No. 670,551. Patented Mar. 26, 1901.

P. P. BILHORN.

PORTABLE ORGAN.

(Application filed May 26, 1900.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

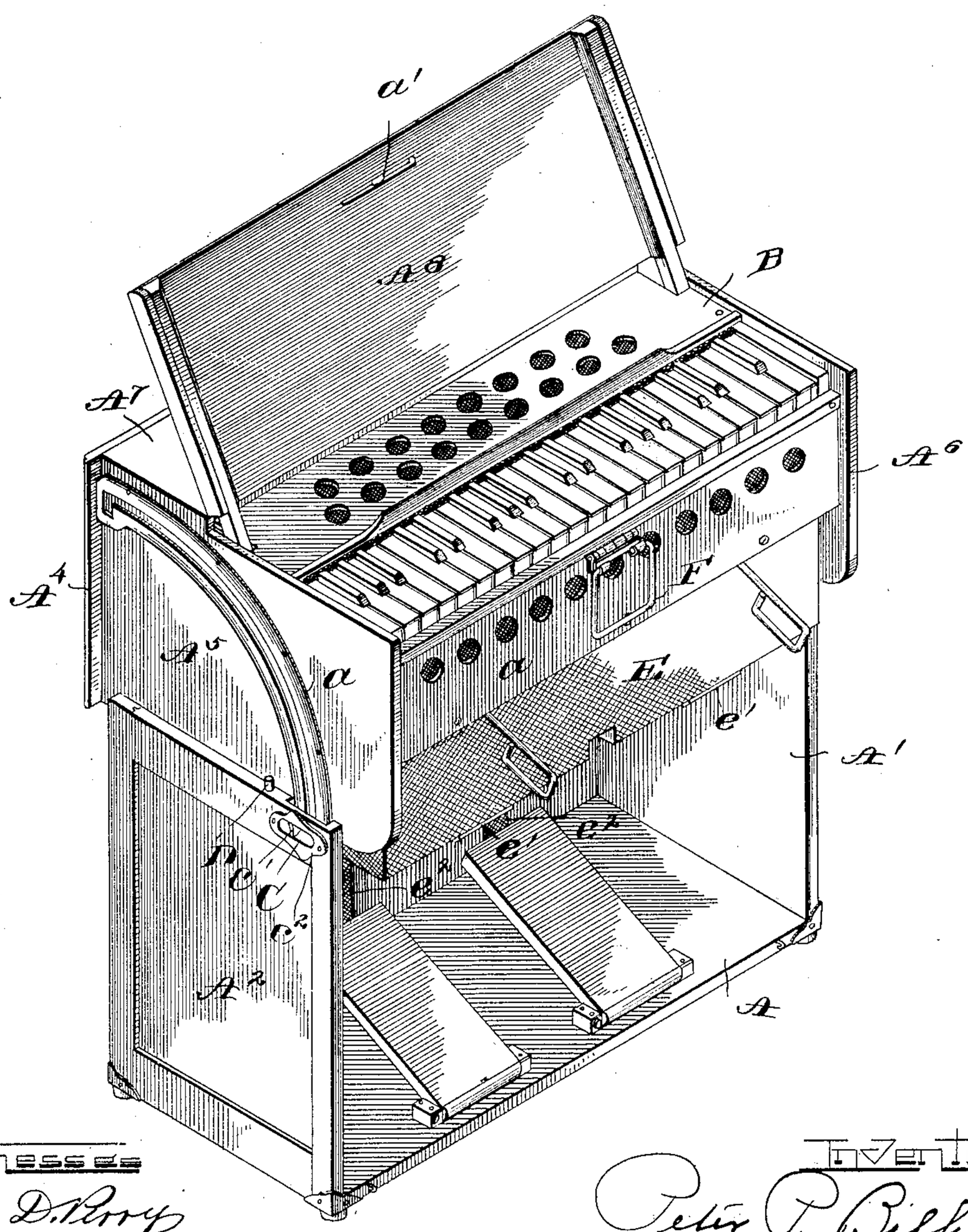

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Fig. 2.

