

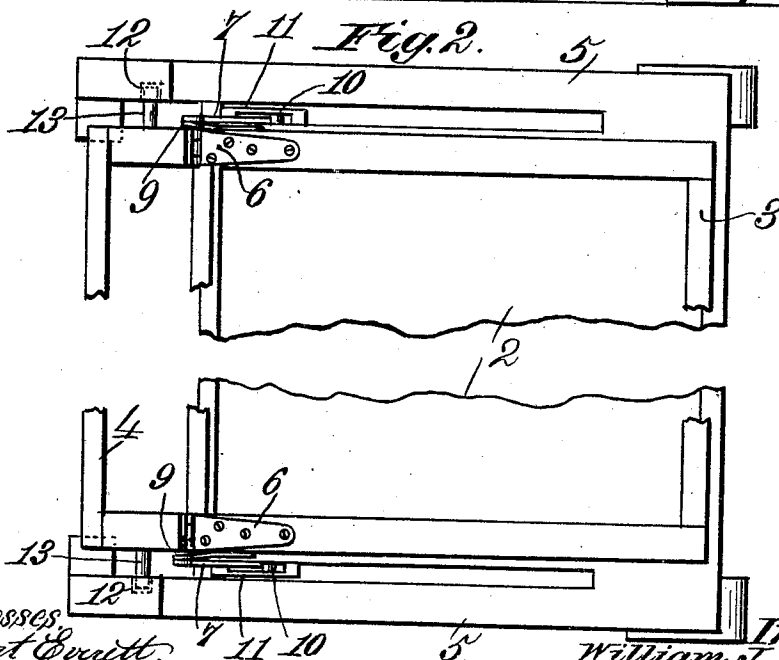
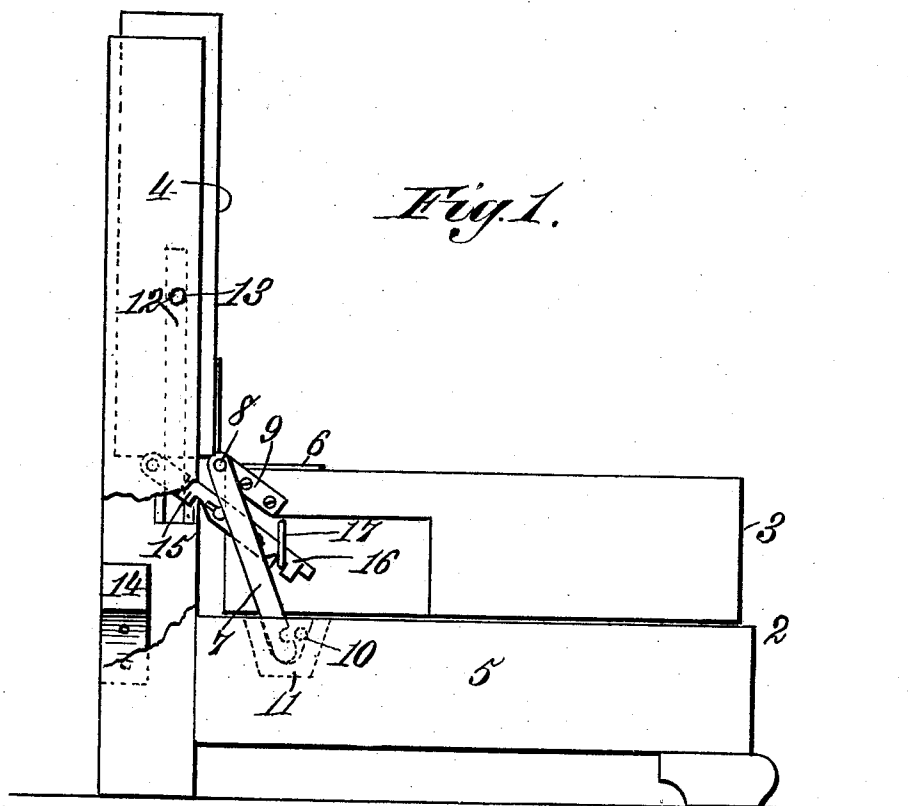
No. 828,215.

PATENTED AUG. 7, 1906.

W. J. KELLY.
SOFA BED.

APPLICATION FILED JULY 14, 1905.

