(No Model.)

G. E. KRAUSE & A. KRAMER.

HINGE.

No. 444,445. Patented Jan. 13, 1891.

FIG. 1.

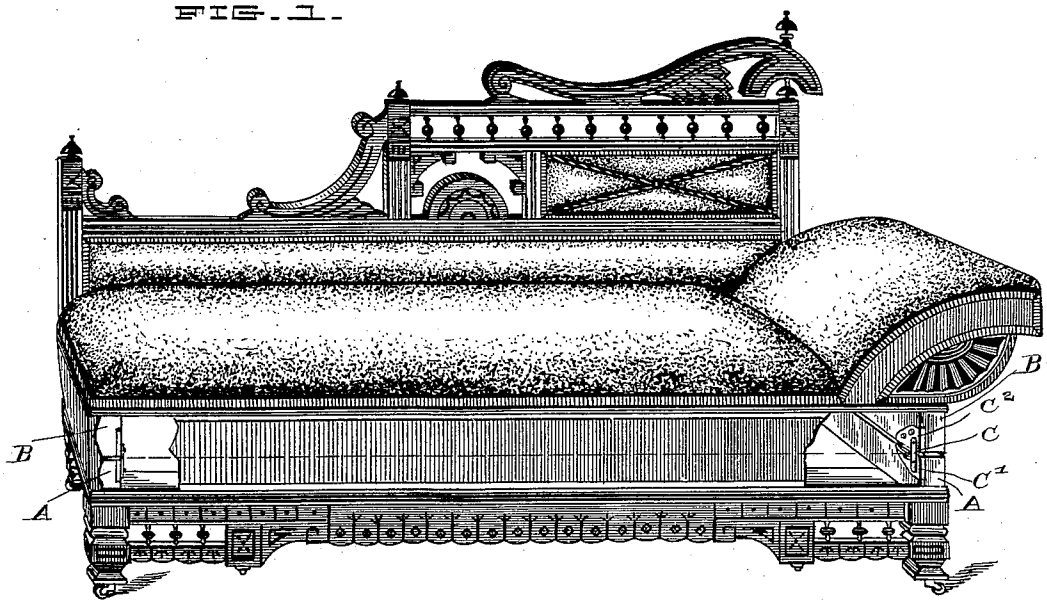


FIG. 2.

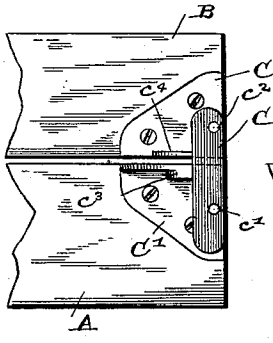


FIG. 3.

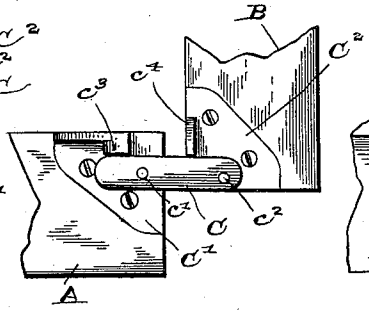


FIG. 4.

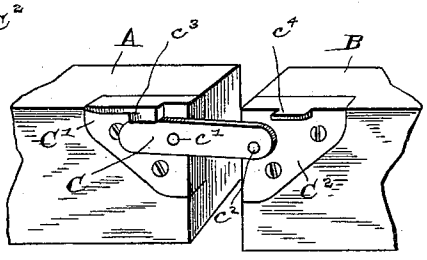
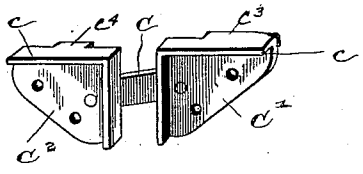


FIG. 5.



Witnesses
H. D. Healy.
G. W. Brooks.

Inventors
George E. Krause,
and Andrew Kramer,
By thier Attorneys
Church & Bradford.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE E. KRAUSE AND ANDREW KRAMER, OF INDIANAPOLIS, INDIANA.

HINGE.

SPECIFICATION forming part of Letters Patent No. 444,445, dated January 13, 1891.

Application filed July 22, 1890. Serial No. 359,493. (No model.)

To all whom it may concern:

Be it known that we, GEORGE E. KRAUSE and ANDREW KRAMER, citizens of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Hinges, of which the following is a specification.

The object of our said invention is to produce a hinge particularly adapted for use with bed-lounges or sofa-beds, which will permit the front of the structure to remain smooth when folded up, instead of being distended or having the protuberances caused by the use of ordinary hinges.

