(No Model.) 3 Sheets—Sheet 1.

O. E. & G. C. WICK.

COMBINED DESK AND ORGAN.

No. 385,031. Patented June 26, 1888.

Fig. 2.

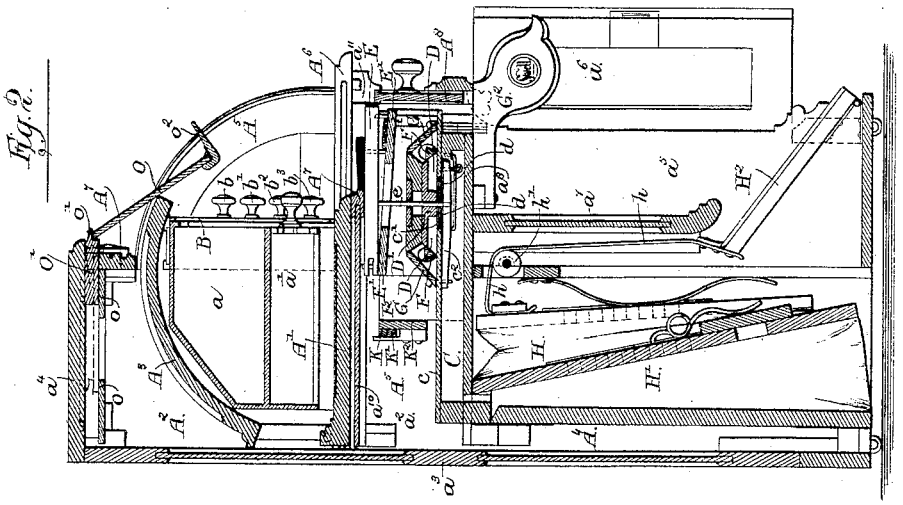
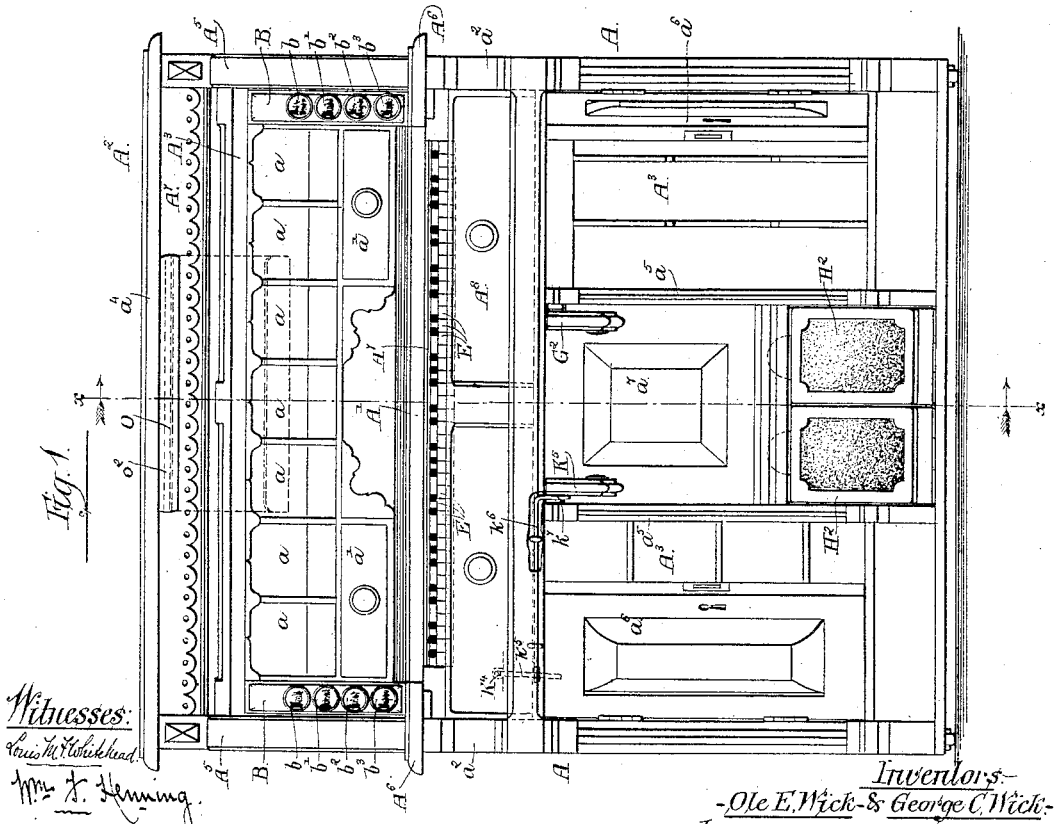


Fig. 1.



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by Dayton & Poole Attorneys

(No Model.) 3 Sheets—Sheet 2.

O. E. & G. C. WICK.

COMBINED DESK AND ORGAN.

