

BEST AVAILABLE COPY

No. 766,924.

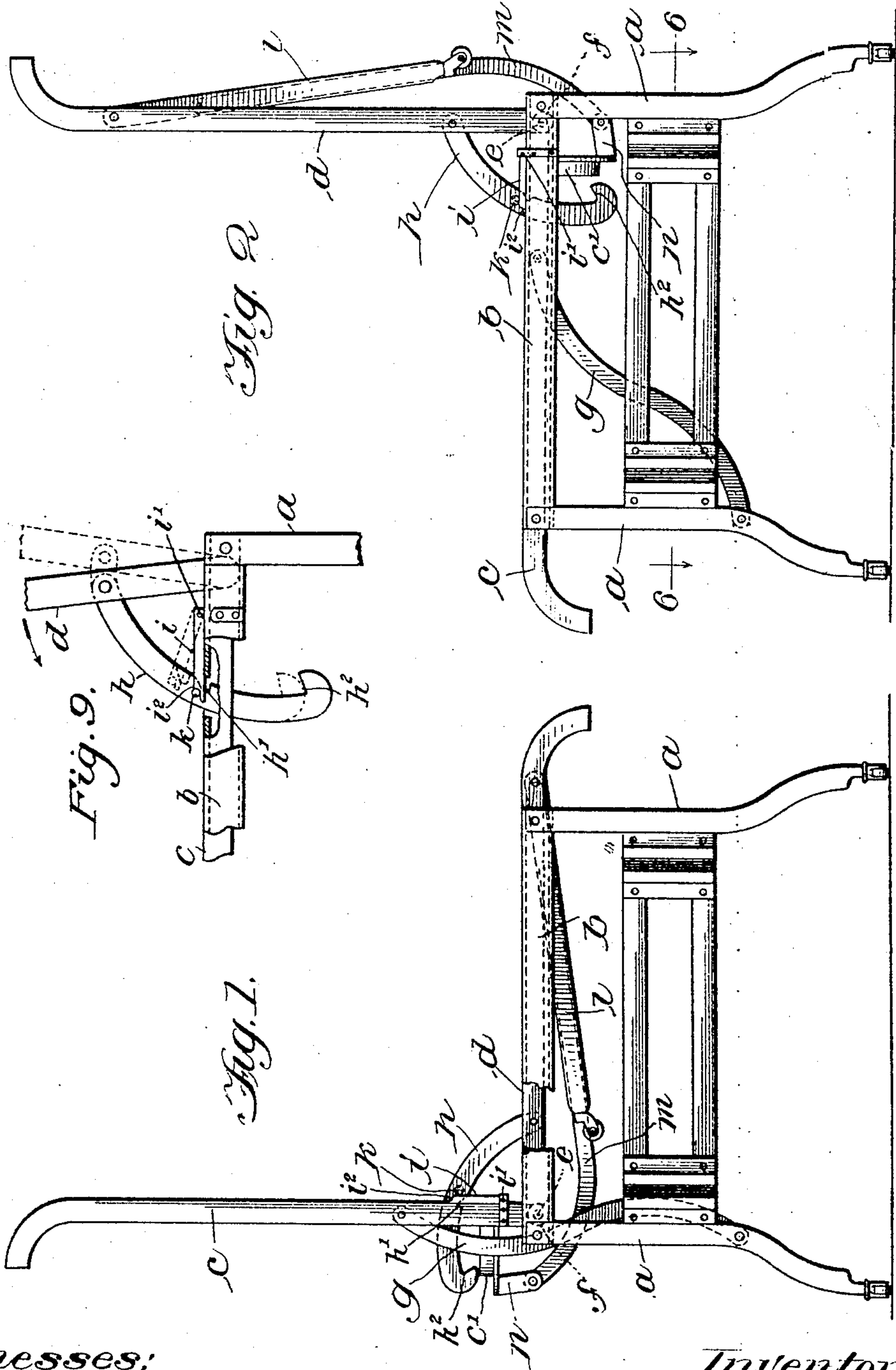
PATENTED AUG. 9, 1904.

L. N. BACHAND.  
FOLDING SOFA BED.

APPLICATION FILED OCT. 16, 1902.

NO MODEL.

3 SHEETS-SHEET 1.



Witnesses:

H. S. Gaither  
Amos Russell

Inventor:

Levi N. Bachand  
George L. 13

No. 766,924.

BEST AVAILABLE COPY

PATENTED AUG. 9, 1904.

L. N. BACHAND.  
FOLDING SOFA BED.

APPLICATION FILED OCT. 16, 1902.

NO MODEL.

3 SHEETS—SHEET 2.

Fig. 3.

