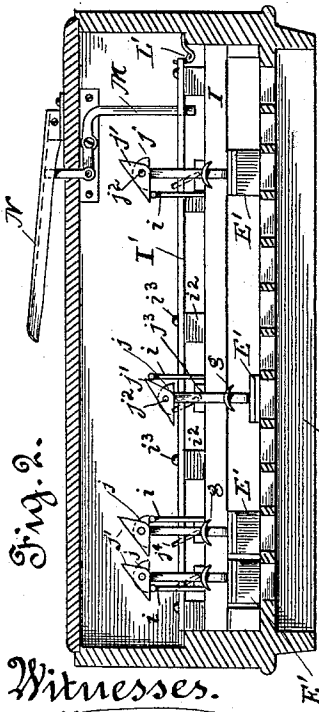
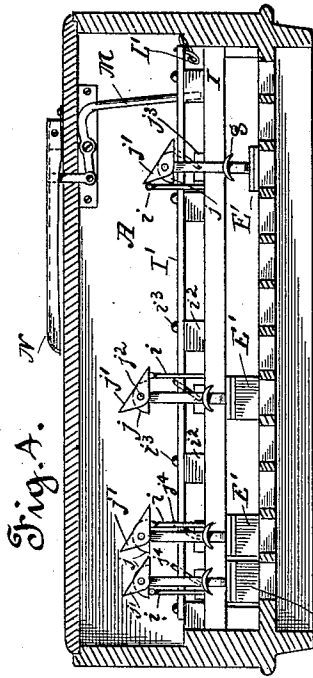


(No Model.)

J. GALLEAZZI.
ACCORDION.

No. 566,269.

Patented Aug. 18, 1896.



Witnesses.
Ed. Montwerde.
F. T. Finch.

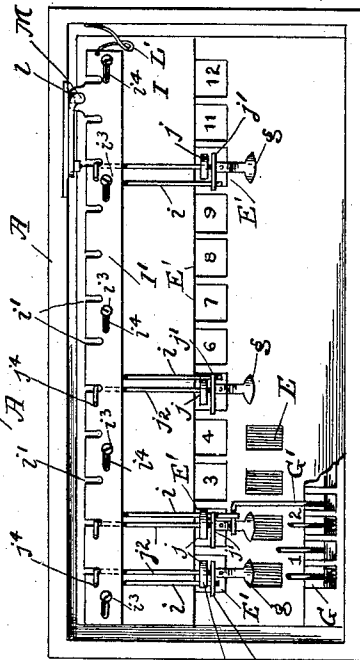
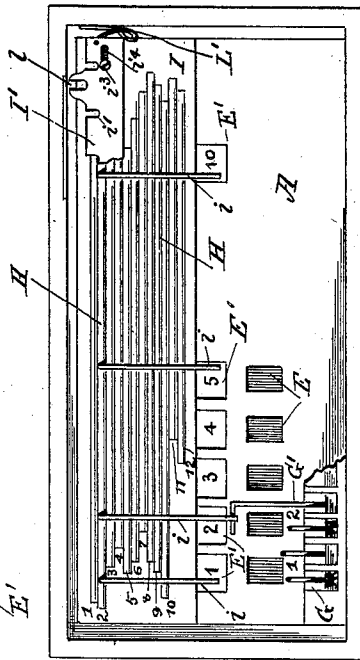


Fig. 3.

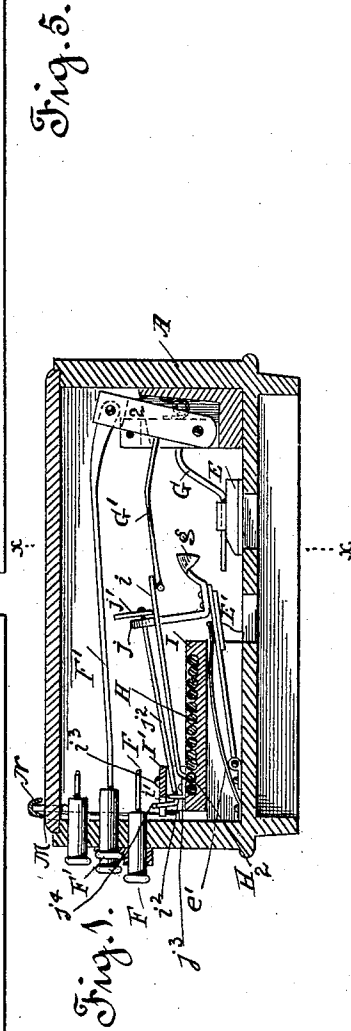


Fig. 5.

