

(No Model.)

D. C. STORR.  
FOLDING COUCH BED.

No. 578,844.

Patented Mar. 16, 1897.

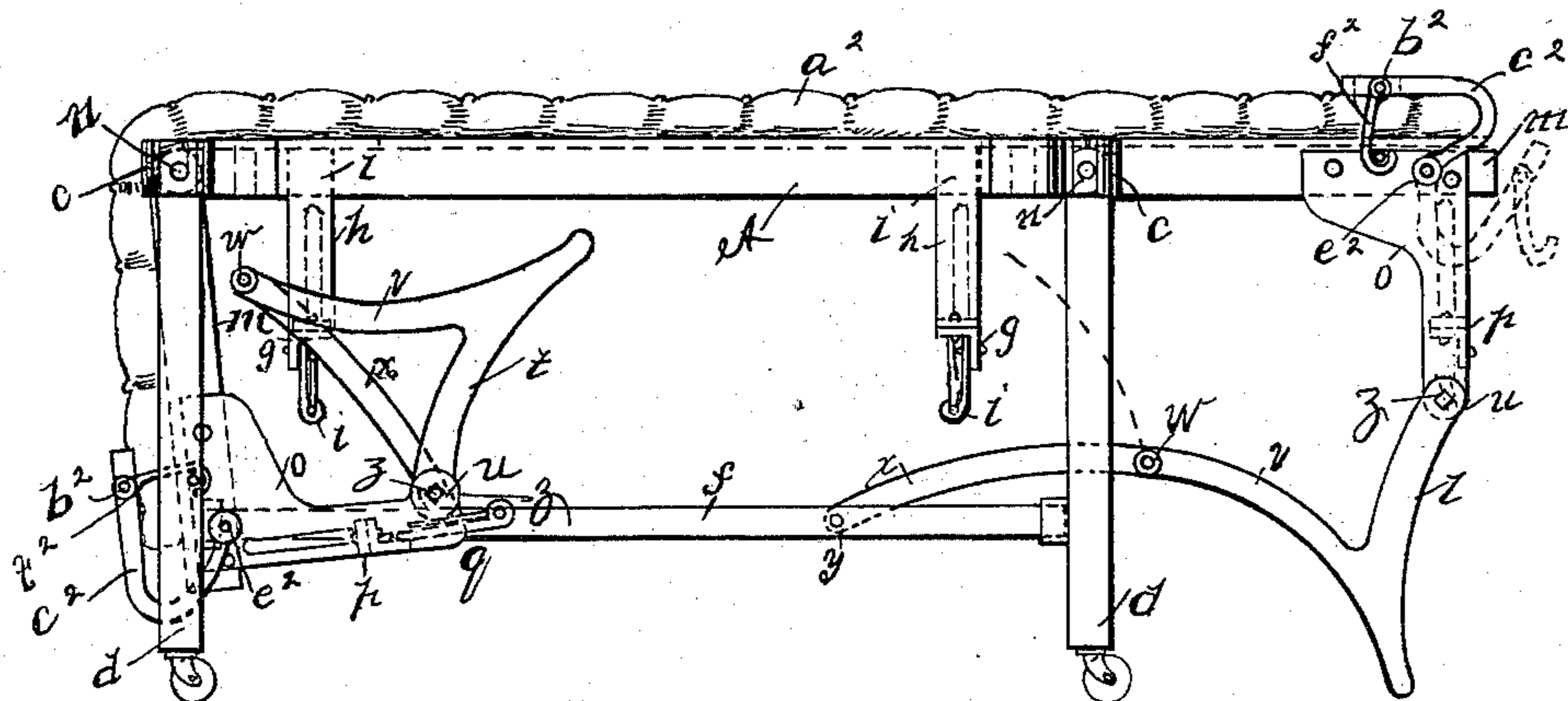


FIG. 1

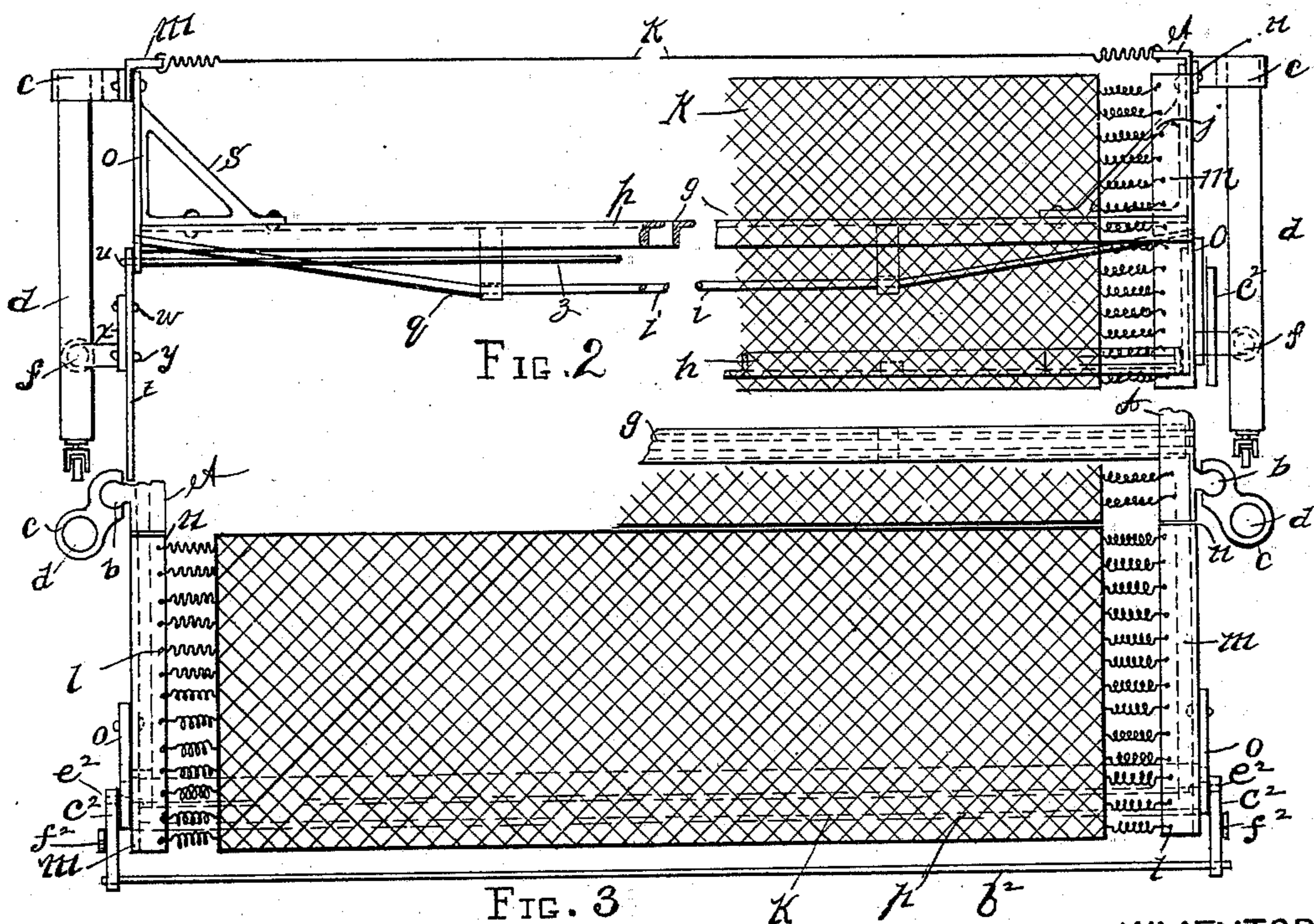


FIG. 3

WITNESSES:

*O. J. Morgan*  
*Jas. J. Alexander*

INVENTOR

*David C. Storr*

BY *A. P. Thayer*

ATTORNEY

# UNITED STATES PATENT OFFICE.

DAVID C. STORR, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO EDWARD A. COOK, OF BOSTON, MASSACHUSETTS.

## FOLDING COUCH-BED.

SPECIFICATION forming part of Letters Patent No. 578,844, dated March 16, 1897.

Application filed May 8, 1896. Serial No. 590,652. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID C. STORR, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Folding Couch-Beds, of which the following is a specification.

My invention consists of improvements in the apparatus of folding couch-beds having a permanent standing middle portion and a folding wing at each side, the wings being adapted to be set up level with the middle portion for a bed and to be folded under the sides of the middle portion for a couch, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is an end elevation of my improved folding couch with one wing set up as for a bed and the other folded under as for a couch and having a mattress on the top. Fig. 2 is a side elevation with the right-hand portion of the wing of the front side folded down and the left-hand portion of said wing set up, the mattress being omitted from the whole and the bed-spring only shown at the right-hand side. Fig. 3 is a plan view of part of the folding couch with the wing of one side set up and with the bed-spring.

A represents angle-iron end bars of the permanent middle portion of the frame. They are preferably made of malleable iron and have a dovetail vertical key or wedge *b* cast on the outside near each end. *c* represents a bracket-arm cast on the upper ends of the legs *d* to receive the keys *b* of the end bar for connecting the legs and end bars.

