

(No Model.)

4 Sheets—Sheet 1.

J. U. FISCHER.
UPRIGHT PIANO.

No. 473,308.

Patented Apr. 19, 1892.

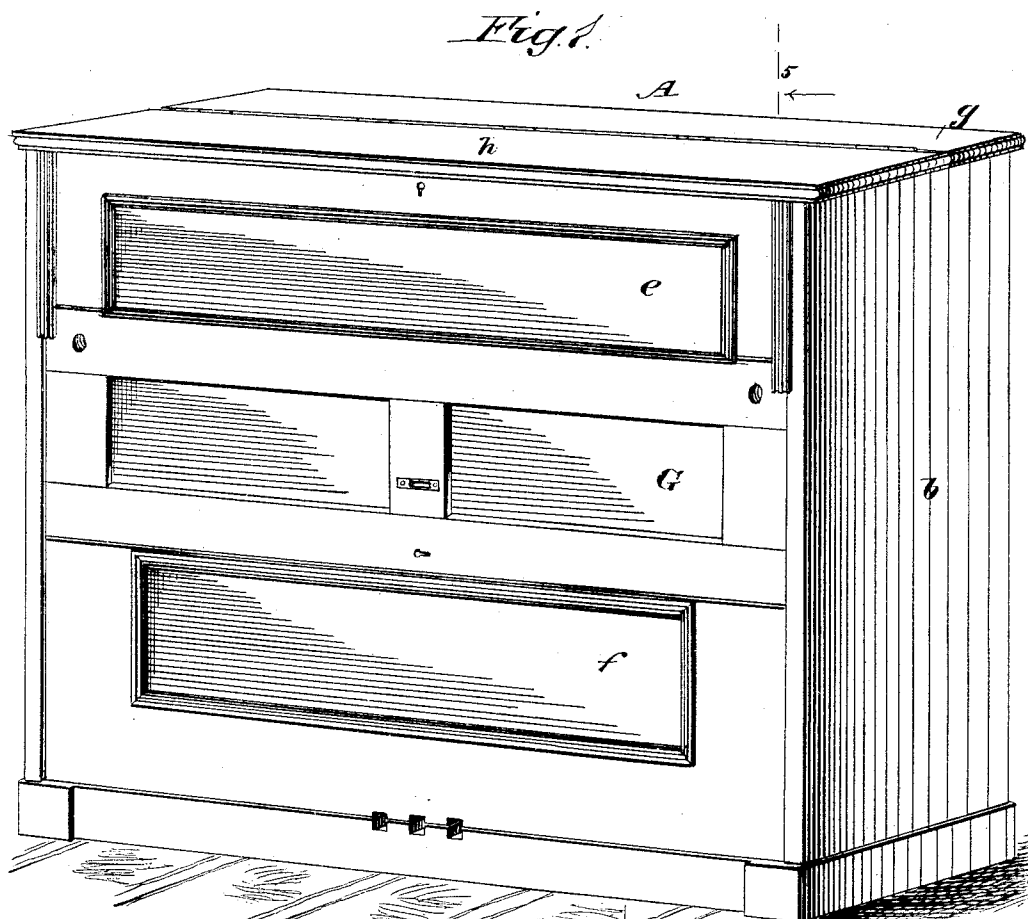
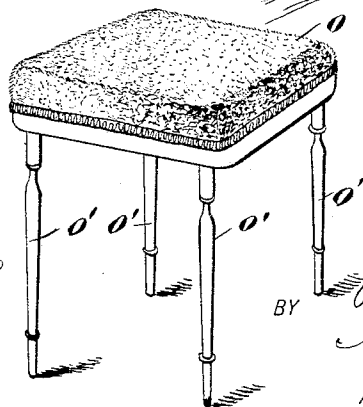


Fig. 2.