Inventor.

Joseph Galleazzi
by A. H. St. Marie
att'y

UNITED STATES PATENT OFFICE.

JOSEPH GALLEAZZI, OF SAN FRANCISCO, CALIFORNIA.

ACCORDION.

SPECIFICATION forming part of Letters Patent No. 566,269, dated August 18, 1896.

Application filed June 15, 1896. Serial No. 595,695. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH GALLEAZZI, of the city and county of San Francisco, in the State of California, have invented a certain new and useful Improvement in Accordions and Similar Musical Instruments, of which the following is a specification.

The present improvement has reference to the invention for which I have been granted Letters Patent of the United States, No. 517,648, bearing date April 3, 1894.

My object in making this improvement is to provide a novel and superior means for effecting the change from major to minor chords in the class of instruments aforesaid, so that such change may be accomplished with greater accuracy and at the same time more rapidly and conveniently.

Referring to the drawings hereto annexed, in which the same letters and numerals as in my said patent are used to designate the same parts or corresponding details of construction, Figure 1 is a cross-sectional view indicating how the major chords are produced in my improved accordion. Fig. 2 is a longitudinal vertical section taken on the line *xx* of Fig. 1, looking to the left. Fig. 3 is a plan of the construction illustrated at Fig. 2, the top of the instrument being removed. Fig. 4 is a section similar to Fig. 2, showing how the change from a major to a minor chord is now effected; and Fig. 5 is a plan view similar to Fig. 3, with certain details added and others omitted.

As in my said patent, the letter A represents the box or that end of the accordion containing the valves E E', that are used for producing the notes in the bass clef, with harmonic relations, as also the major and minor chords.

The valves E E' can be opened together, two at a time, by means of the studs or pistons F and the spring-pressed or spring-returned levers G, attached to the valves E, the levers G projecting under and being adapted to raise the hooks *g*, affixed to the valves E'. The bass notes and harmonic relations are heard when the valves E E' are thus opened together. No illustration of the joint working of these two sets of valves is here given, as such is illustrated fully in my said patent. It will be noted, however, that the hook *g* has

been given a better and more appropriate shape, as may be seen by reference to the accompanying drawings, which also represent a more solid and substantial construction of that particular part.

The valves E' are opened three at a time, independently of the valves E, in order to obtain major and minor chords by means of the studs or pistons F' and levers G', each adapted to raise one series or set of three valves and to effect a change in such series or set through the agency of four rods *i*, secured to rock-shafts H and running under double hooks *j* and supplementary hooks *j'*, which by preference are given the shape of a half-moon or triangle, as shown.

The shafts H are laid in parallel grooves on a board I and suitably attached thereto, as in my said patent, but the board I is no longer made movable, it being now screwed firmly in place above the valves E', which are hinged so as to oscillate under it together with their closing springs *e'*. Of the four rods *i* provided for each rock-shaft one is made a little longer than the others, as heretofore, so it may be met by the inner end of the lever G', that lies opposite and thereby caused to rock the shaft to which it belongs while lifting the hook *j* of the valve next under it and opening said valve. As before also, the three other rods *i* of each shaft H are brought into action, two at a time, with the longer rod to open the two other valves required in each series for producing the major and minor chords, but there is a change in the manner in which they are connected with the valve-raising hooks. The board I and shafts H thereon being no longer slidable endwise, the position of the rods *i* becomes fixed or permanent with relation to the hooks upon which they operate, and therefore in changing from a major to a minor chord one of the rods is no longer drawn away from one of the hooks to leave out a valve and another rod brought under another hook to pick up a different valve and thus effect a change in the series previously opened. There are now only two of the rods *i* on each rock-shaft, instead of three before, that come or can come under the hooks *j*, the other two rods in each set passing under the supplementary hooks *j'*, above referred to. The hooks *j* are consequently

