

E. N. DORING.
Sofa-Beds.

No. 145,404.

Patented Dec. 9, 1873.

Fig. 1

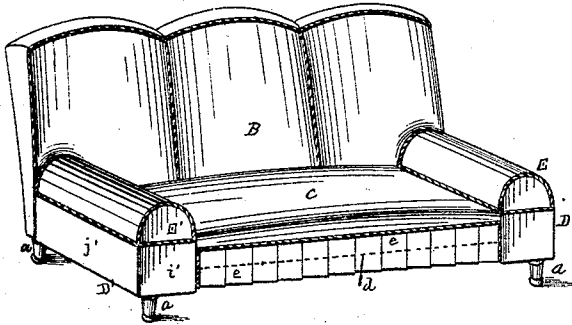


Fig. 4.

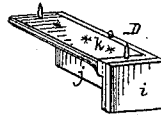


Fig. 2.

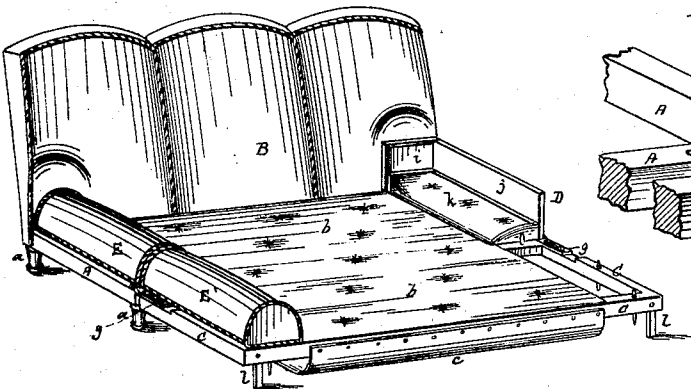


Fig. 5.

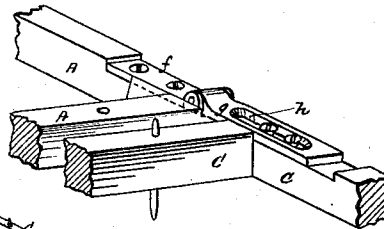
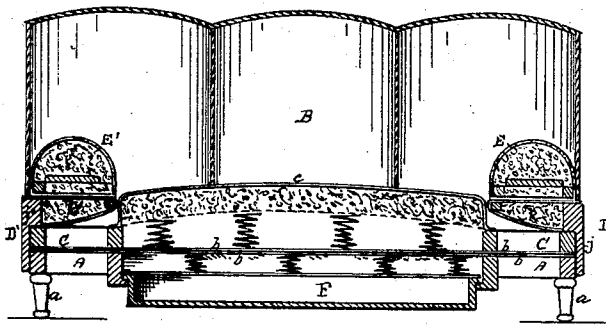


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE

ERNEST N. DORING, OF NEW YORK, N. Y.

IMPROVEMENT IN SOFA-BEDS.

Specification forming part of Letters Patent No. **145,404**, dated December 9, 1873; application filed December 1, 1873.

To all whom it may concern:

Be it known that I, ERNEST N. DORING, of the city and State of New York, have invented certain new and useful Improvements in Sofa-Beds, of which the following is a specification:

This invention relates to a certain article of furniture which, while normally having the external appearance of, and serving as a lounge, sofa, or divan, is convertible at will into a bed. The article of furniture possessing the above general characteristics is known as a sofa-bed, and such I designate it here.

The sofa-bed in which my invention is comprised possesses one feature in common with some sofa-beds heretofore made, viz., a seat made in two parts, hinged together at the front, so that they may be folded up in seat form, or unfolded to form a bed, as occasion demands.

In other respects, however, which I shall proceed to note, my sofa-bed differs essentially, so far as I am informed, from articles of the same class heretofore made. I unite the two parts of the seat by a sliding hinge-joint, which, when the seat is unfolded, allows the contiguous edges of the two parts to separate and leave ample room for the quilting, ruffle, or other upholstery on the front of the seat, which will thus be kept unimpaired in appearance and free from wrinkles or creases. The arms of the sofa-bed I make each of two parts. The under part—which I call the bolster—is designed, when the seat is folded up, to fit over the top and side of the seat-frame, and also over the front far enough to meet the upholstery, thus serving to give a finish to the end of the frame to which it is applied, and also, if need be, to hold down the upper movable part of the seat-frame upon the lower. When, on the other hand, the seat is unfolded, the two bolster parts, being one for each arm, are turned and fitted to the head of the bed, constituting a bolster or bolster-receptacle. The upper part of each arm—which I call the cushion, and which is upholstered to match the rest of the couch or sofa—fits, when the seat is folded up, upon the lower or bolster part of said arm. When the seat is unfolded the two cushions, one for each arm, are put together at the foot of the bed, and serve to prevent the bed-clothing, quilts, &c., from sliding downward and over the foot.

Beneath the sofa is a drawer to contain pillows for the head of the bed, and a cover to be drawn over the upholstered cushions, so as to protect them when used at the foot of the bed, as above noted.

The manner in which my invention is or may be carried into effect will be understood by reference to the accompanying drawing, in which—

Figure 1 is a perspective view of the sofa-bed as it appears when used as a sofa or divan. Fig. 2 is a like view of the same when unfolded and constituting a bed. Fig. 3 is a longitudinal vertical section through the seat and arms of the sofa-bed when folded up and in the condition shown in Fig. 1. Fig. 4 is a perspective view of the bolster part of one of the arms. Fig. 5 is a perspective view, on an enlarged scale, of a portion of the seat-frame, representing more clearly the sliding hinge-joint connecting the two parts of said frame.