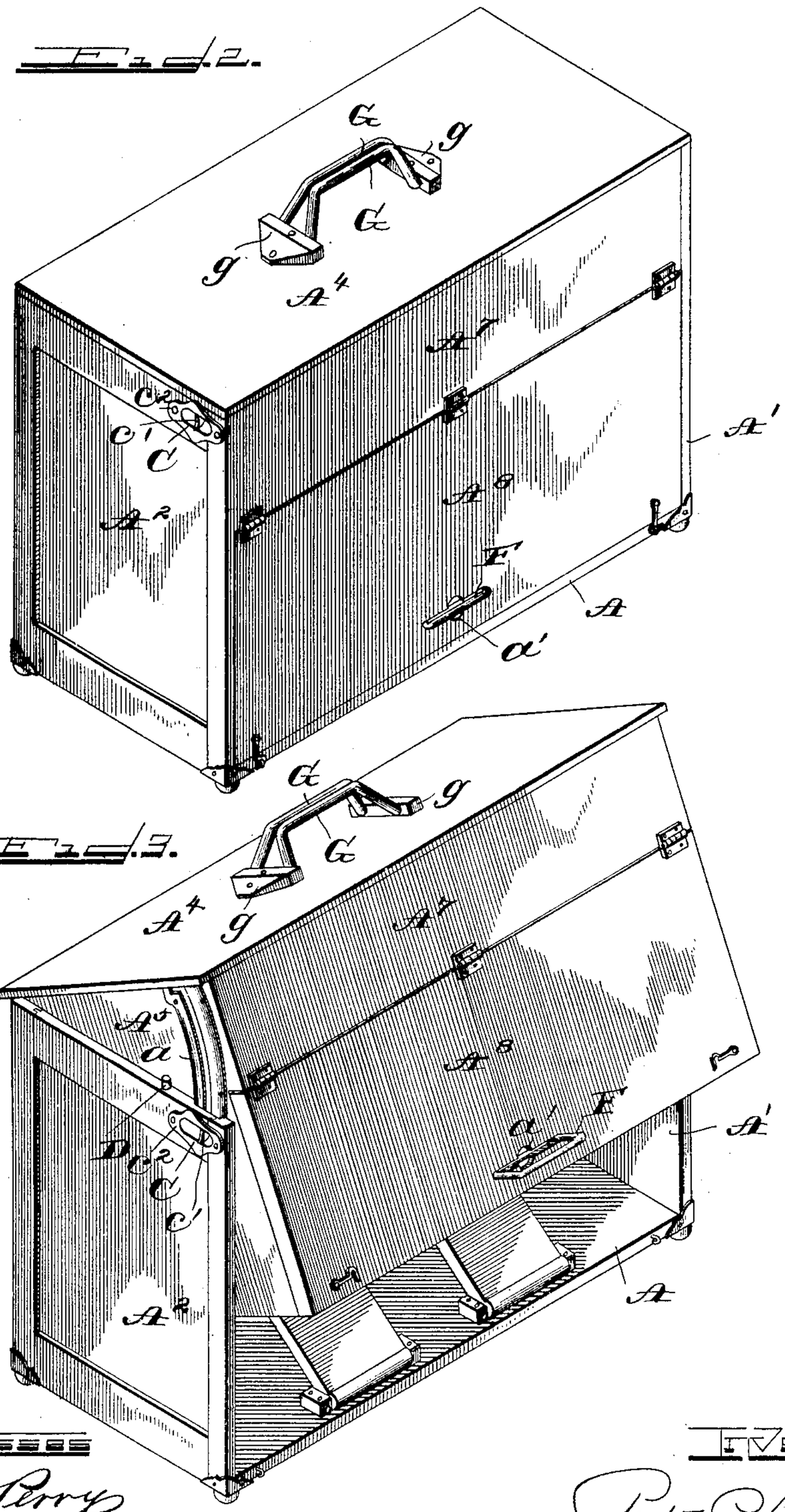

Fig. 3.