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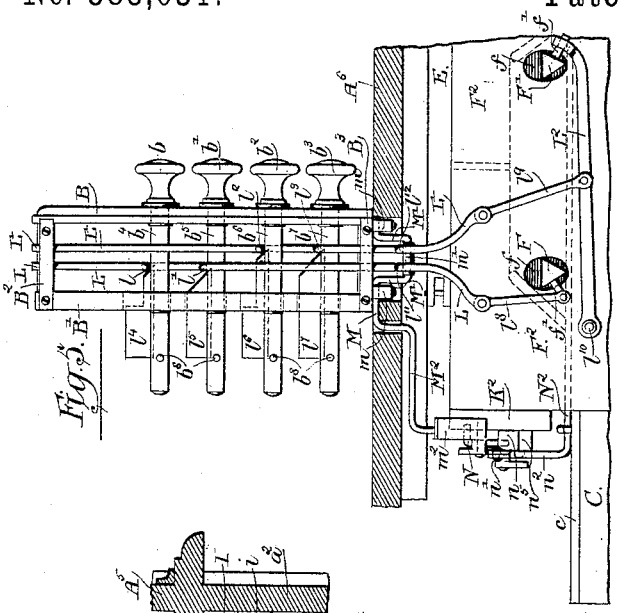

Fig. 6.

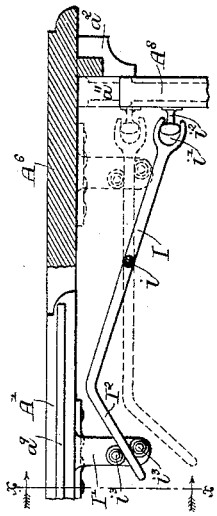

Fig. 7.

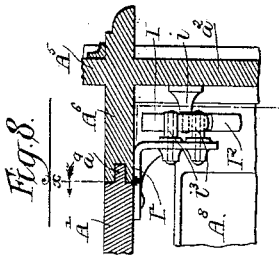

Fig. 8.

Fig. 5.

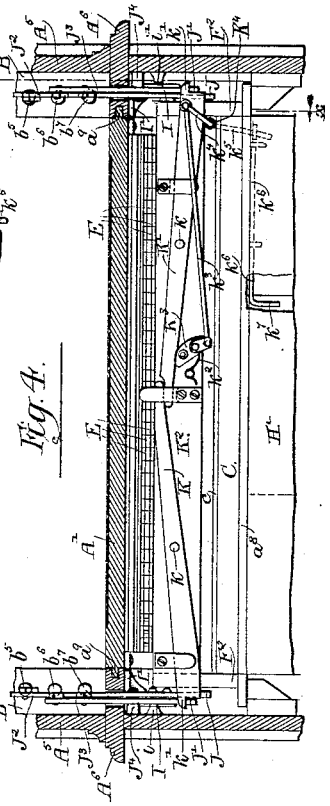

Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

O. E. & G. C. WICK.

COMBINED DESK AND ORGAN.

No. 385,031. Patented June 26, 1888.

