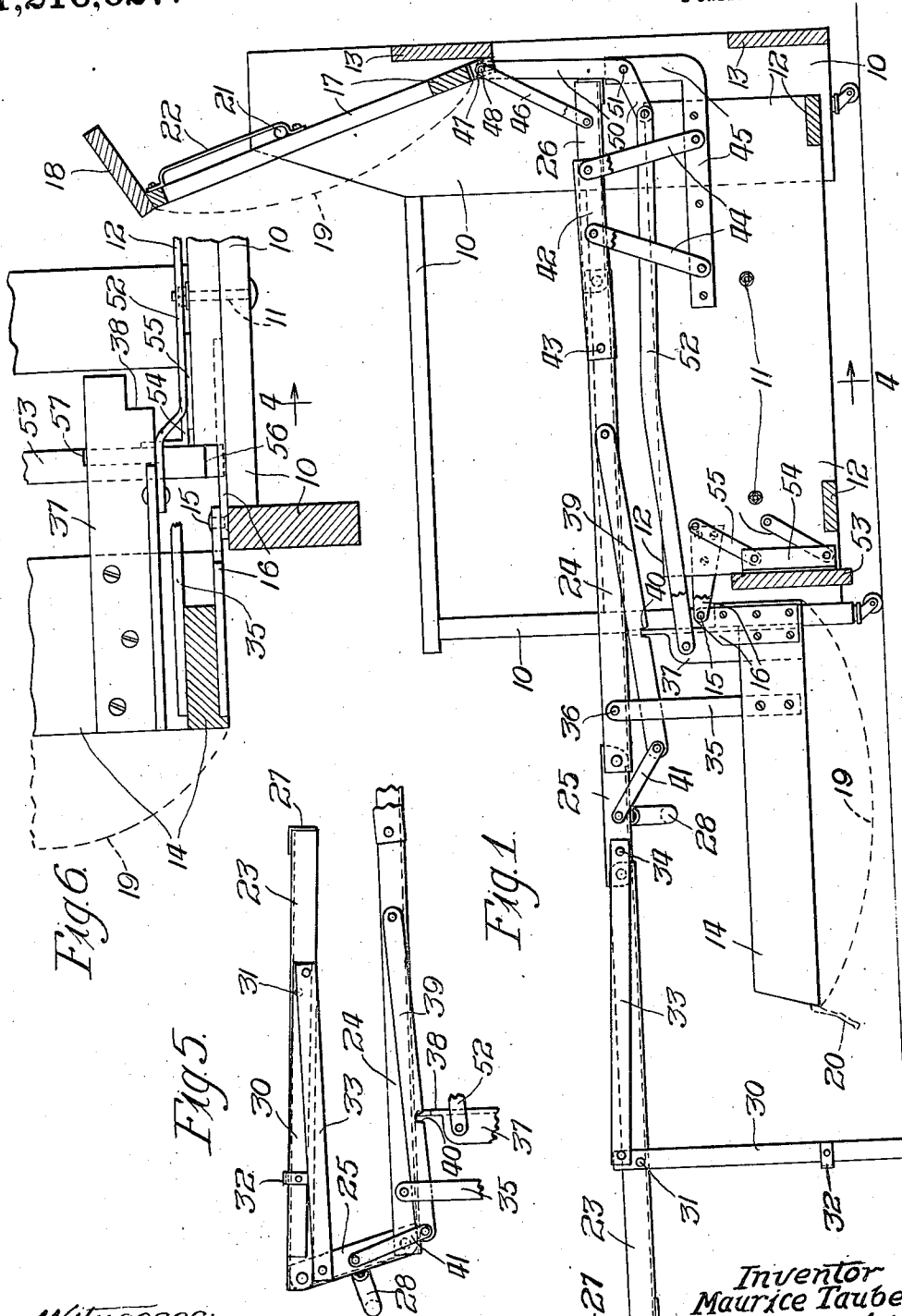


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M. TAUBER.
FOLDING DAVENPORT OR COUCH.
APPLICATION FILED JAN. 20, 1915.

Patented Feb. 20, 1917.
2 SHEETS—SHEET 1.