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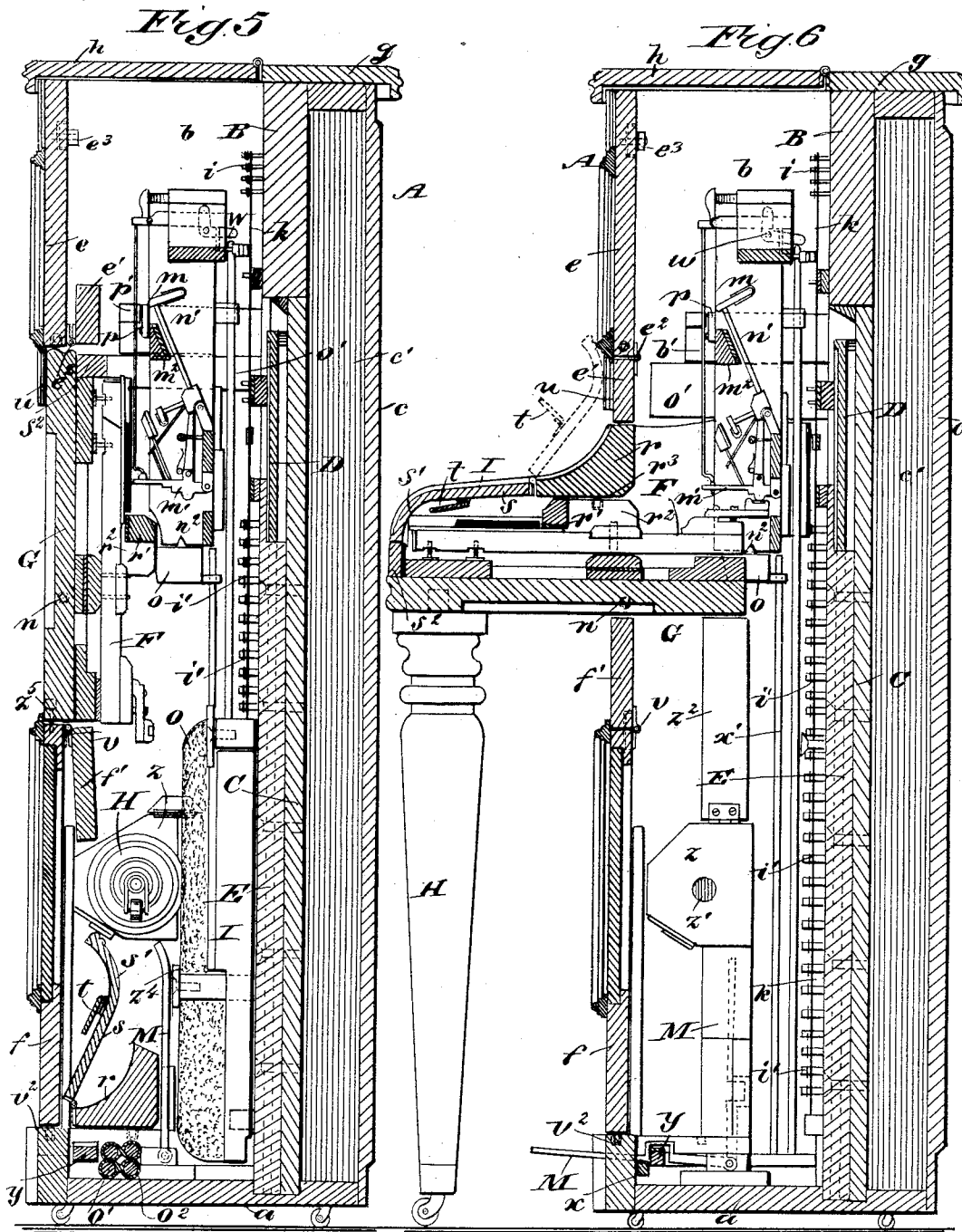
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4 Sheets—Sheet 3.