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Fig. 4.

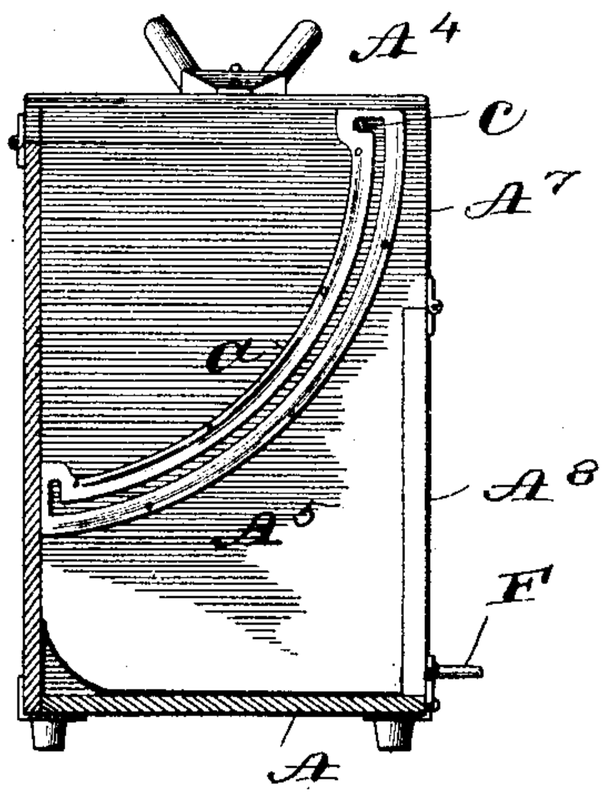


Fig. 9.

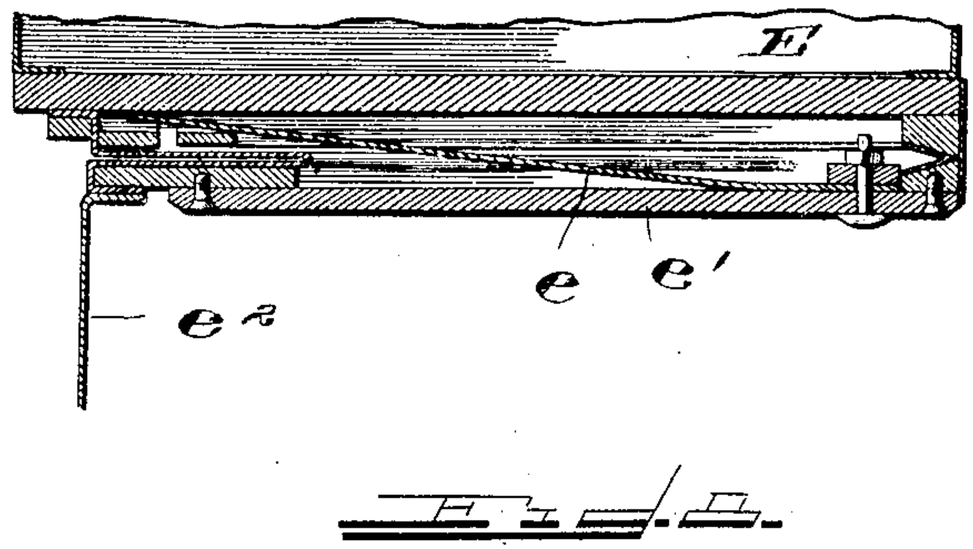


Fig. 5.