The legs are stayed at a suitable distance above the lower ends by cross-bars *f*, suitably connected to them. The side bars of the middle portion of the frame are represented at *g*. They are also of angle-iron, but preferably of rolled metal. They are suspended lower than the end bars by hangers *h*, attached to said end bars, and are trussed, as at *i*, and braced, as at *j*, for stiffening them. The purpose of suspending these side bars below the end bars is to avoid hard bearing of the thighs on them when the top of the couch sags by sitting on it, the top being a yielding-wire bed-spring,

as *k*, of any approved kind, said spring being in this example secured in holes *l* of one of the flanges of the end bars.

The end bars of the wing-frames are represented at *m*. They are pivoted at *n* to the ends of the bars *A*, preferably by rule-joints, and at the outer ends have a pendent bracket *o*, to the lower ends of which side bars *p* are attached in about the same horizontal plane as the side bars *g* of the middle frame, and they are also trussed by rods *q* and stayed above by braces *s*, these side bars being also suspended for avoiding hard bearing on them when sitting on the edge of the bed. The wings also have like bed-spring tops *k*.

The legs *t* for supporting the wings when set up for a bed are pivoted to the lower ends of these brackets at *u*, and they have a rigid arm *v* reaching under the bed a suitable distance and pivoted at *w* to a link *x*, having its other end pivoted at *y* to a cross-bar *f* for holding them in the positions for supporting the wings when set up, and so that the legs may fold under the couch when the wings are turned down, as represented at the left hand of Fig. 1.

When the legs are swung out to set up the wings so far that the pivot-joints *w* fall slightly below a right line, connecting pivots *u* and *y*, the legs will be prevented from further outward movement, and they will also then be locked against swinging inward while these joints remain below said line.

When the wings are to be folded down, the joints *w* are first swung upward by lifting on the arms *v*, so as to swing the joint *w* upward in the curved line *y*, permitting the wing to swing down and the leg to swing up under the couch part, as shown at the left-hand side of Fig. 1. It will be seen that when thus folded the legs overbalance outward on their pivot-joints *u* and thus lock the wings in the folded positions and so retain them to prevent the wings from sagging outward. The wings are readily released from this position for being set up by pressing inward on the joints *w* till the legs overbalance inward. Then the wings may be readily lifted up. The legs may be pivoted directly to the end bars of the

wing-frames instead of to the brackets  $o$ , if desired. The results will be practically the same.

It will be seen that the wings being operative independently of each other one wing may be used while the other is folded, as when only a narrow bed is required.

The legs  $t$  of each wing have for their pivots a rods  $z$ , extending from end to end of the wing, to which rod they are keyed or otherwise fixed, so that one leg being shifted by the operator for folding under will actuate the other leg likewise for convenience in folding the wings by one person. In this example the legs are represented as made with square holes for reception of square ends of the rod for such connection. The rod is fitted to turn freely in the brackets  $o$ .

To clamp the edges of the mattress  $a^2$  to the wing-frames, so as to confine them within proper limits when the wings are folded down, I have provided the rod  $b^2$  in the free ends of bent arms  $c^2$ , one at each end, and pivoted to the wing bars  $m$  at  $e^2$ , so that when the wings are to be folded rods  $b^2$  may be swung up over the edges of the mattress and be secured by hooks  $f^2$  while folded. When the wings are set up for use, the clamp may be released from the hooks  $f^2$  and swung down out of the way, as indicated in dotted lines at the right hand of Fig. 1.

I claim—

1. The combination with the middle couch-section of the frame, and the side wings pivoted thereto, of the wing-supporting legs pivoted to the wings and having the inwardly-projecting arm, the cross-bars of the legs of the couch-section, and the links connecting said arms to the cross-bars to stay the legs

when supporting the wings, and to fold under the couch when the wings fold down, said wings being independent of each other substantially as described.

2. The combination with the middle couch-section of the frame, and the side wings pivoted thereto, of the wing-supporting legs pivoted to the wings and having the inwardly-projecting arms, the cross-bars of the legs of the couch-section and the links connecting said arms to the cross-bars to stay the legs when supporting the wings, and to fold under the couch when the wings fold down, and lock the wings in the folded positions substantially as described.

3. The combination of the middle couch portion, side wings pivoted thereto, legs for supporting the wings pivoted to them, cross-bars of the legs of the couch-section, the arms and links connecting said legs with the cross-bars and the pivot-rod to which the legs of each wing are coupled positively for folding one by the other substantially as described.

4. The combination with the middle couch-section and the folding wings, of the mattress-clamps consisting of the bent arms pivoted to the wing-bars and carrying a rod in the free ends adapted to swing over the edges of the mattress, the hooks for securing the clamp on the mattress, and means for engaging the clamp by the hooks substantially as described.

Signed at New York city, in the county and State of New York, this 23d day of April, A. D. 1896.

DAVID C. STORR.

Witnesses:

W. J. MORGAN,  
JAS. G. ALEXANDER,