

981,363.

Patented Jan. 10, 1911.

Fig - 1 -

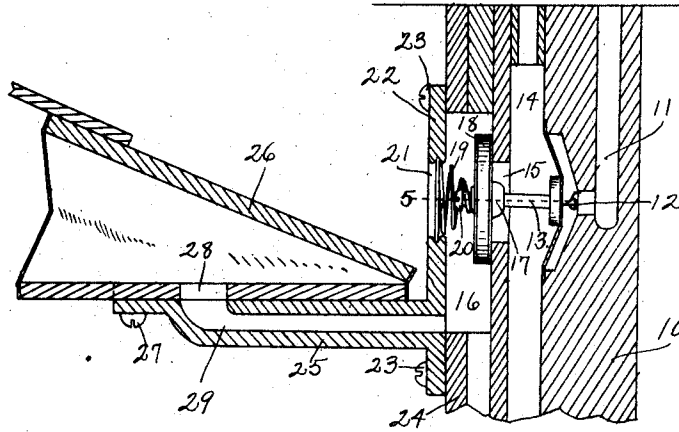


Fig - 2 -

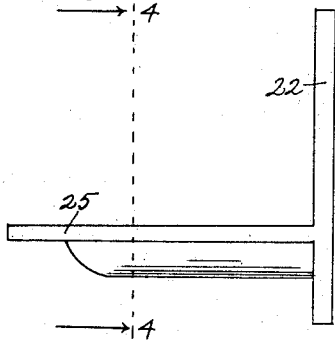


Fig - 3 -

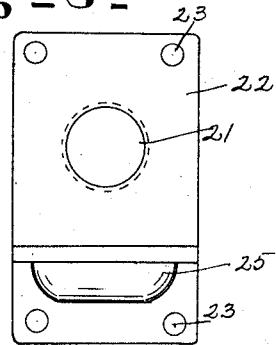


Fig - 4 -

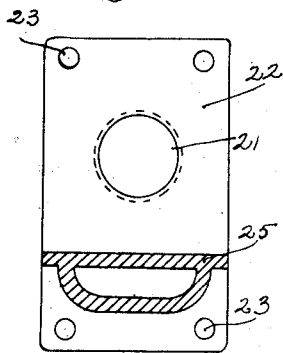
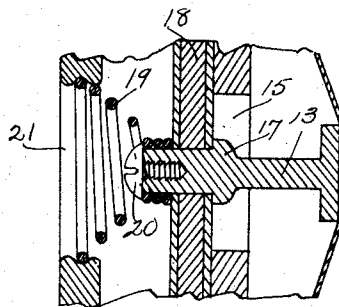


Fig - 5 -



WITNESSES:
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PNEUMATIC PIANO.

981,363.

Specification of Letters Patent. Patented Jan. 10, 1911.

Application filed December 20, 1909. Serial No. 534,038.

To all whom it may concern:

Be it known that I, WILLIAM G. BETZ, of Chicago Heights, county of Cook, and State of Illinois, have invented a certain new and useful Pneumatic Piano; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of this invention is to improve the construction of parts of a pneumatic piano, such as is set forth in my application filed Nov. 18, 1909, Serial No. 528,689.

The chief feature of this invention consists in providing an individual bracket support for each individual pneumatic element which can be readily removed by detaching the bracket or support therefor. In this particular form the bracket is used for mounting only the bellows or suction apparatus and the secondary valve.

Another feature of the invention consists in forming the bracket for supporting the bellows, and the plate for supporting the spring which holds the secondary valve in one piece or part, so that their relationship will always be the same and they can be economically made and readily replaced or removed.

Another feature of the invention consists in the construction of the parts associated with the secondary valve.

The nature of these features of the invention will be understood from the following description and claims and the accompanying drawings:

In the drawings Figure 1 is a vertical central section through the lower part of a power pneumatic element, other parts being removed and parts broken away. Fig. 2 is a side elevation of the bracket for supporting the bellows and the plate for holding the secondary valve. Fig. 3 is a front elevation of the same. Fig. 4 is a section on the line 4-4 of Fig. 2. Fig. 5 is a section on the line 5-5 of Fig. 1.

In detail, 10 represents the rear wall of the power pneumatic portion of a piano, and 11 is a passageway that is in communication at times with the outer air by valve-controlled passageways not here shown, and the passageway 11 extends down through and is in communication with the secondary pouch 12 so as to admit air to actuate the same. A rod 13 is secured at one end to the

secondary pouch 12 and extends through an opening in the suction chamber 14 and the port 15 leading therefrom into the chamber 16, and has on it a fixed collar 17 between its ends, and normally said collar lies within the port 15. A secondary valve 18 closes the port 15 and is loosely mounted on the rod 13 and held in place against the collar 17 by the spiral spring 19, the apex of which surrounds the end of the rod 13 and is held against the valve by the screw 20, and an enlarged portion of the spring fits in the grooved wall of a hole 21 in the plate 22 that is secured in place by the screws 23 to the plate 24. The plate 22 forms a part of the support 25 of the bellows 26 and is integral therewith, the support 25 extending horizontally and at a right angle from the plate 22, and the bellows is secured on said support by a screw 27. A port 28 in the bellows communicates with the passageway 29 in the support 25 that runs to the chamber 16. The width of the bracket composed of the plate 22 and bellows support 25 is the same as the bellows instead of running throughout the entire width of the piano, and, therefore, each pneumatic element is individually supported, and the support of one element can be removed without disturbing the others. Such removal of the bracket is effected by unscrewing the screws 23 that renders the bellows and bracket accessible, and the secondary valve goes with it upon releasing the screw 21, so that all the parts are accessible for repair.

What I claim as my invention and desire to secure by Letters Patent is:

1. In a pneumatic piano, the combination of a vertically disposed structure containing a valve chamber, a valve therein, a bellows, a bracket having a horizontal portion which individually supports said bellows and is provided with a passageway in communication with said bellows and valve chamber and a vertical portion detachably secured to said structure, and forming one side wall of said valve chamber and means held by the vertical portion of the bracket for supporting the valve.

2. In a pneumatic piano, the combination of a structure containing a valve chamber, a valve therein, a bellows, a bracket having one portion which individually supports

said bellows and is provided with a passage-
way in communication with the bellows and
valve chamber and another portion at a
right angle to said bellows supporting por-
5 tion which is secured to said structure so as
to form one wall of said valve chamber and
which has an opening through it forming a
part of said passageway from said chamber,
and a spring detachably held by said last

mentioned portion of the bracket for sup- 10
porting the valve.

In witness whereof, I have hereunto af-
fixed my signature in the presence of the
witnesses herein named.

WILLIAM G. BETZ.

Witnesses:

H. C. WEHLAN,
C. W. BOYNTON.