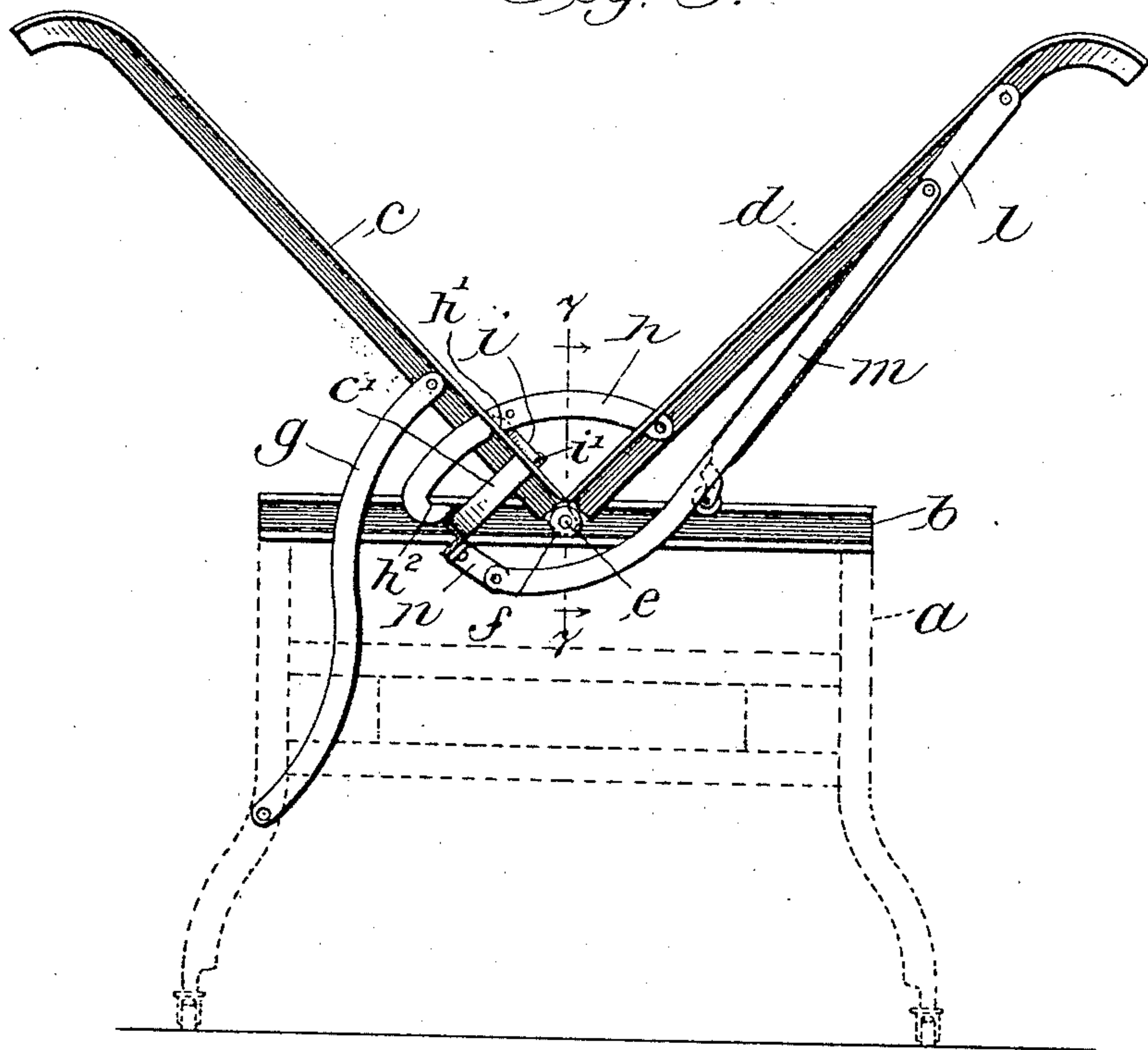


Fig. 6.

