No. 814,921. PATENTED MAR. 13, 1906.

A. A. SAUNDERS.

FOLDING BED.

APPLICATION FILED AUG. 10, 1905.

3 SHEETS—SHEET 1.

Fig. 1.

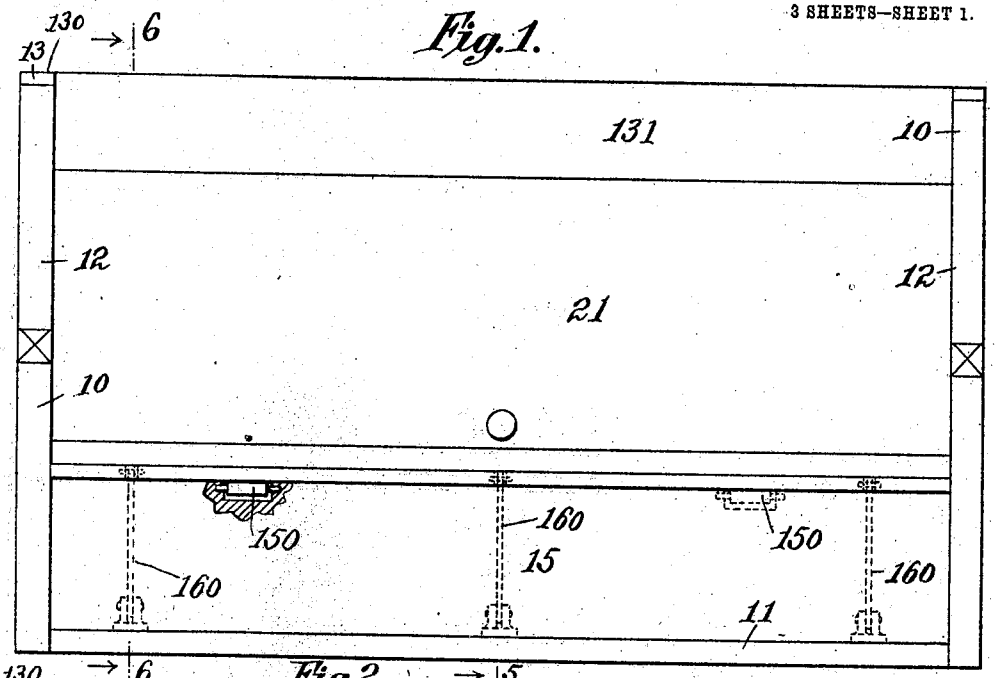
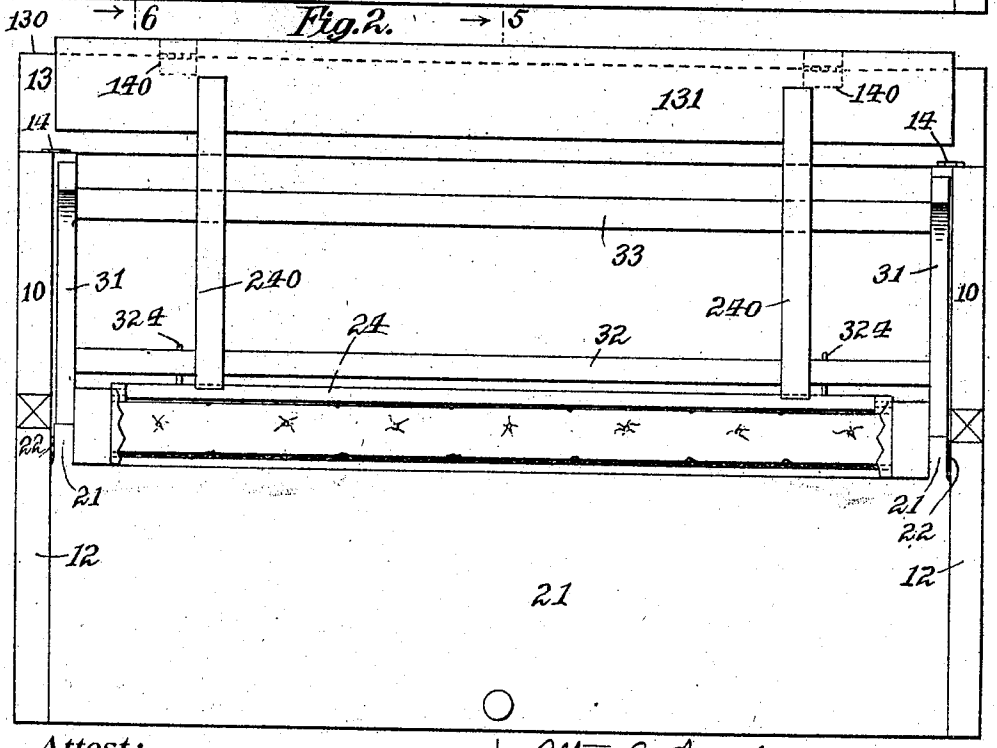


Fig. 2.