J. U. FISCHER.
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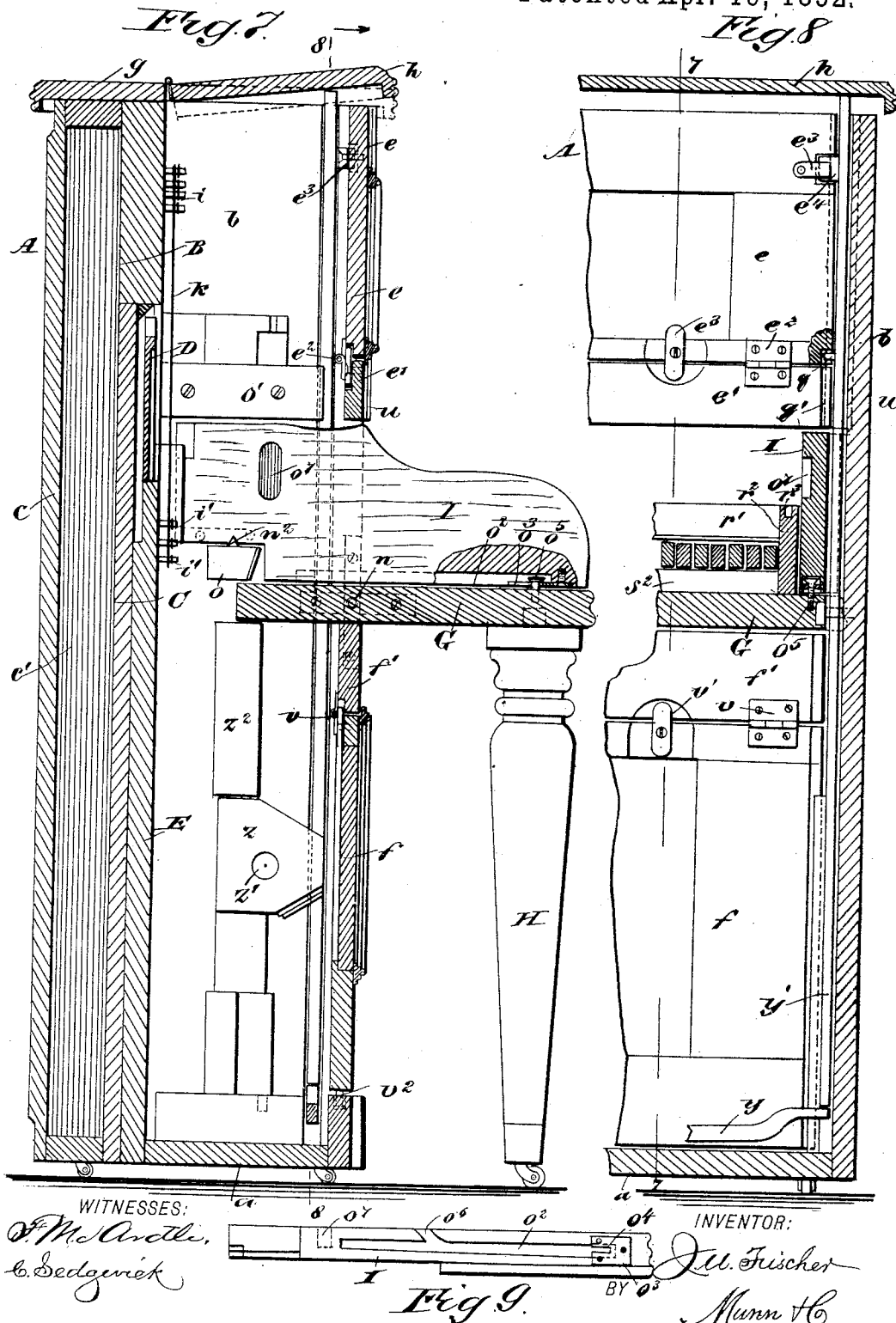
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J. U. FISCHER.
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4 Sheets—Sheet 4.

No. 473,308.

Patented Apr. 19, 1892.