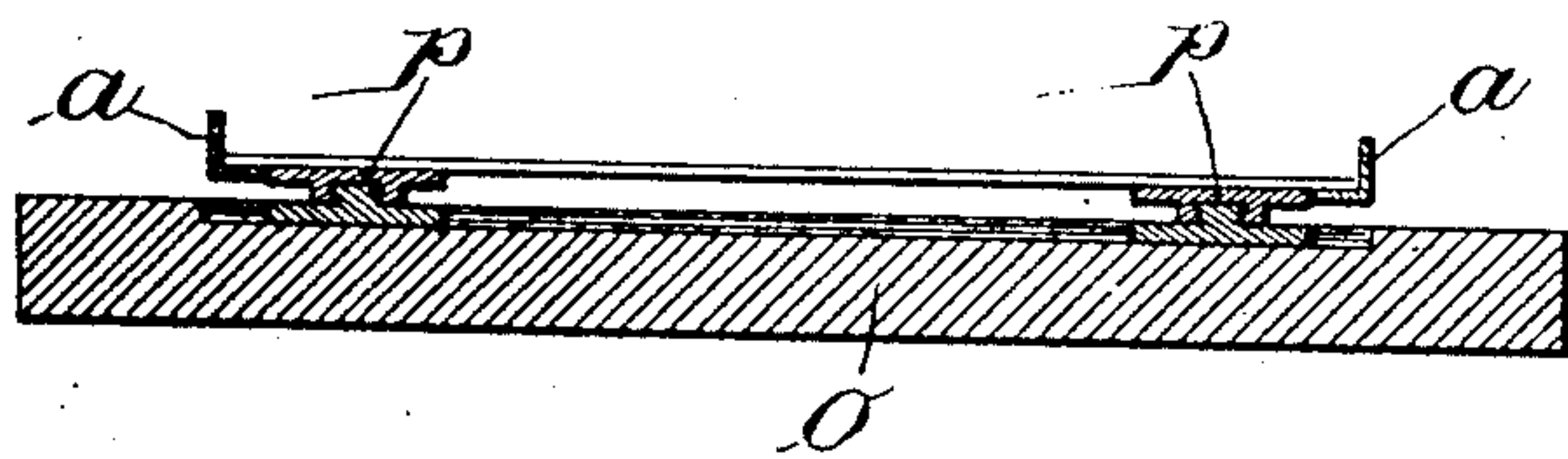
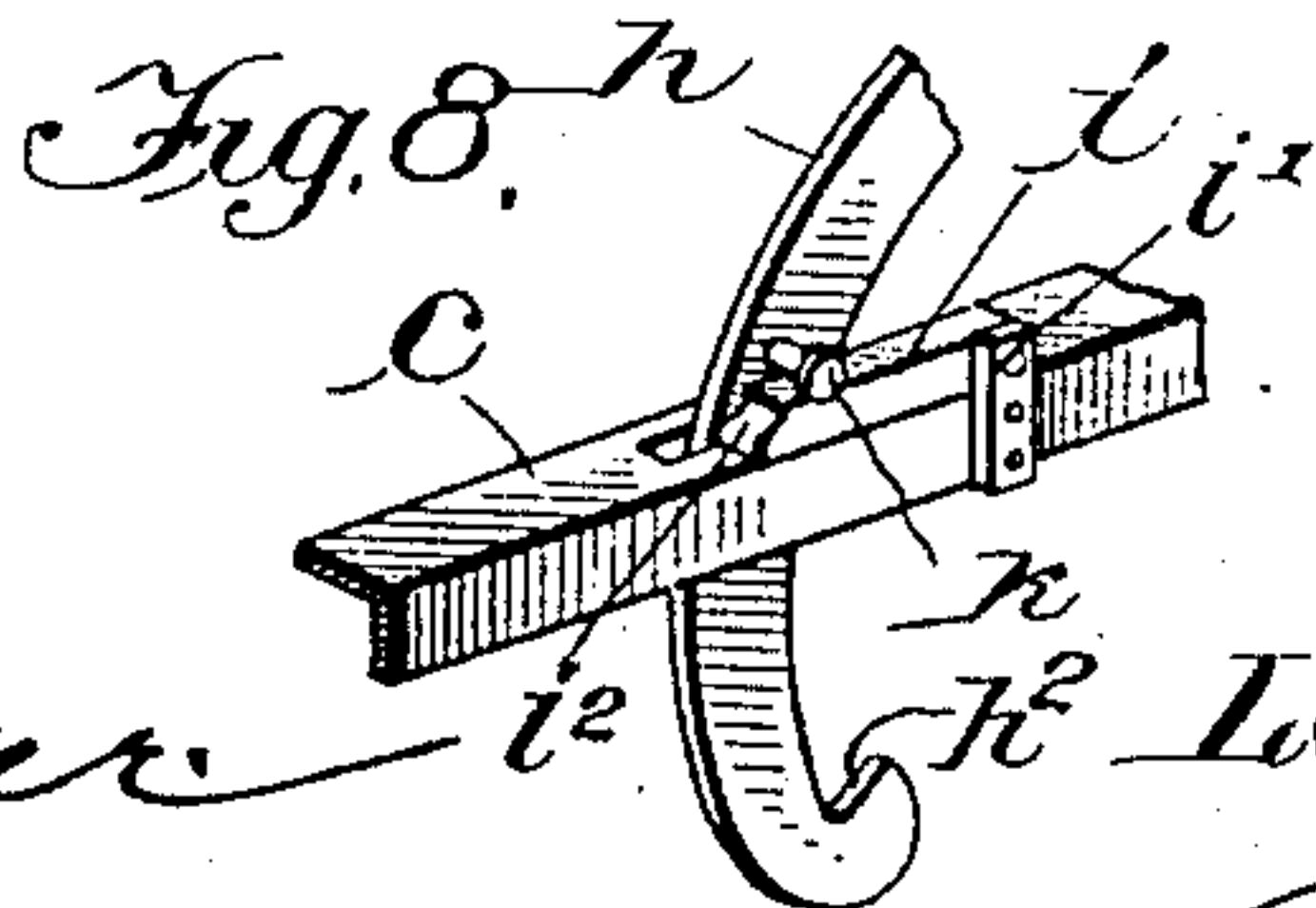
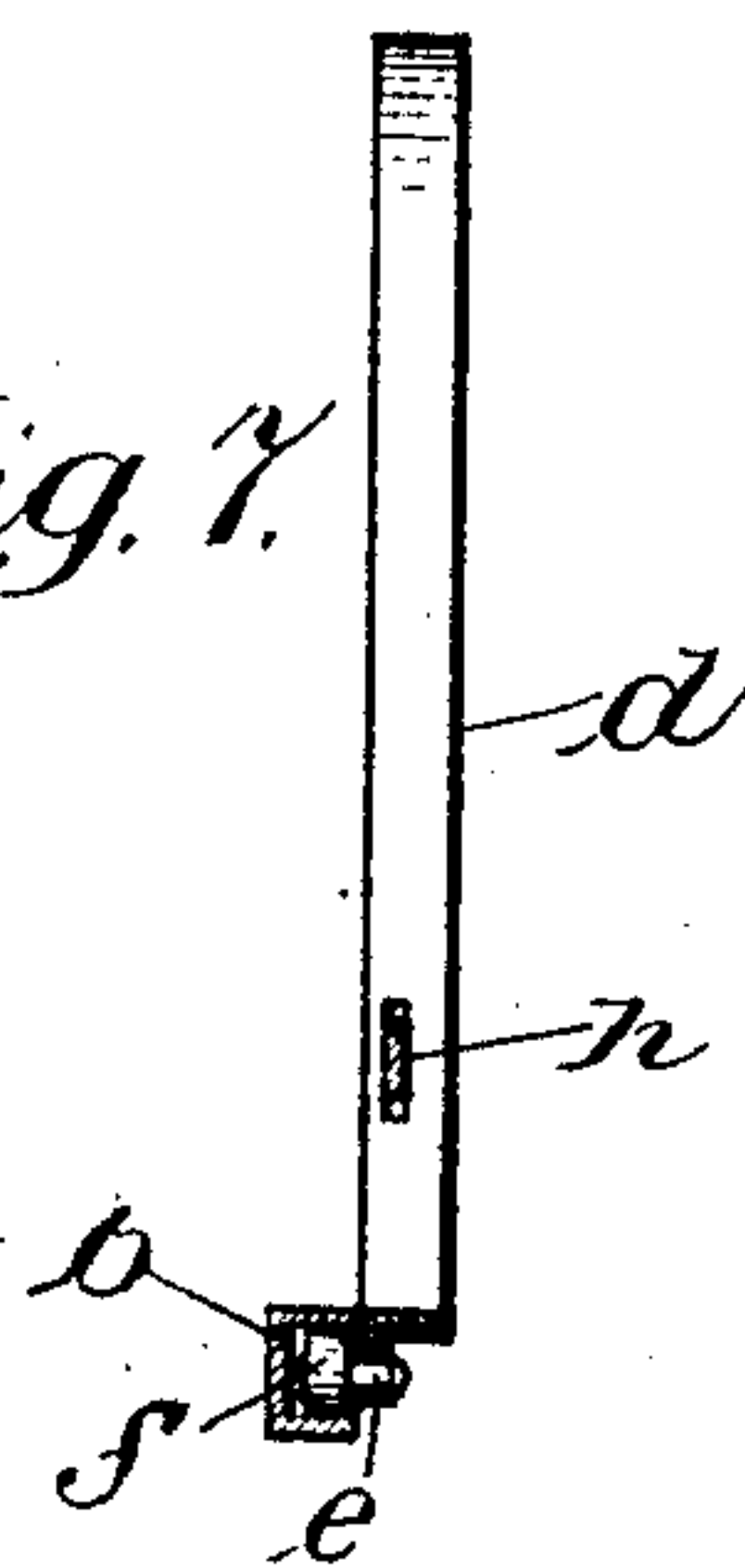


