Jan. 30, 1940. M. SOPRANI 2,188,378

ACCORDION

Filed April 13, 1937

Fig. 1.

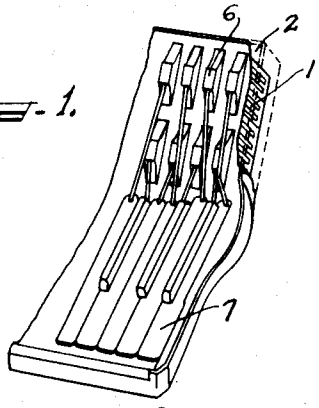


Fig. 2.

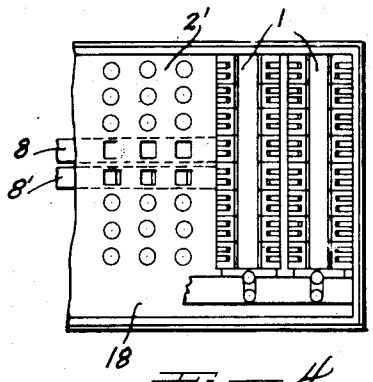


Fig. 3.

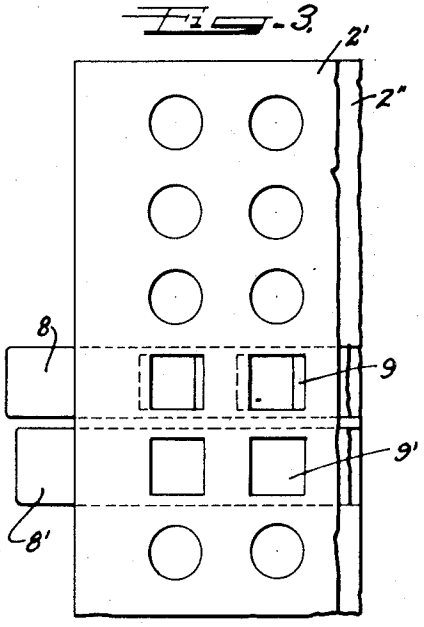


Fig. 4.

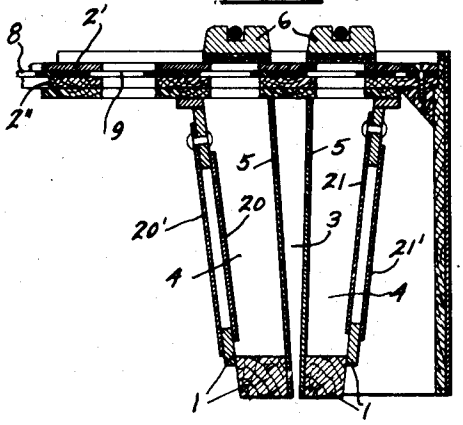


Fig. 6.

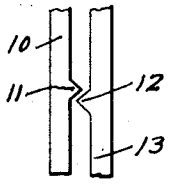
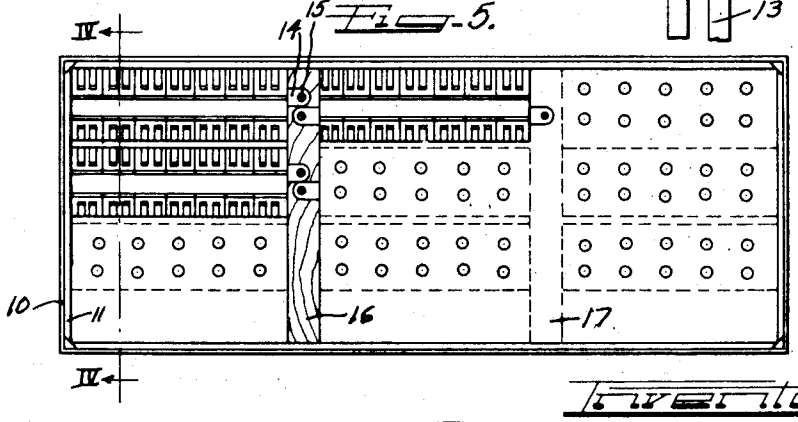


Fig. 5.



Inventor

Mario Soprani.

by Charles W. Hill Attorney.

Patented Jan. 30, 1940 2,188,378

UNITED STATES PATENT OFFICE

2,188,378

ACCORDION

Mario Soprani, Castelfidardo, near Ancona, Italy

Application April 13, 1937, Serial No. 136,519½
In Italy April 17, 1936

4 Claims. (Cl. 84—376)

This invention relates to improvements in accordions, more especially to the disposal and construction of the reed blocks.

We know how important it is to have the reed blocks completely tightened to obtain a perfect tone. Hitherto the reed blocks were located in the "casing" of the accordion in its longitudinal direction, viz. in a direction parallel to the longest sides, and as they were made of one single piece they occupied an excessive length in the large modern accordions.

The object of the present invention is to increase the tightness of the reed blocks at the bottom of the casing and simultaneously to improve the controlling means in order to ameliorate the tone. This object is accomplished according to the present invention by reducing the length of the reed blocks, for instance, by arranging them athwart, i. e. in parallel fashion to the shortest side of the casing which in general is rectangular, or by dividing the ordinary longitudinal reed blocks into two or three separate sections by means of small supporting bars whereby parts having a reduced length are obtained which are less liable to deformations caused by variations of the temperature and the moisture of the surrounding atmosphere. These reed-blocks are secured to the base of the casing consisting of plywood and metal by means of small supporting bars which are attached to the bottom of the casing in the zone of division. Of course, for realizing this new disposition a suitable repartition of the openings must be provided through which the air is blown in by the bellows. In this manner a greater width of the reed blocks is obtained and the latter may enclose the central cavity whereby a better resonance is produced.