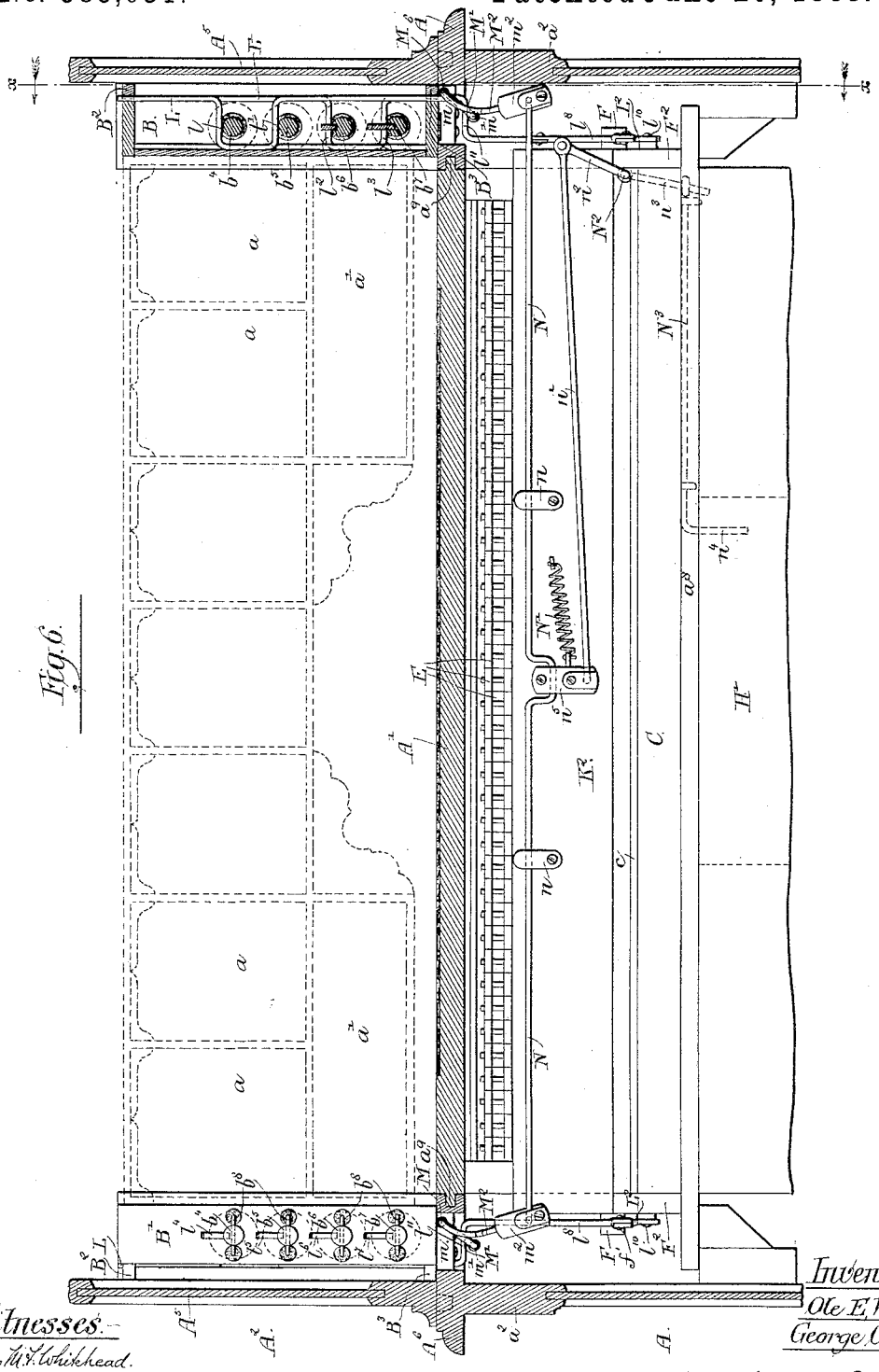

Fig. 6.

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by: Clayton & Poole
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UNITED STATES PATENT OFFICE.

OLE E. WICK AND GEORGE C. WICK, OF HUMBOLDT PARK, ILLINOIS.

COMBINED DESK AND ORGAN.

SPECIFICATION forming part of Letters Patent No. 385,031, dated June 26, 1888.

Application filed April 5, 1887. Serial No. 233,705. (No model.)

To all whom it may concern:

Be it known that we, OLE E. WICK and GEORGE C. WICK, of Humboldt Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Desk and Organ; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in reed-organs, and has reference both to the construction of the operative parts of the organ itself and to the construction of the organ-casing.

The invention consists of the matters hereinafter described, and pointed out in the appended claims.

The invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a front elevation or face view of an organ embodying our invention. Fig. 2 is central vertical cross section of the same, taken upon line X X of Fig. 1. Fig. 3 is a sectional elevation of parts of the organ mechanism located at one end of the casing, taken upon line X X of Fig. 4. Fig. 4 is a view of the parts shown in Fig. 3 as seen from the rear of the organ. Fig. 5 is a detail sectional elevation of parts corresponding with those shown in Fig. 3, but of somewhat different form, taken upon line X X of Fig. 6. Fig. 6 is a rear elevation of the parts shown in Fig. 5, adjacent parts of the organ-casing being shown in section. Fig. 7 is a detail view of a device for moving the shifting front of the case, taken on line X X of Fig. 8. Fig. 8 is a sectional elevation taken upon line X X of Fig. 7.

As shown in the said drawings, the organ-casing consists of a lower or main part, A, which contains the principal operative parts of the organ, and which is provided with a horizontal sliding top, A′, the said part A being similar to the lower or main part of an office-desk, and the horizontal top A′ being adapted to serve as a support for writing materials, books, papers, or other articles in the same manner as does the horizontal top of an ordinary office-desk.

A^2 indicates, as a whole, a hood or cover placed over the top A′ of the casing, and herein shown as containing pigeon-holes *a* and drawers *a′*, such as are commonly present in desks, and with a rolling or cylindric cover, A^3, adapted to be drawn down over the top A′, and thereby close the front opening of the hood A^2 in a familiar manner.

In the particular construction of the organ-casing illustrated the main part of the body A thereof and the upper part, A^2, are formed by means of vertical side or end walls, a^2 a^2, a back wall, a^3, and a horizontal top board, a^4. In the lower or main part, A, between and parallel to the exterior walls, a^2 a^2, are two vertical partitions, a^5 a^5, forming at either side of the casing compartments A^3 A^3, which may contain spaces for books, or a series of drawers or pigeon-holes, or may be otherwise utilized, as common in office-desks. We have herein shown the said compartments A^3 A^3 as provided with hinged doors a^6 a^6, giving, when closed, a uniform appearance to both sides of the casing. Between the partitions a^5 a^5 and parallel with the rear wall, a^3, is placed a vertical wall, a^7, which forms a shallow recess in front of the casing and a chamber, A^4, in the rear part thereof between the compartments A^3 A^3. Within said chamber A^4 is located the bellows of the organ, as will be hereinafter described. The partitions a^5 a^5 terminate at points some distance below the horizontal top A′ of the casing, and a horizontal wall or partition, a^8, is extended over the said partitions a^5 a^5 the entire length of the casing and forms the top wall of the compartments A^3 A^3 and of the chamber A^4. Said horizontal partition a^8 forms, together with the top A′, a chamber, A^5, within which the main operative parts of the organ mechanism are located.

