

A.D. 1885, 8th JULY. N° 8290.

PROVISIONAL SPECIFICATION.

Improvements in Concertinas.

We, JAMES ALSEPTI of 6 Mount Pleasant Road in the City of Exeter in the County of Devon Professor of Music and RICHARD BALLINGER of the Firm of Lachenal and Company of 4 Little James Street, Grays Inn Road in the County of Middlesex Concertina Manufacturer do hereby declare the nature of our invention  
5 for "IMPROVEMENTS IN CONCERTINAS" to be as follows:—

This invention has for its object improvements in concertinas.

In concertinas as at present constructed the whole of the wind passing in and out of the bellows does so by the reed passages.

Now it is desirable in order to obtain a perfect rendition of music and to give  
10 greater freedom to the performer that he should be able to admit air to the bellows and allow of its escape independently of the reeds.

For this purpose two relief valves or keys one at either end of the instrument are provided to be worked by the thumbs of the performer whilst the thumbs are in the loops by which the instrument is held.

15 These relief valves or keys when operated serve to open passages communicating with the interior of the bellows, but each passage is also guarded by a flap valve of leather. The flap valve on one passage opens outwards and that on the other inwards.

The action is as follows:—

20 If the performer whilst distending the bellows desires to admit air independently of the reeds he does so by opening the relief key provided for the purpose and so independently of the wrist motion he can control the pressure of the wind acting upon the reed. When the performer commences to collapse the bellows the relief key previously in use instantaneously passes out of action, the flap valve on the  
25 passage it controls being at once closed independently of the key. If now during the collapse of the bellows the performer desires independently of the wrist motion to lighten the pressure of the wind upon the reed he makes use of the other relief key and this, if kept open, operates whilst the bellows are collapsing, but as before, directly the wrist motion is reversed the key becomes inoperative and if kept open  
30 only comes into operation again when the collapsing movement is repeated.

Dated this 8th day of July 1885.

CARPMAEL & Co.,  
Agents for the Applicants.

*Alsepi & Ballinger's Improvements in Concertinas.*

## COMPLETE SPECIFICATION.

## Improvements in Concertinas.

We JAMES ALSEPI of 6 Mount Pleasant Road in the City of Exeter, in the County of Devon Professor of Music and RICHARD BALLINGER of the firm of Sachenal and Company of 4 Little James Street Grays Inn Road in the County of Middlesex Concertina Manufacturer do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly 5 described and ascertained in and by the following statement:—

In concertinas as at present constructed the whole of the wind passing in and out of the bellows does so by the reed passages.

Now it is desirable in order to obtain a perfect rendering of music and to give greater freedom to the performer that he should be able to admit air to the bellows 10 and allow of its escape independently of the reeds.

For this purpose two relief valves or keys one at either end of the instrument are provided to be worked by the thumbs of the performer whilst the thumbs are in the loops by which the instrument is held. These relief valves or keys when operated serve to open passages communicating with the interior of the bellows, 15 but each passage is also guarded by a flap valve of leather. The flap valve on one passage opens outwards and that on the other inwards.

In order that our said invention may be fully understood and readily carried into effect we will proceed to describe the drawings hereunto annexed.

## DESCRIPTION OF THE DRAWINGS.

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Figure 1 is a side elevation of a concertina provided with relief valves and keys in accordance with our invention.

Figure 2 is an end elevation showing the key board; the outer end cover of the instrument being removed.

Figure 3 is an elevation of one of the relief valves with its key.

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In Figure 1 *a. a.* are the bellows, they are closed at the ends by the parts *b. b.* commonly called the "pans" on which the reeds are carried in the usual way. *c. c.* are the key boards which fit against the pans and close the reed cavities therein so that wind can only pass through them to and from the bellows when the key valves are lifted. *c<sup>1</sup> c<sup>1</sup>* are the apertures which the key valves cover. 30 *d. d.* are the finger keys, when they are pressed the key valves which are not shown in the drawing are lifted from their seats.

