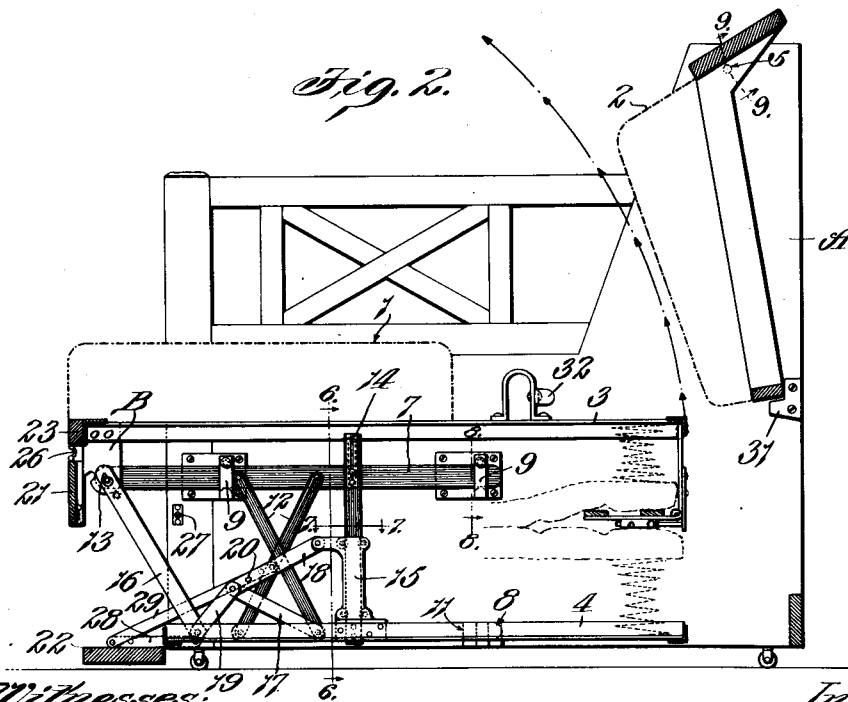
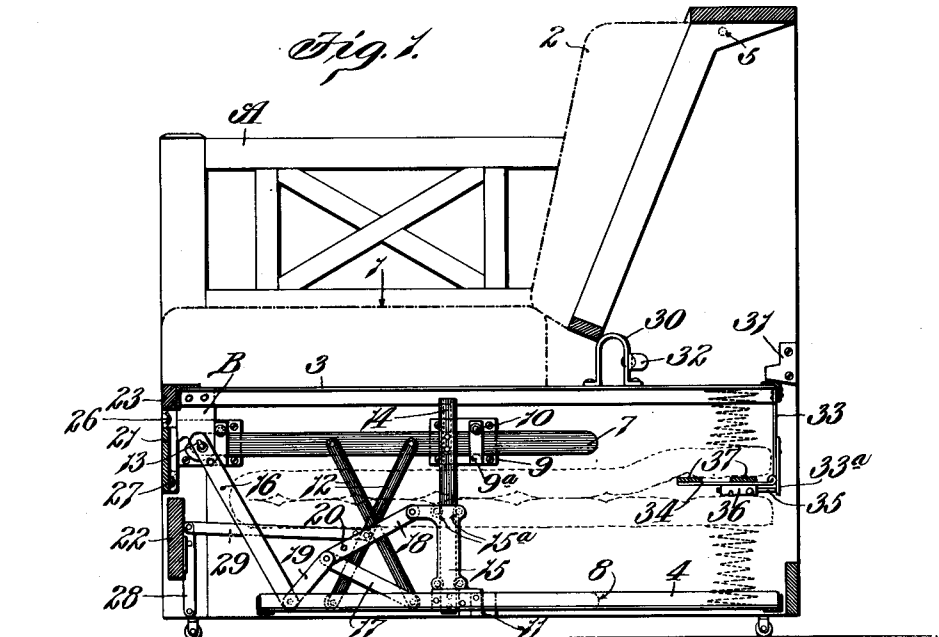


G. W. HENRY.
FOLDING DAVENPORT.
APPLICATION FILED JAN. 13, 1913.

1,075,147.

Patented Oct. 7, 1913.

4 SHEETS—SHEET 1.



Witnesses:
Geo. R. Radson
Cora Dodge.

