

(No Model.)

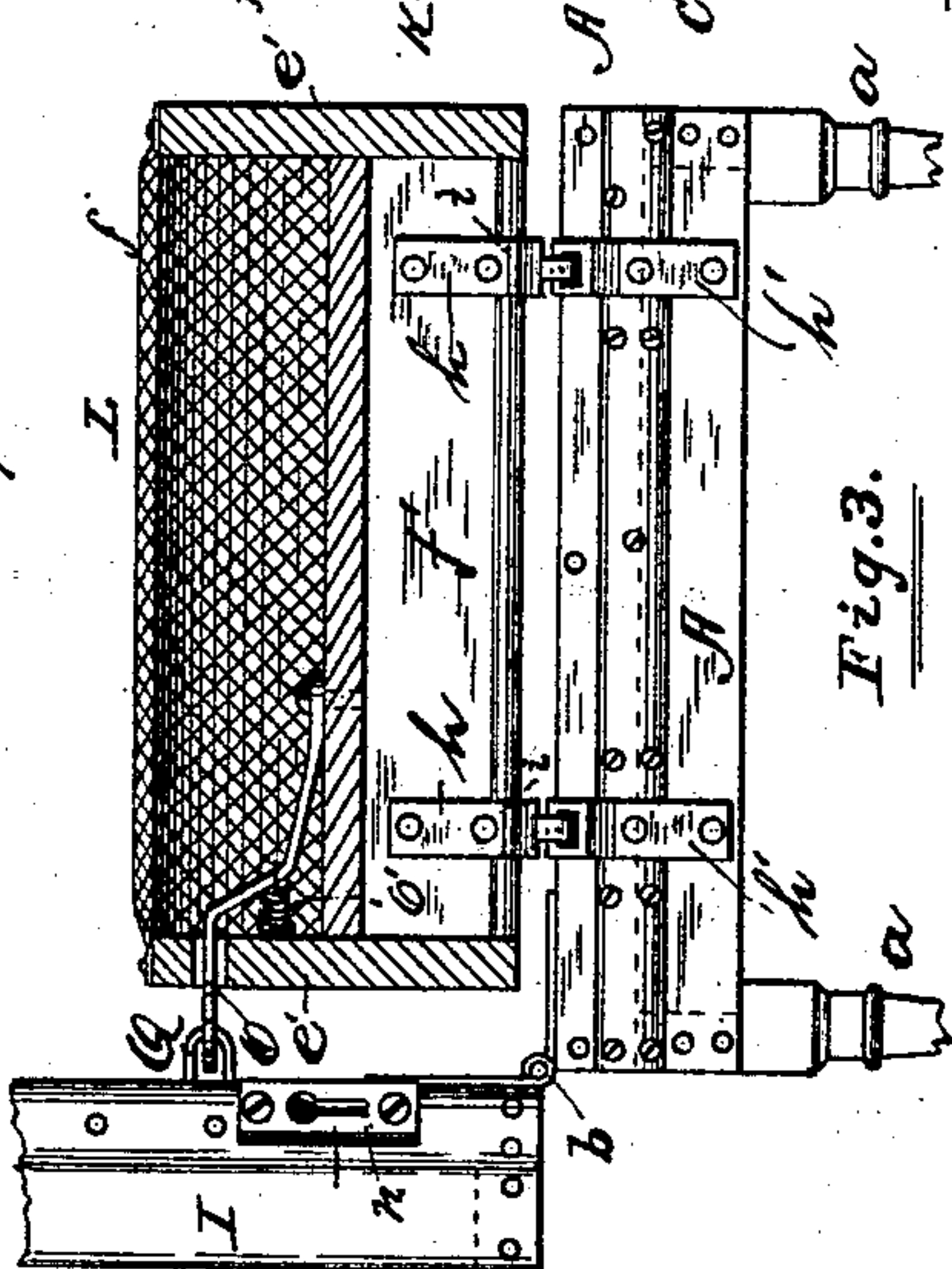
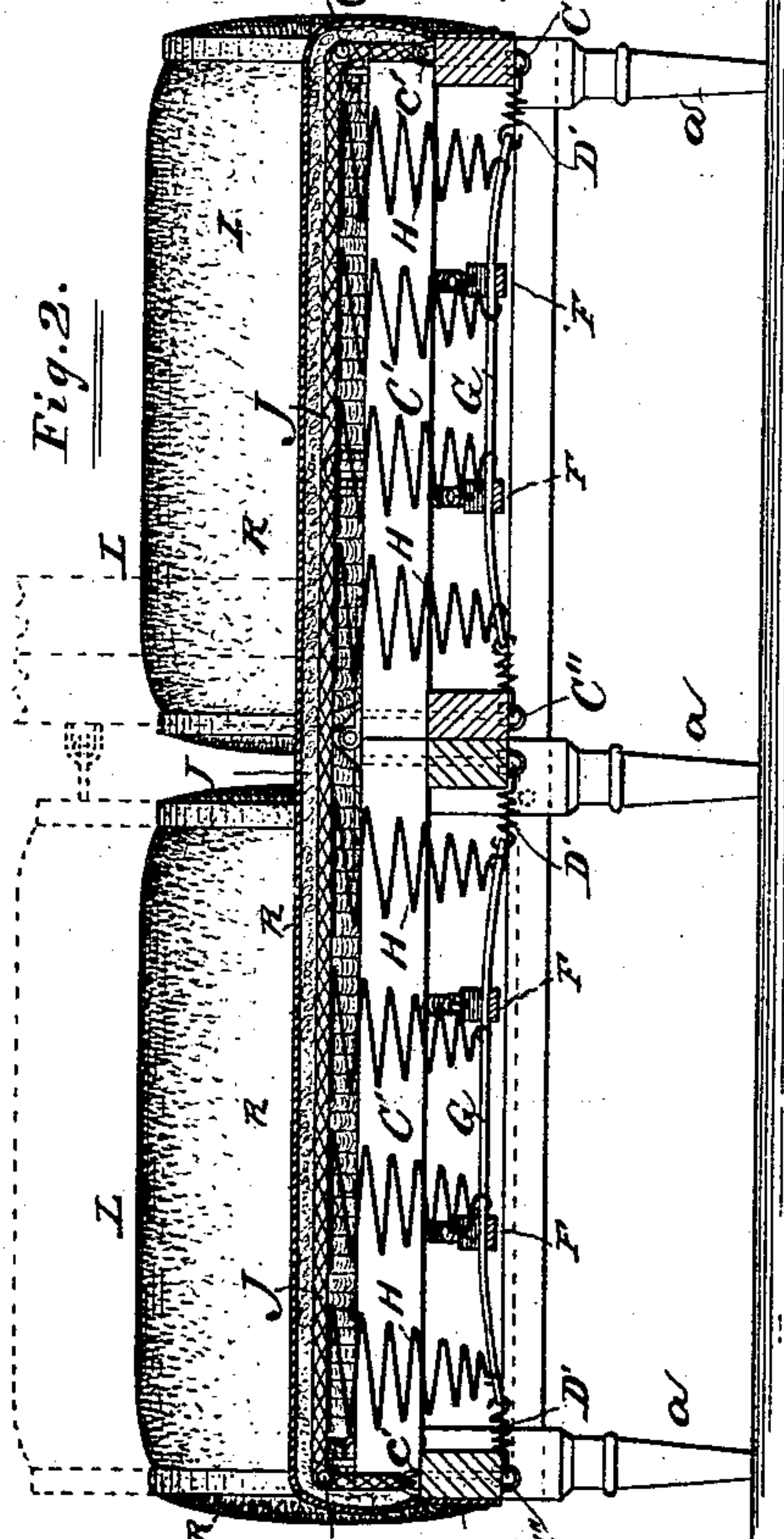