The keys of the organ are located in the upper forward portion of the chamber A^5 and are covered, when the organ is not in use, by the top A′, which latter is made horizontally movable in such manner as may be either drawn forward to cover the keys or be thrust backwardly to uncover the same when it is desired to use the organ. The ends of the said movable top A′ do not extend quite to the side walls, a^2 a^2, of the organ-casing, but said top has sliding connection at its ends with station-

ary horizontal pieces A^6 A^6, inserted in the end wall, a^2 a^2, of the casing and extending inwardly from said end walls. In the particular construction illustrated the sliding top A′ is connected with the strips A^6 A^6 by means of tongues a^9 a^9, upon the ends of the sliding top, engaging grooves in the inner edges of the said pieces A^6 A^6. The top part or hood A^2 of the casing is like the hood of an ordinary office-desk, with the exception that it contains vertical boards or panels B B, located against the side walls of the casing at both sides of the latter and supporting a series of stops, b b' b^2 b^3, belonging to the organ mechanism.

In the particular construction herein shown the panels or "name-boards" B B are located over the inwardly-projecting parts of the boards A^6 A^6, so that connection may be made between the stops and the main parts of the organ mechanism by connecting devices extending around or outside of the ends of the movable top A′ and between the said ends of the top and the exterior end walls of the casing, in the manner clearly shown in Fig. 4.

From the construction above described it is entirely obvious that the organ-casing illustrated forms a complete desk, having all the characteristics of an ordinary office-desk, with the exception that the space in upper part of the body of the desk, usually employed for drawers, is occupied by the organ mechanism.

To next describe the devices forming the organ proper, said parts are made as follows:

C is the wind-chest of the organ, which is located in the lower part of the chamber A^5 and is formed by means of the partition a^8 and a board, c, arranged above and parallel thereto.

D D are the tubes of the organ, within which are located the reeds d d, said tubes being formed in a tube-board, D′, secured to the top of the board c in a familiar manner. The said board c is provided with a series of apertures, c' c', communicating with the tubes D D, said apertures being covered by valves c^2, which are severally connected by vertical rods e e with the keys E of the organ.

F F are stop-valves or "mutes," which are placed over the tubes D D. Said stop-valves F F are operated from the stops b b' b^2 b^3 in a manner hereinafter described. G G are the swell-lids, which are pivoted to the longitudinal board or swell-cap G′, so as to extend over the stop-valves F F, and which may be moved so as to produce a greater or less volume of sound from the reeds, in a well-known manner. The said lids G G are connected with and operated by a knee-lever, G^2, in a manner heretofore common, and which is not herein illustrated in detail.

The keys E E are supported upon a key-board, E′, located in the front upper part of chamber A^5, in the manner shown. Immediately over the keys and at the rear of the exposed portions thereof is located a horizontal bar, A^7, over the top of which the movable top A′ slides as it is moved backwardly and forwardly, said strip A^7 serving to close the spaces between the keys and the said sliding top.

The top A′ is necessarily made considerably narrower than the depth from front to rear of the top part of the casing, in order to enable said movable top to be thrust backwardly to uncover the keys without coming into contact with the rear vertical wall, a^3, of the casing. When the said top A′ is drawn forward to cover the keys, therefore, a space will be left between the rear edge of the movable top and the rear wall of the casing, and to permanently close this space, so as to prevent access of dust to the chamber A^5, we place a partition or panel, a^{10}, between the bar A^7 and the rear wall, a^3, in a manner clearly shown in the drawings, Fig. 2.

For the purpose of closing the space at the front of the keys when the top A′ is drawn forward and the organ is not in use, we preferably provide a sliding panel, A^8, Figs. 1, 2, 3, and 7. This panel is arranged to slide vertically, and is herein shown as held or guided at its ends by means of guide-grooves a^{11} in the casing and guide-pins a^{12}, engaging forked guides a^{13}, attached to the lower part of the said sliding panel.