Said invention will first be fully described, and then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a bed-lounge provided with our invention, a part of the upholstering being broken away to show how the hinge embodying said invention is applied thereto; Fig. 2, a detail elevation of the hinge and parts of the rails to which it is connected in the same position as shown in Fig. 1, on an enlarged scale; Fig. 3, a view similar to Fig. 2, showing the position the hinge occupies when the structure is partly folded; Fig. 4, a detail perspective view showing the position and relation of the parts when the lounge is unfolded ready for use as a bed; and Fig. 5, a similar view from the rear side showing the flanges on the hinge parts, which are set into the wood of the frame-work.

In said drawings, the portions marked A represent the frame-work of the lower or permanent portion of the sofa-bed or lounge; B, the frame-work of the upper or folding portion, and C, C′, and C^2 the three parts of which our improved hinge is composed.

As shown, the frame-work of the lounge or bed is of a usual and well-known form. At the point on the front side where the two frames A and B are hinged together they are substantially open, the rails which connect the two end pieces being secured to the bottom side of the part A and to the opposite side of the part B, respectively, so that when the frame is opened out in position for use as a bed there are no rails cutting the bed in two.

Heretofore when common hinges were used the middle portions of the hinges, including the pintles, have projected out in front of the frame of the lounge or bed when folded up, forcing out the upholstering which covers this front portion and leaving protuberances on the front of the lounge when in the folded-up position. This is manifestly not only unsightly, but subjects those portions of the upholstering so forced out to unusual and unnecessary wear, and sometimes, when such portions come in contact with other substances, cuts or wears holes through the upholstering, thus spoiling the appearance of the lounge as an article of furniture. We are aware that devices for obviating this difficulty have heretofore been produced, but we are not aware that any hinge has been produced which embodies all the advantages of our improved hinge, which will now be more fully described.

As before stated, our improved hinge consists of the three parts C, C′, and C^2. The parts C′ and C^2 are preferably quadrant-shaped, as shown, and are connected to the inner adjacent corners of the end pieces of the frames A and B, while the part C is connected to said parts C′ and C^2 by pivots c' and c^2. Said parts C′ and C^2 have flanges c, which are let into the corners of the frame to which they are attached, thus giving greater strength and relieving the screws of a considerable portion of the strain. The part C′ also has a projection c^3, with which the elongated end of the part C engages when the lounge is opened out in position for a bed, whereby said part C, through the three points c', c^2, and c^3, is enabled to act as a lever or bar to sustain the edge of the folding portion of the lounge which is nearest the permanent portion, while not interfering with its free movement. The other edge of the folding portion is sustained in the ordinary manner by legs attached thereto, which are preferably folding legs, but which, being no part of this invention, it is not necessary to describe herein. By the arrangement described it will be seen that our improved hinges thus not only serve

the purpose of hinges perfectly and obviate the unsightly protuberances caused by old-fashioned hinges, but they serve also to sustain one edge of the folding portion of the structure. The part C^2 also has a projection c^4, as shown, and, as illustrated by Fig. 3, this comes in contact with the upper edge of the part C when in the process of folding the structure the folding part has reached an upright position, and from this point this projection carries the part C around until it reaches the position shown in Figs. 1 and 2. In this (the completely folded) position, as will be seen by an examination of said figures, the side of said part C rests against the projections c^3 and c^4, and thus the several parts of the hinge when in this position are brought into a certain and exact relation, the front edges thereof, and also the frames to which they are connected, being brought definitely and certainly into the same perpendicular plane.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a hinge, of the three parts C′, C^2, and C, connected together by pivots, said part C′ having a projection, and said part C having an elongated end extending under said projection, its other end being free to move on its pivot, substantially as and for the purposes set forth.

2. The combination, in a hinge, of the two parts C′ and C^2, adapted to be connected to a frame-work, and the link C, connecting said two parts together, said part C^2 being provided with a projection which, when it is partially folded up, comes in contact with the side of the link and carries it from that point forward to the final position, substantially as shown and described.

3. The combination, in a hinge, of the three parts C′, C^2, and C, said parts C′ and C^2 being adapted to be attached to a frame-work and provided with projections c^3 and c^4, and said part C being connected to said two parts C′ and C^2 by pivots and adapted when folded up to come in contact with said projections c^3 and c^4, whereby the edges of said parts are brought into and held in the same plane, substantially as shown and described.

In witness whereof we have hereunto set our hands and seals, at Indianapolis, Indiana, this 17th day of July, A. D. 1890.

GEORGE E. KRAUSE. [L. S.]
ANDREW KRAMER. [L. S.]

Witnesses:
CHESTER BRADFORD,
FRANK W. WOOD.