

(No Model.)

2 Sheets—Sheet 1.

L. WOERNER.
BED COUCH.

No. 493,418.

Patented Mar. 14, 1893.

Fig: 1.

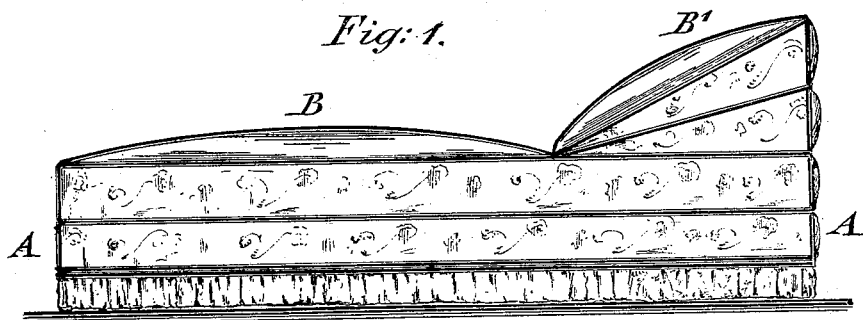


Fig: 2.

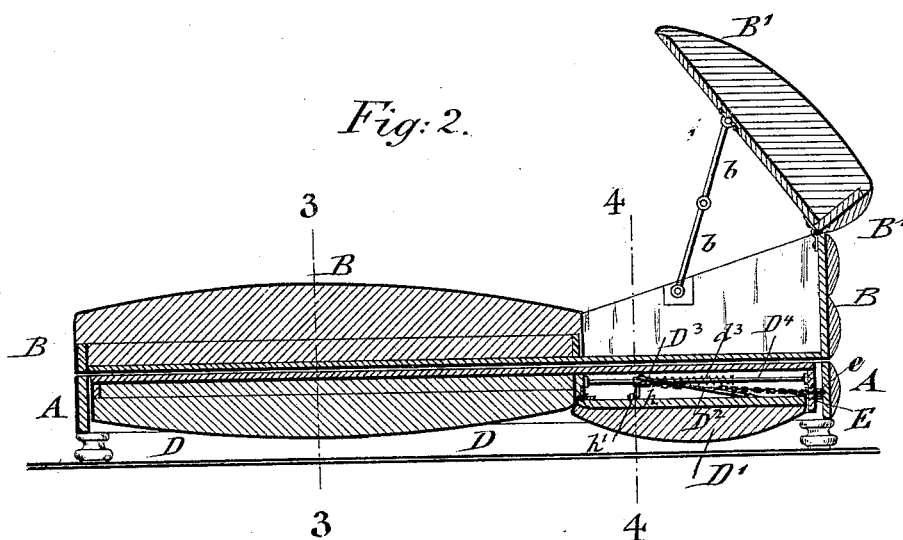
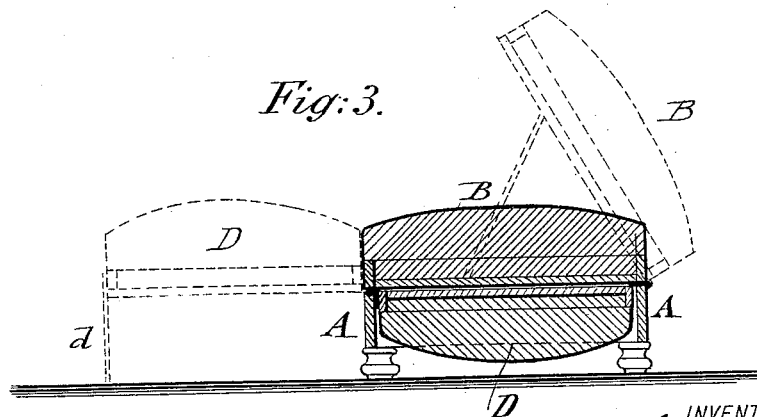


Fig: 3.



