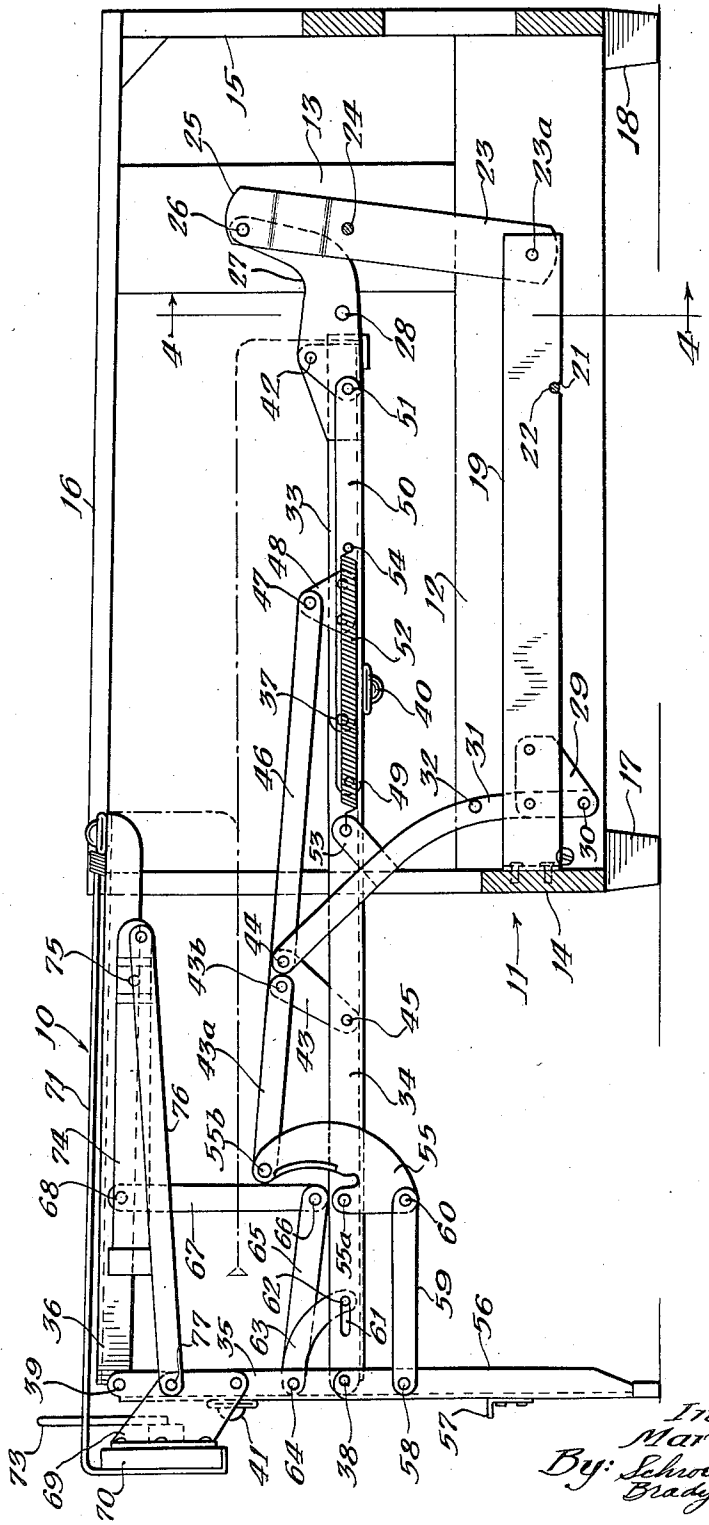
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FIG. 1