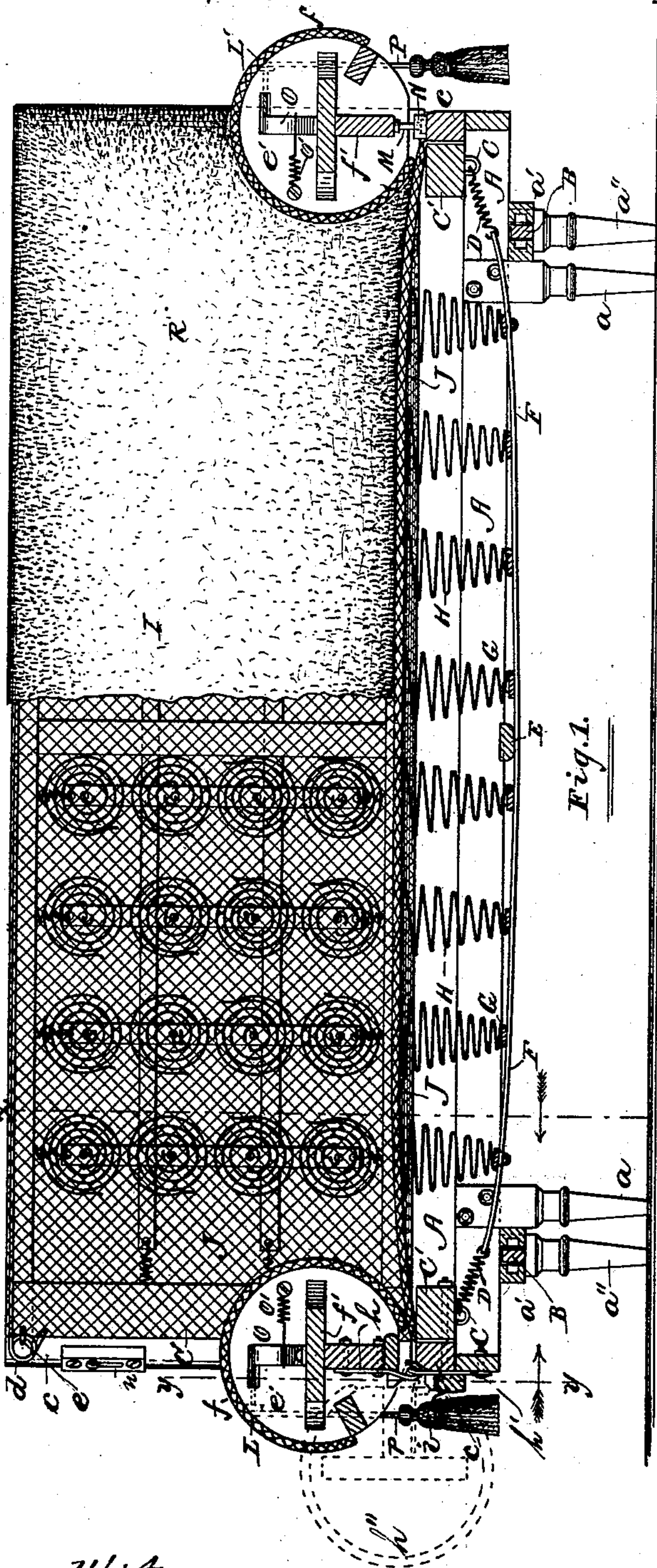
2 Sheets—Sheet 1.