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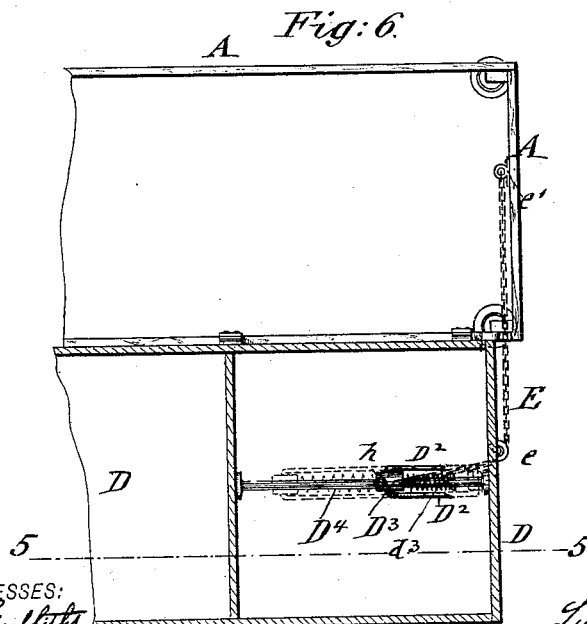
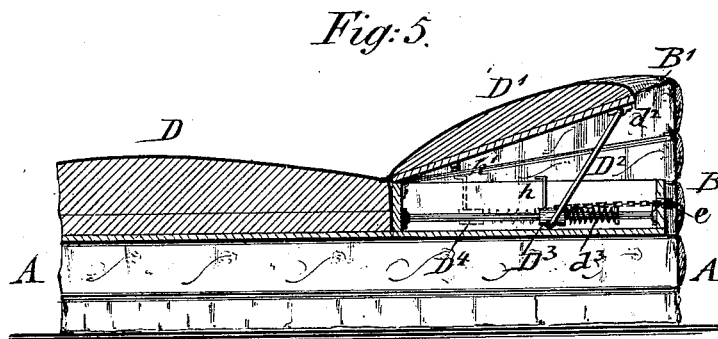
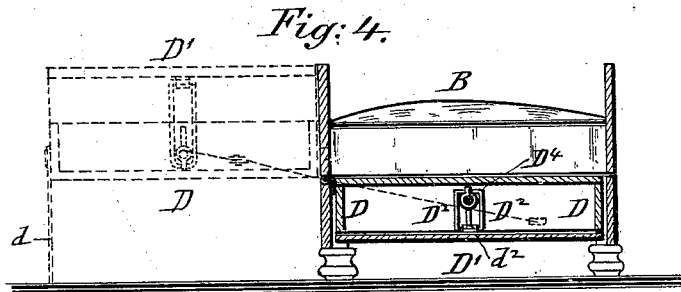
(No Model.)

2 Sheets—Sheet 2.

L. WOERNER.
BED COUCH.

No. 493,418.

Patented Mar. 14, 1893.



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UNITED STATES PATENT OFFICE.

LUDWIG WOERNER, OF BROOKLYN, NEW YORK.

BED-COUCH.

SPECIFICATION forming part of Letters Patent No. 493,418, dated March 14, 1893.

Application filed November 26, 1892. Serial No. 453,274. (No model.)

To all whom it may concern:

Be it known that I, LUDWIG WOERNER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Bed-Couches, of which the following is a specification.

This invention relates to improvements in that class of furniture known as bed-couches, the improvements being designed with a view of providing a storage-receptacle for bed-clothes, pillows, &c., in the head-piece of the seat-section, while, when the structure is used as a couch, the head-piece of the bed-section is automatically raised and placed in line with the head-piece of the seat-section, and when the bed-section is returned into folded position, the lowering of the head-piece is also accomplished in automatical manner.

The invention consists of the combination, with the main-frame of the bed-couch and a seat-frame hinged to the rear-part of the same, of a bed-section hinged to the front-part of the main-frame, said bed-section being provided with a hinged head-piece and with means whereby said head-piece is automatically raised or lowered, when swinging the bed-frame in an outward or inward position so that the head-piece is either in line with the head-piece of the seat-section, or folded down on the bed-section so as not to interfere with the inward motion of the same.