made shorter than in my previously-patented
 accordion, so as to cover but one rod *i* on each
 side, as will be understood by reference to
 the drawings. Their construction has also
 5 been modified in that they are provided with
 a semicircular head, as shown, and their stem,
 which is in one piece with that of the hooks
g, is riveted to the valves *E'* instead of being
 soldered as before. This makes a more solid
 10 construction. Contrary to the fixed hooks *j*,
 the supplemental hooks *j'* are made movable,
 that is, made to be inclined to right and left,
 as may be required, in order to come into con-
 tact with either one or the other of the up-
 15 lifted rods *i* in each set that are beyond the
 ends of the fixed hooks, and in so doing to
 raise the third valve required to produce
 either a major or a minor chord. When in-
 clined as in Fig. 2, they will operate to give
 20 the major chords, and the minor chords when
 inclined as in Fig. 4. The movable hooks *j'*
 are rigidly secured to one end of wires or rods
j'', passed through suitable holes in the semi-
 circular heads of the fixed hooks *j* and in
 25 small bearing-plates *j'''*, resting upon the board
I, and they are inclined one way or the other
 by oscillating or rocking said wires within
 said heads and plates. The wires *j''* are thus
 moved from side to side, to work the hooks *j'*,
 30 by means of a slide *I'*, having notches *i'* en-
 gaged by the ends *j''* of said wires, which are
 bent for this purpose. This slide is placed
 at a suitable height above the board *I* and
 is arranged to move endwise upon small
 35 blocks *i''* under the heads of screws *i'''*, passing
 through slots *i''*, with which said slide is pro-
 vided, the screws *i'''* being adjusted to prevent
 lateral as well as upward displacement.

The slide *I'* is pressed forward by a spring
 40 *L'*, so that the hooks *j'* will normally be in-
 clined all in the direction indicated at Fig. 2
 and in the right position to secure the major
 chords. The hooks *j'* will be reversed, that
 45 is to say, inclined the opposite way, as in
 Fig. 4, by pushing the slide *I'* back against
 its spring, which is effected by means of a
 lever *M*, having one end engaged in a slot *l*,
 in the slide *I'* and its other end projecting
 outside the box *A* under a thumb-piece *N*.
 50 Pressing upon the piece *N* causes the lever *M*
 to retract the slide *I'* and incline the hooks *j'*
 into the position required to obtain the minor
 chords, which are produced by pushing on the
 same pistons and levers as for the major
 55 chords, like in the accordion heretofore pat-
 ented to me, the chords being varied by the
 reversible hooks *j'* sliding off one of the free
 rods *i* and ascending upon another one in-
 stead, thereby dropping one valve and taking
 60 up another.

One of the illustrations given in explaining
 the operation of my said patent accordion will
 likewise make the working of the improved
 instrument clear. Thus, supposing that lever
 65 *G'* No. 2 be worked, by pushing on the piston
F', connected therewith, the long rod *i* oppo-
 site will be raised and with it valve *E'* No. 2,

