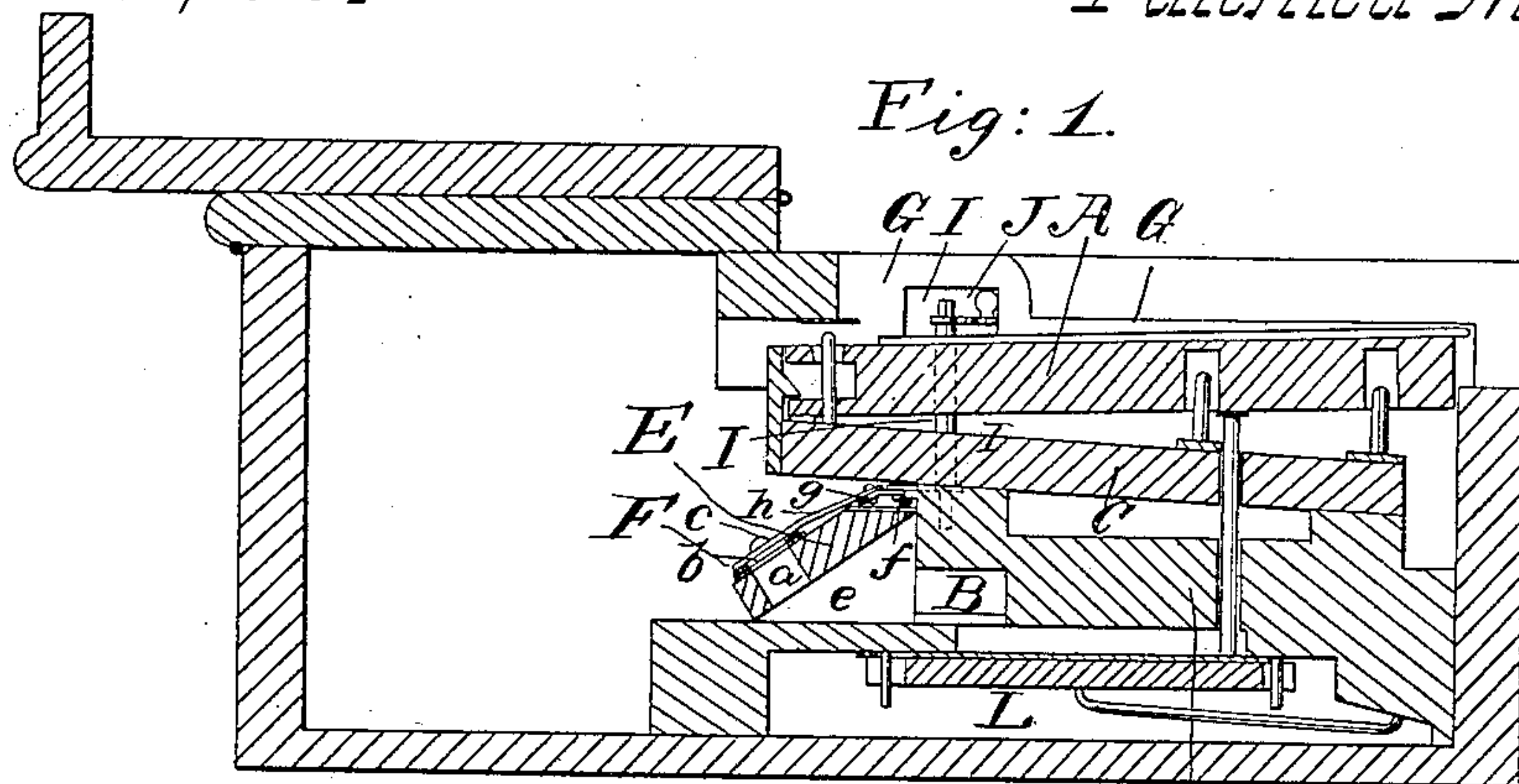


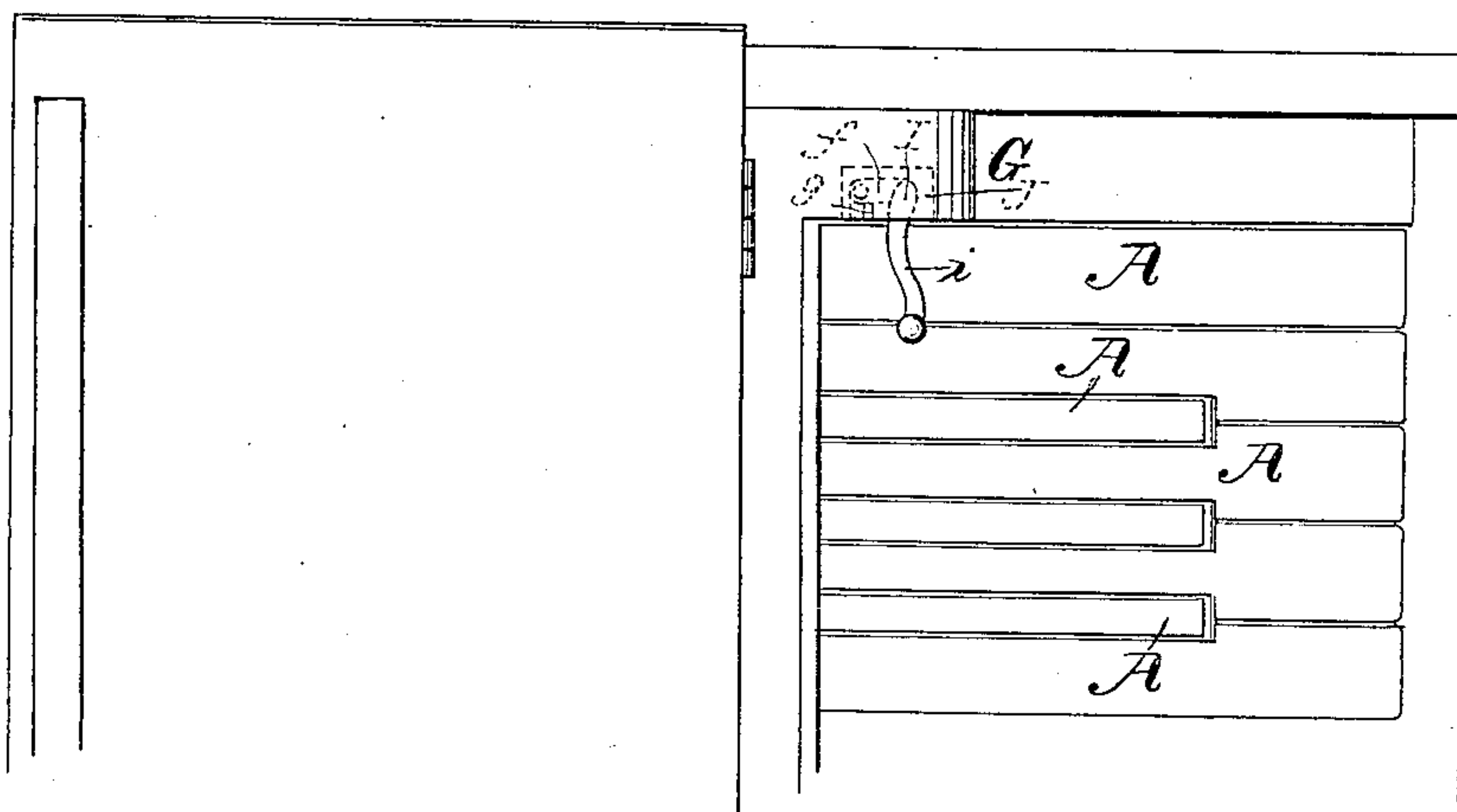
*J. Carhart,*  
*Organ Swell,*

*Nº 17,196.*