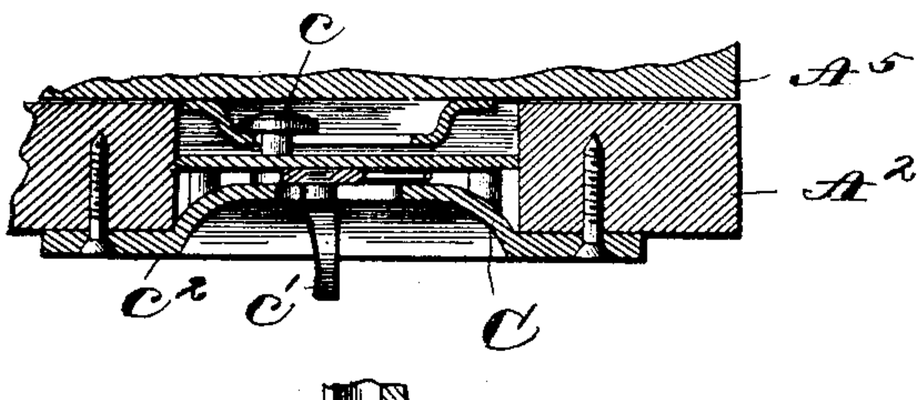


Fig. 8.

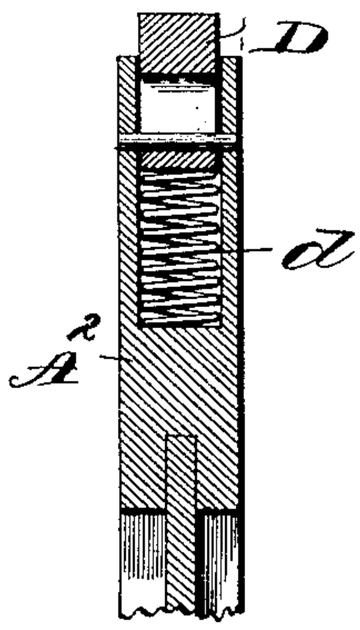


Fig. 6.

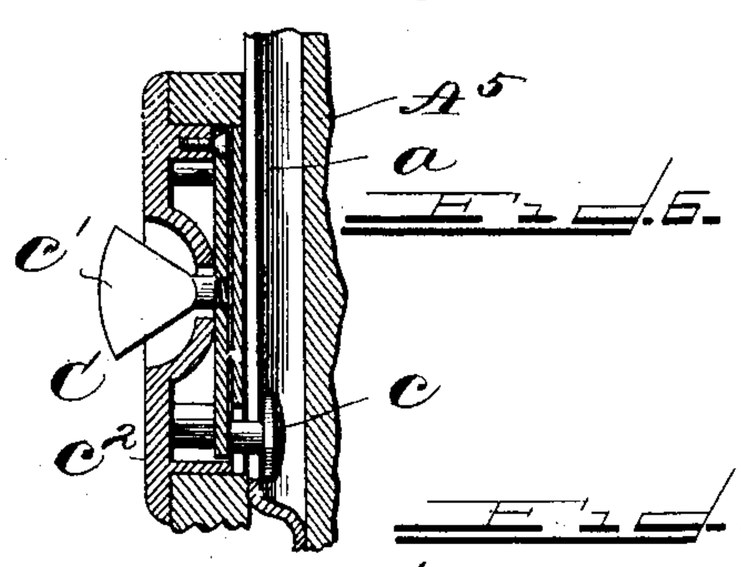


Fig. 10.

