C. F. KADE.

PIANO BENCH.

APPLICATION FILED NOV. 13, 1918.

1,339,262.

Patented May 4, 1920.

4 SHEETS—SHEET 1.

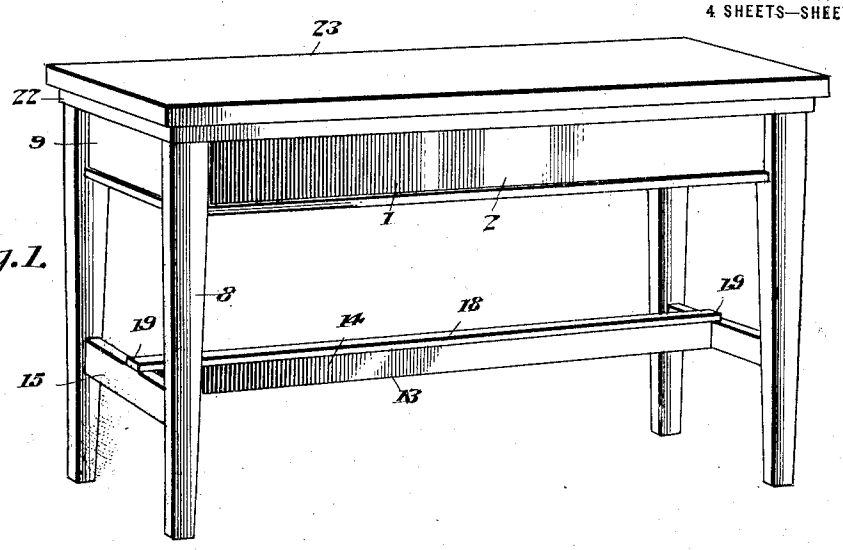


Fig. 1.

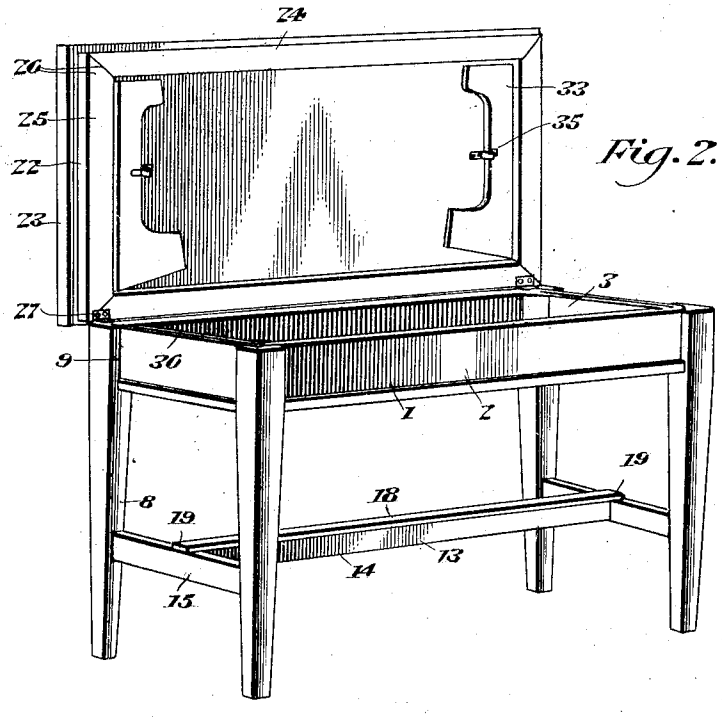


Fig. 2.

Witness

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4 SHEETS—SHEET 2.

Fig. 3.