The panel above referred to may be moved by hand for the purpose of bringing it upwardly against the movable top A′ when the latter is forward, and thereby closing the space in front of the keys, or for lowering the panel to expose the keys when in opening the case to use the organ. We have, however, herein shown an automatically-operating device for moving the said panel, whereby the latter is lowered when the sliding top A′ is thrust backwardly to uncover the keys, and is raised into contact with the said sliding top when the latter is drawn forward. The said automatic device embraces connections between said movable sliding top A′ and the panel A^8, which are constructed as follows:

I is a lever pivoted between its ends to swing in a vertical plane, and herein shown as mounted upon a stud, i, attached to the end wall, a^2, of the casing, as clearly shown in Fig. 8. At its forward end the said lever I is provided with a fork, i', which engages a stud or projection, i^2, secured to the inner surface of the sliding panel A^8. At its rear end the lever I is provided with a downwardly-inclined or bent portion, I^2. To the sliding top A′ is secured a depending bracket, I′, provided with two horizontal pins, i^3 i^3, preferably provided with anti-friction rollers, said pins i^3 i^3 being arranged to rest in contact with the upper and lower surfaces of the lever I. When the top A′ is at the forward limit of its movement, the pins i^3 i^3 will be in advance of the pivot i of the lever I, and the parts are so arranged that at such time the lever will be horizontal and its forward end will rest in position to hold the sliding panel closed, in the manner illustrated in dotted lines in Fig. 7. In thrusting the sliding top A′ backwardly the pins i^3 i^3 will

travel upon the lever I and hold said lever stationary until said pins have passed the pivot *i* and reached the inclined portion I^2 of the lever, when the lowermost pin will act upon the under part of the said inclined part I^2 to lift the inner end of the lever, and thereby depress the forward end thereof, together with the sliding panel. The position of the parts when the sliding top is thrust rearwardly is shown in full lines in Fig. 7. The upper pins, i^3, will act upon the part I^2 of the lever, and thereby actuate the lever to close the sliding panel when the top is drawn forward, in a manner readily understood. It will of course be understood that similar actuating devices for the sliding panel are used at both sides or ends of the casing, as is clearly shown in Fig. 4.

The organ shown is provided with two feeder-bellows, (one of which is indicated at H, Fig. 2,) said bellows being connected with a reservoir, H', in a manner heretofore common and well known. Each feeder is moved in one direction by strap *h*, passing over a roller, *h'*, the straps being attached at their lower ends to pedals H^2 H^2, which are located between the walls a^5 of the casing at the lower part of the partition a^7, in a manner clearly shown in Figs. 1 and 2.

We have herein shown two different ways of actuating the stop-valves or mutes F F from the stops *b b' b² b³* when the latter are located at the sides of the casing above the lever of the sliding top A', in the manner above described. One of these devices is illustrated in detail in Figs. 3 and 4 and the other in Figs. 5 and 6.

The devices shown in Figs. 3 and 4 are made as follows: In the particular organ shown there are four stop-valves, two of which are actuated by the stops at one end of the organ and the other two by the stops at the opposite end of the organ. The stop-valves at each end of the organ are practically alike, and are actuated by similar devices, and the description of one pair, embracing the stop-valves F and F', located, respectively, at the front and rear of the tube-board, together with the actuating devices therefor, will serve to fully explain the construction and operation of this part of the invention. The said stop-valves F F' extend at their ends through openings *f f*, formed in a vertical board, F^2, arranged inside of and parallel with the side wall, a^2, of the casing. Said stop-valves consist of bars of triangular shape, which are hinged at their upper edges to the tube-board D', as common in reed-organs as heretofore made. Upon the ends of the stop-valves, which extend outside of the boards F, are formed short arms or projections *f' f'*, to which pressure may be applied for swinging the valves about their hinges to open and close the tubes D D.

J J' are two stop-levers pivoted between their ends at *j j'* to the board F^2. Said levers are connected at their forward ends, by means of the arms *f' f'*, with the stop-valves F F', respectively, the opposite or rear ends of said stop-levers being extended rearwardly past the rear vertical edge of the board F^2.

J^2 J^3 are two vertically-arranged levers pivoted between their ends upon a pivot-pin, J^4, which is secured in the casing at a point adjacent to the frame-piece A^6 and over the free or rear ends of the stop-levers J and J'. The lever J^2 rests upon the upper surface of the stop-lever J near its free end, and the lever J^3 similarly rests upon the upper surface of the stop-lever J'. Said stop-levers J and J' are placed in different vertical planes, so that the lower end of the lever J^2 may extend past the stop-lever J', in a manner clearly illustrated in the drawings. The levers J^2 J^3 extend above the frame-piece A^6, with their upper ends at the rear of and vertically on the line with the stops *b b' b² b³*. Said stops, as herein shown, are attached to horizontal stop-draws *b⁴ b⁵ b⁶ b⁷*, which are mounted to slide in the panel B and in a vertical frame-piece, B', arranged at the rear of and parallel with said panel B. The lever J^2 is connected at its upper end with stop-draw b^4 by means of two jointed bars, j^3 j^4, and said lever J^2 is also connected with the stop-draw b^5 by means of a connecting-bar, j^5, slotted at its end which is connected with the spindle, in a manner clearly shown in the drawings. The lever J^3 is similarly connected with the stop-draws b^6 b^7 by means of connecting-bars j^6 j^7, the bar j^6 being slotted and having sliding connection with the lever, in the manner illustrated. The two stops *b b'* are thus caused to operate on the same stop-valve F; but by means of the slotted connection between the lever J^2 and the stop *b'* the latter stop opens the stop-valve to a less extent than the stop B, so that a tone of different strength or character is produced by the two stops, in a manner heretofore well known. In the same manner the stops *b² b³* both actuate the stop-valve F', so as to produce two different kinds of tones from the set of reeds controlled by the said stop-valve.