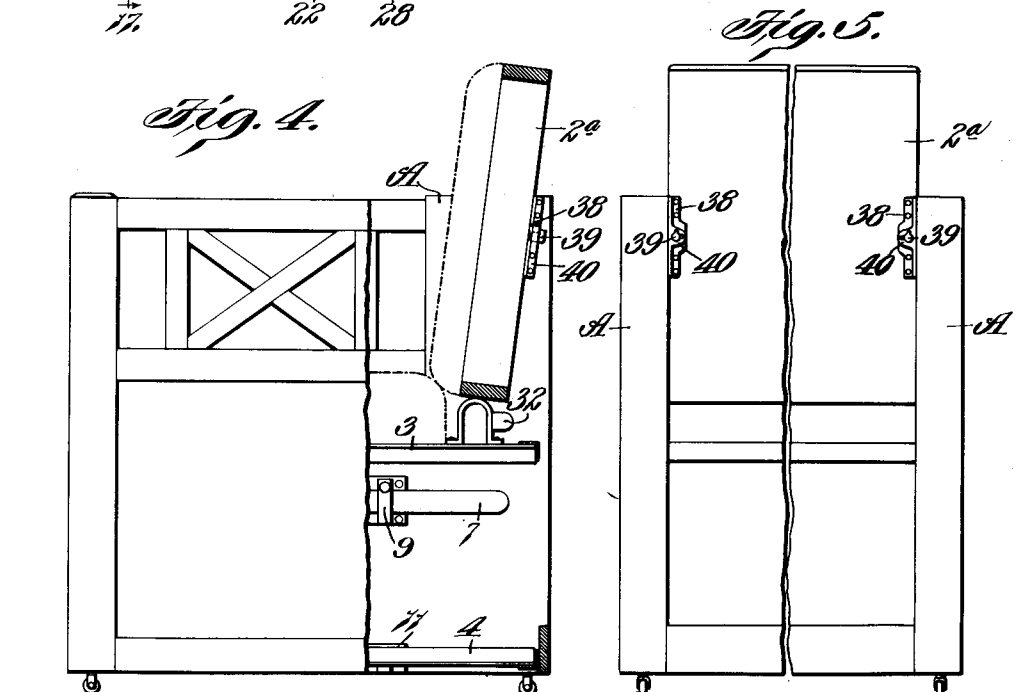
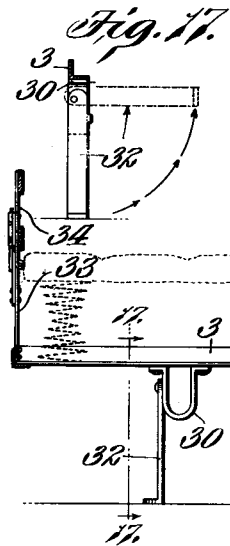
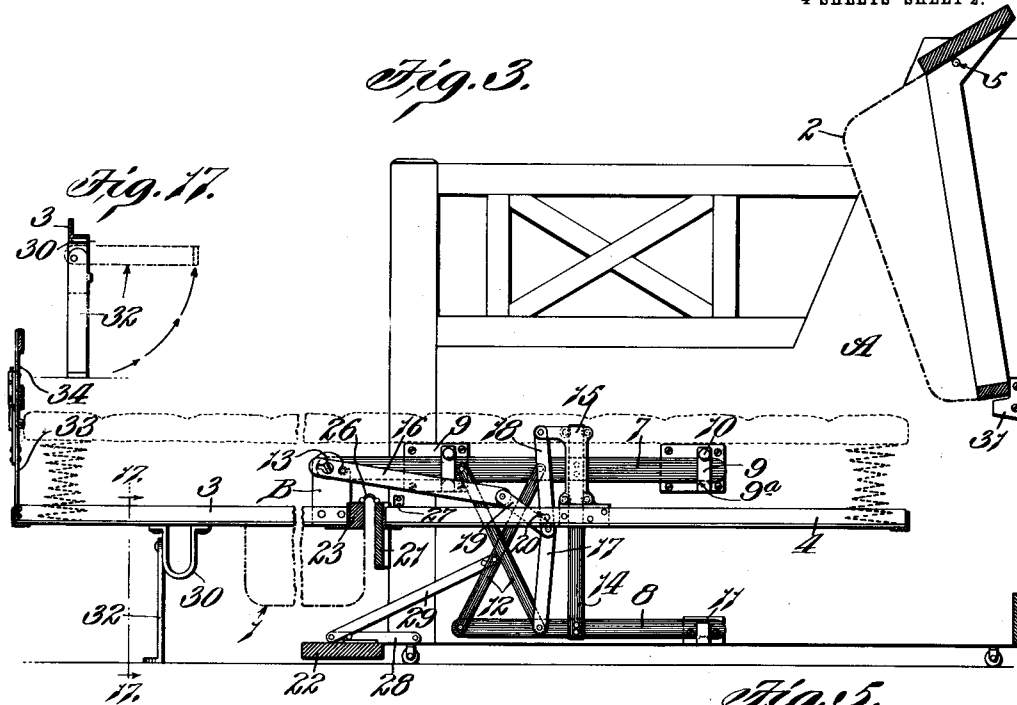
Inventor:
Guilford W. Henry.
By Bakewell & Church Attys.

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4 SHEETS—SHEET 2.



Witnesses:
Geo. R. Adams
Cora Badger.