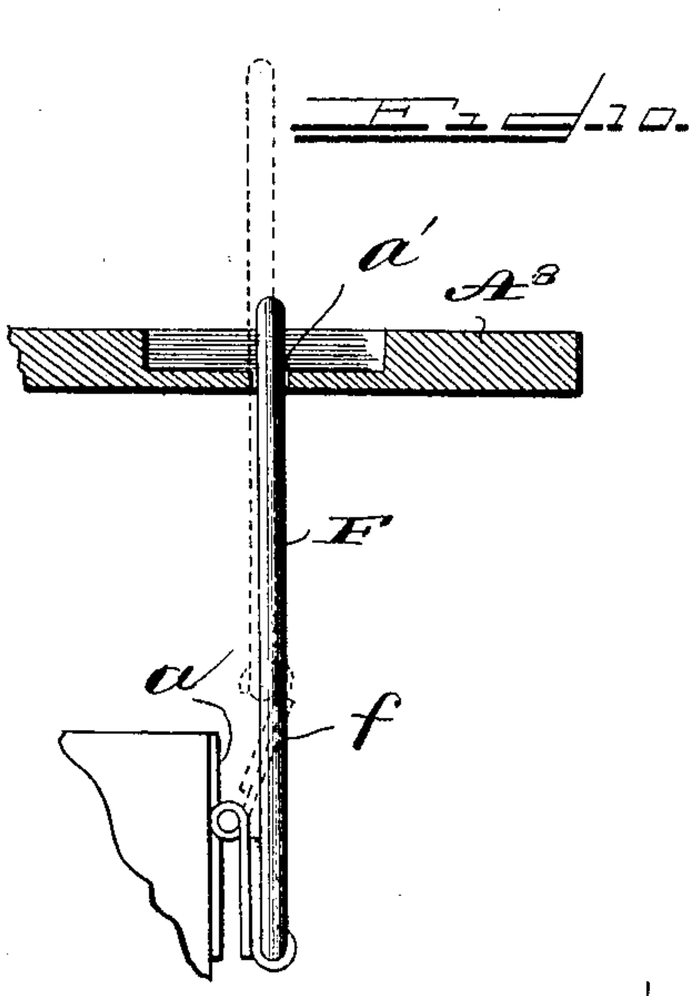
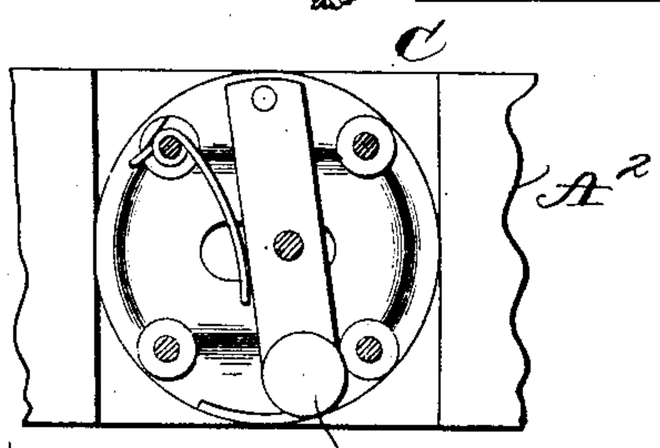


Fig. 7.



Witnesses

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PETER P. BILHORN, OF CHICAGO, ILLINOIS.

PORTABLE ORGAN.

SPECIFICATION forming part of Letters Patent No. 670,551, dated March 26, 1901.

Application filed May 26, 1900. Serial No. 18,056. (No model.)

To all whom it may concern:

Be it known that I, PETER P. BILHORN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Portable Organs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in organs of that class in which the case for the same is adapted to be folded together to form a carrying-case for the organ, the parts of which are so modified in form and in weight as to enable the same to be readily transported from place to place in the hand, as in the case of an ordinary valise.

The object of this invention is to provide a light and strong carrying-case for said organ and to so improve and modify the mechanism of the organ as to enable the same to be folded within said case and to utilize in part the resiliency of the bellows to aid in opening the organ when desired.