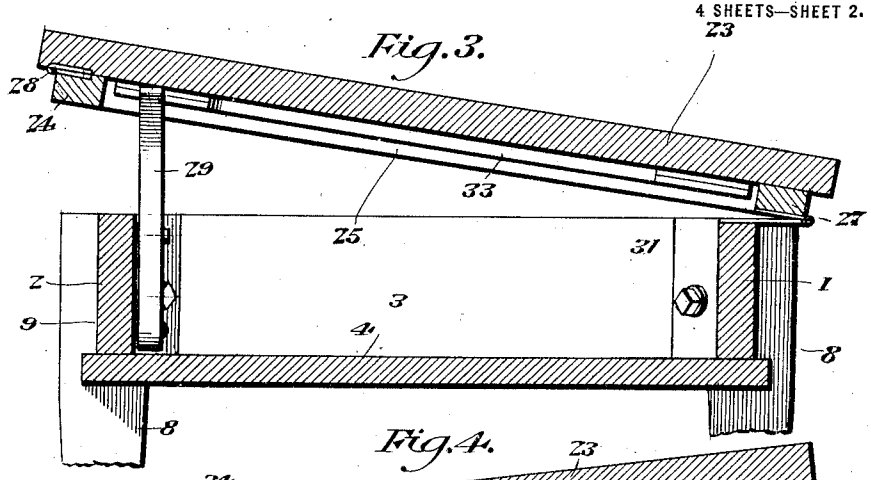


Fig. 4.

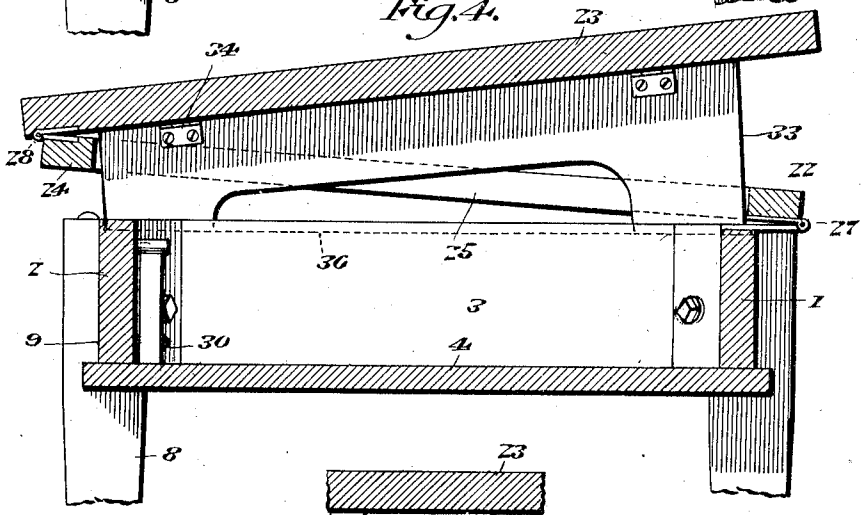
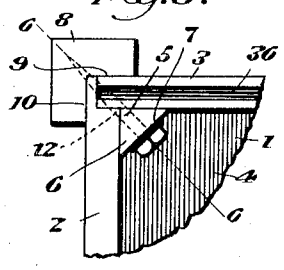


Fig. 5.



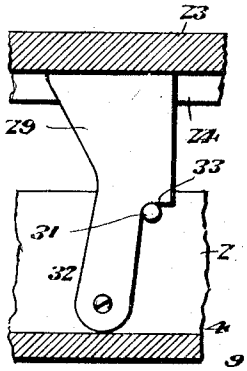
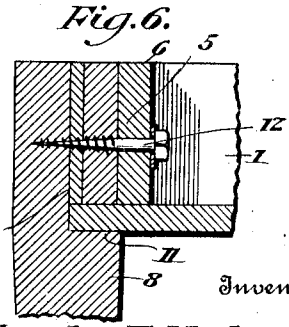


Fig. 12.

Fig. 6.



Witness

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4 SHEETS—SHEET 3.