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Herman Meyer
Alan Mc Donnell.

Allen A. Saunders, Inventor:
by William R Baird
his Atty.

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3 SHEETS—SHEET 2

Fig. 3.

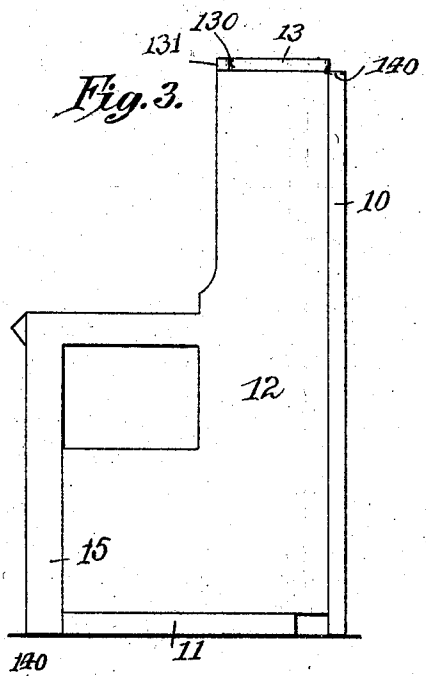


Fig. 4.

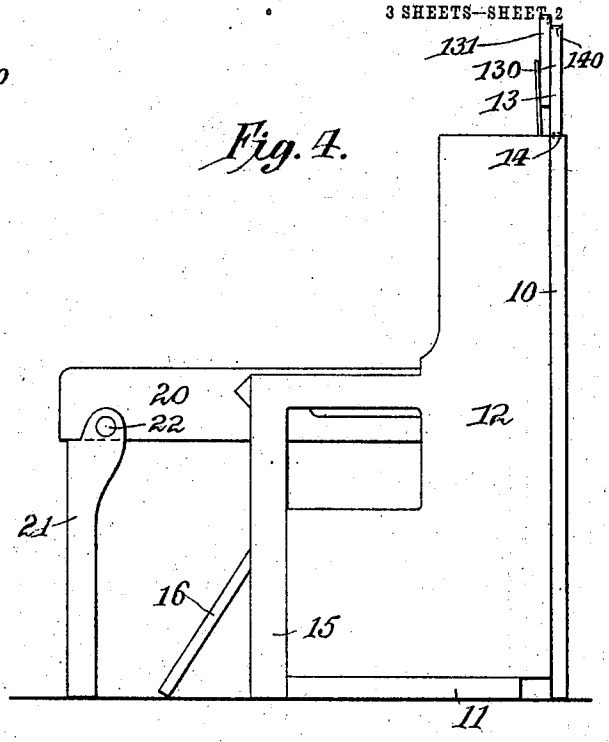


Fig. 5.