Fig. 7.



Witnesses:

H. S. Gaither  
Amy D. Russell

Inventor:  
Levi N. Bachand.

by George L. Cragg  
Attorney.



BEST AVAILABLE COPY

No. 766,924.

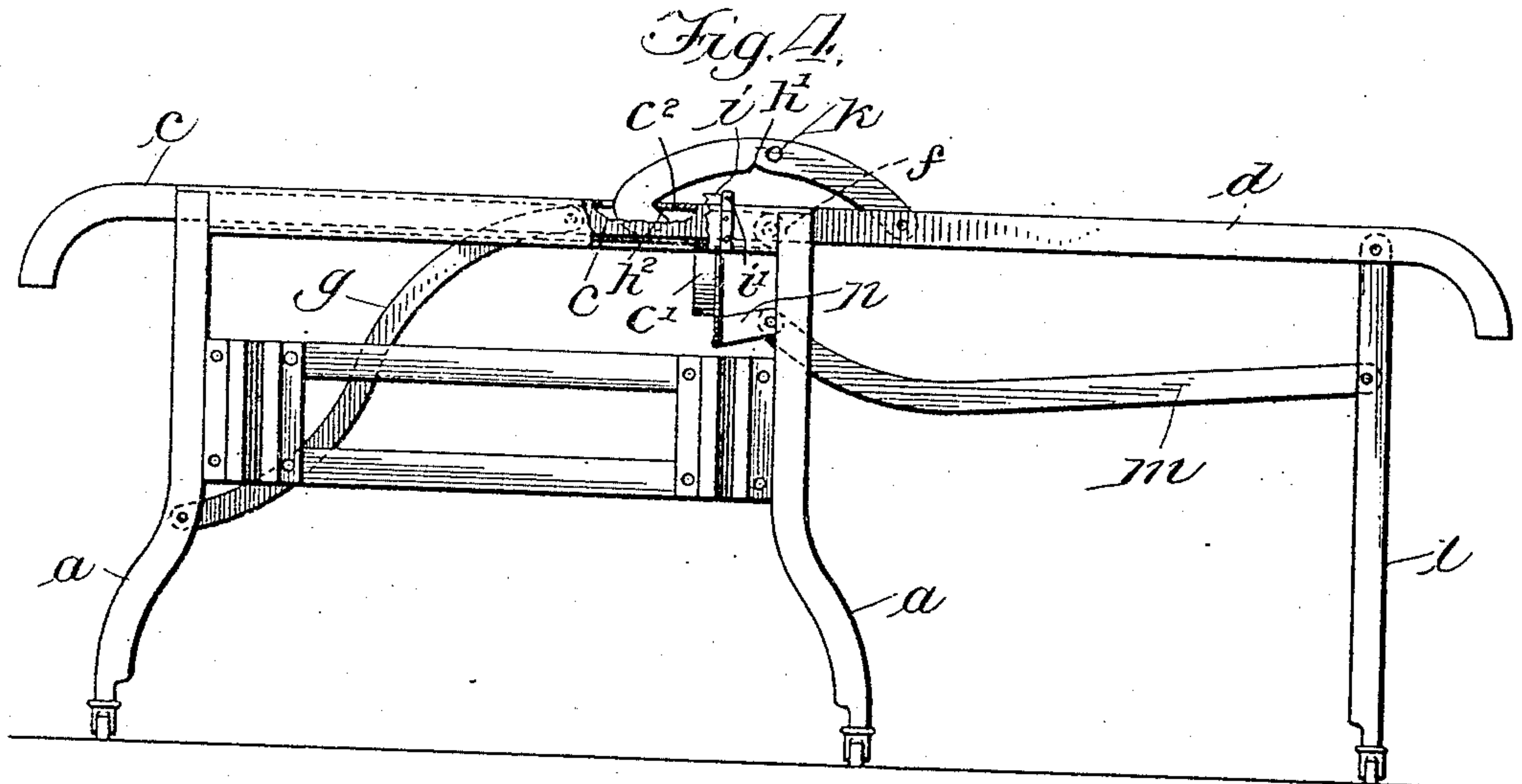
PATENTED AUG. 9, 1904.