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

In the drawings, Figure 1 is a perspective view of an organ embodying my invention, showing the case fully opened. Fig. 2 is a view of the same, showing the case closed and ready for transportation. Fig. 3 is a similar view showing the organ-case partly open. Fig. 4 is a transverse vertical section taken through the lower part of the case and removing the end wall therefrom. Fig. 5 is a horizontal section taken through the lock. Fig. 6 is a central vertical section taken through said lock. Fig. 7 is a rear elevation of the lock with the lock-plate removed. Fig. 8 is a vertical section showing the push-pin in detail. Fig. 9 is a section taken through a part of the bellows for said organ, illustrating the bellows-spring. Fig. 10 is a detail of the handle used in opening and closing the case.

As shown in said drawings, the case for said organ consists of a lower main part and an upper main part, hereinafter called the "upper" and "lower" cases, hinged thereto and adapted when opened to support the organ mechanism in position for playing. Said lower main part comprises a bottom A, end walls A′ A^2, and a rear wall A^3. Said walls are all rectangular and form the bottom ends and one side of a rectangular box or case having greater height than width and, as shown, provided at the lower corners with metallic corner-pieces of aluminium or other light metal designed as stays therefor. Beneath the bottom, as shown, are rubber footpieces adapted to sustain the same from contact with the ground and to take up the jar of contact therewith.

The upper case is hinged at the rear margin of its top to the rear wall A^3 of said lower case and comprises a top wall or cover A^4 and end walls A^5 and A^6, respectively, with a front side wall constructed in two parts, of which the upper member A^7 is rigidly secured to the end walls A^5 and A^6 in any desired manner, and the lower portion thereof A^8 is hinged longitudinally to the lower margin of the part A^7 and is designed when the organ is in use to be turned backwardly and to form a music rack or rest, as indicated in Fig. 1. The combined width of the parts A^7 and A^8 of the front side wall is equal to the width of the back wall A^3, and the same is of such length as to permit it, together with the ends A^5 and A^6, to be folded and fit closely within the lower case, as herein indicated in Figs. 3 and 4. The two parts when closed form a rectangular case having a length and height equal to that of the lower case. The organ mechanism or body (herein indicated by B) is rigidly secured within said upper casing, with a keyboard in such a position that when the case is open and secured in its operative position said keyboard is directed forwardly in the open front side of said instrument. Inasmuch as the entire weight of said instrument is secured in said upper casing the ends thereof A^5 and A^6 are of such a length that when the said casing is closed within the lower casing the top A^4 is supported upon the upper ends of the end walls A′ and A^2, and the lower ends of said end walls A^5 and A^6 extend to and are supported upon the bottom A of said lower case for their entire width.

In a device of this class it is of the utmost importance that the same when in its closed and locked position be rigidly secured from opening during transportation and when in its open or operative position that the parts shall be rigidly sustained in proper relation for use. For this purpose I have provided on the ends A′, A², A⁵, and A⁶ of the upper and lower cases locking mechanisms, whereby the said cases are held rigidly locked in either of their adjusted positions. Said locking mechanisms comprise a segment-shaped track *a*, provided with a central longitudinal groove terminating at each end of the track in radial notches. Said tracks are obliquely secured across said ends of the upper case concentric with the hinge attaching the same to said lower case. Said grooves in said tracks are wider in cross-section on their inner sides. At the upper front corners of the end walls A′ A² are provided lock mechanisms C C, comprising a spring-pressed lever provided with an inwardly-projecting headed stud *c*, adapted to be engaged in the slot or groove in said track and to be normally pressed by said spring against the notched side thereof. Said stud is forced by said spring at either limit of the movement of said upper case into one of said notches in said track, whereby the weight of said upper case and organ mechanism contained therein is supported on said studs from the upper front corners of said lower case when the same is opened. Obviously when the case is closed said studs engage the notches at the opposite end of the track, and thereby serve to hold the same from opening. Said lock is provided with a thumb-piece *c′*, secured centrally of said lever and projecting outwardly through an escutcheon *c*², which, as shown, is provided with a central slotted recess to receive said thumb-piece and of sufficient depth to permit the outer ends of said thumb-piece to terminate approximately flush with the outer side of said end wall. By means of said thumb-piece said lever may be actuated to release said stud *c* from said notches in said track to permit the case when open to be closed, or vice versa. As shown, supplemental locking means are provided on the lower margin of the part A⁸, adapted to engage the bottom board A or either or both of the end walls A A′.