through its fixed hook *j*. Shaft *H* No. 2 be-
 ing rocked upon the raising of the long rod *i*,
 one of the three shorter rods carried by said 70
 shaft will open valve *E'* No. 1 by lifting the
 fixed hook *j*, under which it is passed, and
 still another of the two remaining rods will
 raise valve *E'* No. 10, provided the slide *I'*
 and hooks *j'* be in the position represented at 75
 Fig. 2, for then the shiftable hook *j'*, connected
 with the fixed hook *j* of the latter-named valve,
 can be reached and acted upon. This will
 give, say, the chord of *F* sharp major. The
 minor chord is had through the same agen- 80
 cies, excepting the lever *M* is depressed by
 the thumb-piece *N* to move out the slide *I'*
 and have the hooks *j'* in the position illus-
 trated at Fig. 4. In that case two of the rods
i will still raise the same valves Nos. 1 and 2 85
 through their fixed hooks, but the rod that
 previously lifted valve No. 10 being or get-
 ting out of reach of the adjacent hook *j'* will
 leave or let the latter valve down, whereas
 the fourth rod, before free, will meet or be 90
 met by the hook *j'* next to it and raise valve
E' No. 5. Then is had the chord of, say, *F*-
 sharp minor. If other pistons and levers be
 worked, other series of valves will be opened
 in the same manner by other rods, rock-shafts, 95
 and hooks, and different chords may be had,
 with similar variations; but it will be noted
 that in this new construction, as well as in
 the older one, both the major and minor chords
 are obtained always by pushing the same 100
 piston and working the same lever.

The peculiar advantage of the construction
 hereinabove set forth over that disclosed in
 my said patent consists in that the change
 from the major to the minor chords can now 105
 be effected without regard to the order in
 which the pistons or the slide-shifting lever
 are worked.

It will be observed that in my patent ac-
 cordion the valve-raising rods *i* must all be 110
 down when shifting the board that carries the
 rock-shafts, so as to properly come under the
 valve-hooks, and consequently the pistons
 must not be worked before the thumb-piece
 is depressed when it is wanted to vary a 115
 chord. Otherwise some of the rods will fail
 to perform their work and false notes are
 likely to be heard. Of course a trained player
 will not make a mistake, but in the hands of
 the inexperienced it is preferable to place an 120
 instrument requiring as little attention as
 possible in regard to the way the pistons and
 thumb-piece are to be relatively manipulated.
 Hence my present improvement. With my
 improved accordion it matters not which of 125
 the thumb-piece or a piston is worked first or
 last when varying a chord, since the position
 of the valve-opening rods does not change,
 and the inclined hooks will perform their
 functions just as well whether the rods *i* are 130
 up or down or in the act of being raised and
 lowered.

To avoid confusion, I have shown in the an-
 nexed drawings but one shaft *H* as being pro-

vided with rods *i*. It will be understood, however, that they are all provided, as in my said patent, with four rods each, two of which now come under fixed hooks *j* and the other two pass by or within reach of shiftable hooks *j'*. I have shown the said shafts *H* in the same order as they appear in said patent, bearing the same numbers, &c; but this arrangement may be changed or modified, if desired, the only requisite being that the rods *i* be of the proper length to reach the hooks and valves upon which they are to operate. For the sake of clearness also I have dispensed with showing all the valves and operating-hooks and connections to be found in the complete accordion, only those parts necessary to understand the drift of my improvement having been illustrated.

Having now described my new improvement, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an instrument of the character described, the combination of a valve operated by lever or key, auxiliary valves connectible therewith in different sets, valve-raising hooks and connections, and means for reversing certain hooks whereby the valve connections are changed and variations in the sets of auxiliary valves effected, substantially as set forth.

2. In an instrument of the character de-

scribed, the combination of a valve operated by a lever or key, auxiliary valves, fixed and movable hooks and rods uniting one set of said auxiliary valves with said first-named valve, and a shifter for said movable hooks making a change in said set, substantially as described.

3. In an instrument of the character described, the combination of a series of valves, fixed and reversible hooks connected therewith, operating-pistons, levers connected with said pistons, a series of rods engaging over said levers and also under said hooks and connecting the valves in chords, and means for moving the reversible hooks so as to vary the chords, substantially as described.

4. In an instrument of the character described, the combination of valves, fixed and reversible hooks connected therewith, rods opening said valves by engaging said hooks, a shaft joining said rods, an operating lever or key, and a slide for shifting the reversible hooks whereby a change in the valves acted upon is effected, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal.

J. GALLEAZZI. [L. S.]

Witnesses:

CHAS. D. WHEAT,
A. H. STE. MARIE.