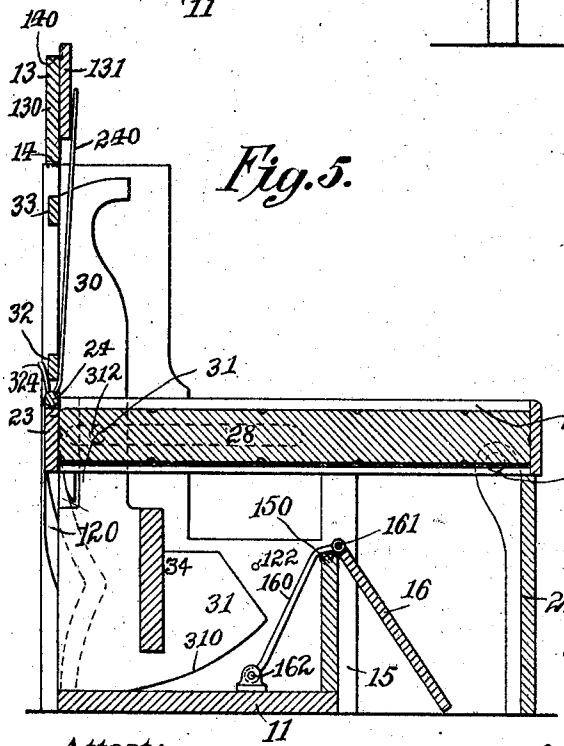
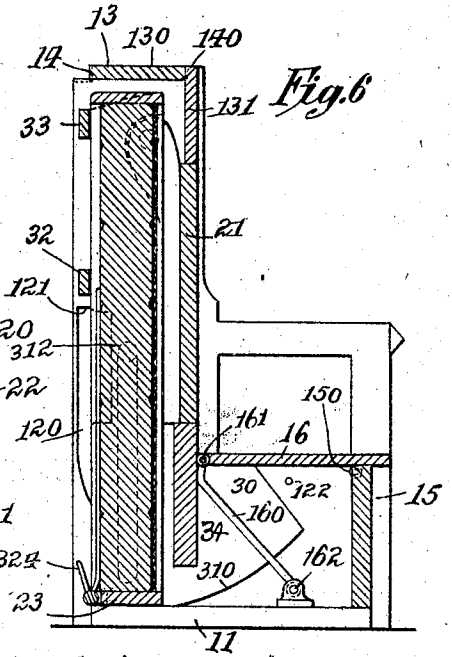


Fig. 6



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3 SHEETS—SHEET 3.

Fig. 8.

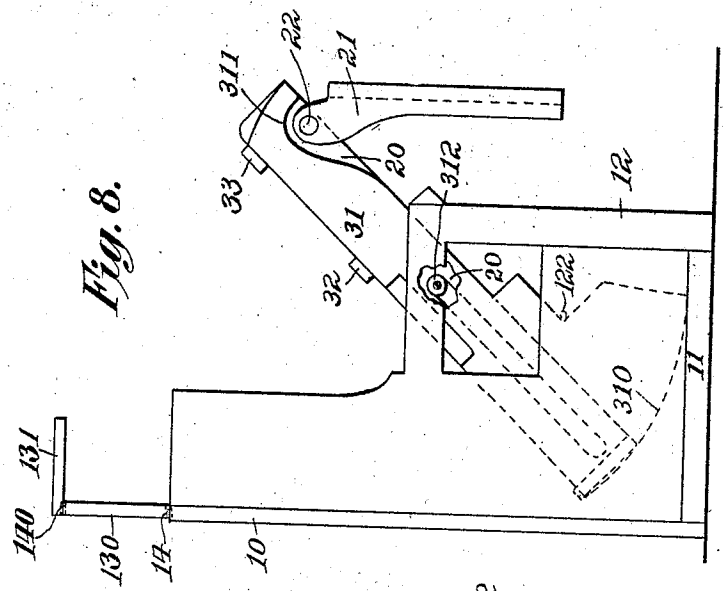
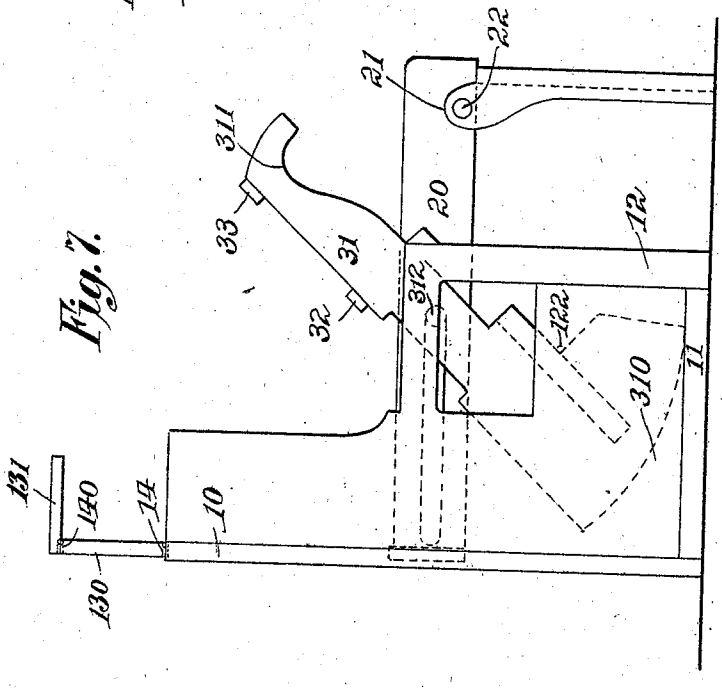


Fig. 7.