Fig. 4.a

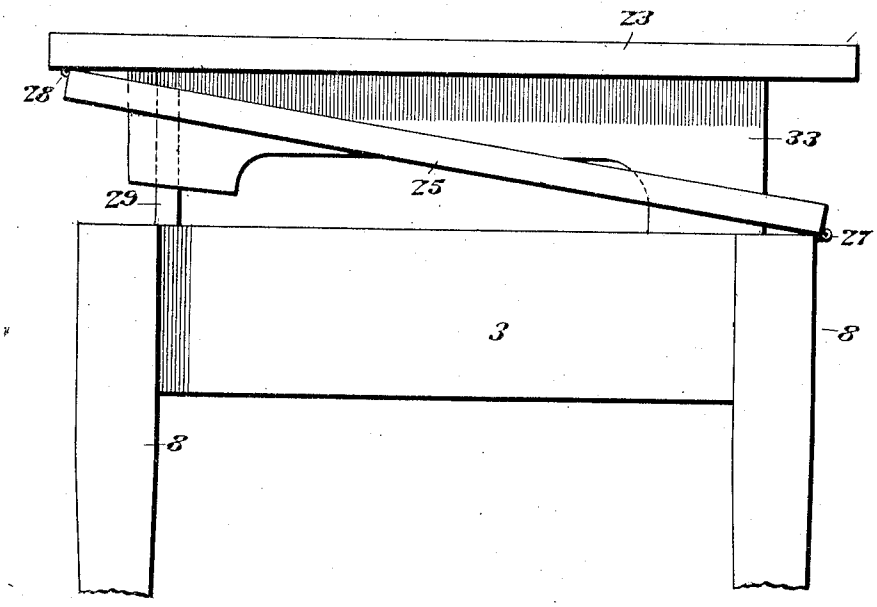
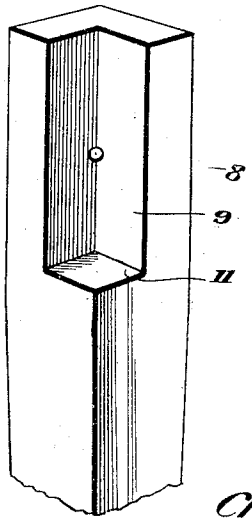


Fig. 13.



Witnesses

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4 SHEETS—SHEET 4.

Fig. 7.

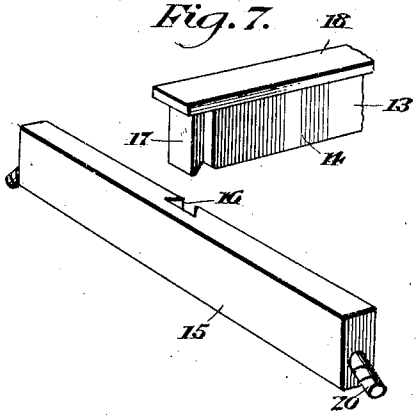


Fig. 8.

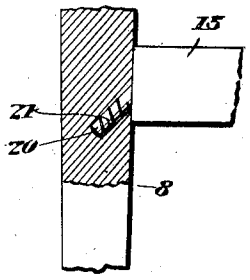


Fig. 9.

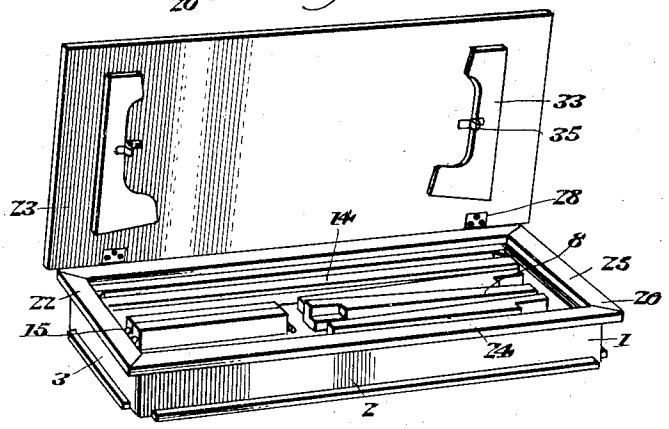


Fig. 10.

