever the fore ends of the sharp keys from the others after they are glued to the other keys, and the widths of the keys can be differently distributed without departing from the spirit of my invention, which is the preliminary preparation of the pieces, as heretofore described.

I claim as my invention—

As an improvement in the manufacture of key-boards for musical instruments, the preliminary preparation of the pieces for the bodies of the sharp keys, of substantially the width of the sharp spaces in the desired scale, and then gluing said sharp-key pieces to the pieces for the natural keys at the outer ends only—that is, from the front ends of the natural keys to the line where the front ends of the sharp keys will fall, substantially as described.

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Witnesses:
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