The invention consists further in certain constructive details, by which the head-piece of the bed-section is raised or lowered, which details will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1, represents a front-elevation of my improved bed-couch. Fig. 2, is a vertical longitudinal section of the same, showing the head-piece of the seat-section supported in raised position, so as to give access to the storage-box arranged in the seat-section below the head-piece. Fig. 3 is a vertical transverse section, on line 3 3 Fig. 2, the dotted lines showing the respective positions of the seat-section and bed-section before and after the latter is swung in outward position for use as a bed. Fig. 4 is a vertical transverse section, on line 4 4 Fig. 2, showing the outer position of the

bed-section in dotted lines. Fig. 5 is a vertical longitudinal section on line 5 5 Fig. 6, showing the hinged head-piece of the bed-section and the mechanism for automatically raising and lowering the same, and Fig. 6 is a detail plan-view, showing the mechanism for automatically raising or lowering the hinged head-piece of the bed-section when the same is moved outwardly of or folded into the main-frame.

Similar letters of reference indicate corresponding parts.

Referring to the drawings A represents the main-frame of my improved bed-couch, B the seat-section of the same, and B' the head-piece of the seat-section, which head-piece is hinged at its outer end to the end wall of the seat-section, as shown clearly in Fig. 2. Below the hinged head-piece B' is formed a storage-receptacle or box C for the convenient storage of the bed-clothes, pillows, &c. The head-piece B' is connected by folding pivot-straps *b b* with the side-walls of the box C so as to permit the supporting of the head-piece B' in the raised position, as shown in Fig. 2, in which position the bed-clothes, pillows, &c., may be conveniently removed from the storage-box or replaced into the same. After the bed-clothes, pillows, &c., are placed into the storage-box C, the straps *b b* are folded up and the head-piece B' is lowered into its normal position on the seat-section B. The seat-section B is hinged to the rear-wall of the main-frame A, so that it can be swung into inclined position, as shown in dotted lines at the right hand side of Fig. 3. In this position, it is retained by a strap or other device, so that the bed-section D, which is hinged to the front wall of the main-frame A, can be taken hold of by a loop or otherwise and swung on its hinges in outward direction as shown in dotted lines at the left hand side of Fig. 3. In this position the bed-section D is supported by suitable legs *d* which are pivoted to the frame of the bed-section in the usual manner and which may be of any approved construction. The head-piece D' of the bed-section D is hinged at its lower edge to a transverse piece of the frame of the head-section, as shown in Figs. 2 and 5, and is raised automatically when the bed-section is swung into its outward position.

This is accomplished by means of arms D^2 that are pivoted at one end to keepers d^2 at the underside of the head-piece D' and at the other end to a sleeve D^3 that is guided on a fixed transverse rod D^4 which is attached to the frame of the bed-section D below the head-piece D' . A helical spring d^3 is interposed between the sleeve D^3 and a pin or shoulder on the guide-rod D^4 , so that the sleeve has a tendency to be moved toward the main portion of the seat-section B. The sleeve D^3 is connected by a chain or wire-rope E which is passed over a guide-pulley e to the outside of the frame of the bed-section D and which is attached to a hook or eye e' at the inside of the end-wall of the main frame A, as shown in Fig. 6. When the bed-section D is swung on its hinges in outward direction into a position sidewise of the seat-section B the sleeve D^3 is moved against the tension of the spring d^3 on the guide-rod D^4 into the position shown in Figs. 5 and 6. This produces a gradual shifting of the position of the supporting arms D^2 and thereby the raising of the head-piece D' into line with the head-piece B' of the seat-section B. When the bed-section D is returned into its folded position in the main-frame, the slackening of the chain or rope E, permits the spring d^3 to return the sleeve D^3 into its initial position on the guide-rod D^4 and to lower the head-piece D' on the bed-section D, by which motion of the sleeve the supporting arms D^2 are moved into a position at the inside of the frame of the bed-section as shown in Fig. 2. The raising of the head-piece D' and the lowering of the same into line with the main-portion of the bed-section D is accomplished in an automatic manner during the swinging of the bed-section into outward position or into inward position in the main-frame A.