2 SHEETS—SHEET 1.



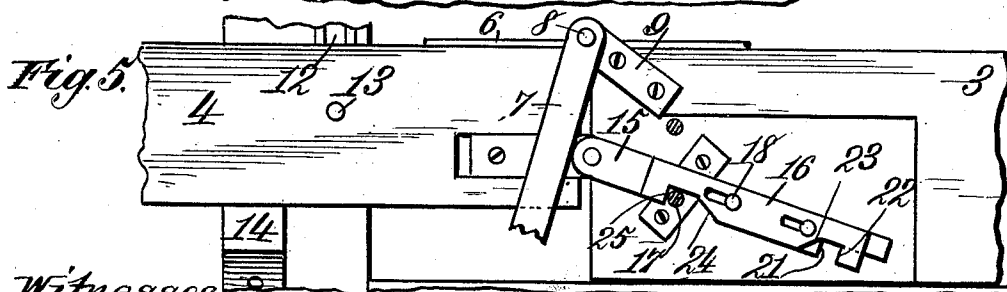
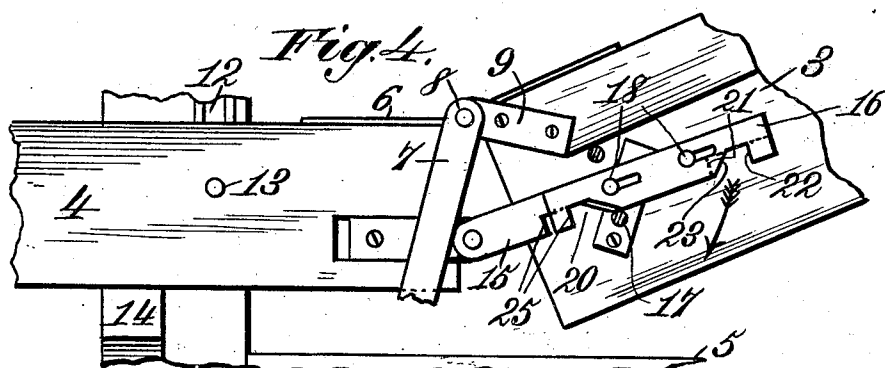
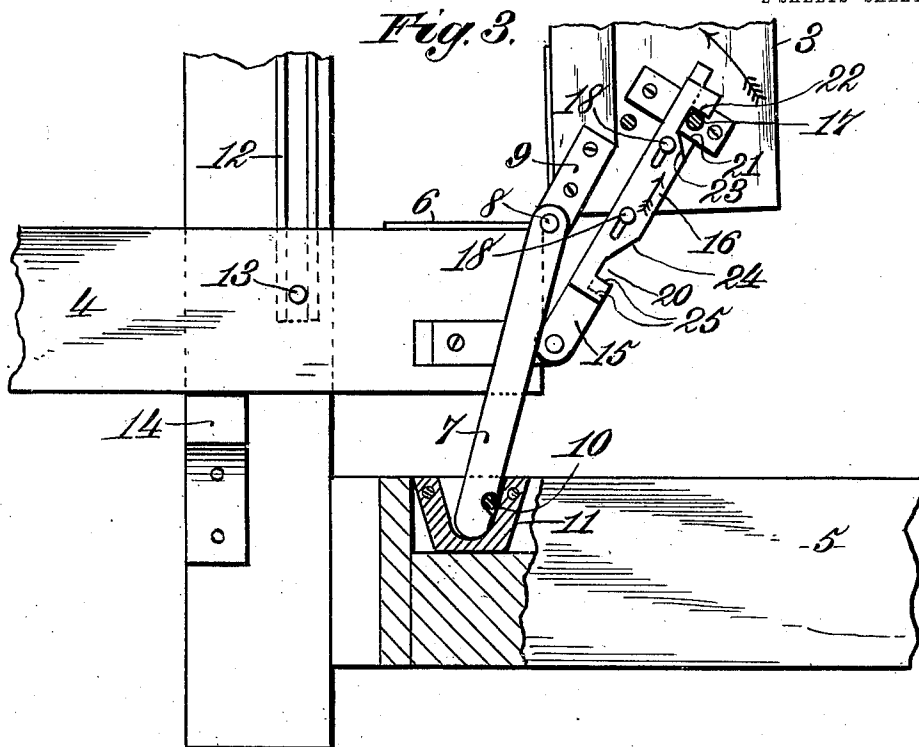
Witnesses
Robert G. Smith,
J. B. Keefe

Inventor.
William J. Kelly,
By James L. Norris,
Att'y.

W. J. KELLY
SOFA BED.

APPLICATION FILED JULY 14, 1905.

2 SHEETS—SHEET 2.



Witnesses.
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Fig. 6.
15, 16 18 19 18

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UNITED STATES PATENT OFFICE.

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SOFA-BED.

No. 828,215.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed July 14, 1905. Serial No. 269,708.

To all whom it may concern:

Be it known that I, WILLIAM J. KELLY, a citizen of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented new and useful Improvements in Sofa-Beds, of which the following is a specification.