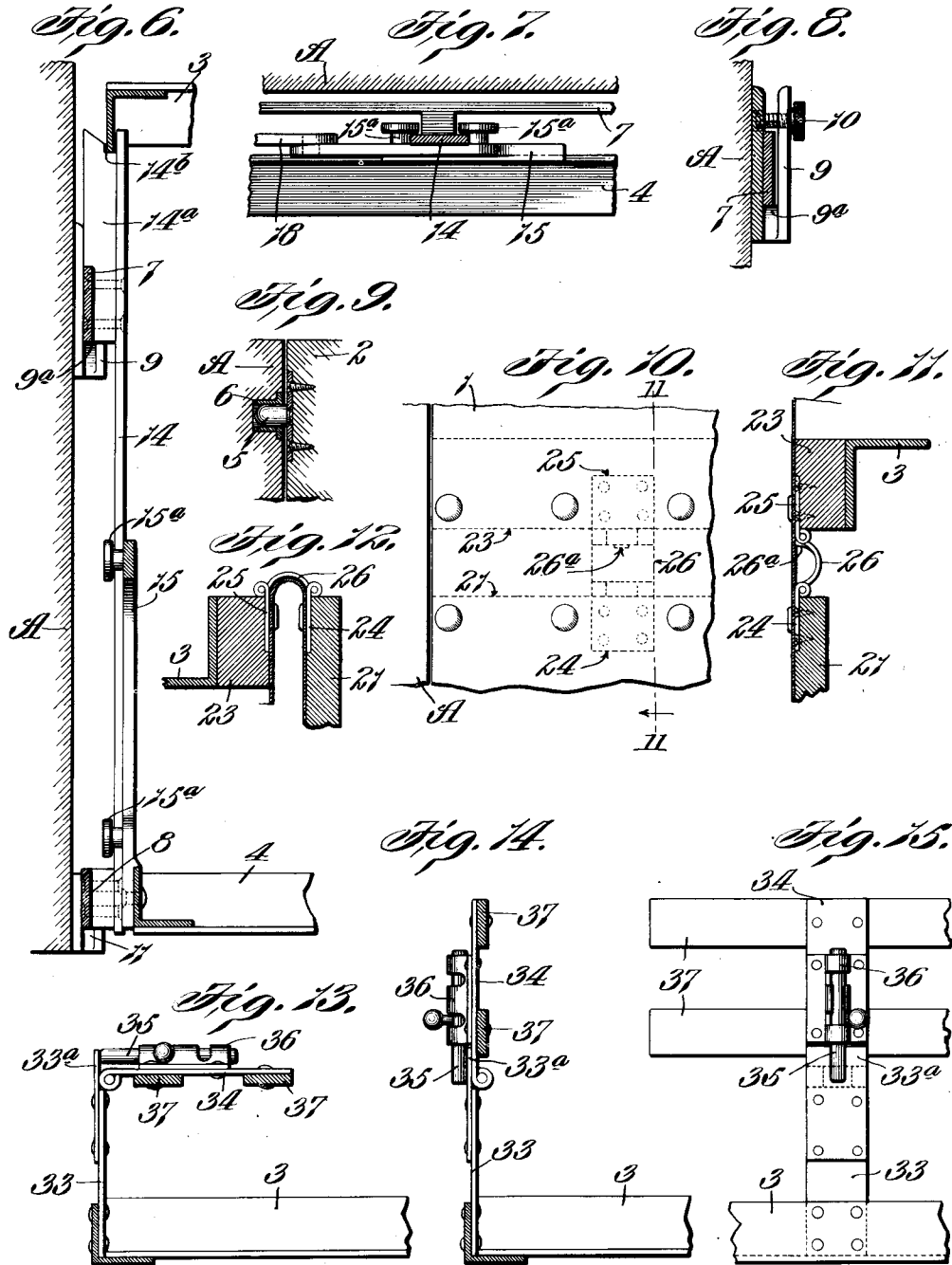
Inventor:
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4 SHEETS—SHEET 3.



Witnesses:
Geo. P. Radson
Cora Radger.