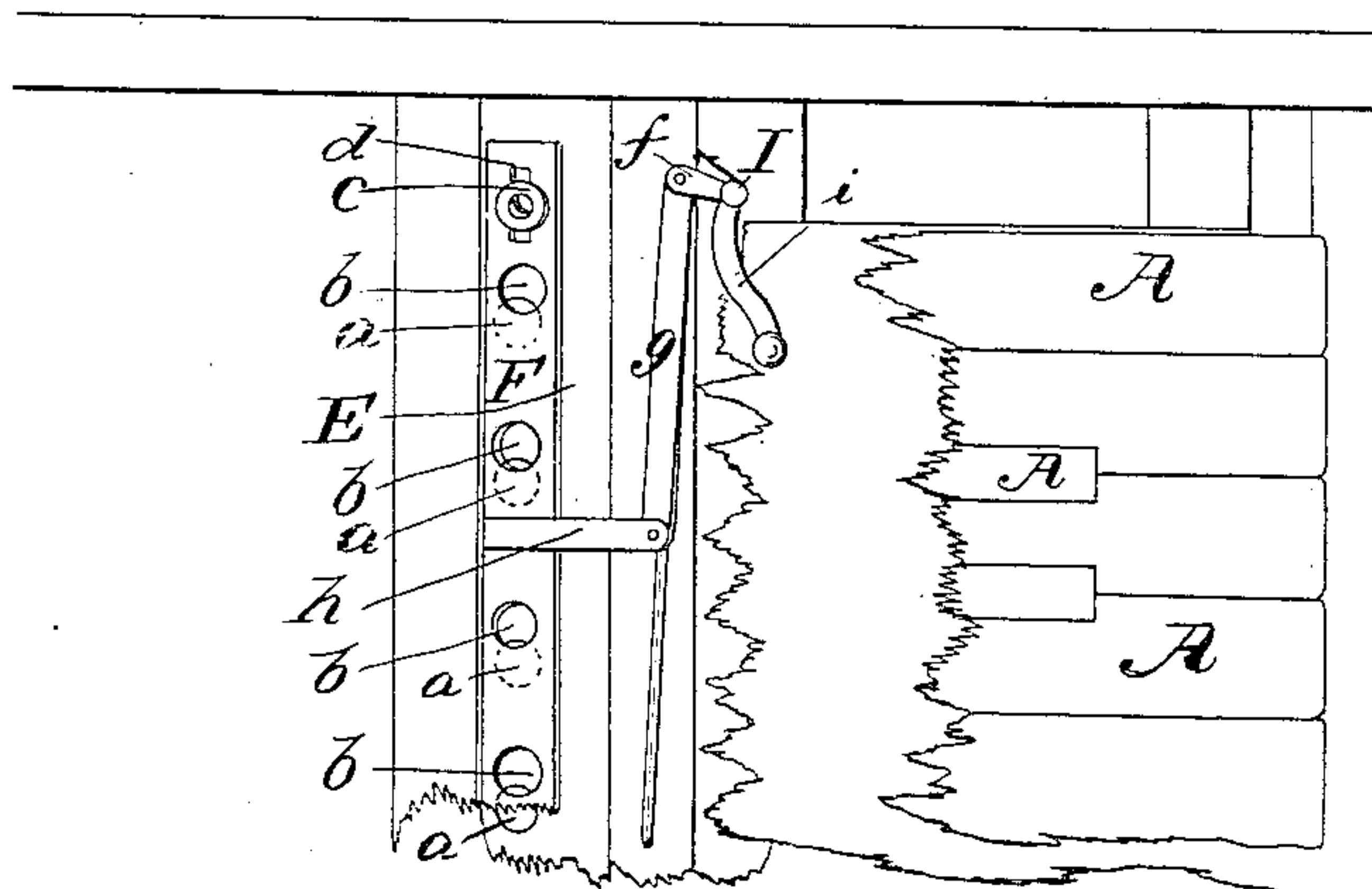
*Patented May 5, 1857.*



*Fig: 2.*



*Fig: 3.*





# UNITED STATES PATENT OFFICE.

JEREMIAH CARHART, OF NEW YORK, N. Y.

SWELL FOR MELODEONS, &c.

Specification of Letters Patent No. 17,196, dated May 5, 1857.