ATTORNEYS,

UNITED STATES PATENT OFFICE.

JOHN U. FISCHER, OF NEW YORK, N. Y.

UPRIGHT PIANO.

SPECIFICATION forming part of Letters Patent No. 473,308, dated April 19, 1892.

Application filed January 28, 1892. Serial No. 419,489. (No model.)

To all whom it may concern:

Be it known that I, JOHN U. FISCHER, of New York city, in the county and State of New York, have invented new and useful Improvements in Upright Pianos, of which the following is a full, clear, and exact description.

The object of this invention is to provide means for the compact stowage of all parts of the piano within a rectangular case, so as to facilitate transportation by reduction of bulk, a further object being to furnish an upright piano with means to control the escape of sound-volume from the top of the case by foot-pressure.

To these ends my invention consists in the construction and combination of parts, as will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective front view of the piano closed. Fig. 2 is a perspective view of a stool for the piano in condition for service, the legs of which stool are detachable. Fig. 3 is a front view of the piano, showing the interior above and below the keyboard, which latter is in an upwardly-folded condition. Fig. 4 is a sectional and broken front view of the case and lower portion of a lid-raising device that is part of the invention, taken opposite the arrow 4 in Fig. 3. Fig. 5 is a transverse section of the piano-case closed, with all the mechanism within, together with the piano-stool, taken on the line 5 5 in Figs. 1 and 3. Fig. 6 is a transverse section of parts, taken on the same line as Fig. 5, showing parts removed from the case and properly adjusted for operation. Fig. 7 is a transverse section of the case near the right side on the line 7 7 in Fig. 8, showing the keyboard in section, a keyboard-bracket in connection with the keyboard, and also with the case, a supporting-leg for the keyboard in position, and a lid-elevating device, adjusted to hold the lid off of the case at the front edge. Fig. 8 is a broken and longitudinal sectional view of the case near the right side, viewed in the direction of an arrow in Fig. 7 and taken on the line 8 8 in said figure; and Fig. 9 is a reverse plan view of one of the keyboard-brackets, showing a locking-groove in its lower edge.

The case A is rectangular and of proper dimensions to receive the mechanism of an upright piano; and it consists of the base-board *a*, side walls *b*, rear wall *c*, and two front panels *e f*, that will be further described, and a top *g*, having a lid *h*.

Within the case, against its solid rear wall, a series of spaced vertical strips *c'* are secured, which extend from the base-board *a* to the top piece *g*, which latter is secured to the sides and rear wall of the case and, together with the lid *h*, provides a cover for the piano-case. The vertical strips *c'* afford support above for a transverse wrest-pin plank B, that extends across the case, and below it a back board C of thinner material is secured, which has its rear surface in the same plane with the rear side of the wrest-pin plank, said back board extending across the case and from the plank B to the base-board *a*.

At a proper distance in front of the back board C a sounding-board D is secured so as to retain it parallel therewith and afford a resonant chamber between these parts, an opening above the sounding-board between it and the wrest-pin plank B, affording a free passage for sound from the resonant chamber, which will pass upwardly in front of the plank named and escape from the top of the case when the lid *h* is raised by means that will be described.

Below the wrest-pin plank B a hitch-pin board E is located and secured to the back-board C, its upper edge being curved downwardly, in the usual manner, to increase the distance between the hitch-pins and wrest-pins toward the left side of the instrument, where the bass-strings are located, the lower edge of the sounding-board resting upon the top edge of the hitch-pin board, (not shown,) so that the resonant chamber previously mentioned will be increased in depth as the left side of the case is approached.

It should be stated that the construction and arrangement of parts to provide a resonant chamber, as described, is already shown in another patent application filed simultaneously herewith, and therefore is not specially claimed in this connection, but is preferably employed in combination with other improvements, which constitute the novel features of this invention.

A proper number of wrest-pins i and hitch-pins i' are provided to suit the capacity of the instrument, and on these pins the strings k are stretched parallel and in the same vertical plane in front of the sounding-board.