*e. e.* are the end covers of the instrument they are simply perforated caps and do not carry any of the mechanism except the thumb strap *e<sup>1</sup>* and the finger rest *e<sup>2</sup>*. Dotted lines in Figure 2 indicate the position of the parts *e<sup>1</sup>* and *e<sup>2</sup>*. 35

All of the parts in the drawing above referred to are of ordinary construction excepting in the features to which we will now direct especial attention. The pans *b. b.* have relief passages *b<sup>1</sup> b<sup>1</sup>* formed through them and there are corresponding passages *c<sup>2</sup>* formed through the key boards *c.* One of the pans *b* has an automatic flap valve *f* of leather mounted upon it which will open to allow wind 40 to enter the bellows but will close to prevent its escape.



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At the other end of the instrument the key board *c*, has a similar automatic valve *g* upon it; this valve will open to let wind out of the bellows but will close to prevent its entrance.

- h* is a key valve. *h*<sup>1</sup> a lever by which this valve is carried. *h*<sup>2</sup> the fulcrum for the lever *h*<sup>1</sup> and *h*<sup>3</sup> a key fixed on to the key lever; the thumb of the operator is pressed against the key *h*<sup>3</sup> when the valve *h* is to be lifted; at other times the valve is kept closed by the spring *h*<sup>4</sup>. The key valve *h* closes upon the top of the automatic valve *g* and when it is down no wind can escape from the bellows by the relief passages *b*<sup>1</sup> *c*<sup>2</sup> which these valves cover.
- 10 At the other end of the instrument there is a key valve operated by a key *i*, carried upon a key lever turning about a fulcrum, in all respects similar to the valve and parts *h*, *h*<sup>1</sup> *h*<sup>2</sup> *h*<sup>3</sup> *h*<sup>4</sup> except that in this case the key valve closes direct upon the mouth of the relief passage *c*<sup>2</sup>. When this key valve is lifted by its key *i* wind is able to enter the bellows by the passages *b*<sup>1</sup> and *c*<sup>2</sup> which it uncovers
- 15 but wind is never able to pass out from the bellows by these passages for this is prevented by the automatic valve *f*.

The action is as follows:—

- If the performer whilst distending the bellows desires to admit air independently of the reeds he does so by opening the relief key provided for the purpose and so
- 20 independently of the wrist motion he can control the pressure of the wind acting upon the reed. When the performer commences to collapse the bellows the relief key previously in use instantaneously passes out of action, the flap valve on the passage it controls being at once closed independently of the key. If now during the collapse of the bellows the performer desires independently of the wrist motion
- 25 to lighten the pressure of the wind upon the reed he makes use of the other relief key and this, if kept open, operates whilst the bellows are collapsing, but as before, directly the wrist motion is reversed the key becomes inoperative and if kept open only comes into operation again when the collapsing movement is repeated.

- 30 So long as the relief key at one end of the instrument is held fully open the instrument will not speak during the collapse of the bellows but will speak whilst they are distended. On the other hand so long as the other relief key is held fully open it prevents the instrument speaking whilst the bellows are distended, but leaves it free to do so during the collapse of the bellows.

- 35 Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed we declare that what we claim is:—

1. Our improvements in concertinas consisting in providing the same with relief valves and keys which enable the operator to relieve the reeds from pressure whilst the bellows are collapsing and whilst they are distending or either separately
- 40 substantially as described.

2. Our improvements in concertinas substantially as herein described.

Dated this 8th day of April 1886.

CARPMAEL & Co.,  
Agents for the Applicants.