Witnesses:
Y. C. Higham.
Paul Parker

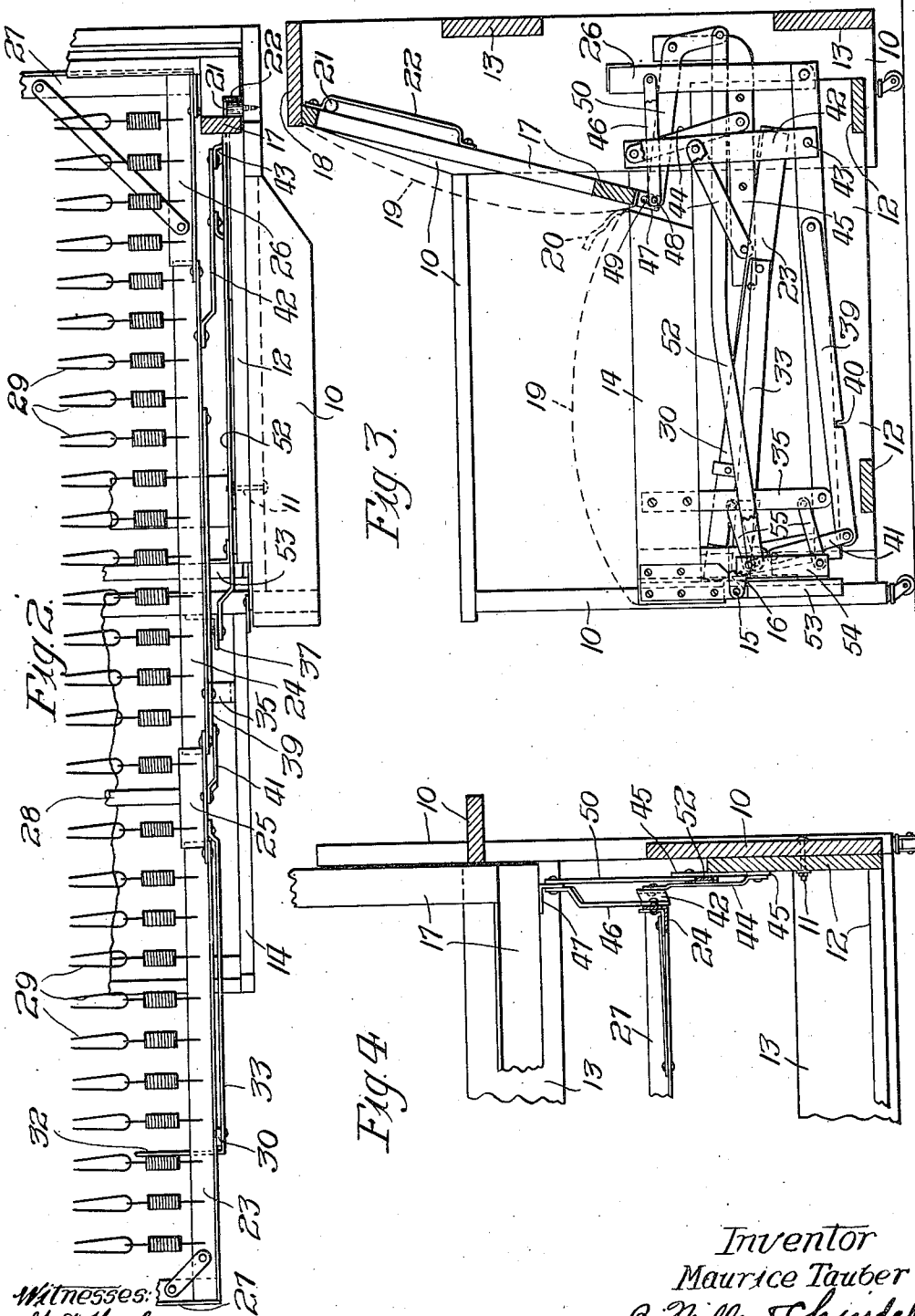
Inventor
Maurice Tauber
By Miller & Chiddell
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UNITED STATES PATENT OFFICE.

MAURICE TAUBER, OF CHICAGO, ILLINOIS.

FOLDING DAVENPORT OR COUCH.

1,216,627.

Specification of Letters Patent. Patented Feb. 20, 1917.

Application filed January 20, 1915. Serial No. 3,193.

To all whom it may concern:

Be it known that I, MAURICE TAUBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Folding Davenport or Couches, of which the following is a specification.

One of the objects of this invention is to produce an improved folding davenport or couch in which the moving parts are so balanced that the force required to fold and unfold the same is reduced to a minimum.

Another object is to produce a davenport wherein the back section is mounted for movement up and down, and in which the bed-forming elements, when set up for use, occupy the space directly beneath or behind the normal position of said back, whereby the bed projects out a minimum distance from the wall behind the davenport.

A further object is to provide a novel and improved mounting for the back section and means for operating the same by movement of the seat section.