Any suitable piano-action of the upright type may be used which is adapted to receive motion from a detached key-bank, the style shown being preferred, wherein the hammers m are actuated to strike the strings k by a rocking movement of the hoppers m' when these are struck from below by the inner ends of the keys F , which keys are supported in series upon the keyboard G , that is pivoted at n upon the case side walls oppositely and at such points as will cause the lower surface of the keyboard to align with the case front wall, of which it becomes a part when rocked into a vertical position, as shown in Fig. 5.

When the keyboard G is in a horizontal position, its major portion is outwardly projected, as indicated in Fig. 6, the inner edge portion at each end impinging upon the lower faces of the opposite and similar stop-blocks o , that limit its depression. Said blocks o also form a support for the end posts n' of the piano-action, there being a projecting toe n^2 , formed on each block, which enters a corresponding notch on the lower end of each post, thus retaining them from outward movement on the supporting-blocks, the upper part of the action being secured from outward displacement by a turn-button p , pivoted at each end of the hammer-rail m^3 , which buttons are adjustably interlocked with notches in bracket-blocks p' , that oppositely project from the side walls of the piano-case, as shown in Fig. 3. The series of hoppers m' are so disposed that they will all lie in one horizontal plane when dormant, each hopper projecting above and in loose contact with the inner end of an appropriate key F when the keyboard is adjusted for service, so that the act of rocking the latter into a horizontal plane will simultaneously connect each key with a proper hammer through intermediate parts of the action and enable a performer to use the instrument.

There is a pair of similar legs H furnished to support the forward edge of the keyboard G . These are of similar form and are each provided with a projecting dowel at the upper end, which enters a socket at the end of the keyboard from below in the face that is lowermost when the piano is in use and outermost when all parts are inclosed in the piano-case.

Upon a projecting edge portion of the keyboard G , at each end of the same, a bracket-piece I is removably seated, said bracket being designed to afford a finish for the end of the keyboard, and also to lock the latter from upward movement. The construction of the bracket-pieces I is similar, and is best shown in Figs. 7, 8, and 9, each consisting of a flat slab of wood having the upper edge portion that projects above the keyboard and exterior of the case A cut into an ogee form. The

parts of each of the bracket-pieces I that slide between the inner faces of the case side walls and the ends of the keyboard are cut away on the lower edge from the rear end forwardly, so as to permit the brackets to slide over the parts of the blocks o that are nearest to the side walls b and rest upon them, the upper edges of the inner portions of the bracket-pieces loosely engaging with the lower edges of the transverse batten-strips o' , which are affixed to the side walls of the case below the blocks p' , and thus serve to retain the inner end portions of the brackets I in a horizontal position. The lower edges of the bracket-pieces I are longitudinally channeled, as shown in Fig. 9, for a portion of their length, and at the outer terminals of these grooves o^2 a locking-plate o^3 is secured over each groove, that is slotted part of its length from the edge that is above the groove, and the width of the slot o^4 in the plate, being less than that of the groove it is a continuation of enables the plate to lock over the head of a screw o^5 , which will traverse the open groove o^2 freely. A bypass or lateral branch groove o^6 is made in each groove o^2 at a proper point to facilitate the release of the bracket-pieces I , when these are withdrawn from engagement with the case and keyboard, a hand-grip recess o^7 cut in the side of each bracket facilitating such a removal of parts. The upper front panel of the case is formed of two portions $e e'$, that are hinged together at e^2 , so as to form a continuous panel when they are adjusted, as shown in Figs. 1, 6, 7, and 8, to close the case above the lowered keyboard, the panel portions being held extended by turn-buttons e^3 .