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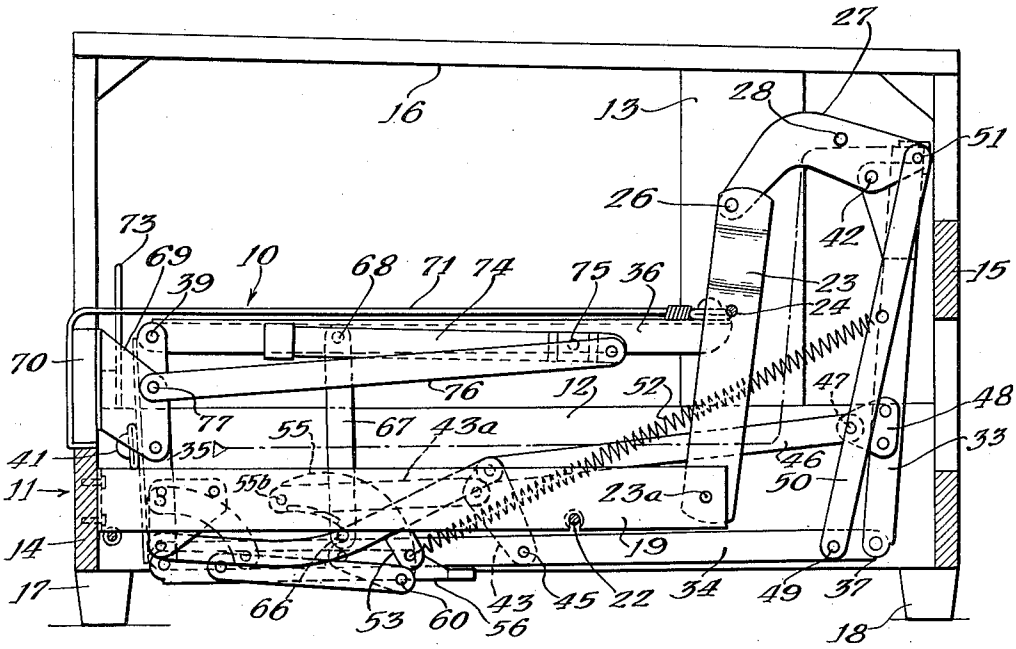