E. YEOMAN.

SOFA BED.

No. 324,205.

Patented Aug. 11, 1885.



Witnesses,  
Henry Frankfurter,  
W. L. Baker.

Inventor,  
Edward Yeoman  
per F. F. Warren  
his Attorney.



(No Model.)

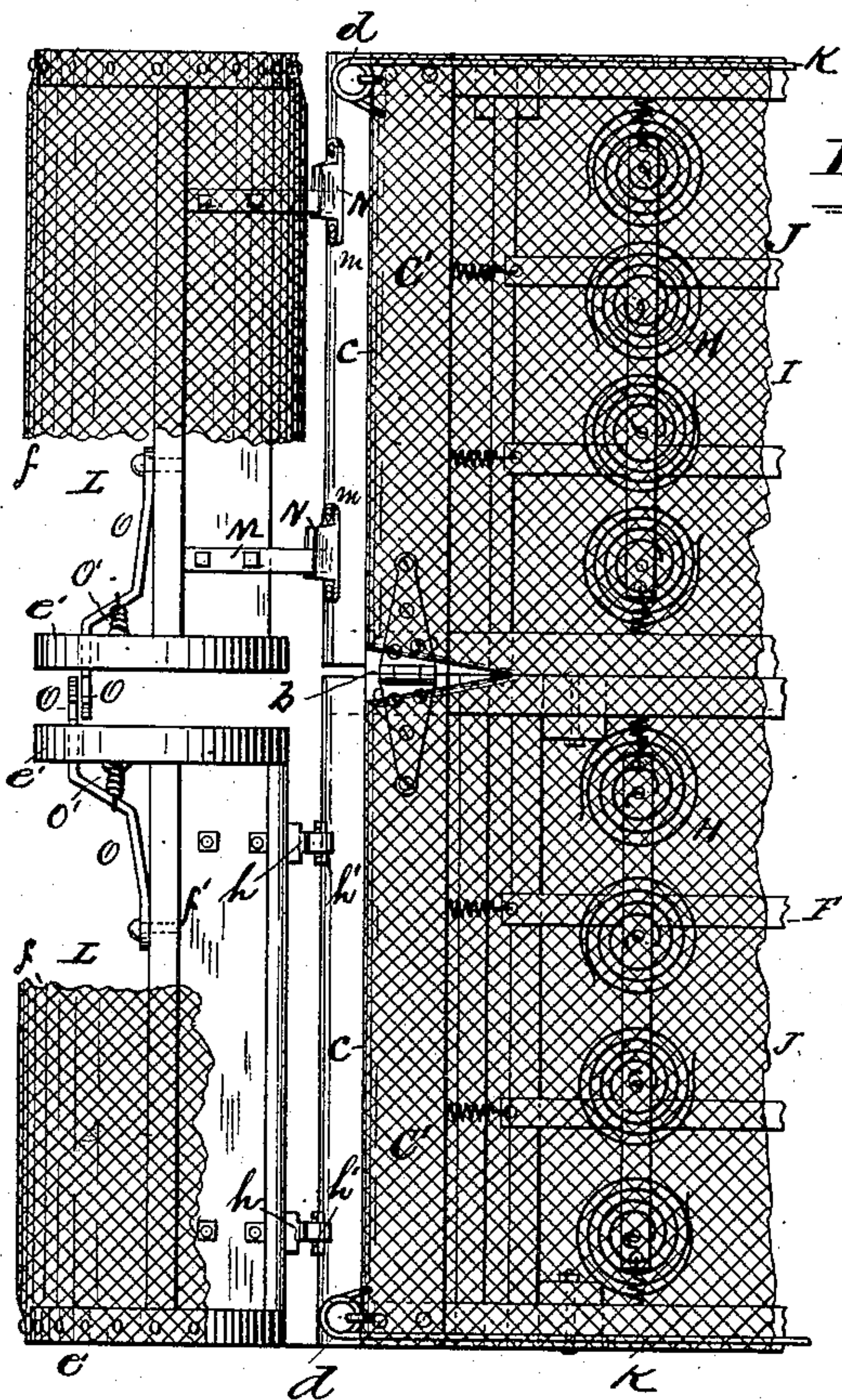
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E. YEOMAN.

