

No. 725,824.

PATENTED APR. 21, 1903.

M. CLARK.
MUSICAL INSTRUMENT BELLOWS.

APPLICATION FILED MAY 28, 1902.

NO MODEL.

Fig. 1.

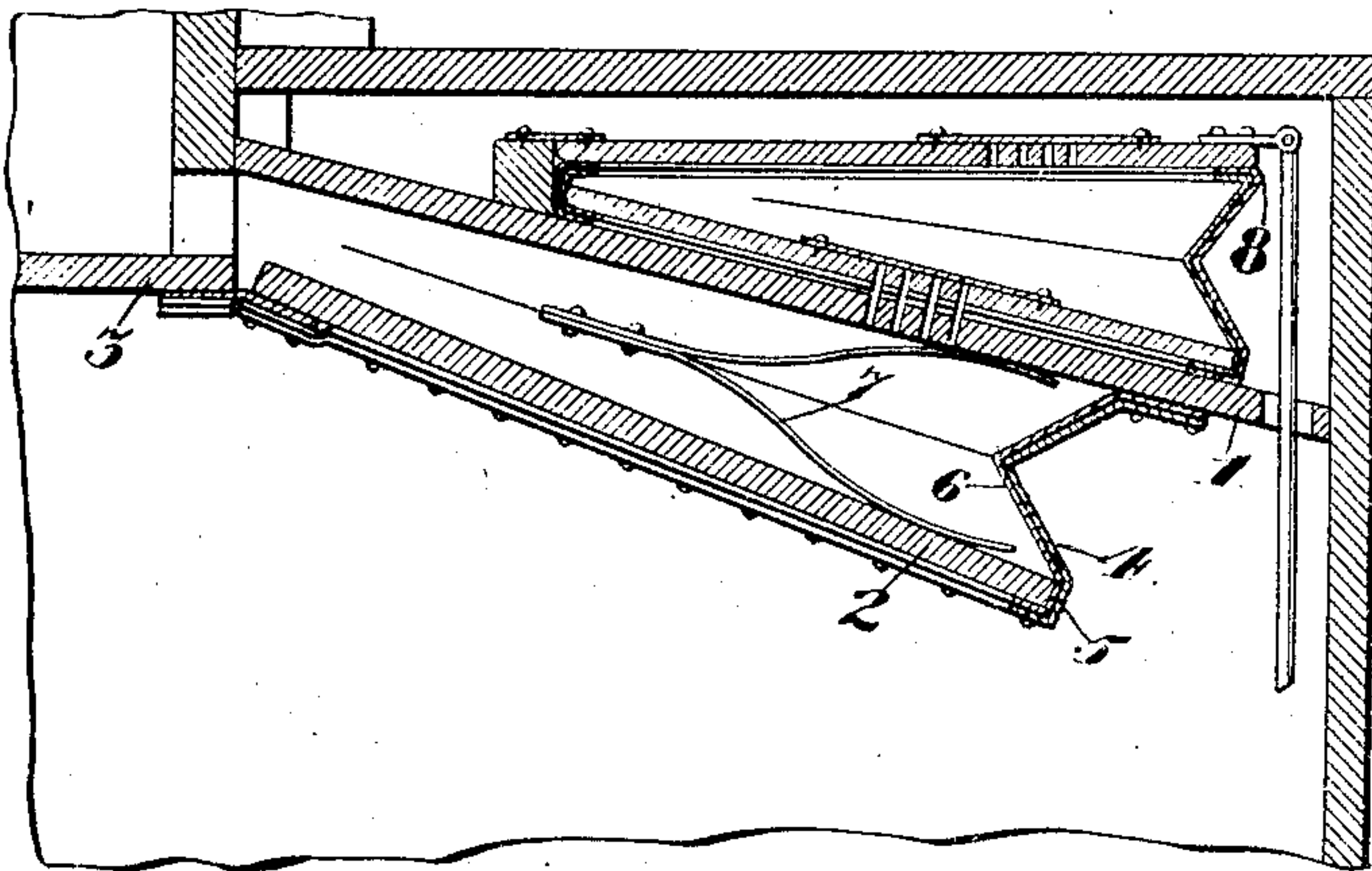
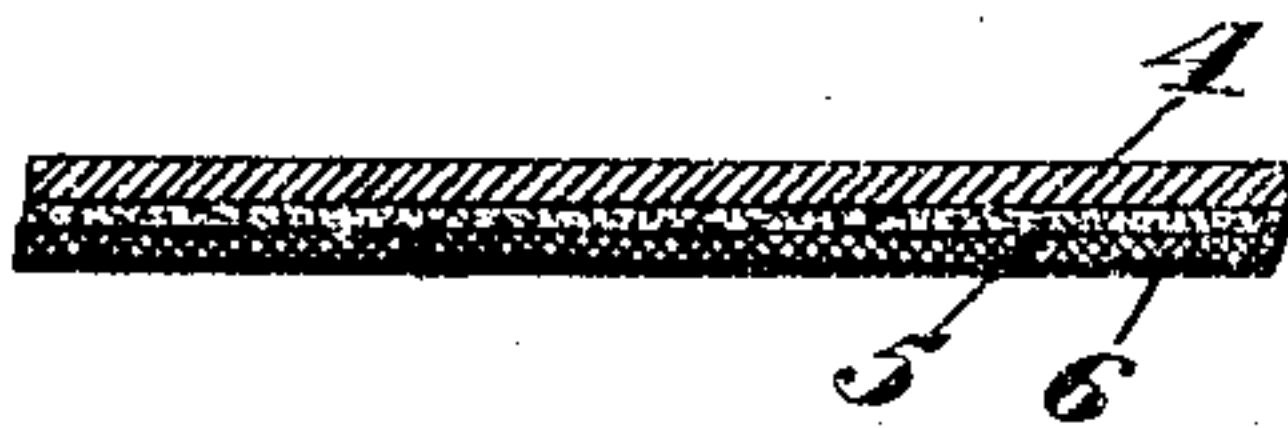


Fig. 2.