FIG. 2

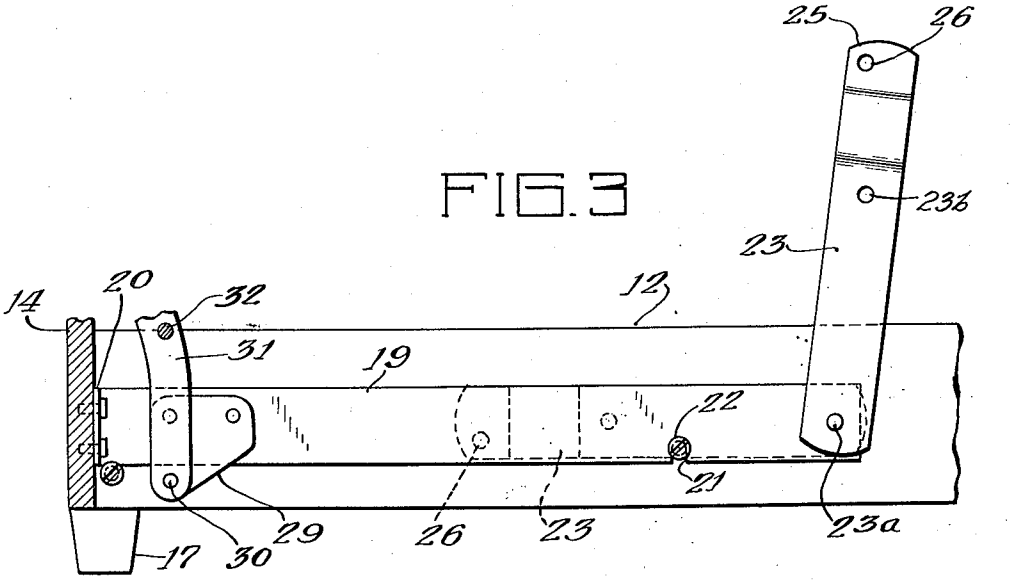


FIG. 3

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FIG. 4

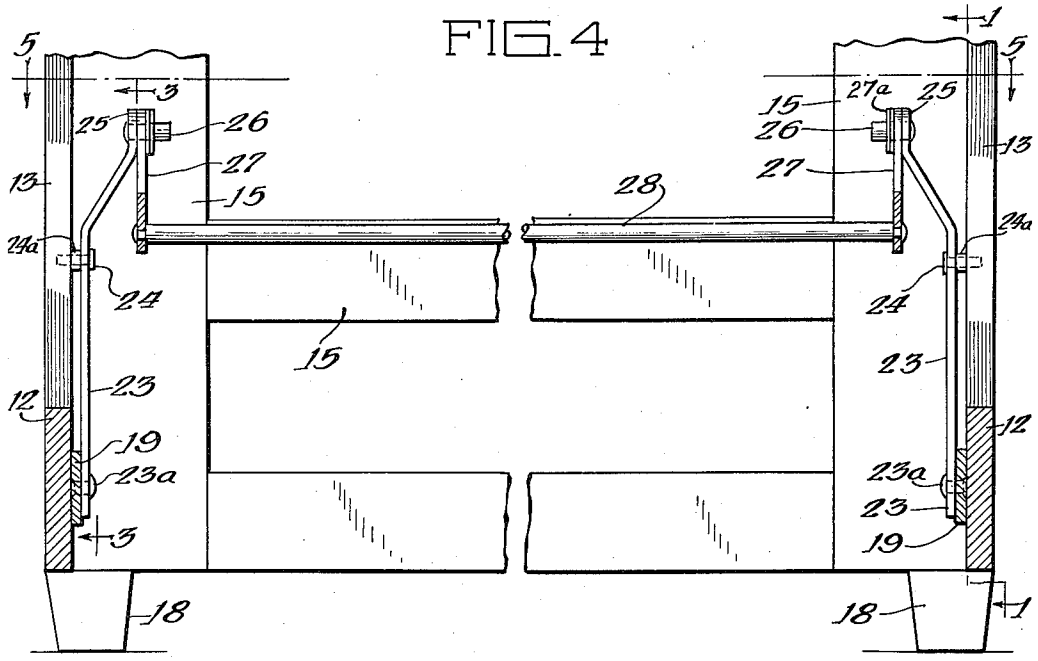
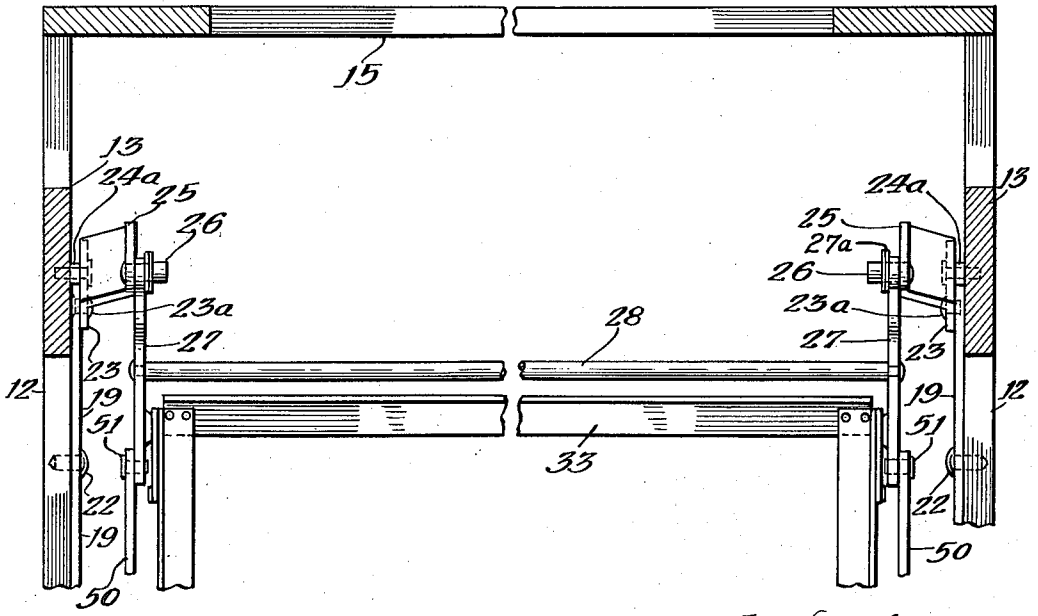


FIG. 5



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DAVENPORT BED

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Application January 4, 1956, Serial No. 557,394

2 Claims. (Cl. 5—13)

This invention relates to an improved davenport bed construction of the type in which a folding bed bottom in davenport position has its head bed section in an upright position at the rear of the davenport frame and the foot bed section inverted to provide a seat deck.