The invention also refers to a folding davenport or couch in which the long dimension of the unfolded bed extends transversely to the davenport or couch, and further objects of the invention are to minimize, in a couch of this character, the number of folding movements necessary for the operator to make in folding or setting up the bed, to obviate the necessity for locks for holding the parts together, to provide in effect a two-section bed, and generally to simplify and improve the construction and action of the parts.

Further objects and improved features of construction will be more fully pointed out in the following detailed description.

In the accompanying drawings, Figure 1 is a transverse sectional view through one end of a davenport embodying the features of my invention, the view illustrating the position of the parts when unfolded or set up ready for use as a bed. Fig. 2 is a fragmental plan view with parts in section illustrating the structure in the same position as shown in Fig. 1. Fig. 3 is a view similar to Fig. 1, but with the parts in their folded position. Fig. 4 is a fragmental vertical section in the plane of line 4-4 of Fig. 1. Fig. 5 is a fragmental side elevation illustrating the outermost bed-forming section in folded position. Fig. 6 is a fragmental

horizontal section through one end of the davenport with the seat section in a partially folded or upright position.

The preferred embodiment of the invention will be herein described in detail, without any intention, however, of limiting the invention to the form disclosed, except as recited in the appended claims.

The two end frames 10 of the davenport are removably secured as by bolts 11 to the ends of an inner rectangular frame 12 which carries the bed-forming structure. The two end frames 10 may also be connected at their rear ends by one or more bars 13.

The seat section 14 of the davenport is hinged at 15 near its forward edge to the forward side of the inner frame 12 by means of two pairs of hinge members 16 fixed to adjacent ends of the seat and the inner frame respectively. When in normal position the seat rests on the inner frame.

The back section 17 of the davenport is mounted for movement bodily up and down with relation to the end frames 10 and in the present instance the back section has secured to its upper end a board 18 which is arranged to overlie the ends of upwardly projecting portions of the end frames 10 when the back section is in its lowered position. In the drawings, only the frames of the seat and back sections are shown, the upholstery being indicated by the dotted lines 19. 20 indicates a strap fixed to the seat section and adapted to be grasped by the operator for operating the seat. The back section is guided in its movement up and down by means at each end thereof which comprises an inwardly projecting stud 21 fixed on the end frame 10 and a strap 22 fixed on the rear side of the back section and providing a guideway in which the stud 21 travels, said stud being closely confined between the strap and the rear face of the back section.

The back section, the seat section, and the bed-forming elements are all connected together in such a manner that the bed structure and the back section are operated by swinging movement of the seat section. The elements of the bed structure and the cooperating connecting elements are duplicated at opposite sides of the bed, and for the sake of clearness the following description will refer to the parts at only one side of the bed or at one end of the davenport.

The bed-forming elements proper com-

prise a relatively long outer section 23, a relatively long middle or central section 24, a short section 25 pivotally connecting said outer and central sections, and a relatively short inner section 26 pivoted directly to the central section. These parts at opposite sides of the bed are connected by suitable end bars 27; one or more intermediate bowed braces 28, and suitable spring material 29, as shown in Fig. 2.

The outer section 23 has a supporting leg 30 pivoted at 31 thereto, the two legs at opposite sides of the bed being connected by a brace 32. A link 33 is connected at one end to the leg 30 above its pivot 31, the other end of the link being pivoted at 34 to the short section 25.

A bracket 35 rigidly fixed to the seat section 14 has its free end pivotally connected at 36 to the central section 24. Another bracket 37, which may be formed of an angle bar, is rigidly fixed in the corner of the seat section 14, the free end of said bar being arranged to abut against the central section when the bed is unfolded to support the bed structure. The free end of the bar or bracket 37 is cut away or notched at 38, as shown in Figs. 5 and 6. A locking arm 39 is pivoted at one end to the central section 24 and has a notch 40 to engage with the notched end 38 of the bracket 37, the free end of said arm being connected by a link 41 to the short section 25.

An arm 42 pivoted at one end at 43 to the central section 24 is connected by a pair of links 44 to a bracket 45 rigidly fixed to the end member of the inner frame 12. The inner section 26 of the bed structure is connected by a link 46 to a bracket 47 fixed on the lower edge of the back section of the davenport, the pivot pin 48 passing through a slot 49 in said bracket to provide a small amount of lost motion. A bell-crank lever 50 pivoted at 51 in the stationary bracket 45 has its longer arm pivoted to the bracket 47 by the pin 48, and the shorter arm of the bell-crank is connected by a long horizontal link 52 with the bracket 37 fixed in the corner of the seat section.