In the stop action shown in Figs. 3 and 4 devices are provided for actuating all of the stop-valves at once by pressure applied to a knee-lever at the front of the organ, to thereby give the combined volume of all the sets of reeds, thus giving what is known as the "grand-organ swell."

The devices referred to are, as herein shown, constructed as follows:

K K' are two levers arranged horizontally at the rear of the tube-board and adjacent parts, said levers being pivoted between their ends and extending from the ends of the organ-casing to the middle of the latter. Said levers are, as shown, supported upon a vertical board, K^2, extending longitudinally of the casing and attached at its ends to the rear edges of the vertical boards F^2 F^2. The said levers K and K' are constructed to engage at their outer ends with the free ends of both of the levers J J' at each end of the organ, the levers K K' being, as shown, notched at their ends to form projections *k' k'*, which engage the ends of the

lever J′ J′, while the levers J J are engaged by the lower edges of the said levers K K′, as clearly shown in Fig. 4. At the middle of the casing the lever K′ extends beneath the end of the lever K, so that by lifting the inner end of said lever K′ the lever K will be correspondingly moved, and the stop-valves at both ends of the organ thereby actuated. For moving said levers K K′ a short lever, K^3, is pivoted upon the board K^2, beneath the lever K′, with its upper and shorter end bearing against the under surface of the said lever K′. The said lever K^3 is held normally free from the lever K′ by means of a spring, K^2. The lower end or arm of the lever K^3 is attached to a connecting-rod, k^3, the opposite end of which is pivoted to an upwardly-extending arm, k^4, upon a rock-shaft, K^4, which extends from front to rear of the machine. At its forward end said rock-shaft K^4 is provided with a depending arm, k', to the lower end of which is connected a horizontal sliding rod, k^5, having a down-turned end, k^7, which is located in contact with the pivoted knee-swell lever K^5 at the front of the organ, as clearly shown in Fig. 1. When, in a device thus made, the knee-swell K^5 is moved toward the rod k^5, the latter will be thrust endwise, with the effect of carrying the lever K^3 against the lever K′, and thereby depressing the outer end of both levers K′ K′, so as to open all of the several stop-valves at once.

The device for actuating the stop-valve shown in Figs. 5 and 6 is for several reasons preferred to that shown in Figs. 3 and 4, and the particular features of construction shown in Figs. 5 and 6 are therefore specifically claimed as part of my invention. As illustrated in said Figs. 5 and 6, L L′ are two vertical metal rods mounted to slide at their upper ends in suitable guides in a cross-piece, B^2, attached to the panel B and frame-piece B′, and at their lower ends in a similar cross-piece, B^3, attached to said parts B and B′, adjacent to the frame-piece A^6. The stops b b' b^2 b^3 are in this instance attached to stop-draws b^4 b^5 b^6 b^7, having bearings in the vertical frame-pieces B B′, in the same manner as before described.

The rods L L′ are located at one side of the said stop-draws, and the rod L is bent to form two horizontal parts, l l', extending over the upper surface of the stop draws b^4 and b^5, respectively, while the rod L is provided with two similar horizontal parts, l^2 l^3, extending over the stop-draws b^6 and b^7. Said stop-draws are provided at their upper surfaces with vertical flanges or wings l^4 l^5 l^6 l^7, which flanges or wings are provided with beveled or inclined ends arranged to engage the parts l l' l^2 l^3 of the rods when the stops are drawn out in such manner as to lift the said rods. The rod L at its lower end is extended to a point beneath the frame-piece A^6, and is connected by means of a pivoted connecting-rod, l^8, with the arm f' of the stop-valve F′. It follows from this construction that when either of the said rods L L′ is lifted the stop-valve attached thereto will be opened. The rod L is obviously adapted for engagement with the wings l^4 l^5 of two of the stop-draws b^4 b^5; but the wing of one of the stop-draws is so shaped, as shown, as to lift the rod a much shorter distance than the said rod is lifted by the wing belonging to the other stop-draw. It follows that the stop-valve actuated by the said rod L will be opened to a different extent by moving the stop b and b', with the result of producing different tones, in the same manner before described. The wings l^6 l^7 of the stop-draws b^6 b' are similarly made to lift the rod L′ to different heights with the same result, as above stated.