The principal object of the invention is to provide a folding bed bottom assembly which may be shipped to a furniture manufacturer in relatively compact form and which may be readily mounted in a davenport frame with the support arms for the folding bed bottom in their proper positions with respect to each other so as to assure correct operation of the bed bottom assembly.

Another object of the invention is to provide a bed bottom assembly in which the rear swinging support arms are connected by an equalizing rod which is coplanar with the bed bottom in bed position and which in davenport position is slightly forward of the upright head bed section so as to serve as a mattress stop.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which:

Fig. 1 is a sectional view of a davenport bed taken substantially as indicated along the line 1—1 of Fig. 4, the bed bottom being shown in an intermediate position between bed position and davenport position;

Fig. 2 is a view similar to Fig. 1 with the bed bottom in davenport position;

Fig. 3 is a fragmentary section on an enlarged scale taken substantially as indicated along the line 3—3 of Fig. 4 with the swinging rear support arm for the bed bottom removed, the upright support bracket being shown in broken lines in folded position for shipping;

Fig. 4 is a fragmentary section on an enlarged scale taken as indicated along the line 4—4 of Fig. 1; and

Fig. 5 is a fragmentary section taken as indicated along the line 5—5 of Fig. 4.

Referring to the drawings in greater detail, and referring first to Figs. 1 and 2, a folding bed bottom assembly, indicated generally at 10, is mounted in a davenport frame indicated generally at 11. The davenport frame includes end frame members 12 having upright bracket mounting portions 13 adjacent the rear of the frame and a front rail 14 which connects the two end frame members 12. There is also a back frame portion 15 and arm portions 16, and the entire frame 11 is supported on front and rear foot 17.

The bed bottom assembly 10 includes a pair of mounting means, indicated generally at 18, consisting of side mounting plates 19 and rear mounting brackets 23. As best seen in Fig. 3, side plates 19 have front flanges 20 secured to the front rail 14 of the davenport frame, and

each plate is provided in its lower margin with an open notch 21 which is supported on a wood screw 22 projecting inwardly from the end frame member 12. At the rear of each side mounting plate 19 is a pivot 23*a* for the rear mounting bracket 23 which, as best seen in Fig. 4, is secured to the bracket mounting portions 13 of the davenport frame by means of screws 24 extending through a hole 23*b* in the bracket, there being a spacer 24*a* between each bracket 23 and the bracket mounting portion 13. The upper end portions of the brackets 23 are offset inwardly as seen at 23*a* and are provided with fixed pivot studs 26 for swinging rear bed bottom supporting arms 27 which are detachably secured to the studs 26 by friction snap fasteners 27*a* so that the arms 27 may be secured to the studs 26 at the time the bed bottom 10 is mounted in a davenport frame 11. An equalizing rod 28 connects the supporting arms 27. Adjacent the forward end of each mounting plate 19 is a pivot bracket 29 which carries a pivot 30 for a front supporting arm 31. The front supporting arms are connected by an equalizing bar 32.

The folding bed bottom is formed of four articulated bed sections 33, 34, 35 and 36 which are pivotally connected at 37, 38 and 39. It will be understood that the bed sections may occupy a bed position in which the sections 35 and 36 are coplanar with the sections 33 and 34, in addition to the intermediate and davenport position of Figs. 1 and 2. Each of the articulated bed sections is formed in the conventional manner from angle members, and a continuous wire spring structure of conventional type (not shown) is mounted in said bed sections to support an innerspring mattress M, shown in broken lines in Figs. 1 and 2. Transverse brace members 40 and 41 are positioned, respectively, adjacent the pivots 37, and approximately midway between the pivots 38 and 39 to resist twisting of the bed frame as it is folded or unfolded.

