(Model.)

E. S. GRIFFITH.

Folding Cot Bed.

No. 241,356. Patented May 10, 1881.

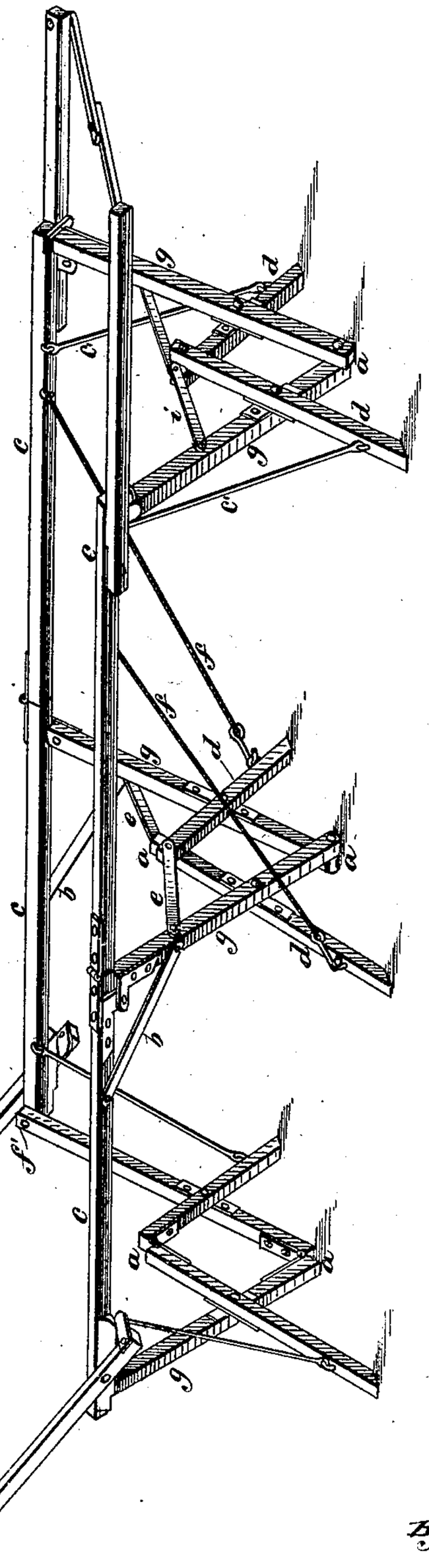

Fig. 1.

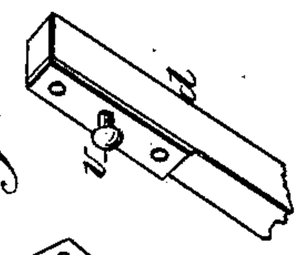

Fig. 6.

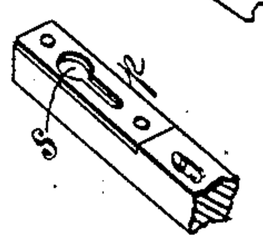

Fig. 5.

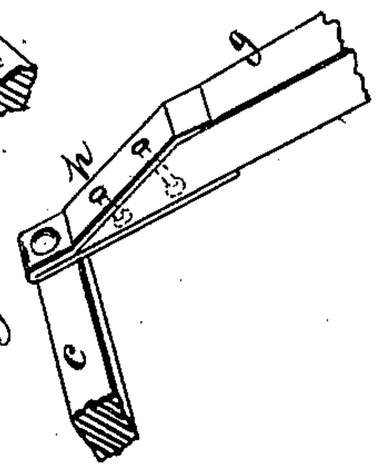

Fig. 4.