Means are provided in the device shown in said Figs. 5 and 6 for actuating all of the stop-valves at one time from a knee-swell, the devices for this purpose being made as follows: The vertical rods L L′, at a point beneath the lower guide-piece, B^3, are provided with two right-angled bends forming horizontal parts l^{11} l^{12}. M is a horizontal rock-shaft mounted in bearings m m, which are located in a plane somewhat above the horizontal parts l^{11} l^{12} of the rods L L′. Said rock shaft is provided with a crank arm or arms, M′, connected with a crank-pin, m', which is extended beneath and adapted to engage the said horizontal parts l^{11} l^{12} of the rods L L′ in such manner that when the rock-shaft is turned about its axis the rods L and L′ will both be lifted together. It follows that by partially rotating said rock-shaft both stop-valves F F′ will be opened at once. To the rock-shaft M is attached a rigid arm, M^2, which is bent, in the manner shown, to extend to a point to the rear of the boards F^2. Rock-shafts M and coacting parts are arranged in the same manner at both ends of the organ, the rock-shafts being so located, however, that they will both lift the rods L and L′ adjacent thereto when they are turned in the same direction—that is to say, when both are turned to the left or to the right. For actuating both rock-shafts at the same time, the arms M^2 M^2 thereof, Fig. 6, are connected at their free ends with a horizontal bar or rod, N, extending lengthwise of the casing and supported, as shown, by means of guides n n, upon a board, K^2, similar to the one shown in Figs. 3 and 4. A spring, N′, is shown as attached to the middle part of the rod N and to the board K^2, for the purpose of holding both of the crank-arms M^2 M^2 in position to retain the crank-pins m' m' free from the rods L L′, so that said rods may usually be operated by the stops independently of the grand-organ swell devices. To the middle part of the rod N is connected, also, a rod, n', which is arranged horizontally and extends to a point near one end of the casing, where it is pivoted to an arm, n^2, of a rock-shaft, N^2. This rock-shaft is arranged horizontally and extends to a point near the front wall of the casing, where it is provided with a depending arm, n^3. Said arm n^3 has sliding connection with a longitudinally-movable horizontal rod, N^3, which

latter extends toward the middle of the casing and is provided with a downturned end, n^4, engaging a knee swell—such, for instance, as is shown at K^5 in Fig. 1. When the said knee-lever is moved, the rock-shafts M M will be turned so as to lift all of the rods L L′ at once, and thereby actuate all of the stop-valves at the same time, in a manner readily understood. The wooden blocks m^2, shown upon the ends of the levers M^2, and the similar block, n^5, attached to the middle of the rod N, constitute familiar devices for detachably connecting metal rods or wires to each other in an organ mechanism, and embody no novel features of construction.

We have shown in the particular organ-casing illustrated a music-rack, O, which is attached to a sliding support, so that said music-rack may be thrust into the casing, out of the way of a person using the said casing as a desk. Said rack is shown as provided at its lower end with a hinged flap, o^2.

O′ is a sliding bar arranged to fit in a space or opening beneath the horizontal top board, a^4, of the casing and between said board and horizontal guide-pieces *o o*, fixed beneath the latter. The rack O is hinged at its upper end, at *o′*, to the front margin of the sliding piece or strip O′, so that when the latter is drawn outwardly from beneath the top board, a^4, until its front edge projects beyond the front face of the finishing-piece A^7 it may be allowed to fall into an inclined position, its lower part being supported by the front edge of the cylinder-top A^3, or by other part of the casing, as desired.

A construction in which the stops are located above the level of the sliding top and at either side of the casing possesses important advantages in an organ made generally in the manner shown, and a casing provided with a sliding top, and in which the stops are thus located, is therefore herein claimed without restriction to any particular features of construction in the upper part or hood of the desk. It is obvious, for instance, that the heavy upper part or hood present in the desk shown may be omitted and a light ornamental structure containing shelves or pigeon-holes, or without such shelves or pigeon-holes, may be employed to sustain or surround the panels B B and the stops therein.

Certain features of construction above described in the organ mechanism are themselves new, and are herein claimed independently of the construction of the exterior part or casing of the organ. As far as the claims referring to the organ-casing made of such shape as to form a desk are concerned, the general advantages obtained by such construction are obvious, it being clearly a matter of great convenience to have facilities for writing and for the storage of papers, account-books, and other similar matters in a room or apartment without having a special piece of furniture for this purpose. It would be noted in this connection that ample desk facilities are afforded by the construction shown in the organ-case without in any way interfering with the space required for and the economical arrangement of the parts composing the organ mechanism. In fact, an organ-casing contains a greater part of the wood-work required in a desk, and it follows that only a slight change in the form of such casing is necessary to produce a desk, so that a combined organ and desk may be made at only a little greater expense than is usually involved in the construction of an organ-casing alone.

We claim as our invention—

1. The combination, with the casing and the keys of an organ, of a rigid horizontal sliding top located over and adapted to cover the keys and to form a desk-top when drawn forward, and a separate vertically-sliding panel at the front of the case, adapted to be lifted for closing the space in front of the keys and beneath the sliding top when the latter is in its forward position, and to be lowered to expose the keys when the top is thrust backward, substantially as described.