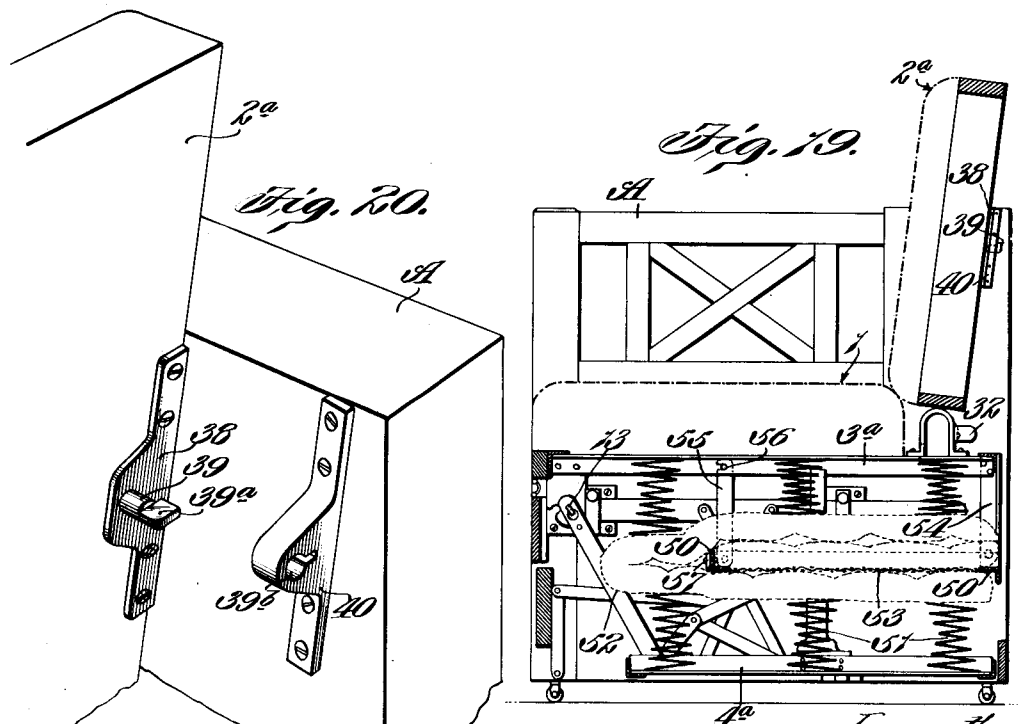
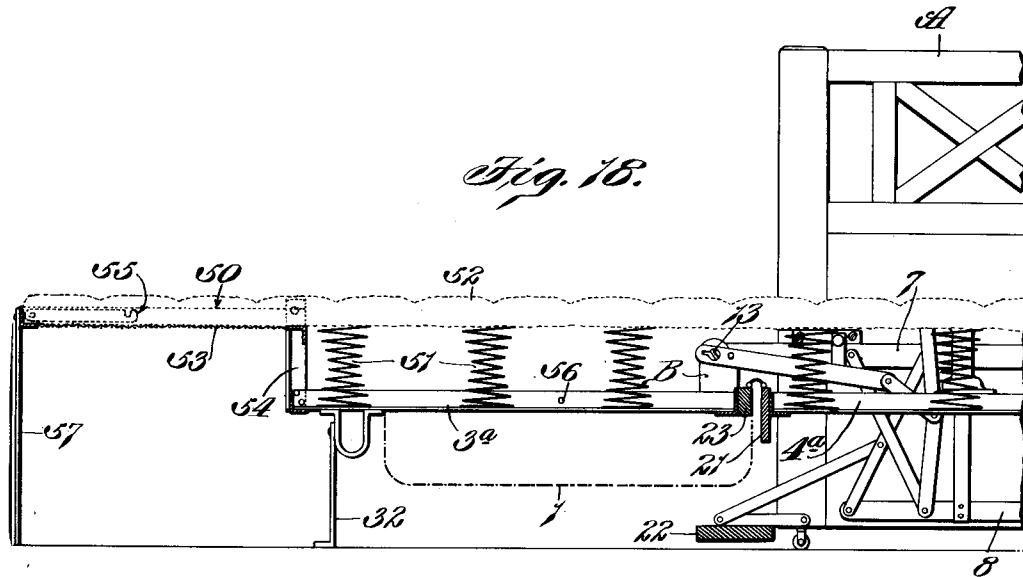
Fig. 16. Inventor
Guilford W. Henry.
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4 SHEETS—SHEET 4.



Witnesses:
Geo. P. Redding
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Inventor:
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UNITED STATES PATENT OFFICE

GUILFORD W. HENRY, OF ST. LOUIS, MISSOURI.

FOLDING DAVENPORT.

1,075,147.

Specification of Letters Patent.

Patented Oct. 7, 1913.

Application filed January 13, 1912. Serial No. 741,722.

To all whom it may concern:

Be it known that I, GUILFORD W. HENRY, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Folding Davenports, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

10 This invention relates to folding davenports, couches and similar articles of furniture, and is an improvement on the folding davenport illustrated and described in my prior United States Patent No. 996,243, dated June 27, 1911.

15 The main object of my present invention is to provide a folding davenport of simple construction which is so designed that it is not necessary to elevate the back or raise the back bodily above the end frames during the operation of opening and closing the davenport, thereby overcoming the necessity of employing a counterbalancing mechanism for the back or mechanism for locking the back in an elevated position.

20 Another object is to provide a folding davenport that comprises means of novel construction for securing the mattress to the swinging portion of the mattress-support when the davenport is closed, said means being so designed that it can be used as a headboard or footboard when the davenport is open.