L. N. BACHAND.  
FOLDING SOFA BED.

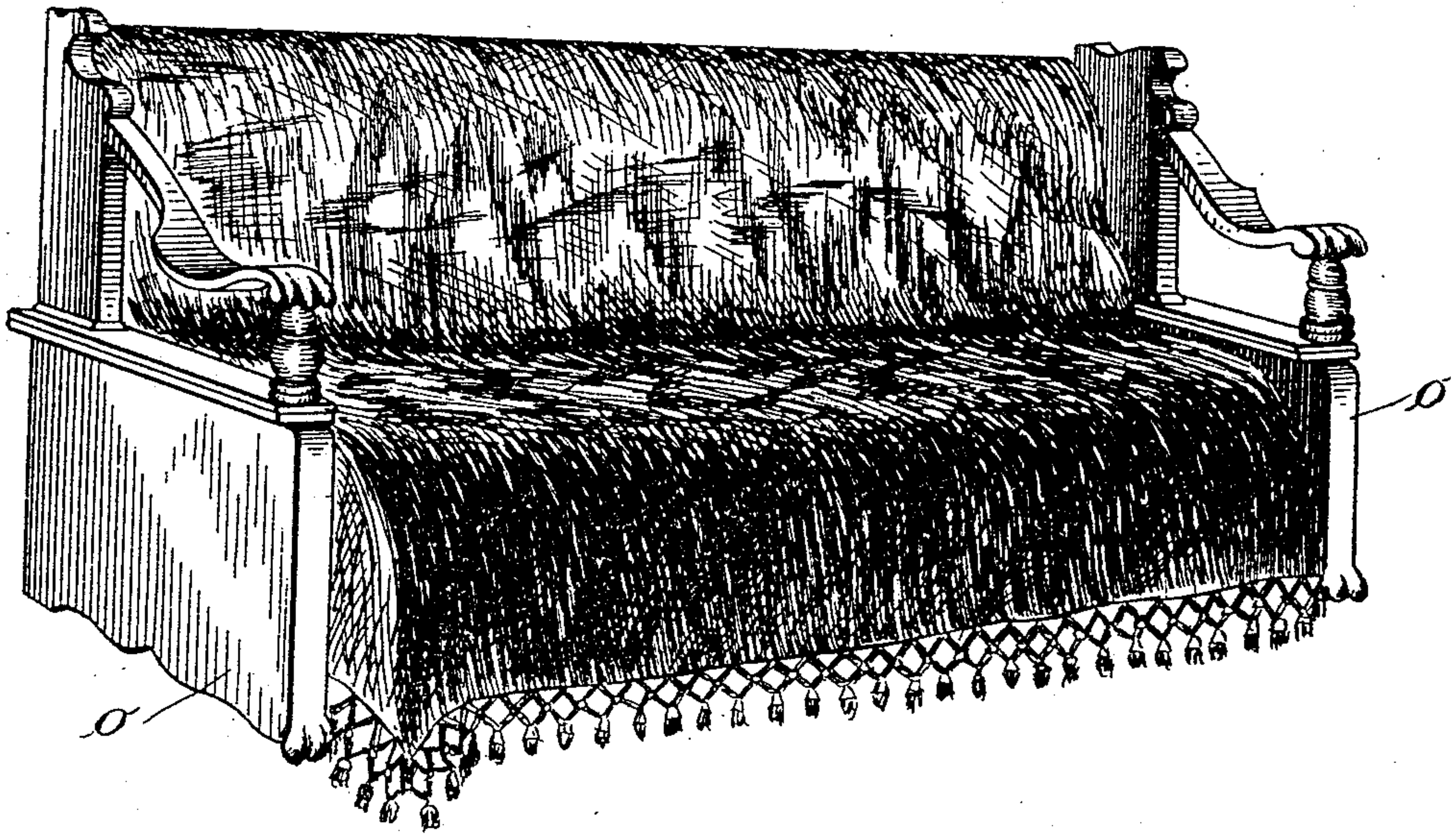
APPLICATION FILED OCT. 18, 1902.