Another improvement forming the object of the present invention consists in making the sound-controlling means slide between the different layers of plywood and metal, said means consisting of metallic strips provided with openings adapted to close or open the air holes provided in the base whereby more or less complex variations of accords may be obtained according to the technical necessity contemplated by the player. The sliding of the metallic strips between the layers of wood and metal prevents any obstruction of the regulating devices which could be produced by deformations caused by moisture.

A further improvement consists in providing the reed blocks with a hollow central chamber separated by thin walls from the adjacent resonance chambers, one at the one side and one at the other. By this arrangement the sound is considerably ameliorated and accomplished. This hollow chamber may have different dimensions and may extend over the whole height of the reed blocks or may comprise only part of it.

The annexed drawing illustrates diagrammatically and by way of example an embodiment of the present invention.

Fig. 1 is a fractional perspective detail view of a portion of the action of an accordion of the piano type, partially in cross-section, showing the disposition of the voices or reed blocks on the base 2 on the surface opposite the surface where the valves 6 actuated by the keys 7 are applied.

Fig. 2 is a plan view of the inner part of the action with the reed blocks arranged athwart and with the addition of slidable regulators 8—8'.

Fig. 3 is a detail view on an enlarged scale of the base 2 formed of plywood and metal, the regulating devices 8, 8' sliding between the strips 2' of metal and 2'' of wood and being provided with openings 9, 9' normally located above and registering with the openings in the base plate, but being entirely closed when it is desired to eliminate the corresponding notes.

Fig. 4 shows on an enlarged scale part of a cross-section on the line IV—IV of Fig. 5 in which the hollow chamber 3 formed between the coupled reed blocks clearly appears.

Fig. 5 is a plan view of the inner part of the action with the new longitudinal disposition, but having the sections of the reed blocks shortened.

Fig. 6 represents a structural detail used for fixing the end of the reed blocks to the wall 2 of the accordion at the points supported on the end wall 10.

This last-named wall forms a projecting frame 11 under which a corresponding projection 12, preferably lower, is provided in the end wall 13 of the reed blocks. In this manner the reed blocks 1 are secured with one end to the outermost wall of the base of the accordion whereas with their other end which is preferably provided with a suitable little tongue 14 they are secured by means of a screw 15 to a small bar 16 disposed on the base of the casing in a zone free from openings.

The new disposition of the openings, although sacrificing the spaces 17 occupied by the bars 16, affords on the contrary the spaces 18 (Fig. 2) so that nothing is lost, and in addition this new longitudinal disposition of the reed blocks with shortened sections makes it possible to have a sufficient width of the bodies (Fig. 4) for providing between both rows of resonance chambers 4 equipped with flap valves 20 and 21' respectively

and reeds 20' and 21 respectively the central cavity 3 obtained, as above described, by thin walls 5 whereby the resonance of each single reed is increased.

In the cross-section shown in Fig. 4 I have clearly shown the position of the regulating devices 8 between the walls 2' of metal and 2'' of plywood forming the base of the accordion. This disposition prevents any deformation of the base plate and warrants the constant function of the regulating devices 8, 8'.

I claim:

1. In an accordion having a substantially rectangular casing with a short side and a long side, elongated reed-carrying blocks having a length less than that of the short side of the casing and disposed parallel with the short side of the casing whereby an air space is provided between an end of a block and an opposed long side of the casing, and means disposed between pairs of blocks to define a resonance chamber with each block, respectively and to define a hollow chamber positioned between a pair of resonance chambers.

2. In an accordion having a substantially rectangular casing with a short side and a long side, elongated reed-carrying blocks each having a length less than that of the short side of the casing and disposed parallel to the long side of the casing with adjacent ends of longitudinally spaced and aligned blocks being supported by longitudinally spaced bars extending normal to the long side of the casing, and means disposed between spaced opposed blocks arranged in pairs to define a resonance chamber with each block, respectively and to define a hollow chamber positioned between a pair of resonance chambers.

3. In an accordion having a substantially rectangular casing with a short side and a long side, a plurality of elongated reed-carrying blocks disposed in longitudinally aligned and spaced relation to each other and disposed in parallel relation to the long side of the casing, each of said blocks having a length not exceeding the length of the short side of the casing, rows of longitudinally extending blocks being disposed in transversely spaced and opposed relation, and means disposed between transversely spaced opposed pairs of blocks to define a resonance chamber with each block of a pair of blocks and to define a hollow chamber interposed between a pair of resonance chambers.

4. In an accordion, a casing having a wall, a pair of reed-carrying blocks connected to said wall and disposed in said casing in spaced opposed and inclined relation to each other, means disposed between said pair of blocks to define a chamber sealed against air flow therethrough, and arranged cooperable with said reed-carrying blocks to define resonance chambers with each of said blocks, respectively, said means comprising a pair of thin partition members in said casing and disposed between said blocks, said members each having one end connected to said wall, said members being disposed in spaced inclined relation to each other and with the other ends thereof arranged converging towards each other.

MARIO SOPRANI.