On the sleeve D^3 is arranged a hook h which engages a keeper h' at the underside of the head-piece D' , said keeper being provided with an anti-friction roller or otherwise, by which the engagement of the hook with the keeper is facilitated, so that the head-piece D' is held positively in lowered position when the bed-section D is folded into the main frame A, as shown in Figs. 2 and 4.

My improved bed-couch is operated as follows: The seat-section is first swung on its hinges into inclined position, as shown in dotted lines of Fig. 3, so that the bed-section can be swung on its hinges in outward position and supported on its legs. The seat-section is then lowered again onto the main-frame so as to be on a level with the outwardly-swung bed-section. The head-piece of the bed-section is automatically raised during the outwardly swinging motion of the bed-section, so as to be in line with the head-piece of the seat-section. This head-piece is next raised on its hinges so as to give access to the storage-box and permit the removal of the bedclothes, pillows, &c. The head-piece is then

lowered again and the bedclothes are placed over the seat and bed-sections, the structure being then ready for use as a bed. In changing the bed back into a couch, the bedclothes, pillows, &c., are first returned into the storage-box, the seat-section is raised on its hinges into inclined position, the bed-section returned into the main-frame during which motion the head-piece is automatically lowered and locked and the seat-frame then lowered into the main-frame, the structure being then ready for use as a couch. When a back is used in connection with the seat-section, a bed lounge is obtained.

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

1. The combination, with the main-frame of a bed-couch, of a seat-section hinged to the rear wall of said main-frame, a head-piece for said seat-section, a bed-section hinged to the front wall of the main frame, a hinged head-piece for said bed-section and means, substantially as described, whereby the head-piece of the bed-section is automatically raised into line with the head-piece of the seat-section or lowered into the bed-section during the outward or inward motion of the bed-section, substantially as set forth.

2. The combination, with the main-frame of a bed-couch, of a bed-section hinged to the front wall of the same, a head-piece hinged at its lower edge to said bed-section, mechanism connected with said head-piece and the end wall of the main frame whereby the head-piece is automatically raised or lowered during the outward and inward motion of the bed-section, substantially as set forth.

3. The combination, with the main-frame of a bed-couch, of a bed-section hinged to the front wall of the same, a head-piece hinged at its lower edge to said bed-section, mechanism arranged below the head-piece and connected with the same and with the main-frame so as to raise or lower said head-piece during the outward and inward motion of the bed-section and mechanism for releasing from or locking the head-piece to the bed-section during the outward or inward motion of the bed-section, substantially as set forth.

4. The combination, with a main-frame of a bed-couch, of a bed-section hinged to the front wall of the main-frame, a head-piece hinged to said bed-section, supporting arms pivoted to said head-piece, a fixed transverse guide-rod in the frame of the bed-section below said head-piece, a spring actuated sleeve on said guide rod to which the lower ends of the supporting arms are pivoted and a chain or rope attached to said sleeve, guided over a pulley on the frame of the bed-section and attached to the end wall of the main frame, substantially as set forth.

5. The combination, of the main frame, of a bed couch, of a bed-section, hinged to the front wall of the main-frame, a head-piece

hinged at its lower edge to the bed-section a
fixed guide-rod below said head-piece, a slid-
ing and spring actuated sleeve on said guide-
rod, supporting arms pivoted to the head-
5 piece and a sliding sleeve, a guide pulley on
the head-end of the bed-section a chain or
rope guided on said pulley and connecting
the sleeve with the head end of the main
frame, a locking hook on the sleeve and a

keeper at the under-side of the head-piece, 10
substantially as set forth.

In testimony that I claim the foregoing as
my invention I have signed my name in pres-
ence of two subscribing witnesses.

LUDWIG WOERNER.

Witnesses:

PAUL GOEPEL,
H. OBERMAYER.