2. The combination, with an organ mechanism embracing keys and stop-valves, of a casing provided with a horizontal sliding top adapted to be drawn forward over the keys and thrust backwardly to uncover the said keys, a series of organ-stops located in the casing above the level of the sliding top at either side of the same, and operative connections joining the said stops with the stop-valves, substantially as described.

3. The combination, with an organ mechanism, of a casing provided with a horizontal top, the front part of which is adapted to be opened and closed for uncovering the keys of the organ, a shallow chamber, A^5, located in the top part of the casing beneath the said horizontal top and containing the main operative parts of the organ mechanism, receptacles A^3 A^3, occupying the side portions of the casing beneath the said chamber A^5, and a central chamber, A^4, containing the bellows of the organ, substantially as described.

4. The combination, with an organ mechanism embracing keys and stop valves, of a casing having a flat horizontal sliding top, a shallow chamber, A^5, containing the main parts of the organ mechanism, located beneath said horizontal top, a hood located above the level of the horizontal top, a series of stops supported in the hood above and at either side of the horizontal top, and connecting devices between the said stops and the stop-valves, substantially as described.

5. The combination, with a casing provided with a horizontally-movable or sliding top, of an organ mechanism embracing stop-valves located beneath said sliding top, a series of stops located one above another at one side of and above the level of said sliding top, and vertical connections extending from the said stops downwardly to the stop-valves.

6. The combination, with the stop-valves of an organ, of a vertical sliding rod or wire, as

L, connected with the stop-valve and provided with transverse parts or surfaces, as $l\,l'$, formed by a series of reversed right-angled bends in the wire, and stop-draws located one above another and provided with inclined edges or surfaces engaging said transverse parts or surfaces of the rod, substantially as described.

7. The combination, with the stop-valve of an organ, of a vertical sliding rod or wire, as L, connected with said stop-valve and provided with two or more transverse parts or surfaces, $l\,l'$, formed by a series of reversed right-angled bends in the wire, and stop-draws located one above another and provided with inclined parts or surfaces acting upon said transverse parts $l\,l'$ of the rod, one of said parts or inclined surfaces being constructed to move the rod a greater distance than the other one, substantially as described.

8. The combination, with the stop-valves of an organ, of two or more vertical sliding rods, L L', provided with a series of right-angled bends forming transverse parts $l\ l'\ l^2\ l^3\ l^{11}\ l^{12}$, connected with and actuating the said stop-valves, stops acting upon the parts $l\,l'\,l^2\,l^3$ of said rods, a rock-shaft provided with a crank-arm engaging transverse parts $l^{11}\ l^{12}$ of said rods for moving both of them at once, and means connected with and actuating said rock-shaft, substantially as described.

9. The combination, with the stop-valves of an organ and a series of stops located one above another above the level of the stop-valves, of two or more vertical sliding rods, as L L', connected with said stop-valves and provided with transverse parts or surfaces, as $l^{11}\ l^{12}$, a rock-shaft provided with a crank-arm engaging the said transverse parts or surfaces of the rods, and means for actuating said rock-shaft, substantially as described.

10. The combination, with an organ frame or casing and stop-valves, of two or more vertical rods, as L L', located at each end of the organ for actuating the said rods, said rods being provided with transverse parts or surfaces, as $l^{11}\ l^{12}$, stops connected with and actuating said rods, rock-shafts provided with crank-arms engaging the transverse parts of said rods, a rod, N, connected with and actuating both rock-shafts, and a knee-lever connected with and actuating said rod N, substantially as described.

11. The combination, with an organ-casing provided with a horizontally-sliding top located over the keys and with a vertically-sliding panel located at the front of the keys, beneath and adjacent to the said top for closing the space at the front of the keys, of means connecting the said top and panel, whereby the latter will be raised to close the casing when the top is drawn forward and lowered to open the casing when the top is thrust back, substantially as described.

12. The combination, with the organ-casing, the sliding top A', and sliding panel A^8, of a lever pivoted to the casing and engaged with the sliding panel, and pins or projections upon the sliding top engaging said lever, substantially as described.

13. The combination, with the organ-casing provided with a horizontal sliding top and an organ mechanism located beneath the top, of a stationary wall or panel, a^{10}, located beneath the said sliding top, substantially as described.

14. The combination, with an organ-casing provided with a top or hood, A^2, of a music-rack, O, and a horizontally-sliding support, O', hinged to the rack and fitted to slide in a recess in the upper part of said hood, substantially as described.

15. The combination, with an organ mechanism, of a casing therefor consisting of a main part or body provided with a sliding top, A', and with a hood, A^2, above said top, organ-stops located in the said hood, and a cylinder or rolling cover, A^3, located to close the front opening of the hood, substantially as described.

In testimony that we claim the foregoing as our invention we affix our signatures in presence of two witnesses.

OLE E. WICK.
GEORGE C. WICK.

Witnesses:
C. CLARENCE POOLE,
CHARLES T. LORING.