This invention relates to what I shall for convenience term a "sofa-bed," although it will be evident as the nature of the invention is better understood that the latter can be incorporated in other articles of furniture. The bed or article of furniture involves in its make-up a back, a body portion, a seat, and ends.

It is one of the objects of the invention to so construct the parts that they may be readily assembled by inexperienced operators. In other words, the parts may be made at a factory, shipped to a dealer, and by him assembled in a ready easy manner.

Another object of the invention is to support the weight of the seat or, as it is sometimes termed, "bed" squarely and evenly upon a body portion, the latter in the present case being of box-like form to present a wardrobe for the reception of bedclothing and other articles.

The invention includes other objects and advantages which with the foregoing will be set forth at length in the following description, while the novelty thereof will be included in the claims succeeding said description.

In the drawings accompanying and forming a part of this specification I illustrate a simple form of embodiment of the invention, which to enable those skilled in the art to practice the same I will set forth in detail in said description.

In the drawings, Figure 1 is an end elevation of part of a sofa-bed including my invention. Fig. 2 is a top plan view of the same with the intermediate part of the bed removed. Figs. 3, 4, and 5 are end elevations, upon a slightly-larger scale, of the seat and back and certain other coöperative parts and showing the different positions assumed by said seat and back when the article is changed from a sofa to a bed, and vice versa. Fig. 6 is a detail plan view of a locking device.

The sofa-bed illustrated involves in its construction a body portion, as 2. The body

portion 2 is represented as consisting of a box, so that it may contain articles of bedding. In addition to the body portion there is a seat, as 3, a back, as 4, and ends, as 5. The seat 3 is also known as a "bed."

The seat 3 and back 4 are hingedly connected together, so that the back may be swung down from its normal position, which is at approximately right angles to the seat, to a position in horizontal alinement with the seat to form a bed. I have shown two of these hinges, each being designated by 6 and being of the strap form, their leaves being attached—say by screws—to the seat and back, respectively. The seat and back are normally locked together. In other words, this is the relation when the sofa-bed is being used as a sofa or as what is familiarly known as a "davenport," and I will hereinafter describe the locking means. The seat 3 is adapted in use to rest squarely and to have its weight, as well as that of the back, distributed evenly upon the body portion 2, and I connect the seat with the body portion in such manner that the result in question can be secured without interfering with the free swinging motion of the seat and back.

I have shown as carried by the body portion 2 levers, each designated by 7, said levers being connected with the respective hinges at their joints. In other words, the pins 8, which connect the straps of the two hinges 6, serve as the pivots for the upper ends of the two levers, said pins extending through said upper ends and being headed upon the outer face of the levers. For strength I may employ braces, as 9, fastened, as by screws, to the opposite ends of the seat 3 and perforated to receive the pins 8, the braces 9 being disposed between the levers and the hinges and taking some of the strain off the levers as they swing forward and backward as the seat is successively raised and lowered.

The fulcrums for the levers are shown as consisting of studs, as 10, upon brackets, as 11, attached, for example, by means of screws to the ends of the body 2, the lower ends of the levers 7 being notched to receive said studs. The brackets or sockets 11 serve as a simple means in connection with their studs for removably mounting the two levers.

In practice the seat 3 and back 4, with the

levers 7 and braces 9, having been assembled the seat will be placed upon the body portion 2, following which the levers will be connected to the body portion by means of the brackets 11. When this is done, the ends 5 will be bolted or otherwise fastened to the ends of the body portion 2 in such manner that longitudinal grooves in guide-plates, as 12, will be positioned to receive projections, as 13, upon the ends of the back 4. The grooved guide-plates 12 are countersunk in the inner faces of the ends 5, and the projections on the back 4 vertically traverse the grooves therein as the said back is swung with the seat or independently thereof.

With the parts in their normal relations the seat 3 will rest upon the upper side of the body portion 2, the back 4 extending upward from the rear of the seat and at substantially right angles to the latter, the two being locked together. When in this normal relation, the levers will extend upwardly and rearwardly from their fulcrums, whereby when the back is swung down the two levers will be moved forward, the limit of their forward motion being completed when the back rests upon brackets, as 14, upon the inner sides of the ends 5, which will indicate that the back has reached the limit of its rearward or downward movement or that it is in horizontal position. During the various movements of the back either independently of or with the seat the projections 13 thereon ride along the grooves in the plates 12. The locking means to which I have referred maintain the seat and back normally in rigid relation, but may be operated in such manner that the seat will be released from the back and can be swung down to a horizontal position in line with the back, so that the back and seat present collectively a bed. The downward swing of the back 4 carries the same slightly bodily forward, and the same of course applies to the seat, so that when the two are put into horizontal alinement the seat or the forward side thereof will slightly overhang the front of the body portion 2, but will rest thereon. In other words, when the seat is in its two positions it rests upon the body portion and is not supported by the levers 7, which practically act as guides for securing an accurate motion of the back and seat during their swing from one position to another, and vice versa. In the present case to securely lock the seat 3 and back 4 in their normal relation I provide two locking means, one at each end of the respective parts, and as the locking means are the same in construction and mode of operation a complete description of one and its action will answer for the other.