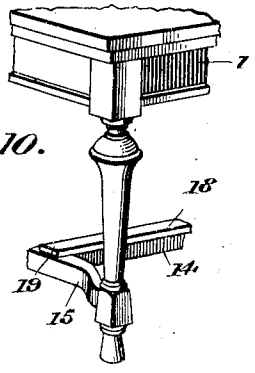
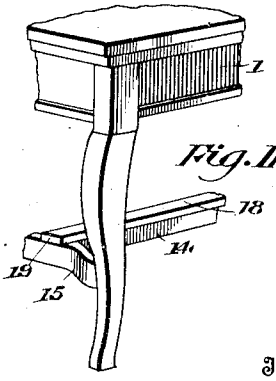


Fig. 11.



Witness

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UNITED STATES PATENT OFFICE.

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PIANO-BENCH.

1,339,262. Specification of Letters Patent. Patented May 4, 1920.

Application filed November 13, 1918. Serial No. 262,405.

To all whom it may concern:

Be it known that I, CHARLES F. KADE, a citizen of the United States, residing at Plymouth, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in Piano-Benches, of which the following is a specification.

This invention relates to improvements in articles of furniture, especially knock down piano benches with interchangeable parts.

One object of the invention is to provide an improved bench which forms a combination piano bench and piano player bench and which embodies in its construction a frame, a lower lid and an upper lid and means to enable the said lower and upper lids to be arranged horizontally to cover the frame or to be arranged with the upper lid in raised horizontal position or to be inclined in one direction to attach the bench for use as a piano bench and also enable the upper lid to be slightly elevated and inclined in the opposite direction to enable the bench to be used as a piano player bench.

Another object of the invention is to provide improved means for supporting the lower and upper lids in raised position.

Another object of the invention is to provide an improved combination piano bench and piano player bench, the frame of which provides a box to receive sheet music, music rolls and the like when the bench is in use and to receive the supporting legs and stretcher when the bench is packed for storage or shipment.

Another object of the invention is to effect improvements in the construction of the frame and the legs whereby the legs are detachably secured to the corners of the frame and whereby the screws or bolts which are employed to detachably secure the legs are relieved of the weight of the frame and of the person seated on the bench, and such weight is imposed directly on the legs.

Another object of the invention is to effect improvements in the construction of the stretcher which connects and braces the legs whereby the stretcher can be detachably secured to the legs and whereby the parts of the stretcher can be detachable from one another.

Another object of the invention is to provide an improved article of furniture of this kind embodying interchangeable legs of different designs so that legs of any desired design can be used in connection with the frame.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings:

Figure 1 is a perspective view of a piano bench constructed and arranged in accordance with my invention, and showing the same closed.

Fig. 2 is a similar view of the same showing the lower and upper lids raised and the supports of the upper lid folded inwardly thereon and secured thereto.

Fig. 3 is a vertical sectional view of the same with the lower and upper lids partly raised and inclined in the same direction to adapt the bench for use as a piano player bench.

Fig. 4 is a vertical transverse sectional view of the same showing the lower and upper lids partly raised and inclined in opposite directions to adapt the bench for use as a piano player bench.

Fig. 4ª is a similar view showing the lower and upper lids raised, to position the lower lid in inclined relation and the upper lid in raised horizontal relation.

Fig. 5 is a detail plan of one corner of the box frame and one supporting leg.

Fig. 6 is a detail vertical sectional view of the same on the plane indicated by the line 6—6 of Fig. 5.

Fig. 7 is a detail sectional perspective view of the stretcher.

Fig. 8 is a detail sectional view of one of the cross bars of the stretcher and of one of the legs and showing the joint between them.

Fig. 9 is a perspective view of the bench showing the legs and stretcher packed in the box frame thereof and the upper lid raised and also showing a supporting link to hold the upper lid in raised position.

Fig. 10 is a detail perspective view of one corner of a bench provided with legs and stretcher of a different design.

Fig. 11 is a similar view of the same with legs and stretcher of another design.

Fig. 12 shows one of the props in use.

Fig. 13 is an enlarged perspective showing the manner in which the upper corner of each leg is routed to receive a corner of the box or frame.