25 Other objects and desirable features of my invention will be hereinafter pointed out.

30 Figure 1 of the drawings is a vertical transverse sectional view of a folding davenport constructed in accordance with my invention, showing the davenport closed; Fig. 2 is a similar view showing the mattress-support pulled out partly preparatory to moving the swinging portion of said support into operative position; Fig. 3 is a similar view showing the davenport open; Fig. 4 is an end elevational view partly broken away of a davenport constructed in accordance with my invention but provided with a stationary back; Fig. 5 is a rear elevational view of the davenport illustrated in Fig. 4; Fig. 6 is an enlarged vertical sectional view taken on the line 6—6 of Fig. 2; Fig. 7 is an enlarged horizontal sectional view taken on the line 7—7 of Fig. 2; Fig. 8 is an enlarged vertical sectional view taken

on the line 8—8 of Fig. 2; Fig. 9 is a detail sectional view taken on the line 9—9 of Fig. 2; Fig. 10 is a front elevational view of a portion of the seat and the transversely extending board or member that is arranged under the seat in front of the davenport; Fig. 11 is a vertical sectional view taken on the line 11—11 of Fig. 10, showing one of the hinges that is used for connecting said transversely extending board or member to the seat frame; Fig. 12 is a detail vertical sectional view similar to Fig. 11 but with the parts arranged in a different position; Fig. 13 is an enlarged detail view of the means that secures the mattress to the swinging portion of the mattress-support; Fig. 14 is a similar view showing said mattress-holding means adjusted in position to serve as a headboard or footboard; Fig. 15 is a front elevational view of one of the locking devices that forms part of said mattress-holding means; Fig. 16 is an enlarged detail sectional view illustrating one of the locking devices used for locking one of the boards or members that is arranged at the front of the davenport below the seat so as to hide the mechanism that carries the mattress-support; Fig. 17 is a detail view of the collapsible legs on the swinging frame of the mattress-support; Fig. 18 is a vertical transverse sectional view of a modified form of my invention showing the mattress-support opened out; Fig. 19 is a similar view showing the mattress-support closed; and Fig. 20 is a perspective view showing the means for connecting the back of the davenport to the end frames.

Referring to the drawings which illustrate the preferred form of my invention, A designates the end frames of the davenport which may be of any preferred design or construction, 1 designates the seat, and 2 designates the back. The mattress-support consists of two sections or frames 3 and 4 arranged in such a manner that the frame 3 can be swung upwardly and outwardly, as indicated by the arrows in Fig. 2, so as to form a continuation of the frame 4. Said frames are preferably constructed from pieces of angle-iron or other metallic members, and the frame 3 has the seat 1 of the davenport permanently connected to same, said frames 3 and 4 being so combined and arranged that the frame 3 will lie above the frame 4 when the davenport is closed.

enport is closed, as shown in Fig. 1. Means of any suitable type may be used for pivotally supporting the swinging section 3 of the mattress-support and for causing the under section or frame 4 of said mattress-support to move upwardly when the davenport is opened, but I prefer to use means similar to the ones illustrated and described in my prior patent previously mentioned but differing from same slightly in certain details of construction which I will hereinafter describe.

In order to overcome the necessity of elevating the back 2 of the davenport or moving it bodily upwardly with relation to the end frames A during the operation of opening up the davenport, I have constructed the mattress-support of the davenport in such a manner that it can be moved forward far enough to clear the back 2 and thus permit the swinging frame or section 3 of the mattress-support to be swung upwardly and outwardly into operative position, as indicated by the arrows in Fig. 2. In some instances I hinge or pivotally connect the back 2 to the end frames A so that the lower edge of said back will swing rearwardly out of the path of the swinging section 3 of the mattress-support, as shown in Figs. 1 and 2; and in other instances I connect the back 2 to the end frames in such a manner that it cannot move with relation to said end frames, as shown in Figs. 4 and 5, the construction illustrated in Figs. 1 and 2 being used for comparatively short davenports or davenports provided with comparatively deep mattress-supporting frames 3 and 4 which form a full-length bed when they are opened up, and the construction illustrated in Figs. 4 and 5 being used for comparatively long davenports, or davenports in which the mattress-supporting frames are comparatively shallow or of less depth than length so that they will form a full-width bed when they are opened out, the occupant lying longitudinally of the davenport at approximately right angles to the end frames A instead of parallel to said end frames.

As shown in Figs. 1 and 2, the frame of the back 2 is pivotally connected at its opposite ends to the end frames A of the davenport, preferably at a point adjacent the upper edge of said back frame and to one side of the longitudinal center of the back, thus causing the weight in the back to be distributed in such a manner that the lower edge of the back will swing rearwardly automatically as soon as the support is removed that normally holds the back in an inclined position, as shown in Fig. 1. In the form of my invention herein shown, the frame of the back 2 is provided at its ends with trunnions 5 that project laterally into sockets 6 embedded in the end frames A

of the davenport, as shown in Fig. 9, but it will, of course, be understood that any other suitable means could be employed for pivotally connecting the back to the end frame.