A locking member comprises two sections, a body or main section, as 15, and a supplemental section, as 16. The body-section is shown as pivoted near the lower end of the

seat 3, while the opposite end thereof, as well as the supplemental section, coöperates with a keeper, as 17, which may advantageously consist of a staple or be of U shape, so that the two sections 15 and 16 can extend through the same to be guided thereby.

The two sections 15 and 16 of the locking device or latch may be made inexpensively and readily from strap metal, the supplemental section being capable of movement upon the body or main section, for which purpose the former may have longitudinal slots to receive guide-pins, as 18, upon the body-section. These guide-pins may consist of rivets. The two sections of the locking device or latch are held against accidental relative movement by a spring, as 19, therebetween. Each of the sections is notched or cut away, as at 20, and the notches are so formed as to produce upon the forward ends of the two sections abrupt shoulders, as 21 and 22, and an inclined face 23 upon the rear wall of the forward notch of the supplemental section. The notches at the rear ends of the two sections are of substantially similar shape, each having an inclined face 24 merging into an abrupt shoulder 25, which, like the other shoulders, extends approximately at right angles to the length of the two sections.

Normally, or when the sofa-bed is used as a sofa or davenport, the notches of the two sections 15 and 16 will be out of register. This will bring the abrupt shoulder 22 on the supplemental section 16 forward of the abrupt shoulder 21 on the main section, so that the locking device made up of the two sections is operative to hold the back against tilting motion relatively to the seat 3. Should it be desired to convert the article into a bed, the back 4 will be swung rearward and downward until it rests on the brackets 14, following which the seat 3 will be swung toward the back. As this is done the keeper 17 will by engaging the shoulder 22 move the supplemental section 16 relatively to and longitudinally of the body or main section 15, so as to carry the inclined face 23 forward and to or beyond the shoulder 21 and to also move the rear and similarly-shaped and normally registering notches 20 out of register. When this is done, the locking device is rendered ineffective, whereby the seat will be unlocked from the back and can then be dropped down upon the body portion 2 into line with the back. In other words, I provide a locking device for two parts of an article of furniture to normally maintain them in rigid relation, one of said members having a movement relatively to the other to put the locking means into an inoperative relation, or, in other words, to unlock or release the two members. In the present instance these members are the seat and back of a sofa-bed. As the seat is dropped down the locking device, consisting of the sections 15 and 16, will ride along the

keeper 17 until the shoulder 25 on the supplemental section is engaged by said keeper 17. This occurs when the seat is nearly in horizontal position. On the continued motion of the seat the keeper moves the supplemental section relatively to the main section, so as to put the rear notches 20 into register and the forward notches 20 out of register. The relative motion therefore of the two sections of the locking device on the dropping down of the seat is such as to restore said locking device to its original condition or to render it operative. When the back is lifted, the locking device can by its own weight or by gravity assume automatically its original relation with the keeper device in the space between the shoulders 21 and 22, which space really presents a locking recess or aperture for the keeper.

In addition to the article of furniture having two members one of which puts a locking device into an inoperative relation it has another member, which in the present case is the back, which restores said locking device to its normal or operative relation. In both cases the action is automatic and positive.

Having thus described the invention, what I claim is—

1. An article of the class described having a seat and a back movably connected, locking means to normally maintain them in rigid relation, and consisting of two sections, one movable relatively to the other and adapted to be operated by one of the members of said article to put the locking means into an inoperative relation, and a spring be-

tween the two sections of the locking means to prevent their relative accidental motion.

2. An article of the class described having a seat and a back movably connected, and a locking means to normally maintain them in rigid relation, said locking means consisting of a main member pivoted to the back and a supplemental member movable on and longitudinally of the main member, both members having notches at their free ends, the wall of the notch on the main member being shaped to present an abrupt shoulder and the wall of the other being angular, said two notches being normally out of register, and a keeper upon the seat to enter the notches and to engage said abrupt shoulder to cause the movement of the main member with respect to the supplemental member, thereby to carry the said angular portion forward beyond the abrupt shoulder and permit the locking means to release the back.

3. An article of the class described consisting of a body portion, a back and seat hingedly connected together, each of the hinges having a pivot-pin, levers supported for swinging movement by the body portion and pivoted to the pins, and braces fastened to the seat and perforated to receive said pins.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM J. KELLY.

Witnesses:

E. LAWLER,
W. BURKE.