NO MODEL.

3 SHEETS—SHEET 3.



*Fig. 5.*



*Witnesses:*

*H. S. Gaither*  
*Amy D. Russell*

*Inventor:*  
*Levi N. Bachand.*  
*by George L. Cragg*  
*Attorney.*



## UNITED STATES PATENT OFFICE.

LEVI N. BACHAND, OF CHICAGO, ILLINOIS.

## FOLDING SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 766,924, dated August 9, 1904.

Application filed October 16, 1902. Serial No. 127,512. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI N. BACHAND, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Folding Sofa-Beds, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to sofa-beds, and has for its object the provision of an improved construction of furniture of this character, whereby the readjustment from sofa to bed, and vice versa, may be readily effected and in which the construction of the various mechanical parts is greatly simplified and cheapened.

By means of my invention I am enabled to produce a sofa-bed that is readily adapted for transformation from one piece of furniture to the other without material effort, the apparatus being so arranged that it will permit of readjustment of the component parts without withdrawing the structure very far from the wall if it should happen to be placed near the same.

In practicing my invention I employ two pivotally-united sections, serving to constitute the seat and back of the sofa individually and together a bed when flattened apart. There is associated with these pivotally-united sections of the sofa-bed mechanism for maintaining the same in angular position guiding mechanism whereby a bodily-transverse movement of the pivotally-united sections is effected. The means that I prefer to employ for causing the bodily-transverse movement of the angularly-related sections of the sofa-bed reside in a supporting-frame which is supplied with transverse guiding means, preferably in the form of grooved ways, which desirably engage pivotal extensions of the united sections, upon which pivotal sections rollers are preferably placed, so that the movement may readily be accomplished without material friction between the pivotal portion of the sections and the supporting-frame.

The sections of the sofa-bed when angularly related are adapted to be bodily swung

together, and in order to effect a transverse movement of such sections there is interposed between the same and the supporting-frame mechanism constraining a bodily-transverse movement as the sections are swung.

The supporting-frame is preferably so disposed with relation to the balance of the structure that when the sections are flattened apart it will serve mainly to support one of the sections and only partially to support the other, although I do not wish to be limited to such an arrangement. The other section in the desired construction, that is only thus partially supported by the main supporting-frame, has a leg-support near its front margin, and in order that the device may thoroughly operate I provide mechanism for adjusting the leg-support so that it may serve its function when the sections are flattened apart, so that it will be collapsible when the sections are angularly related. The leg-support preferably includes two legs pivoted near the front edge of the seat-section, the legs also having link connection with the back section, which link connection serves to operate the legs to fold or collapse the same close to the seat-section or thrust the same forward when they are to act as supports.

The mechanism that I employ for maintaining angular relation between the sections of the sofa-bed is preferably in the form of links, pivoted to one section, desirably to the seat or front section, and having separable engagement with the rear section, there being associated with this link mechanism supplementary mechanism which when a predetermined relative movement between the sections has been effected will separate the links from engagement with the rear or back section and permit the separation or flattening of the sections.

The article of furniture is preferably composed of metal, and in order to give it the appearance of a wooden article of furniture it is provided with wooden ends, that are adapted for separable engagement with the metallic structure. In this manner the effectiveness of an expensive article of furniture is secured at a very low cost.

I will explain my invention more fully by



reference to the accompanying drawings, in which—

Figure 1 is a side elevation of the frame of the sofa-bed dismantled, the article of furniture now acting as a sofa. Fig. 2 is a view similar to Fig. 1, showing the sofa-bed partially transformed, the back section being horizontal and the seat or front section being vertical preparatory to being placed horizontal. Fig. 3 is a side elevation of the sofa-bed structure with its seat and back sections in an intermediate position of adjustment. Fig. 4 is an end view of the structure transformed into a bed. Fig. 5 is a perspective view of the complete article of furniture. Fig. 6 is a sectional view on line 6 6 of Fig. 2. Fig. 7 is a sectional view on line 7 7 of Fig. 3. Fig. 8 is a perspective view showing a detail of the mechanism employed for maintaining the sections of the bed in angular relation and permitting their separation or flattening. Fig. 9 is a fragmentary sectional view showing the operation of the locking mechanism.

Like parts indicate similar characters of reference throughout the different figures.

The frame *a* of the sofa-bed is desirably mounted upon casters and is equipped with transversely-arranged guiding means, preferably in the form of a channel-iron *b* at each end of the structure, the channels in such elements *b* constituting guideways for the moving sections of the sofa-bed. The back or rear section *c* and the front section *d* of the sofa-bed are linked or pivotally united at *e*, rollers *f* being desirably mounted upon the pivot-shaft, such rollers being adapted to ride within the ways afforded by the channel-irons *b*. The supporting-frame *a* may thus be said to engage the sofa-bed at its pivotally-united sections.

It will be apparent that the structure so far described is one that will enable the angularly-related sections to be swung, and in order to that the swinging sections may also be bodily shifted from horizontal to vertical, and vice versa, I employ mechanism which will constrain such bodily movement of the angularly-related sections, this constraint being preferably effected by means of links *g*, interposed between the supporting-frame and one of the sections of the sofa-bed, desirably the back section *c*. The links *g* and the back section *c* are so relatively disposed that when the structure constitutes a sofa the back is substantially in vertical line with the rear of the support, as indicated in Fig. 1, the seat-section extending completely from the rear to the front and overhanging at the front a slight distance.