It is desirable in opening the case that means be employed to throw the lower front edge of the upper case and organ-body outwardly from the lower case. For this purpose the spring-actuated push-pins D are bedded in the upper or horizontal edges of the end pieces A′ and A² and adjacent to the said lock mechanisms. The supporting-springs *d* are of sufficient strength to normally hold the top of the case at the front edge of the same slightly elevated. Additional means for inducing this result are provided as follows: The bellows E of the organ are of such width at the front that when the case is closed the lower front edge of the bellows is pressed against the back of the case, tending to compress the same. A specially-devised bellows-spring *e* is provided for the purpose of aiding the same to move outwardly quickly when the case is unlocked, with the effect of pushing the lower front part of said upper case outwardly from the lower main case approximately to the extent indicated in Fig. 3. The spring *e* consists of a flat leaf-spring having one end thereof movably secured to the under side of the top of the bellows, at the rear side thereof, in any desired manner and having the other end thereof secured on the front end or side of the lower bellows-board, on the upper side thereof, by bolting or any desired means. Said fixed end of the bellows-spring will preferably be secured, as indicated, to a cleat *e′*, secured by means of screws or the like on said bellows-board to permit of ready access to said spring in case it is desired to remove or replace the same. *e*² indicates the bellows-strap of familiar form, which leads downwardly to suitable pedals secured to the bottom A of the lower case in a familiar manner. For the purpose of affording means for manually engaging said upper case to move the same to its adjusted position or to permit the same being closed or otherwise manipulated without injury an extensible handle F is provided. Said handle, as shown in Fig. 1, is secured on the front board *a* of the organ, centrally of the same, by means affording a hinged joint and which permits said handle to depend therefrom when the organ is opened. The portion A⁸ of the front wall, or, in other words, that adapted to serve as a music rest or rack, is centrally provided near its free edge with a longitudinal slit *a′*, adapted to receive said handle when said part is closed down over the organ. On the outer side of said part, centrally of said slit, is provided a depression or recess adapted to permit a finger to be inserted to engage said handle and draw it outwardly to the position indicated in Fig. 3. For the purpose of permitting such extension or retraction of said handle the same is pivoted or hinged on the outer end of a leaf *f*, the opposite edge of which is pivoted on said front board *a*, as illustrated in Fig. 10, in which the handle is shown in its retracted position in full lines and is shown in its extended position in dotted lines.

When the organ is folded inwardly into the lower case, the handle is pushed inwardly to its retracted position till the outer side thereof is flush with the outer side of the wall A⁸. Carrying-handles of any desired form may be provided on the said case; but, as shown, and preferably, the same is provided centrally on the top thereof with oppositely-facing cleats *g g*, each provided, as shown on the adjacent faces thereof, with two sockets and two han-

dles G G, each consisting, as shown, of a rod or wire bent to a desired form and having its opposite ends engaged in corresponding sockets in said cleats. Said rods or wires, as shown, are covered with rubber, a section of rubber tubing being slipped over the same to provide a soft and yielding surface for engagement with the hand. Obviously said handles may be moved inwardly to the position indicated in Fig. 2 when one person desires to carry said organ unassisted, or if two desire to carry the same between them the handles may assume the position shown in Fig. 4.

Obviously certain details of construction may be modified from the forms herein illustrated or locking devices different from the ones herein shown may be employed without departing from the spirit of my invention.