The bed section 33 is a head bed section and is pivoted at 42 to the free ends of the rear bed supporting arms 27. The forward portion of the bed bottom is foldably carried on the front bed support arms 31 by means of short truss links 43 which are pivoted at 44 to the upper ends of the front support arms and at 45 to the intermediate bed section 34. Control links 46 extend from the pivots 44 to fixed pivot studs 47 which are on triangular brackets 48 on the head bed section 33. Just forward of the pivots 37 between the head bed section 33 and the intermediate bed section 34 are fixed pivot studs 49 for operating pitmans 50 the rear ends of which are pivoted at 51 to the rear support arms 27. The control links 46 are detachably secured to the studs 47 by friction snap fasteners 47*a*, and the pitmans 50 are similarly secured to the studs 49.

A tension spring 52 extends from a spring arm 53 on each of the forward supporting arms 31 to a stud 54 on the adjacent pitman 50 to assist in initial movement of the mechanism from davenport position.

About halfway from the pivots 45 for the truss links 43 to the pivots 38 between the bed section 34 and the bed section 35 are pivots 55*a* for roll-over locking plates 55 which are part of a locking mechanism for the davenport bed. The locking plate 55 is designed to rock on its pivot 55*a*, and in order to provide the necessary rocking action as the bed sections are moved from the

intermediate position of Fig. 1 to the davenport position of Fig. 2 an actuating link 43*a* for the locking plate **55** is pivotally connected at 43*b* to the truss link **43** and at 55*b* to the locking plate **55**.

The pivots **38** between the bed sections **34** and **35** also serve as mounting pivots for folding intermediate legs **56** which are connected together by a transverse cross brace **57** and which are provided with pivots **58** for links **59** by means of which the intermediate legs **56** are linked to the locking plates **55** through pivots **60** on said locking plates.

In the bed frame **34** immediately to the rear of the pivots **38** are slots **61** to receive sliding studs **62** for short bracing links **63**, best seen in Fig. 1, which have their other ends pivotally connected to the bed section **35** at **64**.

Also connected to the pivots **64** are guide links **65** which have pivots **66** at their outer ends to make pivotal connection with latch pitmans **67** which in turn are pivoted at **68** to the front bed section **36**. The guide links **65** and latch pitmans **67** constitute the other major portion of the locking mechanism, and cooperate in this respect with the locking plates **55**. Mounted on the bed section **35** is a pair of angle brackets **69** to receive a front trim board **70** which surmounts the front rail **14** of the davenport frame **11** when the mechanism is in davenport position, as seen in Fig. 2. Spring covering fabric **71** extends loosely from the front trim board **70** to the end rail **72** of the front bed section **36** so that the davenport cushions do not rest directly upon the spring. At the rear of the trim board **70** is a flexible pull strap **73** which extends through eyelets (not shown) in the fabric **71** so that it may be grasped in folding or unfolding the mechanism.

A pair of front legs **74** are pivoted on the bed section **33** at **75**, and leg actuating links **76** connect the upper ends of the leg **74** to pivots **77** on the brackets **69** for the trim board **70**.

When the bed bottom is in bed position the head bed section **33** and the intermediate bed section **34** occupy the positions shown in Fig. 1; and it will be noted that in this position the equalizing rod **28** which connects the rear support arms **27** lies in the same plane with the bed bottom. On the other hand, in the davenport position of Fig. 2 the equalizing rod **28** is somewhat forward of the inner end of the upright head bed section **33** so that it may abut the end of the inner-spring mattress M and act as a mattress stop. Some variety of mattress stop is highly desirable in folding davenport bed constructions because the mattress tends to slide off the head of the bed as the bed sections fold at their pivots during movement of the bed bottom into davenport position.