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his Atty.

UNITED STATES PATENT OFFICE.

ALTON A. SAUNDERS, OF NEW YORK, N. Y.

FOLDING BED.

No. 814,921. Specification of Letters Patent. Patented March 13, 1906.

Application filed August 10, 1905. Serial No. 273,532.

To all whom it may concern:

Be it known that I, ALTON A. SAUNDERS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification.

My invention relates to folding beds, and its novelty consists in the construction and adaptation of the parts, as will be more fully hereinafter pointed out.

In the drawings, Figure 1 is a front elevation of the bed closed. Fig. 2 is a similar view of the same open. Fig. 3 is an end elevation of the bed closed, and Fig. 4 is a similar view of the same open. Fig. 5 is a transverse vertical section on the plane of the line 5 5 in Fig. 2, and Fig. 6 is a similar view on the plane of the line 6 6 in Fig. 1. Fig. 7 is a side view of the parts when the bed is being partly closed, and Fig. 8 is a similar view of the parts when the closing operation has proceeded yet further.

In the drawings, 10 is the permanent framework of the structure. It comprises a bottom piece 11, two side pieces 12 12, and a top rail 13, hinged to the side pieces by hinges 14 14 and made in two pieces 130 and 131 and provided with hinges 140 140, whereby the rail may be folded back upon itself. It also comprises a front piece 15, permanently secured to the bottom and sides in any suitable manner, and a movable seating-piece 16. This latter piece is secured to a plurality of links 160 160 by means of hinges 161 161, the links being in turn secured by the hinges 162 162 to the bottom piece 11, so that it may be swung forward over the front piece 15, as shown more particularly in Fig. 5. In the upper edge of the piece 15 there are inserted rollers 150 150, upon which the seating-piece can roll as it is moved outward and forward in order to reduce the friction of the parts. Stops 122 project inwardly from the side pieces.

20 is the bed-frame proper, consisting of any suitable framework the members of which are rigidly secured together. In front it is provided with a front piece 21, hinged to swing upon journals 22, provided in the side of the frame proper. Said piece 21 forms a rest for the back of the person sitting on the piece 16 when the closed device is used as a sofa or settee and also forms the support for one side of the bed when it is opened and in use.

The rear end of the bed-frame is provided with lateral projections 23 23, which engage in grooves or channels 120 in the inner sides of the side pieces 12 of the main structure, and which projections when the bed is down rest against and press upwardly against a shoulder 121, formed in such side piece 12 12.

Hinged at the rear of the bed-frame 20 is a bedclothes-retaining member, comprising a transverse rod 24, adapted to rotate in recesses in the frame provided to receive its extremities, and which rod is provided with fingers 240 240, projecting over and against the bedding. These fingers are made of such a length that the cross-piece 32, hereinafter referred to, rests upon the extremities and holds the framework against the bedding.

Intermediate the permanent framework and the bed-frame is a frame 30, which has different functions. It comprises two side members 31 31, curved at their lower edges at 310, so as to be brought into rolling contact with the inside of the bottom piece 11, and provided with cross-strips 32 33, which serve to rest against the bedding placed on the bed-frames to retain it in position. The side members 31 are inwardly inclined at their upper extremities 311 311 to embrace and fit snugly over the pieces 21 21. It is also provided with a front transverse strip 34, and each of the side pieces 31 31 is provided with inwardly-projecting pins or rollers 312 312, which engage with a slot 28, formed in each side piece of the bed-frame.