*To all whom it may concern:*

Be it known that I, JEREMIAH CARHART, of the city, county, and State of New York, have invented a new and useful Improvement in Melodeons and other Musical Instruments of Similar Character; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a transverse vertical section of the reed-board, key-board, "swell," and part of the case of a melodeon with my improvement. Fig. 2 is a plan of one end of the instrument. Fig. 3 is a plan of the same part of the instrument represented in Fig. 2, but with the cover entirely removed, and part of the keys and key-board broken away to expose the swell.

Similar letters of reference indicate corresponding parts in the several figures.

This improvement consists in providing the "swell" of a melodeon or other instrument of similar character with one or more valves which can be opened when the "swell" is closed, for the purpose of graduating the tone of the whole or any portion of the instrument.

It further consists in certain mechanical means of operating the said valve, by which it can be opened and closed either while the "swell" is closed or while it is open.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

D, is the reed-board; B, one of the reed tubes; L, one of the valves; C, the key-board; and A, A, are the keys.

E is the "swell," which is arranged in a well-known manner and is of the usual construction, except that it has a number of holes *a, a*, through it.

F, is the graduating valve for graduating the "swell," constituting the principal feature of my invention, and consisting of a plate of metal or thin strip of wood, containing a number of holes *b, b*, corresponding with those in the swell, said plate being fitted to a leather-faced seat on the top of the swell, and confined to the swell by two screws *c, c*, passing through slots *d, d*, that are so arranged as to admit of the necessary sliding movement of the valve, to bring the holes *b, b*, partly or entirely opposite the holes *a, a*, or to close the latter holes en-

tirely. It is obvious that by moving the valve F, so as to open a greater or less portion of the several holes *a, a*, when the swell is closed, the tone of the instrument may be graduated to make it louder or softer at the pleasure of the player to a degree of nicety not admitted of by the swell E itself. By dividing the mouth *e*, over which the swell E is placed, and fitting the swell with two valves F, one for the upper and the other for the lower octaves of the instrument, the upper notes may be played loud and the lower ones soft, or vice versa, the same as when a divided swell is used, but with the advantage over the divided swell of graduating the tones of each part of the instrument. In many cases, however, and perhaps in most cases, it may be desirable only to use a single valve, applied to that part of the damper covering the upper octaves of the instrument, by which means the tone of the upper notes of the instrument may be graduated as desired when the swell E is closed; such notes of melodeons being almost invariably rendered too weak in proportion to the lower ones by closing an undivided swell of the usual kind.

The mechanism by which the graduating valve F is opened, is best shown in Fig. 3. It consists of a small upright shaft I, arranged in a suitable bearing in the top of the reed-board or other fixed portion of the instrument under the cheek-block G, and having a short arm *f*, which is connected by a rod *g*, with an arm *h*, attached to the valve, or with the valve itself; said shaft I being provided with a lever *i*, at its upper end, which works through a cavity *j*, in the cheek-block G, of that end of the instrument, and stands out a short distance over the keys as shown in Fig. 2. By pulling or pushing the lever *i*, toward or from the front of the instrument, the valve is moved to open or close the holes in the swell. The rod *g*, is made thin and flat in order that, though it is stiff enough to move the valve longitudinally, it is flexible enough to twist, to allow the opening and closing movement of the reed, and thus obviate the necessity of a universal joint at one of its ends.

The above mechanism, it will be readily understood, allows the valve to be opened not only while the damper is closed but while it is open, which is very desirable and indeed absolutely necessary, to enable the swell to be closed without at first damping

the notes in the fullest degree. It also allows the cheek-blocks to be raised, to open the entire top or cover of the instrument without disconnecting the mechanism connected with the swell, as is required with the device used for operating the divided swell.

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

- 10 1. Providing the swell E with a number of holes and fitting the same with a valve or valves F, for the purpose of graduating the tone of a portion or the whole of the instru-

ment when the swell is closed, substantially as herein set forth. 15

2. The mechanism for operating the swell valve F, either while the swell is open or closed, consisting of the upright shaft I, with its lever *i*, and arm *f*, and the flexible rod *g*, arranged in the manner substantially as herein set forth. 20

J. CARHART.

Witnesses:

HENRY T. BROWN,  
W. TUSCH.