The preferred means employed to removably secure the composite panel $e e'$ in position consists of opposite dowel-pins q , projected from the inner faces of the case side walls, and which enter vertical slots q' , formed in the edge portions of the ends of the panels below and on the inner side, as shown in Fig. 8. The dowel-pin connections for the panel $e e'$ are supplemented by the turn-buttons e^3 , which are loosely secured to rotate on the inner side of the upper panel portion e near the top edge of each end of the same, which buttons are made to bear upon the inner surface of an adjacent ear e^4 , that projects from the case side wall, as shown in Fig. 8.

When the keyboard G is in lowered adjustment, as represented in Fig. 6, and the upper panel $e e'$ in place, there is a gap left above the keys, which is closed by removable pieces, which together form an ogee-shaped cover for the projecting portion of said keyboard, these parts consisting of a molding-piece r and a cover-piece s .

In form the molding-piece r is substantially triangular in cross-section and is covered on its outer face. The molding-piece named rests upon a closing-strip r' , that extends above and close to the keys F , resting its front edge at the ends upon the front reduced portions of the rest-blocks r^2 , which are vertical pro-

jections from the keyboard at each end and side of the key-bank. The rest-blocks r^2 also sustain the main portion of the molding-piece r at each end, and the latter is retained in place removably by a pin-and-socket connection, formed at r^3 with each rest-block. The height of the molding-piece r is so proportioned that it will fill the space between the upper edge of the closing-strip r' and the lower edge of the panel-section e' when in place.

On the front edge of the molding-piece r the rear edge of the cover-piece s is hinged, as represented in Fig. 6, which latter is curved at s' near its front edge, so as to cause said edge to depend and rest on the rail s^2 at the front of the keys F when the key-bank is to be covered while the keyboard is in a horizontal position.

When the instrument is to be performed upon, the cover-piece s is folded upwardly and rearwardly, so as to rest upon the lower portion e' of the top case-panel, as indicated by dotted lines in Fig. 6, and while in that position a book or music-sheet rest-strip t , that is normally folded, as is shown by full lines, may now be projected at a right angle to the inner face of the flat portion of the piece s , whereon it is hinged, and thus serve to support music in front of the performer.

The keyboard G , as before explained, is adapted to form a part of the front of the case A when rocked into an upright position, as represented in Figs. 1 and 5, and when so adjusted its upper portion at each side edge is impinged upon by the extensions u of the molding-strips that form a finish on the exterior of the composite top panel $e e'$ at each end, said moldings being fastened upon the main portion e of the panel and left loose below, where they engage the smaller panel-section e' when both sections are aligned, as shown in Fig. 6. As the closed or upright position of the keyboard projects its upper portion toward the top panel and takes up part of the space occupied by said panel when the keyboard is lowered the panel-section e' is folded inwardly and upwardly to remove it from the keyboard, which latter is of such a relative width as will allow its top edge to loosely engage the lower edge of the main panel-section e , and thus produce a neat finish where the parts join.

The space below the keyboard G at the front of the case A is filled in with a removable lower panel, which is also composed of two sections $f f'$. These sections are hinged together at their meeting edges, the hinges v being placed on the inner surface the same as is shown in the top panel $e e'$, so that when desired the two sections of the lower panel may be folded together, locating the top piece or section f' on the inner side of the panel, as shown in Fig. 5. The upper-panel section f' is held in alignment with the lower-panel section f by turn-buttons v' , one of which is

shown in Fig. 8, said buttons being turned to release the upper-panel section when it is necessary to fold it inwardly and downwardly, and thus afford room for the depending portion of the keyboard that extends below its pivots when the keyboard is located in a vertical plane. The lower panel when adjusted as shown in Fig. 5 is removably retained in place by dowel-and-socket connections v^2 at the lower edges, which connection of parts can be effected as the panel and keyboard are rocked inwardly to align their exterior faces and are detached by a reverse movement of these parts. When the keyboard G is in a horizontal position, the increased space below it is filled by the aligned panel-sections $f f'$. (Shown in Fig. 6.)