A movable front board 53 is designed to fill the space beneath the forward edge of the seat when in folded position, said board having at each end a bracket 54 which is pivotally connected to the adjacent end of the inner frame 12 by a pair of parallel links 55. When the seat section 14 is unfolded, the front board 53 is supported only by the links 55 and then swings by gravity into the position shown in Fig. 1. In the folding movement of the seat, the brackets 37 in the corners thereof engage the rear side of the front board and swing it forwardly and upwardly and maintain the board in operative position close beneath the forward edge of the seat section. The corners of the board

are notched, as indicated at 56 in Fig. 6, to accommodate the hinge members 16 for the seat section. The upper edge of the board at the points where it is engaged by the brackets 37 may be beveled as at 57.

In operation, assuming the davenport to be in its normal or folded position, as shown in Fig. 3, the operator grasps the strap 20 and swings the seat section upwardly and forwardly. In the initial movement of the seat section, the back section 17 will be unaffected so that the force required to lift the seat section is resisted only by the weight of the seat section and a portion of the bed structure attached thereto. Such force is not great at the outset and diminishes rapidly as the seat section moves toward a vertical position. After the seat section passes through a fourth or thereabout of its arcuate movement, the force required for the remaining movement is almost nothing. As the seat section passes the vertical position, the weight thereof will be counterbalanced by the weight of the bed structure and of the back section of the davenport which is now being raised by the bell-crank 50, the parts being so balanced that the seat section may be swung in either direction with very slight effort.

The movement of the seat will act, through the medium of the link 52 and bell-crank lever 50, to impart to the back section 17 an upward arcuate movement, at the end of which the lower edge of the back section will lie close to the extreme rear face of the davenport, so as to be well out of the way. The inner bed-forming elements, it will be noted, occupy a position directly beneath and behind the normal position of the back and thus utilize space which in prior davenports has been wasted. The result of this is that the bed structure as a whole projects a minimum distance from the wall behind the davenport, and occupies less space in the room.

In addition to swinging the seat section, as above described, the only movement necessary to unfold the bed is to move the outermost bed-section 23 from approximately the position shown in Fig. 5 to that shown in Fig. 1. In this movement the leg 30 is automatically swung into supporting position, and the arm 39 is moved downwardly by the link 41 to engage the notch 40 in the arm with the upper end of the bracket 37 on the seat, upon the upper end of which the central section 24 rests. This forms a secure lock which prevents collapse of the bed while the outermost section 23 is down. The inner end of the central section 24 is supported by the arm 42 and links 44, while the innermost short section 26 is supported by the link 46 from the bell-crank 51. The bed is thus supported at five points at each side thereof and actual tests have demon-

strated that the bed will support the weight of a man in standing position on any part thereof without sagging.

The davenport herein disclosed is of the type in which the long dimension of the unfolded bed extends transversely to the davenport, although my invention is not limited to davenports of this type. In some of the davenports of this character which have been heretofore produced, the outer bed section was folded over on the adjacent bed section and the two were then folded again in the same direction onto a third section, or the like. This arrangement is objectionable, because in the second folding movement the outer most bed section drops down and interferes with the folding. I obviate this difficulty by arranging the bed structure to fold with only a single movement of the outermost section, the latter lying on top of the central section when collapsed beneath the seat, and the short inner section occupying an upright position. Thus the bed is virtually a two-section bed, that is to say, there are only two main or long sections, the others being relatively quite short sections. There are only two movements in either folding or unfolding the bed.

It will be noted that all of the moving parts of the davenport, with the exception of the back section 17, are mounted solely upon the inner frame 12. This constitutes a unit which is removably secured to the end frames 10 by the bolts 11. By removing the pivot pin 48 which connects the link 46 and bell-crank lever 50 to the bracket 47 on the back section, the latter may be disconnected from the mentioned unit, and when the end frames are removed the studs 21 thereon are withdrawn from the guide straps 22 on the back section, which leaves the latter free. These different frame-parts may then be separately crated, if desired, which makes them more convenient to handle and also renders possible a cheaper freight rate thereon.

I claim as my invention:

1. A folding davenport having, in combination, a support, a seat hinged near its forward edge thereto, a back, a collapsible bed-forming structure comprising an outer section, a central section connected to the outer section, and a short inner section connected at one end to the central section and having a link connection with the lower end of the back, a pair of brackets fixed on the seat and pivoted to the central section, another pair of brackets fixed on the seat and arranged to have the central section rest thereon, supporting legs for the outer section, and means suitably connecting the inner portion of the central section to the support.