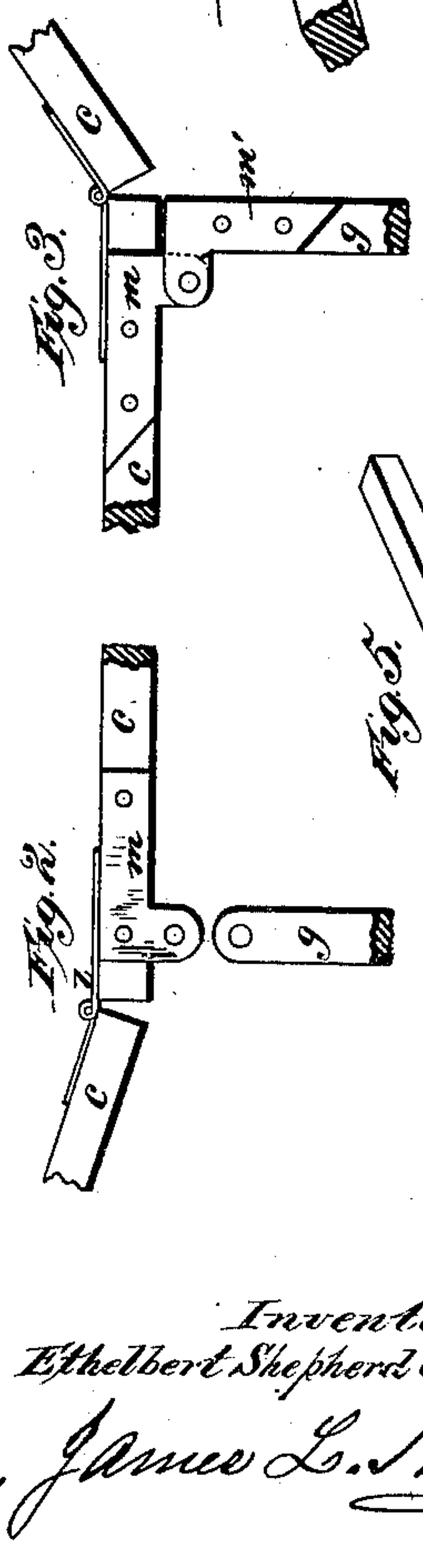

Fig. 3.

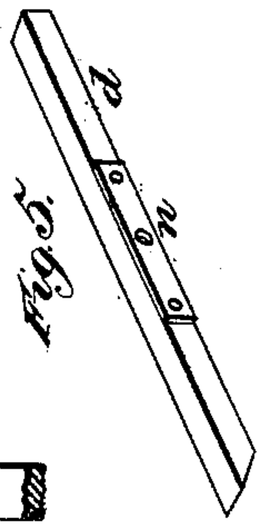

Fig. 2.

Fig. 7.

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UNITED STATES PATENT OFFICE.

ETHELBERT S. GRIFFITH, OF TOLEDO, OHIO.

FOLDING COT-BED.

SPECIFICATION forming part of Letters Patent No. 241,356, dated May 10, 1881.

Application filed May 24, 1880. (Model.)

To all whom it may concern:

Be it known that I, ETHELBERT S. GRIFFITH, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification.

My invention relates, primarily, to improvements in the bed-frame in which the supports of the side rails and certain appendages of said supports are arranged to fold into a parallel position with the side rails when the said rails are brought into a closed position. It pertains, further, to bed-frames in which the transverse or end supports of the side rails are pivoted to the said rails and adapted to fold simultaneously with the closing of the side rails, or adapted to be folded after the said rails are brought to a closed position.

The objects of my invention are, first, to provide, in a folding cot, a strong and closely-connected end or transverse support possessing such qualities in a higher degree than is attained in an ordinary crossed or X-shaped support; second, to provide a ready means for closing the supports of the bed when pivoted to the side rails; third, to provide suitable appendages for the supports of the bed whereby the supports will fold as the side rails near each other, and also unfold as the said rails are drawn apart; fourth, to provide suitable appendages whereby the supports of the bed will be permitted to be folded while the side rails are in a folded position; fifth, to provide an attachment whereby the supports of the bed can be maintained in position while the bed is in use, which will be best calculated to relieve the flexible covering of strain by the tendency of said supports to spread apart; sixth, to provide an end or transverse support for a folding bed which will be equally adapted to be used in combination with side rails which may either be employed as single pieces, or which may be made up of several pieces, as the case may be.

This invention is the better illustrated in a folding bed having the side rails divided into several pieces, and which is exhibited in the accompanying drawings, in which—

Figure 1 is a perspective of the bed-frame. Figs. 2 and 3 show attachments by means of which the upper ends of transverse supports can be fastened to the side rails. Fig. 4 illustrates another device by means of which the supports can be attached to the side rails. Fig. 5 shows a wear-plate located at the points where the different pieces of the truss-supports cross each other. Fig. 6 is an illustration of another device by means of which the two halves of the truss-supports may be adapted to be connected and disconnected.

Similar letters refer to like parts.

In Fig. 1, *a* indicates the point at which the two halves of the jointed truss are hinged together.

The braces *b*, Fig. 1, are pivoted to the side rails, *c*, of the bed-frame, and hooked at their lower ends to the pins or staples upon the trusses, so as to be readily disconnected from the latter.

The braces *c'*, Fig. 1, are permanently attached at their upper and lower ends, respectively, to the side rails *c* and the transverse support or truss *d* of the bed, whereby the said support is caused to close and fold into a parallel position with the side rails when the said rails are brought together, and also to open and unfold when the said rails are drawn apart.