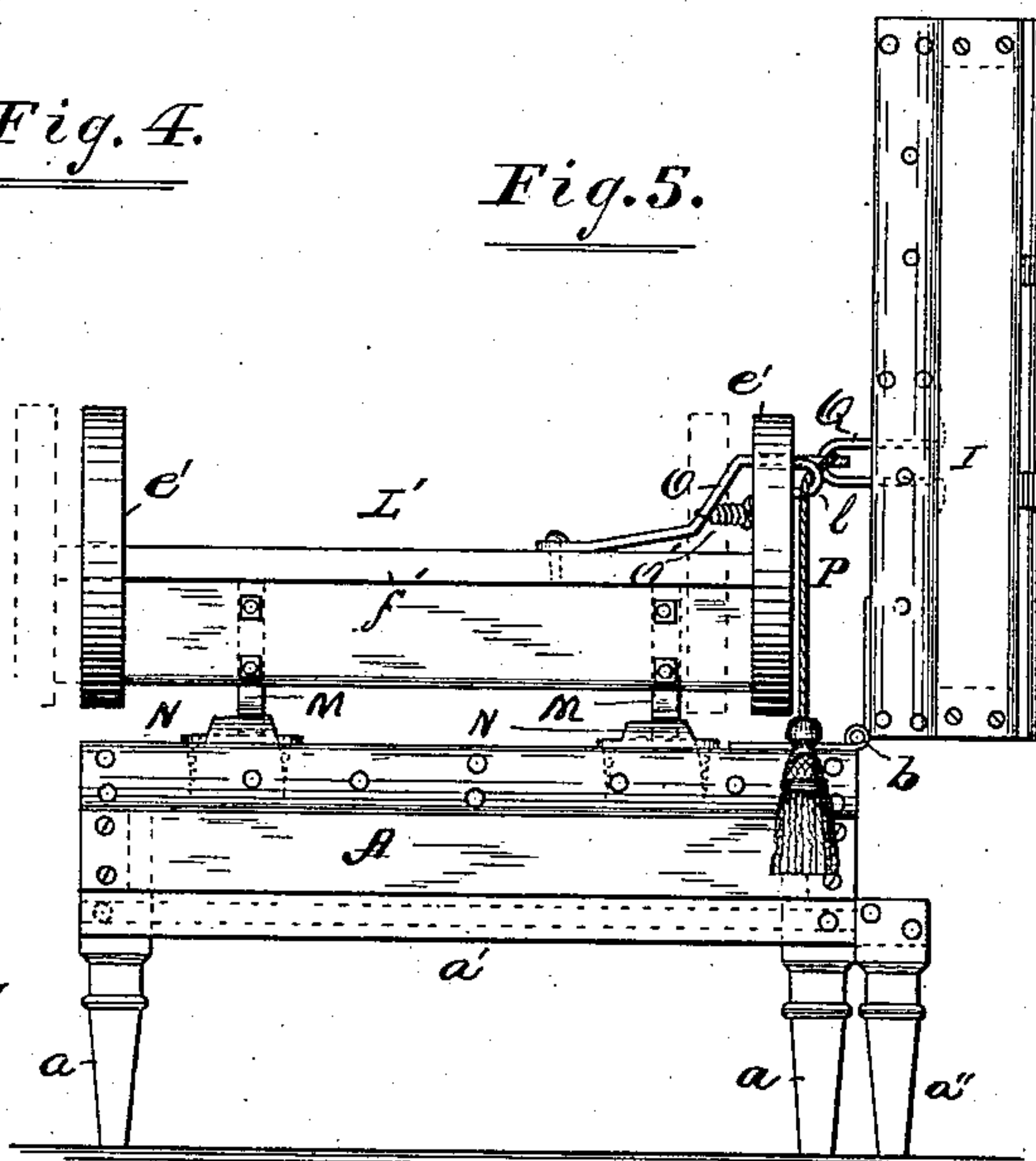
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