2. A folding davenport having, in combination, a pivoted seat, a back mounted for

approximately vertical movement, and a collapsible bed-forming structure, said structure and said back being independently connected to said seat for operation by the latter.

3. A folding davenport having, in combination, a supporting frame, a hinged seat, a collapsible bed-forming structure connected to said seat for operation thereby, and a back independently connected to the seat for approximately vertical movement by the seat out of the way of said bed-forming structure.

4. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge to said frame, a back slidably connected to said frame, a pair of levers pivoted in the frame and connected to the lower end of said back, and a pair of links connecting said levers to said seat, whereby the swinging movement of the latter will raise and lower said back.

5. A folding davenport having, in combination, a supporting frame, a seat hinged at its forward edge to said frame, a back, the upper portion of which is slidably connected to said frame, a pair of bell-crank levers pivoted in the frame and having their longer arms pivoted to the lower end of said back, and a pair of horizontal links connecting the shorter arms of the bell-cranks to said seat.

6. A folding davenport having, in combination, a support, a seat hinged to the support, a bed-forming structure comprising a plurality of foldably connected sections, a pair of brackets fixed to the seat and pivoted to one of said sections, and arm pivoted to said section, a link connecting said arm to an adjacent section, and a bracket on the seat to support said arm when the bed-forming structure is unfolded.

7. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge to said frame, a back mounted for edgewise movement up and down with relation to said frame, a pair of levers connected to said back, and a pair of links connecting said levers to said seat, whereby the swinging movement of the latter will raise and lower said back.

8. A folding davenport having, in combination, a supporting frame, a seat hinged at its forward edge to said frame, a back mounted for movement up and down in said frame, a pair of bell-crank levers having their longer arms pivoted to said back, and a pair of long horizontal links connecting the shorter arms of the bell-cranks to said seat.

9. A folding davenport having, in combination, a supporting frame, a seat hinged therein, a bed forming structure connected to the seat, a back mounted for movement up and down, means independent of the bed-

forming structure connecting the lower portion of the back to the seat for operation thereby, and means for guiding the upper portion of the back in its movements.

10 10. A folding davenport having, in combination, a support, a seat hinged near its forward edge thereto, a collapsible bed-forming structure comprising an outer section, a central section connected to the outer
15 section, and a short inner section connected to the central section, a pair of brackets fixed on the seat and pivoted to the central section, another pair of brackets fixed on the seat and arranged to have the central
20 section rest thereon, supporting legs for the outer section, and means suitably connecting the inner portion of the bed structure to the support.

20 11. A folding davenport having, in combination, a main support, a seat hinged near its forward edge thereto, a relatively long outer section, a relatively long central section, a short section pivotally connecting the mentioned sections, a relatively short
25 inner section, supporting legs for the outer section, a pair of brackets fixed on the seat and pivoted to the central section, another pair of brackets fixed to said seat and arranged to have the central section rest
30 thereon, means adapted to connect the inner portion of the central section to said main support, and means connecting the inner section to said support.

35 12. A folding davenport having, in combination, a supporting frame, a folding bed-forming structure comprising a relatively long outer section, a relatively long central section, a short section connecting the mentioned sections, and a short inner section
40 pivoted directly to the central section, supporting legs for the outer section, brackets fixed to said seat and pivoted to the central section, other brackets fixed to the seat and adapted to abut against and support the central
45 section, arms pivoted to the central section, links connecting said arms to said supporting frame, and means connecting the inner section to said supporting frame.

50 13. A folding davenport having, in combination, a supporting frame, a seat pivotally connected near its forward edge to said frame, a plurality of foldable bed-forming elements, a pair of brackets fixed to said seat and having one of the bed-forming elements
55 pivoted in their free ends, other brackets also fixed to the seat and adapted to have the bed-forming elements abut against their ends for supporting said elements, and links pivotally connecting the inner portions of
60 said elements to said supporting frame.

65 14. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge to said frame, a bed-forming structure comprising a relatively long outer section, a relatively long central

section, a short section connecting the two mentioned sections, and a relatively short section pivoted to the inner end of the central section, a pair of brackets fixed to the seat and pivoted to the central section, a pair of arms each pivoted at one end to the inner portion of the central section, a pair of links pivotally connecting said arms to the supporting frame, and means connecting the innermost short section to the supporting frame, the outer section being foldable over on top of the central section and the sections being movable together in this relation into collapsed position beneath the seat, the innermost short section occupying
70 an upright position near the rear of the davenport when collapsed.