My invention is here shown as embodied in a piano bench which may be used either for piano playing or for a player piano. The frame 1 of the bench forms a box for the reception of sheet music, music rolls or the like, when the bench is in use and also for the reception of the legs and leg brace or stretcher when the bench is disassembled and is packed for storage or shipment. Said frame or box comprises front and rear rails 2, end rails 3 and a bottom 4. The side and end rails are joined together at the corners, as at 5, and in each corner and in the angle between the side and end rails is secured a block 6 which is triangular in plan so that its inner surface, which is exposed, is arranged diagonally, as at 7.

Each leg 8 is provided on the inner side and at the upper end with a vertical recess 9 the sides 10 of which are at right angles to each other so that said recess is adapted to receive one corner of the frame.

The corner of the frame also bears firmly on the bottom 11 of the recess. The depth of the recess is such that the corner is arranged substantially in the center of the leg and each leg is detachably secured in place by a screw 12 which is arranged diagonally and passes through the block and the corner joints and enters the leg, as shown. Hence, the legs are securely and detachably fastened to the corners of the frame and owing to the fact that the corners of the frame enter the recesses in the legs and bear on the bottoms of the recesses the screws are entirely relieved of the weight of the frame or box.

The legs are secured together and braced by a stretcher 13 which comprises a longitudinal bar 14 and cross bars 15 which are arranged at the ends of said bar 14. Each cross bar is provided on its inner side at the center with a vertical dovetail groove 16 and the bar 14 is provided at each end with a vertical dovetail tongue 17, said tongues fitting in said grooves and the cross bars being thereby detachably secured to the bar 14. Said bar 14 is provided on the upper side with a trim rail 18 which projects from the sides thereof and also from the ends thereof, the projecting ends 19 of the trim rail covering the joints between the bar 14 and the cross bars 15 and supporting the bar 14 in place. Hence, the stretcher members 14, 15 are detachably secured together and the stretcher members, as well as the legs, can be packed in the box frame 1 to greatly reduce the size of the piano bench for shipment and enable a great economy to be effected in freight charges, as will be understood. The cross bars 15 are provided at the ends with outwardly extending downwardly inclined dowels 20 and the legs are each provided with an inclined opening 21 to receive one of the dowels. Hence, the cross bars are detachably secured to the legs. When the bench is set up and it is desired to permanently secure the legs and stretcher, a small quantity of glue can be used in the joints between the bar 14 and cross bars 15 and also on the dowels 20 to glue such parts together and as will be understood.

In practice, the legs may be made of a variety of patterns, and legs of any pattern or design used in connection with the box frame, as shown in Figs. 10 and 11 and the stretcher may also be made in a variety of patterns or designs, especially as to its cross bars so that the manufacturer of the piano bench may meet the demand of benches for various designs by employing the box frames of one design in connection with legs and stretchers of a variety of designs.

The box frame of the bench is provided with a lower lid 22 and an upper lid 23, the said upper lid forming the seat of the bench. The lower lid is here shown as an open oblong rectangular frame comprising side rails 24 and end rails 25 which are jointed together at the corners of said lid as at 26. Within the scope of the appended claims, however, the lower lid may be modified in construction. The lower lid has one side connected to one side of the box frame by means of hinges 27 which enable the lower lid to be raised and to be inclined in one direction. The upper lid is connected to the opposite side of the lower lid by hinges 28 which enable the upper lid to be closed down upon the lower lid or to be entirely or partly raised therefrom and to be inclined in the opposite direction from the lower lid as well as rest in a raised horizontal position above the inclined lower lid, Fig. 4[a]. To support the lower and upper lids when they are both inclined in one position, as shown in Fig. 3, and the bench is for use as a piano bench, I provide props 29 which are arranged on the inner side of the box frame at the side to or remote from the hinges 27 and are secured to said side by pivot screws 30 which enable said props to be turned down into the box frame, out of the way, or to be raised for use. When raised, the props bear on pins 31 with which said side or front or rear rail is provided, the props having inclined lower portions 32 and shoulders 33, said shoulders bearing on said pins and the latter being arranged out of line vertically, with respect to the pivot screws. Hence, the props, when raised, are firmly supported and extend upwardly through the opening formed in the lower lid and bear directly under the bottom of the upper lid.