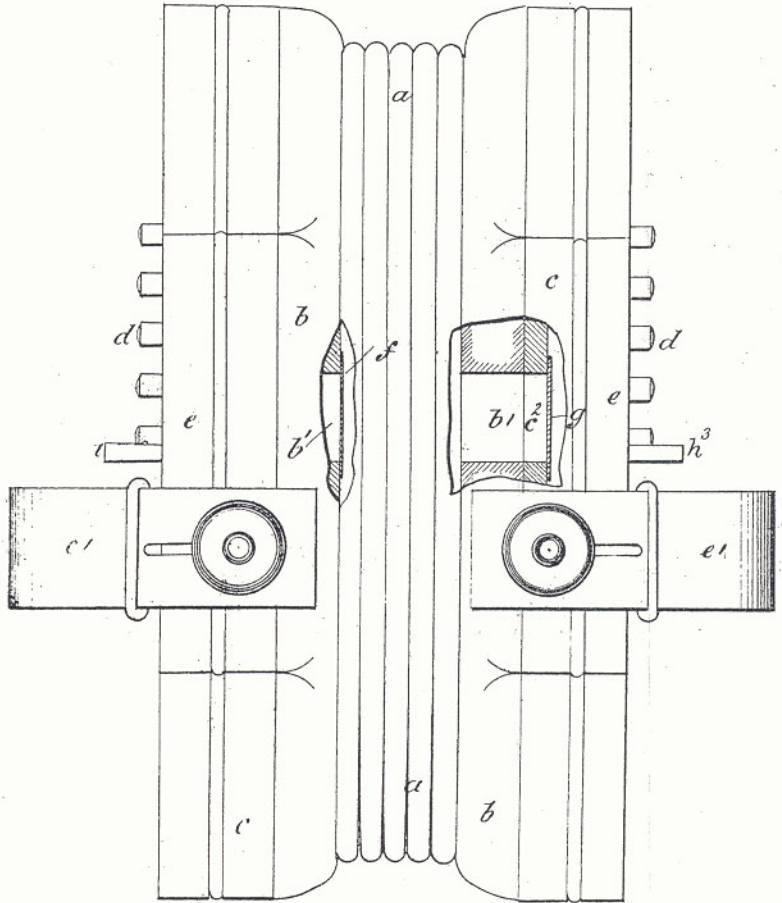


FIG. 2.

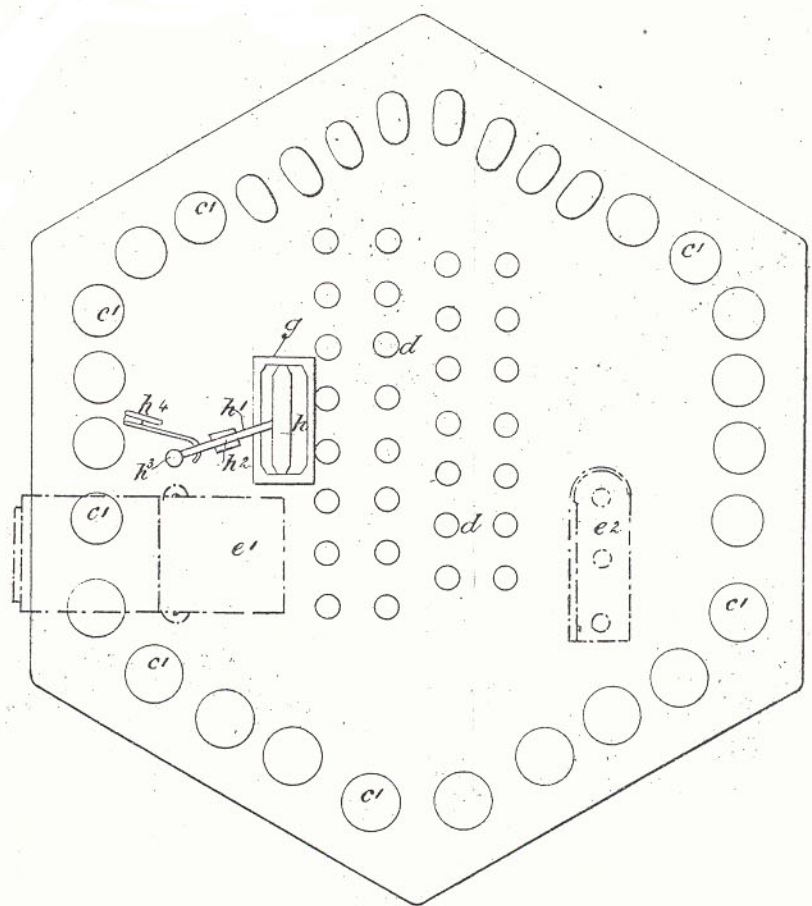


FIG. 3.