In the case of the transverse truss *d* supporting the middle of the bed, the said truss is held in position by the braces *e* and the cords, wires, or chains *f*, which are connected with said truss and with the rails *c*.

The upper ends of the supports *g* of the bed may be beveled and provided with a metal cap, *h*, and then pivoted to the side rail, as shown in Fig. 4, or more directly to the rail without the bevel and cap, as shown at the point *f'*, Fig. 1.

In Fig. 2 the hinge *l*, between the meeting ends of two sections of one of the side rails, is shown, and also a plate, *m*, which is secured to one of the sections of the rail, and to which the upper end of one of the bars of a truss is pivoted, this figure illustrating another way of connecting said parts.

Where the bars of the truss-supports *d g* cross they may be secured by a pivot passing through the same and through a wear-plate, *n*, (shown in Fig. 5;) or one of the bars may have a slotted plate, *p*, Fig. 6, secured to it, and the other bar can have a pin, *r*, adapted to enter said slot, the head of the pin, in this instance, being passed through an enlargement, *s*, in said slot, and the pin then moved

down in the narrower part of the slot. It will, of course, be understood that the bar will be recessed back of said plate to receive the head of the pin.

In Fig. 3, a plate, *m'*, similar to the plate *m*, is secured to the upper end of the truss-support bar, and the plates *m* and *m'* are pivoted together.

The method of operating this device wherein the action of the transverse trusses is displayed is as follows: The jointed cross-bars *i* connecting the upper outward extensions of the jointed trusses *g* are pressed upward off the centers. The side rails are then folded, the cords detached, and the hook-braces *b* unhooked from the truss, after which the trussed support, standing at a right angle to the side rails, can be folded into a parallel position with the said rails, and the different sections of the side rails (if arranged in several pieces) may then be folded together, and the operation of folding the bed is completed. The operation of opening the bed is the reverse of this order.

It is apparent that in an ordinary crossed-leg bed, the legs being pivoted together in pairs and standing between the side rails when the bed is open for use, there is a great strain and a concentrated effect upon the single central pivot; and, in order to produce a bed having the requisite width and the proper height from the floor, the distances from the side rail to that central pivot and from the said pivot to the floor are comparatively great. These conditions require long straight-grained and sound timber of considerable diameter, to secure moderate strength and stability, whereas in a cot-bed having transverse trussed supports, as exhibited in this invention, the distances between pivots are much reduced, the strain is divided between and upon several distinct pivots, the length and diameter of material much reduced—almost to one-half—and a much shorter leverage throughout is secured. Owing to these favorable conditions, experience has shown that material can be utilized to a much higher percentage of its serviceable value, and that the aggregate of actual strength in a transverse truss-support over that in an ordinary crossed-leg support stands in the ratio of five to one, or greater.

In the ordinary bed having the legs pivoted together in pairs the effect upon the canvas or other flexible covering of the same, owing to the combined weight of the occupant and the tendency of the legs to spread apart, is very great; whereas, in a bed having trussed supports arranged transversely between the side rails, this effect and strain upon the canvas is diminished by the total absence of such spreading tendency, owing to the parts of the truss resting upon the flooring being held in a more erect position than is possible in a pair of cross-legs; and, again, any possible result of such action is prevented by the jointed stays connecting the upward and outward ends of the truss, as shown.

Having now described my invention, what I claim is—

1. In a folding bed, the combination, with the transverse jointed truss-supports *g*, of the side rails pivoted to the upper and outer end of said supports, substantially as shown, whereby the said rails are adapted to be folded into contact, or nearly so.

2. The combination, with the side rails in a folding bed, of the supports *g*, arranged transversely to the side rails, and the truss-supports *d*, both pivoted to form a jointed truss, the upper and outward ends of said truss being pivoted to the said rails, whereby the said supports are adapted to close and to fold into a parallel position with the side rails when the said rails are brought together.

3. The combination, in a folding bed having the supports arranged transversely to the side rails, and also pivoted together as a jointed truss, of the upper truss-supports, *g*, pivoted to the said rails, the truss-supports *d*, and the detachable braces, substantially as shown, whereby the said supports are adapted to be folded into a parallel position with the side rails after the said rails are brought together, or nearly so.

4. The combination, in a folding bed, of a horizontal jointed stay or stays, *i*, and a jointed truss-support, substantially as shown, whereby the said supports are maintained in a fixed position with reference to the side rails when the bed-frame is open for use, substantially as and for the purposes set forth.

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Witnesses:
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