The seat of the sofa-bed is formed of two parts. The one part, A, is the main or stationary frame provided with the legs *a*, which constitute the legs of the sofa or divan. It also has a spring-bed bottom, formed by springs covered by a mattress or ticking, *b*, or otherwise suitably made so as to constitute a good bed. The main frame A may also be provided, if desired, with a back, B, which will constitute the back of the sofa or divan. To the part A is hinged the movable part C of the frame, which is the counterpart, in shape and dimensions, of A. The part C is, on its under side, made into a spring-bed like the upper side of part A, the ticking or mattress *b* extending continuously and without break over the two parts, as shown in Fig. 2, a portion of the ticking at the right and front of frame C being cut or broken away to show the one of the sliding hinge-joints that unite the two parts of the seat. The top of part C—and by top I mean the face which is uppermost when the seat is folded up—is upholstered to form the lounge or sofa seat, as shown at *c*. This seat stops short of the ends of frame C, leaving at each end a space to be occupied and filled out by the bolster portions of the arms, as hereinafter described.

The two parts A C of the seat are hinged together at the front, the line of junction being indicated by the dotted line *d*, Fig. 1. This joint and the front faces of the two parts

are covered by a ruffle or quilling, *e*, which, like the upholstered seat *c*, stops short of the ends of the frame at the points where the bolster portions are located.

The hinge-joint between the parts A C is of a peculiar character. The one part, *f*, of the hinge is fixed to the stationary part, A, of the seat-frame. The other part, *g*, of the hinge is held to the movable part, C, by screws, which pass through a slot, *h*, in the part *g*. The movable part C can thus not only turn on the hinge, but can have a sliding movement also, which will permit it, when unfolded, to be drawn out far enough away from the adjoining edge of part A to prevent the ruffle or quilling *e* from being pinched or crushed between them. The ruffle *e* will thus be preserved intact and unimpaired under all circumstances, which is a point of considerable value.

I shall now proceed to describe the arms. They are made, in all essential respects, alike, so that the description of one will answer for both.

On the right of the sofa or divan represented in Figs. 1 and 3, D is the bolster, and E the cushion. The bolster is shown separately in Fig. 4. It is composed of a front, *i*, a side, *j*, and a top, *k*, preferably upholstered so as to form, on its under side, a cushion or bolster.

When the seat is folded up the bolster D is fitted on the unupholstered end of the seat, as seen in Figs. 1 and 3, with the front *i* covering the otherwise exposed portion of the seat-front, and meeting the ruffle *e* and side *j*, covering the side of the seat-frame. The top *k* is about flush with seat *c*.

Parts *i* and *j* are made of ornamental wood; or are otherwise made to give a finished appearance to the sofa.

Upon top of the bolster D rests the cushion part, E, as shown. The cushion E' and bolsters D' on the left of the sofa, are made like the parts D and E, except that the front *i'* of the bolster D', being on the left of the sofa, occupies, on its bolster, a position the reverse of that of the front *i* on bolster D.

The sofa, thus made, bears every external appearance of a sofa, without any indication that it may be converted into a bed.

In order to make it into a bed, the arms on each end are removed, the seat is unfolded and spread out, and legs *l*, hinged to and normally concealed in recesses in the movable seat-frame C, are dropped, as indicated in Fig. 2. Bolster D is now turned bottom upward, and fitted on the head of the bed nearest the back B, as seen in Fig. 2, and bolster D' is placed in a similar position, also, at the head, so as to join onto, and form a prolongation of, bolster D, the front *i'* of this bolster D' being at the front edge of the bed. The upholstered tops *j j* thus constitute a perfect bolster. Cushions E E' are placed in similar position at the foot; and the sofa is

thus converted with ease and expedition into a bed.

The drawer F, which is located beneath the sofa, so that it cannot be seen from the front, and is opened from the back of the same, is designed, as before said, to contain pillows, which can be placed upon the bolsters, and a case or cover, which can be drawn over the cushions, to effectually shield and protect them.

For the purpose of holding in place the two parts of the seat-frame when folded together, and also of holding in place the bolster and cushion parts of the arms in whatever positions they may be, I have represented them as provided with dowels or pins, to fit into corresponding sockets in the parts opposite to which such dowels come. I wish it to be understood, however, that other means of connection can be readily employed; and I intend connecting the bolsters and cushions together; and also connecting the bolsters with the seat-frame by dovetailed tenons and grooves, like those used in extension-table slides, which will cause said parts to hold tightly and securely together.

The tenon and groove connection of the seat and bolsters, when the seat is folded up, will be on the immovable part A of the frame, so that the bolsters will serve to hold down tightly the movable part C upon the frame.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The seat-frame, composed of two parts, united together by a combined slide-and-hinge connection, substantially as and for the purposes shown and set forth.

2. The combination, in a sofa-bed, with the divided and hinged seat and bed-frame, of detachable arms, fitting down upon the end of the folded frame, and provided with front and side pieces, to cover and conceal the otherwise exposed portions of the frame sections, substantially as shown and set forth.

3. The detachable sofa-bed arm, made of two parts, the one a bolster portion, and the other a cushion portion, the same being constructed and adapted to be applied to the sofa-bed, substantially as herein shown and set forth.

4. The divided seat-frame, having the upper or movable portion upholstered to form a sofa-seat for a portion of its length, and not extending to the ends, in combination with the sectional arms, consisting, each, of a bolster and a cushion, fitted and applied to the unupholstered ends of said sofa-seat, substantially as shown and set forth.

In testimony whereof I have hereunto signed my name this 29th day of November, 1873.

Witnesses: ERNEST N. DORING.
MORRIS BENARIO,
SAM. GRÜNNALD.