The mattress-support of the davenport, comprising the frames 3 and 4 and the mechanism that supports the swinging frame 3 and also causes the underframe 4 to move upwardly when the davenport is opened, is carried by or mounted upon horizontally disposed slides 7 and 8 which can be moved inwardly and outwardly toward and away from the back 2 of the davenport, a pair of said slides being mounted on each of the end frames A of the davenport. As shown in Figs. 1, 2 and 3, each of the upper slides 7 is mounted in two substantially U-shaped members 9 fastened to the inner side of the end frame of the davenport and provided with curved bearing surfaces 9^a on which the lower edge of the slide 7 travels, each of said U-shaped guiding members being provided at its upper end with a removable keeper, such, for example, as a set screw 10, as shown in Fig. 8, that extends transversely across the upper side of the slide 7 and prevents it from moving upwardly out of the guideway. Each of the lower slides 8 is arranged in a substantially U-shaped guiding member 11 secured to the inner side of the end frame of the davenport, and the front end of said slide 8 is connected to the intermediate portion of its cooperating upper slide 7 by means of two crossed braces 12 that rigidly connect said slides together and cause them to move in unison.

Cam plates B, which are rigidly connected to the swinging section or frame 3 of the mattress-support, are pivotally connected to the front ends of the upper slides 7 by means of studs 13 on said slides that pass through holes in said cam plates, and vertically disposed guides 14 are connected to each pair of slides 7 and 8 so as to cooperate with guide plates 15 on the section 4 of the mattress-support and thus hold said frame 4 in a horizontal position when it is moved during the operation of opening up the davenport. The means herein shown for automatically moving the frame 4 when the frame 3 is turned over or swung outwardly into operative position, is substantially the same as the means described in my prior patent above-referred to, and consists of two levers 16 fulcrumed on the studs 13 which support the cam plates B, a toggle cooperating with each of said levers and consisting of a link 17 pivotally connected at its lower end to the lower slide 8 and a link 18 pivotally connected at its upper end to the guide plate 15, and a short link 19 that connects both of the toggle links 17 and 18 to the inner end of the lever 16, said link 18 having a stop 20 that limits the movement

of the link 19. I will not describe the specific details of construction of the cam plates B as they do not form part of my present invention but will merely state that when the upper frame 3 of the mattress-support is swung upwardly and outwardly, as indicated by the arrows in Fig. 2, the levers 16 and toggle links 17, 18 and 19 that cooperate with said levers are actuated automatically so as to move the lower frame 4 of the mattress-support upwardly into the position shown in Fig. 3. When the frame 3 is raised and moved inwardly back to its closed position the levers 16 and cooperating toggle links previously mentioned operate to restore the frame 4 to its former position. The vertically disposed guides 14 are provided at their upper ends with plates 14^a, as shown in Fig. 6, on which the swinging frame 3 rests when the davenport is closed, the upper ends of said plates 14 being inclined downwardly and terminating in notches 14^b so as to insure proper positioning of the frame 3 when it is being moved into its closed position. The guide plates 15, which travel vertically on the guides 14, are provided with headed studs 15^a, as shown in Figs. 6 and 7, that embrace the guides 14 and thus prevent the guide plates from moving laterally with relation to said guides.

Two boards or members 21 and 22 that are arranged at the front of the davenport under the seat 1, as shown in Fig. 1, hide the levers, links and other elements that support and operate the mattress-supporting frames 3 and 4. The upper edge of the board 21 is connected to a wooden member 23 that extends transversely across the front end of the frame 3 by means of hinges of novel construction that are illustrated in Figs. 10, 11 and 12 of the drawings, each of said hinges consisting of two leaves 24 and 25 securely fastened to the members 21 and 23, respectively, and a substantially U-shaped or curved piece 26 that is pivotally connected to eyes on said leaves. When the frame 3 is swung upwardly and outwardly to open up the davenport, as shown in Fig. 3, the curved portions 26 of said hinges will hold the members 21 and 23 spaced apart, as shown in Fig. 12, and thus prevent the upholstering which covers the members 21 and 23 from being crushed or wrinkled, the curved piece 26 of each of said hinges being provided at one end with a tooth or projection 26^a, as shown in Fig. 10, that bears against the end of the leaf 25 of the spring so as to hold the curved piece 26 in a substantially horizontal position and thus prevent it from swinging downwardly on the leaf 25 as a fulcrum. When the davenport is closed, spring-pressed locking devices 27 which are set in the inner sides of the end frames A of the davenport, project into

notches or recesses in the ends of the front board 21, as shown in Fig. 16, and thus prevent said board from swinging back and forth. The board or member 22 which is arranged below the board 21 is carried by pivotally mounted arms 28 on the end frames A, and the upper ends of these arms 28 are connected by means of links 29 to the cross braces 12 previously described so as to cause the board 22 to be moved downwardly into a horizontal position, as shown in Fig. 2, when the slides 7 and 8 are pulled forwardly preparatory to opening the davenport. When said slides are moved inwardly the board 22 of course will be restored to its normal vertical position shown in Fig. 1.