When the article of furniture constitutes a bed, the pivot is shifted to the front of the supporting-frame, the seat-section then being temporarily in vertical line with the front of the supporting-frame, as indicated in Fig. 2, whereafter the seat-section is lowered in a

manner to be described to occupy the position indicated in Fig. 4. In order that the sections of the sofa-bed may thus be shifted from place to place, I provide mechanism for maintaining the same in their angular relation while they are being moved from front to rear and rear to front of the supporting-frame, which mechanism is preferably in the form of links *h*, pivoted upon one section, desirably the seat or front section, and having separable catching engagement with the rear section, the links being preferably notched at *h'*, where they may engage margins of apertures in the end rails of the section *c*.

After the section *d* has been placed in vertical alinement with the front portion of the supporting-frame a slight forward motion imparted to the section *d* will cause the links *h* to break engagement with the section *c*, preferably through the instrumentality which I will now describe.

There is pivotally provided upon the back section *c* a supplementary catching device *i*, which is caught by a button *k* when the section *d* is moved forward. The supplemental catch device *i* is pivoted to the section *c* at *i'*, (see Fig. 9,) and at the opposite end said catch *i* is provided with a shoulder *i''*, adapted to receive the shank of the button *k*. In Fig. 1 the notch *h'* of the link *h* is in engagement with the member *c* and the button *k* is shown at one side of the shoulder *i''* of the catch *i*. After the angularly-adjusted members *c* and *d* have been moved transversely to a position where the member *c* occupies a horizontal position, as shown in Figs. 2 and 9, the back *d* is given a slight forward movement in the direction of the arrow. This causes the button *k* to slide forward upon the catch *i* until the shoulder *i''* is reached. When said button engages the shoulder *i''*, the notch *h'* of the link *h* is out of engagement with the part *c'*, (see Fig. 9,) and the reverse movement of the member *d* causes the link *h*, resting on the catch *i*, to pass beyond the part *c'* of the member *c*. After the notch *h'* has passed beyond the part *c'* the square shoulder on the catch *i* prevents further movement of the catch, and thereby effects the disengagement of the button *k* from the shoulder *i''*, after which the link *h* rides upon the part *c'* until the notch *h''* is engaged therewith, as shown in Fig. 4.

In order that that section of the sofa-bed which projects beyond the supporting-frame when the sections are spread apart may be supported at its outer longitudinal edge, I provide leg-supporting mechanism comprising, preferably, two legs *l*, which are preferably linked near the forward edge of the section *d*. Link mechanism *m* is desirably placed between these legs and the rear or back section *c*, forcing the legs to fold close to the section *d* when the parts are placed in right-angular relation and causing the said legs to be thrust forward and downward when the



sections are separated and flattened. The links *m* are preferably pivoted to bracket extension *n*, provided upon the section *c* to clear the pivotal union between the sections and for  
 5 securing desired purchase upon the legs. The bracket extensions *n* are anchored to the section *c* by depending brackets *c'*, to which the extensions *n* are secured.

In order to impart the appearance of a  
 10 wooden article of furniture, I provide decorative wooden end pieces *o*, that are desirably removably secured in place by having disposed between the same and the support *a* dovetailed joints *p*, preferably enabling the wooden ends  
 15 to be vertically moved when they are being placed in and removed from position.

The operation of my sofa-bed will be readily apparent. When the sofa-bed is to be transformed from the sofa (shown in Fig. 1)  
 20 to the bed, (shown in Fig. 4,) the front edge of the seat-section is grasped and the parts moved to the position shown in Fig. 2, whereafter a slight forward motion of the seat-section toward the back section will effect dis-  
 25 connection between the fastening-links and the back section in the manner hereinbefore described. The seat-section may be lowered to the position indicated in Fig. 4, the legs *l*  
 30 having by the same operation been thrust forward by the link mechanism *m*. When the structure is to be returned to its sofa form, the section *d* is elevated until it again assumes the position illustrated in Fig. 2, whereafter it is pressed downwardly, the links *h* having  
 35 caught, until it is caused to assume a position indicated in Fig. 1.

It is obvious that changes may be made in the construction without departing from the spirit of my invention.

40 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a sofa-bed, the combination with two pivotally-united sections thereof together  
 45 forming a bed and individually the seat and back of a sofa, of means for maintaining the sections in angular relation, a supporting-frame engaging the sections where they are pivotally united, and means for causing the  
 50 transverse movement of the pivoted portions of the sofa-bed sections upon the supporting-frame when said sections are angularly related and swung together, substantially as described.