To enable the upper lid to be supported in an inclined position above and opposite the inclined lower lid, when the bench is for use for a player piano as shown in Fig. 4, I provide a pair of supports 33 which are hinged to the under side of the upper lid, as

at 34, and are arranged transversely with respect to the upper lid and near the ends thereof. These supports may be folded against the bottom of the upper lid and held in such position by spring catches 35 when not in use. When in use, the legs 35 formed at the ends of said supports engage in grooves 36 in the upper edges of the end rails 3 of the box frame so that said supports are securely held against slipping and are enabled to firmly and securely hold the upper lid in the desired inclined and elevated position. To enable the upper lid to be supported in a raised horizontal position, above the inclined lower lid, I make use of the supports 33 and the props 29, as shown in Fig. 4[a]; the longer legs only of the supports 33 bearing in the grooves in the end rails of the box frame, and the props 29 being positioned as shown in said figure under and in engagement with the lid 23. When the props and supports are folded the lower lid closes directly on the upper side of the box frame and the upper lid closes directly on the top of the lower lid, both of said lids being thus arranged horizontally, and serving to close the top of the box frame, as shown in Fig. 1. It will be noted from the foregoing that my improvement is possessed of such capacity that either one lid or both lids may be raised at once; also, that the upper lid is susceptible of being placed in four different positions; the upper lid being inclined in two of said positions and horizontal in the other positions.

While I have herein shown and described my invention as embodying a piano bench, I would have it understood that other articles of furniture may be constructed in accordance with my invention.

I also wish to have it understood that modifications may be made in the form, proportion and construction of the several parts without departing from the spirit of my invention and within the scope of the appended claims.

Having thus described my invention, I claim:

1. An article of furniture of the class described comprising a frame having a lower lid hinged to one side thereof and an upper lid hinged to the opposite side of the lower lid and also having means to support said lids in oppositely inclined positions.

2. An article of furniture of the class described comprising a frame, a lower lid hinged at one side to one side of the frame and adapted to be raised and inclined, an upper lid hinged to the opposite side of the lower lid and adapted to be raised and oppositely inclined with respect to the lower lid, props pivotally mounted in the frame and arranged, when raised, to bear under the upper lid, and supports arranged on the lower side of the upper lid and hingedly connected thereto, said lower lid having an opening through which the said props and supports can pass and said supports being arranged to bear on the frame when in supporting position for the upper lid.

3. An article of furniture of the class described comprising a frame, a lower lid hinged at one side to one side of the frame and adapted to be raised and inclined, an upper lid hinged to the opposite side of the lower lid and adapted to be raised and oppositely inclined with respect to the lower lid, props pivotally mounted in the frame and arranged, when raised, to bear under the upper lid, and supports arranged on the lower side of the upper lid and hingedly connected thereto, said lower lid having an opening through which the said props and supports can pass and said supports being arranged to bear on the end members of the frame and said end members of the frame having grooves to receive the lower sides of said supports.

4. An article of furniture of the class described, comprising a frame, a lower open-frame-like lid, hinged at one side to one side of the frame, an upper lid hinged to the opposite side of the lower lid and adapted to be raised and inclined oppositely to the lower lid, and supporting means complementary to the upper lid and arranged to work through the opening in the lower lid and support the upper lid on and in spaced relation to the frame.

5. An article of furniture of the class described, comprising a frame, a lower open-frame-like lid, hinged at one side to one side of the frame, an upper lid hinged to the opposite side of the lower lid and adapted to be raised and inclined oppositely to the lower lid, and supporting means complementary to the upper lid and arranged to work through the opening in the lower side and support the upper lid on and in spaced relation to the frame; a portion of such supporting means being capable of being employed while the remainder thereof is idle, and the supporting means as a whole being constructed and arranged for the maintenance of the upper lid in two raised inclined positions and one raised horizontal position.

In testimony whereof I affix my signature.

CHARLES F. KADE.