The back 2 of the davenport is held in an inclined position when the davenport is closed by means of stops or bearing members 30 on the mattress-supporting frame 3 against which the lower edge of the back 2 bears. When the slides 7 and 8 are pulled forwardly, as previously described, the stops 30 will move out of engagement with the back and said back will then swing into the position shown in Fig. 2 until it strikes against shoulders or abutment plates 31 on the end frames A. When the davenport is closed the rear edge of the frame 3 projects under the stop plates 31 on the end frames and consequently is prevented from moving upwardly in case an abnormal weight or pressure is imposed on the front edge of the seat 1 of the davenport. The legs 32 which support the frame 3 when it is opened up are preferably pivotally connected to the stops 30 on the frame in such a manner that they will swing downwardly into operative position, as shown in full lines in Fig. 17, when the frame 3 is opened up, and will swing back to an inoperative position automatically when the frame 3 is closed.

In order to prevent the mattress from moving away from the swinging frame 3 when the davenport is being closed, mattress-holding devices are connected to the free ends of the frame 3, each of said mattress-holding devices comprising a stationary part 33 that is rigidly connected to the frame 3 and a hinged or movable member 34 that can be arranged at approximately right angles to the part 33 so as to lap over the mattress, as shown in Fig. 1, or arranged in alinement with the part 33 so as to form a headboard or footboard, as shown in Figs. 3 and 15. Any suitable means may be used for holding the movable parts 34 of the mattress-holding devices in either of their adjusted positions, but I prefer to equip each of said devices with a slide bolt 35 mounted in a guiding member 36 on the movable part 34 of the device and adapted to bear against an extension 33^a on the stationary part 33 of the device so as to lock the hinged part 34 in a position at approximately right

angles to the stationary part 33, as shown in Fig. 13. When the movable part 34 is arranged in a vertical position or in alinement with the part 33, as shown in Figs. 14 and 15, the bolt 35 laps over the extension 33^a and thus prevents the hinged part 34 from moving forwardly or out of vertical alinement with the stationary part 33 of the device. Preferably, cross-slats 37 are connected to the hinged portions 34 of the mattress-holding devices so as to act as a foot-board or as a headboard against which pillows may be placed.

If the davenport is provided with a rigid 15 or stationary back 2^a, as shown in Figs. 4 and 5, one convenient way of connecting the back of the end frames consists of plates 38 on the rear side of the back 2^a provided with rotatable keys 39 that project through irregular-shaped openings in plates 40 that 20 project laterally from the end frames of the couch, said keys being adapted to be inserted in the openings in the plates 40 and then turned into such a position that the heads thereon cannot move forwardly through said openings. In Fig. 20 I have illustrated the specific construction of the plates 38 and 40, and by referring to said figure it will be seen that each of the keys 39 is provided 30 with a flat head 39^a that projects laterally slightly beyond the round shank of the key. The hole 39^b in the plate 40 which receives said key is substantially key-hole-shaped or is provided with a round portion and a 35 straight slot that extends laterally from said round portion. After the key has been passed through the opening 39^b in the plate 40, the key is turned so that the head 39^a thereon which now lies on the rear side of the plate 40 will extend vertically across 40 the round portion of the hole 39^b and thus prevent the back of the davenport from moving forwardly.

If it is desired to form a davenport that 45 is shallow and also narrow or of approximately the dimensions of a settee, the mattress-supporting means can be formed in three or more sections that can be folded one on top of the other. In Figs. 18 to 20, inclusive, of the drawings I have illustrated such a construction, the reference characters 3^a and 4^a designating two frames of similar construction and arrangement to the frames 3 and 4 of the davenport illustrated in Fig. 55 1 except that they are narrower or not as deep from the front to the rear side of the davenport. A third section 50 is connected to the swinging section 3^a of the mattress-support in such a manner that it will form 60 a continuation of the sections 3^a and 4^a when the davenport is open, as shown in Fig. 18, thus forming a full-length bed, said section 50 being adapted to be folded inwardly onto the section 3^a so that it will lie between the 65 sections 3^a and 4^a when the davenport is

closed. The frames or sections 3^a and 4^a are preferably provided with coiled springs 51 on which the mattress 52 rests, as shown in Fig. 18, but the end section 50 is merely provided with a woven wire-supporting surface 53 for the mattress so that it will not 70 take up much space when the davenport is closed. In order to provide for the springs on the section or frame 3^a, the end section 50 is pivotally connected to the upper ends 75 of uprights or standards 54 on the frame 3^a, thereby permitting the end section 50 to be folded compactly over onto the section 3^a, as shown in Fig. 19. If desired, means may be provided for locking the free end of the 80 section 50 after it has been folded over onto the section 3^a, the means herein shown consisting of pivotally mounted latches 55 on the side pieces of the end section 50 that are provided with hooks which engage laterally 85 projecting pins 56 on the section 3^a. The end section 50 is provided with folding or collapsible legs 57 that support the free end of said section when the davenport is open. In view of the fact that the mattress-sup- 90 porting means consists of three relatively narrow sections instead of two deep sections, it is not necessary to pivotally connect the back 2^a to the end frames of the davenport because the swinging section 3^a is nar- 95 row enough to enable it to be swung upwardly after the slides 7 and 8 have been pulled forwardly in the manner previously described. Therefore, the back 2^a can be rigidly fastened to the end frames by means 100 of the plates 38 and 40 illustrated in Fig. 20 or in any other suitable manner.