75 15. A folding davenport having, in combination, a supporting frame, a back movably mounted in said frame, a seat hinged to the frame, connections between the seat and the back for raising and lowering the back during the swinging movements of the seat, a foldable bed-forming structure comprising a plurality of sections, arms pivoted to the inner portions of an intermediate one of said sections, two links connecting each of said arms to the supporting frame, and links connecting the inner section to the lower end of the back.

80 16. A folding davenport having, in combination, a supporting frame, a back movably connected to the frame, a seat hinged to the frame, connections between the seat and the back for raising and lowering the back during the swigning movements of the seat, a foldable bed-forming structure comprising a plurality of sections, arms pivoted to an intermediate one of said sections, links
85 connecting said arms to said supporting frame, and links connecting the inner section to the lower end of said back.

90 17. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge thereto, a back mounted for movement up and down, means at the upper portion of the back for guiding the latter, a foldable bed-forming structure comprising two long sections, a short section connecting the latter, and a short section
95 at the inner end of the structure, means pivotally connecting the central long section to the seat, means pivotally connecting the inner portion of the structure to the supporting frame, the inner short section being connected to the back, a pair of bell-cranks pivoted to the back, and a pair of links connecting said bell-cranks to the seat.

100 18. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge thereto, a back mounted for movement up and down in said frame, means for guiding said back, a bed-forming structure comprising a relatively long outer section, a relatively long central section, a
105

short section connecting the mentioned sections, and a short inner section pivoted to the central section, a pair of brackets fixed on said seat and pivoted to the central section, means for supporting the outer section, means connecting the central section to the supporting frame, a pair of links connecting the inner section to the back, a pair of bell-cranks pivoted to the back, and a pair of links connecting said bell-cranks to the seat.

19. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge thereto, a foldable bed-forming structure comprising two long sections and a short section connecting the latter, a pair of brackets fixed to said seat and pivoted to one of the long sections, another pair of brackets fixed to the seat and arranged to underlie and support the mentioned long sections, a pair of arms pivoted to the mentioned long sections and having a notch to interlock with the second mentioned pair of brackets, and a pair of links connecting the free ends of said arms to the short section of the bed structure.

20. A folding davenport having, in combination, a main supporting frame, a front board movably mounted thereon, and a seat hinged to said main supporting frame and arranged in its swinging movement to engage the front board to move the latter forwardly into operative position and hold it there.

21. A folding davenport having, in combination, a main supporting frame, a seat hinged near its forward edge thereto, a front board arranged to close the space beneath the forward edge of the seat, means pivotally connecting the front board to the supporting frame, and means on the seat arranged in the swinging movement of the seat to move forwardly the front board and hold it in operative position.

22. A folding davenport having, in combination, a supporting frame, a seat hinged near its forward edge thereto, a front board arranged to close the space beneath the forward edge of said seat, two pairs of parallel links connecting opposite ends of said front

board to the supporting frame, and means on the seat arranged to engage the rear side of the front board and swing the latter up into operative position when the seat is folded.

23. A folding davenport having, in combination, a supporting frame, a foldable bed-forming structure comprising a plurality of sections, arms pivoted to the inner portion of an intermediate one of said sections, two links connecting each of said arms to the supporting frame, and means connecting the inner section to said supporting frame.

24. A folding davenport having, in combination, a supporting frame, a foldable bed-forming structure comprising a plurality of sections, an arm pivoted at one end to an intermediate one of said sections, a link connecting the other end of said arm to said supporting frame, a link connecting an intermediate part of the arm to the supporting frame, and means connecting the inner section to said supporting frame.

25. A folding davenport having, in combination, a supporting frame, a seat directly hinged near its forward edge to said frame, a back mounted for approximately vertical movement, a collapsible bed-forming structure connected to said seat for operation thereby, and a connection between the seat and the back, independent of said bed-forming structure, for raising and lowering the back.

26. A folding davenport having, in combination, a supporting frame, a seat pivoted to the frame, a collapsible bed-forming structure operable by the seat, and a back connected to the frame for approximately vertical movement and connected to the seat (independently of the bed-forming structure) for operation by the seat and arranged to counterbalance the weight of the seat, whereby to facilitate operation of the parts.

In testimony whereof, I hereunto set my hand in the presence of two witnesses.

MAURICE TAUBER.

In the presence of—
MAURICE LEVY,
GERHARDT TAUBER.