Witnesses:

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by

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UNITED STATES PATENT OFFICE.

MELVILLE CLARK, OF CHICAGO, ILLINOIS.

MUSICAL-INSTRUMENT BELLOWS.

SPECIFICATION forming part of Letters Patent No. 725,824, dated April 21, 1903

Application filed May 28, 1902. Serial No. 109,387. (No model.)

To all whom it may concern:

Be it known that I, MELVILLE CLARK, a citizen of the United States, and a resident of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Musical-Instrument Bellows, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 The purpose of this invention is to provide an improved bellows for musical instruments particularly designed to remedy defects in the existing or common forms of bellows used for what may be termed "storage" or "exhaust" 15 bellows as distinguished from the pumpers; but my invention is also adapted for use in the pumping-bellows of a musical instrument. Under the severe strain to which the fabric employed for the flexible sides of the bellows 20 is subjected, particularly in case of the instruments such as automatic players, wherein a greater power is required and more severe use is customary than in an ordinary cabinet-organ bellows, such fabric is liable to deterioration, so that it becomes porous and fails to 25 retain or exclude the air and especially is liable to cracking in the corner folds, where the constant flexure back and forth imposes the severest strain upon the fabric. The cracking when it occurs is easily discovered and repairs can be made to some extent, so as to 30 prolong the working life of the bellows; but the more general deterioration resulting in porosity at the portions most exposed to the strain cannot be so easily located or cured, and a general deficiency of power in the bellows due to the constant leakage through these porous spots is liable to continue for a long 35 time before the particular point of the difficulty can be located.

40 My invention consists in the bellows structure which results from applying to the inner surface of the fabric whatever it be that is employed for the bellows sides a non-drying or slow-drying viscid coating, which is drawn 45 into the pores of the fabric and keeps them filled, and, secondly, it consists in the structure resulting from protecting such viscid coating by an inner lining of fabric which 50 is held to the fabric constituting the main bellows sides by such viscid coating, tending

to prevent the latter from drying by protecting it from evaporation and further and more especially preventing it from getting filled up and solidified by the fine dust which the atmosphere always contains and which is adequate in time to produce this result of solidification if no preventive expedient is used. 55

Thirdly and more specifically, my invention consists in the structure which results 60 from the employment of leather for the bellows sides and rubber-cloth interior lining for such leather sides united thereto by a non-drying adhesive.

In the drawings, Figure 1 is a section of an organ-bellows embodying my invention, the 65 several elements constituting the bellows sides being exaggerated in thickness for the purpose of distinguishing them and making the construction apparent to the eye. Fig. 2 70 is a detail section of a piece of the composite fabric which I employ for bellows sides, the same being greatly exaggerated with respect to thickness in order to distinguish the elements. 75

At 1 is shown the fixed plate of the bellows.

2 is the vibrating plate, hinged in the customary manner at 3 to the fixed plate.

4 represents the leather exterior layer of the bellows sides joined to the plates 1 and 2 80 around all four edges of the latter and suitably creased and folded at three sides and intervening corners to collapse and expand as the movable plate of the bellows is oscillated.

5 represents the layer or coating of non-drying adhesive applied to the inner surface 85 of the bellows sides 4.

6 represents an interior lining, which may be of any light fabric, having in that event the purpose of simply protecting the non-drying coating or layer 5 from evaporation and 90 solidification by dust, as above explained; but this inner lining 7 may be a rubber cloth of the character commonly employed for bellows sides, though a lighter grade may be 95 used when employed only as a lining and not depended upon solely for the necessary strength.

7 is one of the springs for holding the bellows distended. 100

8 8 represent the pumpers in the usual relation to the main bellows. The construc-

tion of their sides may be understood to be substantially the same as that of the main bellows.

I claim—

- 5 1. A musical-instrument bellows having the flexible sides interiorly covered with a coating of viscid non-drying material.
2. A musical-instrument bellows having its flexible sides interiorly lined with fabric and
10 having interposed between the outer material and such lining a layer of non-drying adhesive for securing the lining to the outer fabric and occupying the pores of the latter as they develop.
- 15 3. A musical-instrument bellows having its flexible sides exteriorly formed of leather,

having on its interior surface a viscid non-drying coating.

4. A musical-instrument bellows having its flexible sides formed of an exterior layer of 20 leather and an interior layer of rubber cloth and an intermediate layer of non-drying adhesive for the purpose of securing the other two layers together, and occupying the pores therein as they develop. 25

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 21st day of May, 1902.

MELVILLE CLARK.

Witnesses:

CHAS. S. BURTON,
HOMER L. KRAFT.