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

1. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising a swinging frame which extends under the lower edge of said back when the davenport is closed, horizontally movable 110 slides that carry said mattress-supporting means, open guiding members on the end frames in which said slides are mounted, and removable devices for preventing said slides from jumping out of said guiding 115 members.

2. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising a swinging frame having a seat portion on one side thereof and a vertically 120 movable frame that lies under said swinging frame when the davenport is closed, said mattress-supporting means projecting rearwardly beyond the lower edge of said back when the davenport is closed, mecha- 125 nism for automatically raising and lowering said vertically movable frame when the swinging frame is opened and closed, vertically disposed guides on which said vertically movable frame travels, and means for 130

enabling both frames of the mattress-supporting means to be moved horizontally toward and away from said back.

3. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising a swinging frame having a seat portion on one side thereof and a vertically movable frame that lies under said swinging frame when the davenport is closed, said mattress-supporting means projecting rearwardly beyond the lower edge of said back when the davenport is closed, mechanism for automatically raising and lowering said vertically movable frame when the swinging frame is opened and closed, horizontally movable members on the end frames which carry the mattress-supporting frames and the mechanism for operating same, and vertically-disposed guides on said members for the vertically movable frame.

4. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising two horizontally disposed superimposed sections which normally project rearwardly under the lower edge of said back when the davenport is closed, a horizontally movable structure on the end frames, means for pivotally connecting the top section of the mattress-supporting means to said structure, vertically disposed guides on said structure on which the lower section of the mattress-supporting means travels, and means for raising and lowering said lower section when said top section is swung into and out of operative position.

5. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising two horizontally disposed superimposed sections which normally project rearwardly under the lower edge of said back when the davenport is closed, a horizontally movable structure on the end frames separate and distinct from said sections, means for pivotally connecting the top section of the mattress-supporting means to said structure, vertically disposed guides on said structure on which the lower section of the mattress-supporting means travels, means for raising and lowering said lower section when said top section is swung into and out of operative position, and means on said structure that supports said top section when the davenport is closed.

6. In a davenport or similar article, end frames, a back, a mattress-supporting means comprising two horizontally disposed superimposed sections which normally project under the lower edge of said back, a horizontally movable structure on the end frames, means for pivotally connecting the top section of the mattress-supporting means to said structure, vertically disposed guides on said structure on which the lower section of the mattress-supporting means travels,

means for raising and lowering said lower section when said top section is swung into and out of operative position, a member at the front of the davenport that normally extends across the space under the seat of the davenport, and means for moving said last-named member out of its normal position when said horizontally movable structure is pulled forwardly.

7. In a davenport or similar article, end frames, a horizontally movable structure arranged between said end frames and provided with a folding mattress-support, a back pivotally connected to said end frames, and means on said mattress-support which holds said back in operative position when the davenport is closed, said back moving automatically into a retracted position when said horizontally movable structure is pulled forwardly preparatory to opening the davenport.

8. In a davenport or similar article, end frames, a horizontally movable structure arranged between said end frames and provided with a folding mattress-support, a back pivotally connected to said end frames, means on said mattress-support which holds said back in operative position when the davenport is closed, said back moving automatically into a retracted position when said horizontally movable structure is pulled forwardly preparatory to opening the davenport, and stop plates on the end frames which limit the movement of said back in one direction and also form abutments that cooperate with the mattress-supporting means to hold it in a certain position when the davenport is closed.

9. In a davenport or similar article, a mattress-supporting means comprising a swinging frame that can be turned over, stationary members on said frame that extend across the edge of the mattress, hinged parts on said members that are adapted to lap over the mattress, and adjustable devices on said hinged parts that bear against extensions on said stationary members and thus hold said hinged parts in adjusted position.

10. A davenport comprising stationary end frames, a back pivotally mounted on said end frames in such a manner that the lower edge of same tends to swing rearwardly, means for holding the lower edge of the back forwardly when the davenport is closed, a mattress-supporting means comprising superimposed sections which project rearwardly beyond the lower edge of the back when the davenport is closed, the top section being adapted to be turned over or swung forwardly so as to form a continuation of the lower section, means for raising the lower section into the horizontal plane of said top section when said top section is turned over, and a movable structure

that carries said mattress-supporting means and which is adapted to be moved forwardly so as to permit said sections to be arranged in operative position to form a bed.

11. In a davenport or similar article, a swinging seat that is adapted to be revolved forwardly so as to open the davenport, a member that depends from the front edge of said seat and extends transversely across the space under said seat, hinges that connect the upper edge of said member to the lower edge of the frame of the seat, and means on said hinges for holding the front

edge of said seat spaced some distance away from the front side of said member after said seat has been turned forward, so that it lies in front of said member and in the approximate horizontal plane of said member.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this ninth day of January 1913.

GUILFORD W. HENRY.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.