The method of using the device is as follows: Supposing that it is closed, as shown in Fig. 1, and the bed has been supplied with bedding in the usual manner and it is desired to open it and convert it into a condition where it can be occupied, the top rail is first lifted back upon the hinges 14 14 and the member or piece 131 dropped against the piece 130. The seating-piece 16 is then moved forward by hand, swinging upon the links 160 160 and against the rollers 150 150, until it rests in the position shown in Fig. 5. The front piece 21 is then seized, swung upon its bearings 22 in the side of the bed-frame proper, and the bed-frame drawn forward, using the front piece as a handle by which it can be moved until the front transverse piece 34 meets and rests upon the stops 122 122, provided for that purpose and which project inwardly from the side members of the permanent frame. The operator continues to move down the piece 21, and this then causes the bed-frame 20 to rotate in its bearings in

the intermediate frame 30 until the piece 21 rests upon the floor. In the meantime the rotation of the bed-frame 20 has brought the lateral projections 23 23 along the grooves or channels 120 120 in the side pieces of the main frame until these projections rest against the shoulders 121 121, provided for that purpose. The intermediate frame 30 is then moved rearwardly, rolling upon the lower curved edges of its side members 31 31, until it is in a substantially vertical position, in which position it forms the rear vertical support for the bed-frame, the parts 240 being raised by means of the small arms 324, which are actuated by the cross-strip 32 and which in turn rotate the rod 24. The supplemental bedclothes-retaining member, comprising the transverse rod 24 and its projecting fingers 240, is thus rotated back upon the rod until it also is in a substantially vertical position, and the bed is free from any superstructure and is ready to be occupied. If now it is desired to close up the bed, the intermediate frame is rotated forward until the strip 32 contacts with the fingers 240 and brings them down against the bedclothes. The front piece 21 is then lifted upward, causing the bed-frame 20 to rotate in its bearings upon the intermediate frame and until the upper part of the intermediate frame comes into contact with the bedding. The whole is then rotated backward upon the curved portions of the side members until the bedding and its frame assume a substantially vertical position. The seating-piece is then swung back into place upon its links and the upper hinged rail is brought down to close the bed.

What I claim as new is—

1. In a device of the kind described, an intermediate frame interposed between the permanent frame and the bed-frame and comprising two side members, each terminating at the bottom in curved surfaces, and each provided with inwardly-projecting pins upon which the bed-frame is adapted to rotate, and a plurality of transverse members adapted to hold the bedding in place.

2. In a device of the kind described, an intermediate frame interposed between the permanent frame and the bed-frame, comprising two side members, each terminating at the bottom in curved surfaces, and each provided with inwardly-projecting pins upon which the bed-frame is adapted to rotate, and a plurality of transverse members adapted to hold the bedding in place, in combination with a bed-frame having side members, provided with slots, in which the pins of the intermediate frame engage.

3. In a device of the kind described, a permanent frame comprising a front member, a movable seat and side member; a bed-frame; a frame intermediate the permanent frame and the bed-frame and upon which the bed-frame is supported, and a sliding connection between the bed-frame and the intermediate frame.

4. In a device of the kind described, a permanent frame comprising a front member, a movable seat and side members; a bed-frame; a frame intermediate the permanent frame and the bed-frame and upon which the bed-frame is supported, and a sliding connection between the bed-frame and the intermediate frame, consisting of inwardly-projecting pins on the intermediate frame and slots in the bed-frame with which said pins are adapted to engage.

5. In a device of the kind described, comprising a front member provided with rollers at or near its upper edge, a seating-piece pivoted to swing outwardly and against said rollers.

6. In a device of the kind described, comprising a permanent frame, the side walls of which are shaped like the side walls of a settee and which is provided with a permanent front piece and a removable seating-piece, a bed-frame adapted to swing back within the permanent frame and a hinged front piece adapted to serve as a front support for a bed when opened and as a back for the seat when the bed is closed.

7. In a device of the kind described, comprising a permanent frame, the side walls of which are shaped like the side walls of a settee and which is provided with a permanent front piece and a removable seating-piece, a bed-frame adapted to swing back within the permanent frame, a hinged front piece adapted to form a back for the seat when the bed is closed, and a hinged upper rail on the permanent frame adapted to register with the hinged front piece of the bed-frame to form an upper continuation of the said seat-back.

8. In a device of the kind described, a permanent frame, a bed-frame, an intermediate frame, adapted to support the bed-frame and upon which the latter is capable of rotating and which is provided with transverse bedding-retaining strips.

9. In a device of the kind described, a permanent frame, a bed-frame, an intermediate frame adapted to support the bed-frame and upon which the latter is capable of rotating and which is provided with transverse bedding-retaining strips, in combination with a supplemental bedding-retaining device secured to the bed-frame.

In testimony whereof I affix my signature in presence of two witnesses.

ALTON A. SAUNDERS.

Witnesses:
WILLIAM R. BAIRD,
HERMAN MEYER.