There are three pedals $J L M$ provided, which are located near the center of the case and toward its front and, being hinged at their inner ends to the base-board a , are thus permitted to be folded within the case, as indicated by dotted lines in Figs. 3 and 6 and by full lines in Fig. 5. The pedal J at the left of the set is loosely connected by the usual lever and push-bar device to a bell-crank w , that is adapted to rock the damper mechanism of the piano-action away from the strings when the pedal is pressed upon by the foot of the performer. This portion of the device is not presented as new, with the exception of the folding pedal, that is thereby adapted for housing within the case when all parts are packed within for transportation. The center pedal L is also connected to a horizontal rocking lever x , that extends toward the left side of the case A , and lifts a pusher-bar x' when the pedal is depressed, this rod when elevated serving to shift the entire piano-action toward the right side of the case a short distance, and thus cause the hammers of the action to impinge on but one or two strings of a set that are of like tone, whereby a softer and more subdued musical effect is secured. This device is not new. The pedal M , which is nearest the right side of the case A , is made to rest upon a rocking bar y , that is pivoted to the base-board a at a' and extends horizontally to nearly touch the right side wall of the case, and has this terminal located directly below a vertical lifter-rod y' , which is located in a groove in the side wall, as shown in Figs. 4 and 8. The lifter-rod y' has its upper end in contact with the lower surface of the case-lid h , and is thus held normally by a spring y^2 , that is made to press upon the base-board a . It will be seen that when the pedal M is lowered to rest upon the rocking bar y and foot-pressure is applied to the outer end of said pedal an upward sliding movement will be produced in the rod y' , which in turn will vibrate the case-lid h upwardly at the front, and thereby permit an upwardly-directed volume of sound within the case A to escape therefrom through the opening produced, thus enabling a performer by the skill-

ful vibration of the lid to modulate the musical effect, so as to secure such a swelling or diminishing of the tone of the instrument as may be necessary for the correct rendition of the music performed.

Below the keyboard G, when this is folded to close the case A, opposite blocks z are secured upon the sides of the case at a sufficient distance above the base-board a to properly locate the piano-legs H within the space, as represented in Figs. 3 and 5, the dowel ends of the legs being entered within socket-holes z' in the blocks, so as to project the legs horizontally toward each other when so disposed. There is an upwardly-folding brace z^2 hinged to the top edge of each block z , the length of which adapts these similar braces to engage the lower surface of the keyboard G when the latter is horizontal and the braces in adjusted contact with the side walls b of the case A.

There is a sufficient space allowed between the rear edges of the blocks z and bodies of the legs H when the latter are engaged with said blocks to permit the bracket-pieces I to be slid behind the leg and block at one side of the case, one bracket being held from rattling by the lowered adjustment of the hinged brace z^2 . The other bracket is made to bear upon the hitch-pin board of the instrument by a turn-button z^3 , that is pivotally secured upon a block projected forwardly from the hitch-pin board. (See Fig. 3.)

The piano-stool O is provided with removable legs O', which are slipped within a canvas casing O², and thus protected are stowed in the space below the keyboard and forward of the bracket-pieces I. Near the center of the case A the seat portion of the stool O is stowed behind the adjacent ends of the legs H and by them is held from rattling, and also by a turn-button z^4 . In front of the stool-top O when it is secured within the case A, as stated, the pedals are folded to bear upon it, and forwardly of these parts the keyboard cover-piece s and joined molding-piece r are placed in a folded condition, after which the lower panel is secured in place, as before explained, which will permit this panel to be fastened by a lock z^5 , and the lid h , being similarly secured, completes the securing of the case and all parts within it, ready for transportation.

It is claimed for the features of improvement herein described that the shipment and transportation of the piano thus constructed will be facilitated and cheapened, as it consolidates the parts into a compact rectangular case with no projecting parts. The lid-vibrating device is also of advantage, as it enables a skilled performer to produce remarkably fine results in the modulation of sound-volume, to obtain a gradation from crescendo to pianissimo, and the reverse, with ease and certainty, while the hands are employed in the manipulation of the keys.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an upright piano, the combination, with a case and a piano-action therein, of a keyboard pivoted to rock between the sides of the case and form a part of its front wall, and means to secure the keyboard vertically or horizontally, substantially as described.