55 2. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, of means for maintaining the sections in angular relation and permitting  
 60 the separation thereof, a supporting-frame engaging the sections where they are pivotally united, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of  
 65 the pivoted portions of the sofa-bed upon the

supporting-frame when said sections are angularly related and swung, supporting-leg mechanism near the forward edge of the front section, and link mechanism interposed between the supporting-leg mechanism and the  
 70 rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described. 75

3. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed and respectively the back and seat of a sofa, of means for maintaining  
 80 the sections in angular relation and permitting the separation thereof, a catch pivoted upon one section and adapted to engage the other to maintain them in angular relation, and permitting the same to be disengaged  
 85 when the bed is to be formed, a second catch normally disengaged from the former catch, but into engagement with which the former catch may be thrust to disengage said former catch from the opposite sofa-bed section, a  
 90 supporting-frame engaging the sections where they are pivotally united, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed upon the supporting-frame when said sec-  
 95 tions are angularly related and swung, supporting-leg mechanism near the forward edge of the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said  
 100 leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described. 105

4. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed and respectively the back and seat of a sofa, of means for maintaining  
 110 the sections in angular relation and permitting the separation thereof, a catch pivoted upon one section and adapted to engage the other to maintain them in angular relation and permitting the same to be disengaged  
 115 when the bed is to be formed, a second catch upon the other section normally disengaged from the former catch, but into engagement with which the former catch may be thrust by a relative movement between the sofa-bed  
 120 sections, to disengage the former catch from the opposite bed-section, a supporting-frame engaging the sections where they are pivotally united, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of  
 125 the pivoted portions of the sofa-bed upon the supporting-frame when said sections are angularly related and swung, supporting-leg mechanism near the forward edge of the front section, and link mechanism interposed be- 130



tween the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

5. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed and respectively the back and seat of a sofa, of a catch pivoted upon the front section and adapted to separably engage the back section to maintain them in angular relation, a supporting-frame engaging the sections where they are pivotally united, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed upon the supporting-frame when said sections are angularly related and swung, supporting-leg mechanism near the forward edge of the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

6. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed and respectively the back and seat of a sofa, of a catch pivoted upon the front section and adapted to engage the back section to maintain them in angular relation and permitting the same to be disengaged when the bed is formed, a second catch pivoted upon the rear section, into engagement with which the former catch may be thrust in order to effect separation between the folded sections, a supporting-frame engaging the sections where they are pivotally united, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed upon the supporting-frame when said sections are angularly related and swung, supporting-leg mechanism near the forward edge of the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

7. In a sofa-bed, the combination with two pivotally-united sections thereof for together forming a bed and individually the back and seat of a sofa, of means for separably maintaining the sections in angular relation, a supporting-frame engaging the sections where they are pivotally united, and means for causing the transverse movement of the pivoted portions of the sofa-bed sections upon the supporting-frame when said sections are an-

gularly related and swung together, the supporting-frame being transversely grooved to guide the sofa-bed sections and engaging the sofa-bed sections at their pivotal portions, substantially as described.

8. In a sofa-bed, the combination with two pivotally-united sections thereof for together forming a bed and individually the back and seat of a sofa, of means for maintaining the sections in angular relation, a supporting-frame engaging the sections where they are pivotally united, means for causing the transverse movement of the pivoted portions of the sofa-bed sections upon the supporting-frame when said sections are angularly related and swung together, the supporting-frame having transverse grooves, the pivots of the sections being extended into these runways to guide the bed-sections, substantially as described.

9. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, of means for maintaining the sections in angular relation, a supporting-frame, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed, supporting-leg mechanism for the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

10. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, of means for maintaining the sections in angular relation, a supporting-frame, a transverse guide guiding said sections in a transverse movement, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed, supporting-leg mechanism for the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

11. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, a supporting-frame, a transverse guide guiding said sections in a transverse movement, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed, supporting-leg mechanism for the front section, and



link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support when the sections are  
5 formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

12. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, a supporting-frame, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions  
15 of the sofa-bed, supporting-leg mechanism for the front section, and link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed section, forcing said leg mechanism to assume its function as a support  
20 when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, substantially as described.

13. In a sofa-bed, the combination with the back and front sections thereof, together serving to form a bed, and respectively the back and seat of a sofa, a supporting-frame, supporting-leg mechanism for the front section, link mechanism interposed between the supporting-leg mechanism and the rear sofa-bed  
30 section, forcing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are formed into a sofa, and a guide for directing the inner or pivoted portions of said bed in transverse movement, substantially as described.  
35

14. In a sofa-bed, the combination with piv-

oted back and front sections thereof that together form a bed, of mechanism for maintaining the sections in angular relation, a supporting-frame, a transverse guiding device  
40 carried by the frame engaging pivoted portions of the sections, leg mechanism for supporting the front section when the sections are formed into a bed, and mechanism interposed between the leg mechanism and the  
45 back section causing said leg mechanism to assume its function as a support when the sections are formed into a bed and collapsing the same when the sections are folded to an angular relation, substantially as described.  
50

15. In a sofa-bed, the combination with pivoted back and front sections thereof that together form a bed, a supporting-frame, a transverse guiding device carried by the frame  
55 engaging pivoted portions of the sections, link mechanism interposed between the back section and the supporting-frame for causing a transverse movement of the pivoted portions of the sofa-bed, leg mechanism for supporting the front section when the sections are  
60 formed into a bed, and mechanism interposed between the leg mechanism and the back section causing said leg mechanism to assume its function as a support when the sections are  
65 formed into a bed and collapsing the same when the sections are folded to an angular relation, substantially as described.

In witness whereof I hereunto subscribe my name this 8th day of October, A. D. 1902.

LEVI N. BACHAND.

Witnesses:

GEORGE L. CRAGG,  
A. D. RUSSELL.