I claim as my invention—

1. In a device of the class described, a lower casing rectangular in form, consisting of rectangular bottom, end and rear walls rigidly secured together, a rectangular upper casing, comprising rectangular top, end and front walls of such length and width as to fold within said lower casing, the rear edge of said top wall of the upper casing being hinged to the upper edge of the back wall, said upper casing having rigidly secured therein the mechanism of an organ or the like, said organ mechanism being held in operative position when said upper case is swung to its open position, a part of said front wall being adapted for use as a music-rest and means for locking said upper case when in its open position, comprising a segment-shaped track secured on the ends of said upper case concentric with the hinge thereof and a lock on one of said lower end walls adapted to engage in said track.

2. In a device of the class described, a folding organ-case comprising a lower casing provided with bottom, end and rear walls and having greater height than width, an upper casing provided with a rectangular top, end and two-part front walls and similar to and adapted to be hinged at the rear margin of its top wall to the upper margin of the rear wall and to fold within or between the end walls of said lower casing, one of the parts of the front wall thereof being hinged centrally to the other and adapted when the organ-case is open to be turned backwardly to form a music-rest, means for locking said upper casing with respect to the lower in either its closed or its open position, comprising a segment-shaped track, provided with a longitudinal groove having notches at each end and secured on each end of said upper case concentric with the hinge thereof, a spring-actuated lock secured on the end walls of the lower case and provided with a headed stud adapted to be engaged in said track and to engage one of said notches when the case is in its open or its closed positions, and an organ mechanism rigidly secured in said upper case and adapted to be in operative position when the same is locked in its open position.

3. In a device of the class described, a folding organ-case comprising two rectangular half-cases hinged along their upper meeting edges and one adapted to close within the other with the top wall of the upper half-case resting on the end walls of the lower half-case and the end walls of the upper half-case resting on the bottom of the lower half-case, the front wall of said upper half-case being in two parts one of which is hinged and depends from the other and is adapted to be turned upwardly to form a book-rest when the organ-case is open, an organ mechanism or the like rigidly secured in said upper half-case and adapted to be in operative position when the organ-case is open, a handle secured on a part of said organ mechanism, and adapted to be projected through a slot near the lower margin of said hinged part of the front wall, means for locking said case in its open or closed position comprising a segment-shaped track provided with a longitudinal groove having notches at each end thereof and rigidly secured on the end walls of one of said half-cases, concentric with the hinges thereof, and a lock secured on the end walls of the other half-case said lock comprising a spring-actuated stud engaged in said track and adapted to be forced into one of said notches by the action of said spring, when the organ-case is closed or fully opened.

4. A portable organ or the like, comprising a lower and an upper rectangular half-case relatively narrow with respect to their height said half-cases being hinged along their upper longitudinal meeting edges, the front wall of the upper half-case being in two parts, one of which is hinged to the other and adapted to be turned backwardly to form a music-rest, an organ mechanism rigidly secured in said upper half-case, means for locking said upper half-case with respect to the lower when either in its closed or open position, a handle secured to a part of said organ-body and adapted to be projected through a slot in the lower margin of the front wall for manual engagement and means for starting the outward movement of said upper half-case with respect to the lower when the locking mechanism is released therefrom, comprising spring-pressed push-pins inserted in the upper horizontal margin of the end walls of the lower case, and a resilient part of said organ mechanism engaging the rear wall of the lower case and acting to force said organ mechanism outwardly with respect to the same.

5. The combination with a rectangular lower half-case of a similar upper half-case hinged to the rear wall of said lower half-case, coacting means on the ends of said half-cases adapted to interlock automatically when the cases are in their closed position and in their open position said means com-

prising a segment-shaped grooved track notched at each end and secured on one of said half-cases and a spring-actuated stud secured on the other half-case and extending into said groove, said stud entering one of said notches at the ends of said groove when the case is in its open position and the other of said notches when in its closed position and means for releasing said studs from said notches.

In witness whereof I have hereunto signed my name in the presence of two witnesses.

PETER P. BILHORN.

In presence of—

C. W. HILLS,

LOUIS J. DELSON.