2. In an upright piano, the combination, with a case having a front upper panel and a front lower panel, each panel being made of two pieces hinged together at their side edges, of a keyboard pivoted between the side walls of the case and adapted to form a part of the front wall, substantially as described.

3. In an upright piano, the combination, with the case, of a pivoted keyboard adapted to project partly beyond the case when rocked into a horizontal plane, and removable brackets at the ends of the said keyboard, whereon it rests, substantially as described.

4. In an upright piano, the combination, with the case and a pivoted keyboard adapted to rock into a vertical or horizontal plane, of two end brackets for the keyboard, a folding top panel and a folding lower panel for the front of the case, and a removable covering device for the keyboard, substantially as described.

5. In an upright piano, the combination, with a rectangular case having a hinged lid and upper and lower front panels, each made of two pieces hinged together, and a pivoted keyboard adapted to complete the front wall of the case when upright, of two removable end brackets for the keyboard, adapted to slide between the case and keyboard and also adapted to lock fast to the keyboard when said board is in a horizontal position, substantially as described.

6. In an upright piano, two keyboard-brackets that are adapted to slide between the case side walls and the end portions of the keyboard, rest on the keyboard and have a locked connection therewith, and loosely engage their top edges with blocks on the case side walls, substantially as described.

7. In an upright-piano case, a front top panel, which is formed of two hinged sections that are held aligned by turn-buttons, substantially as described.

8. In an upright-piano case, a front lower panel formed of two hinged sections hinged together at side edges, held aligned by turn-buttons, and doweled to the base-board of the case, substantially as described.

9. In an upright piano, a detachable two-part folding keyboard-cover, in combination with a music-rest strip hinged by its side edge to the inner face of the cover-piece, substantially as described.

10. In an upright piano, the combination, with a rectangular case, bracket-blocks on the case sides, a keyboard, and a closing strip above the keys on the board, resting its ends

on notches in the bracket-blocks, of a two-part hinged keyboard-cover that is seated upon and loosely secured to the bracket-blocks and is adapted to fold over or away from the keyboard, substantially as described.

11. In an upright piano, the combination, with a rectangular case and a keyboard pivoted at its ends between the case side walls, that is adapted to form a part of its front wall and projecting its major portion beyond the case-front when horizontal, of two detachable legs for the keyboard, substantially as described.

12. In an upright piano, the combination, with a rectangular case, a pivoted keyboard adapted to project forwardly of the case when horizontal and two end brackets for the keyboard, that slide between the case sides and said board, of blocks secured to the case sides and which bear above upon the inserted brackets and hinged braces below on the case sides, that prop the keyboard when upright, substantially as described.

13. In a piano, the combination, with an upright case adapted to be completely closed in front, of pedals hinged at their inner ends and which will fold upright within the case, substantially as described.

14. The combination, with a rectangular up-

right case, of blocks therein secured to the case sides and adapted to removably support two legs of a keyboard horizontally within the case, substantially as described.

15. In an upright piano, the combination, with a rectangular case, a transverse wrest-pin plank above, a hitch-pin board below, a thin back board between, and structural supports therefor behind, of a sounding-board held away from the back board forwardly, forming a resonant chamber between and separated from the lower edge of the wrest-pin plank to provide for sound-escape forwardly, a piano-action in front, a keyboard below, a hinged lid above opening at the front, and a device actuated by a vibratile pedal which will move the lid in unison with the vibration of the pedal, substantially as described.

16. An upright-piano case completely closed in front by a pivoted keyboard and adjustable panels, and also adapted to retain loose parts of the instrument, and a knockdown stool within the case below the keyboard when the case is in a closed condition, substantially as described.

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Witnesses:

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