Particular reference has been made to the fact that the rear support arms **27** are detachably secured to fixed pivot studs **26** by means of snap fasteners and that one end of each of the links **46** and **50** is detachably secured to a fixed pivot stud by means of a snap fastener. This is an important feature in permitting the bed bottom to be shipped in a compact form. It will be understood that a large proportion of the folding bed bottoms for davenport beds are made by manufacturers of furniture mechanisms who sell them to furniture manufacturers for mounting by the furniture manufacturer in a davenport frame which he may procure from another supplier or construct himself. It is important, therefore, that the folding bed bottom assembly **10** be susceptible of shipment in a compact form and be very readily mounted by the furniture manufacturer in the davenport frame. The relative positions of the rear support arms **27** and the front support arms **31** must be accurately fixed in order to assure smooth operation of the folding bed bottom; and at the same time the assembly operations to be performed by the furniture manufacturer should be as few as possible. The present construction is believed to be superior in these respects to anything heretofore produced.

The entire folding bed bottom assembly **10** is shipped to the furniture manufacturer completely assembled except for attachment of the appropriate members to the fixed studs **26**, **47** and **49**. Since the rear mounting arms **27** are free of the upright brackets **23** these brackets may be folded alongside the mounting plates **19**. Furthermore, since the links **46** and pitmans **50** are free at one end the head bed section **33** together with the rear mounting arms **27** may be folded to a shipping position immediately overlying the intermediate bed section **34**. The foot bed section **36** is swung to its intermediate or davenport position so that for shipping purposes the head bed section **33** lies between the intermediate section **34** and the foot section **36**. Freedom of the rear ends of the control links **46** permits the intermediate legs **56** to be folded rearwardly as they would be in davenport position, and the front mounting arms **31** together with the mounting plates **19** and mounting brackets **23** may be swung to positions generally in the same plane with the intermediate bed section **34**.

When a furniture manufacturer is ready to mount the folding bed bottom assembly **10** in a davenport frame **11** it is necessary only to make the necessary attachments of the mounting plates **19** and mounting brackets **23** to the frame, and connect the proper elements to the fixed pivot studs **26**, **47** and **49** by means of friction snap fasteners in the conventional fashion. As seen in Figs. 1 and 3, the holes **23***b* in the rear mounting brackets **23** are so positioned that when the angle between the mounting bracket **23** and the mounting plate **19** is correct the centers of the holes **23***b* are perpendicularly above the rear ends of the mounting plates **19** so that when the mounting plates are properly secured to the davenport frame end members **12** the rear ends of the mounting plates serve as guide fixtures for the correct mounting of the rear mounting brackets **23** on the bracket mounting portions **13** of the davenport frame.

The foregoing detailed description is given for clearness of understanding only and no unnecessary limitations are to be understood therefrom, as some modifications will be obvious to those skilled in the art.

I claim:

1. A folding bed bottom assembly adapted to be mounted in a davenport frame which has end frame members and a front rail, said assembly comprising: a pair of mounting means adapted to be mounted on the end frame members of a davenport frame, said mounting means including a front portion and a rear portion; a pair of rear supporting arms pivoted on said rear portion; a pair of front supporting arms pivoted on said front portion; an equalizer rod connecting said rear supporting arms together; and a folding bed bottom having a plurality of articulated bed sections pivotally connected together, said bed sections including a head section pivotally connected to said rear arms and having a head cross rail, and an intermediate section linked to the front mounting arms so that said bed bottom may move between a horizontal bed position with said sections coplanar and a davenport position with the head section upright at the rear of the frame and the cross rail uppermost, said equalizer rod being in the same horizontal plane with said bed sections in bed position, and said rod being slightly forward of and generally in a horizontal plane passing through said head cross rail in davenport position to provide a mattress stop in said position.

2. In a davenport bed: a frame; a folding bed bottom having a plurality of foldable sections including a head section with a head cross rail; swinging supporting means mounting said bed bottom on the frame for movement

between a horizontal bed position with said sections coplanar and a davenport position in which the head section is upright at the rear of the frame with said cross rail uppermost, said supporting means including a pair of arms pivoted on the rear of the frame and secured to the head bed section so as to extend upwardly from said section in bed position and forwardly therefrom in davenport position; and an equalizer rod secured to both said arms, said rod being in the same horizontal plane with the bed bottom in bed position and a short distance forward of and generally in a horizontal plane passing through the head cross rail in davenport position to provide a mattress stop in said last named position.

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