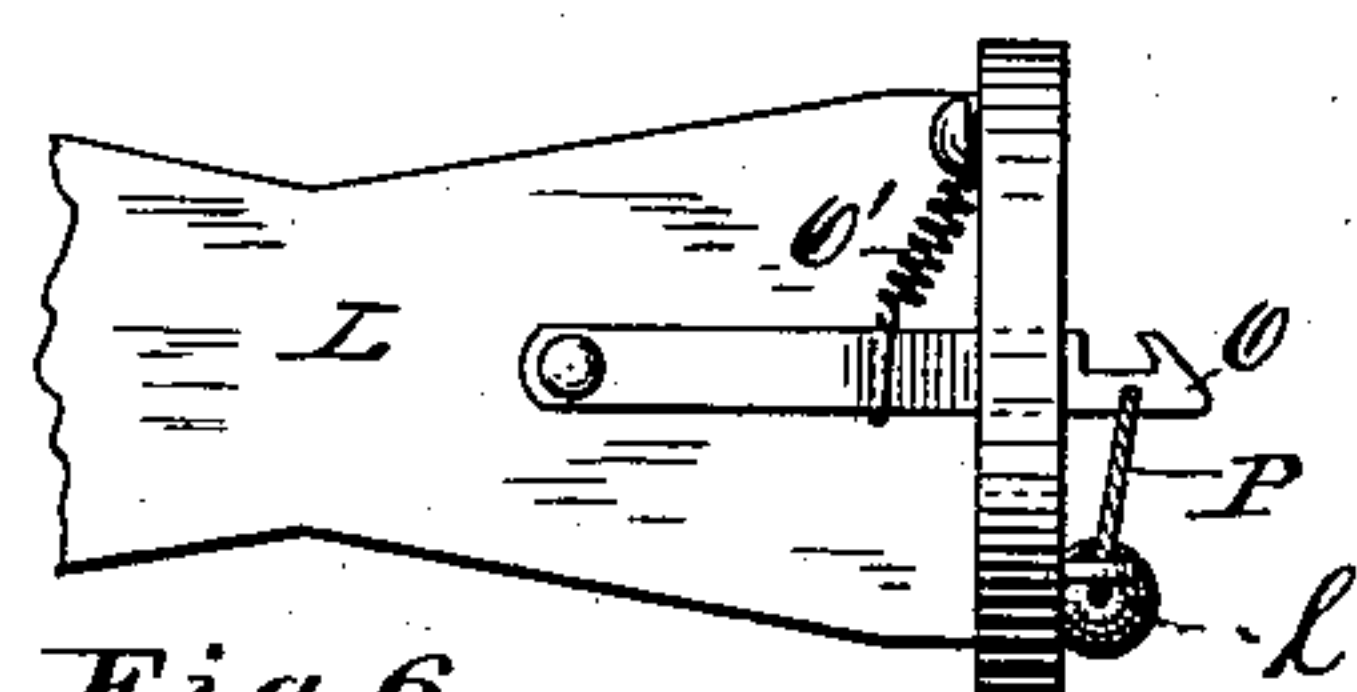
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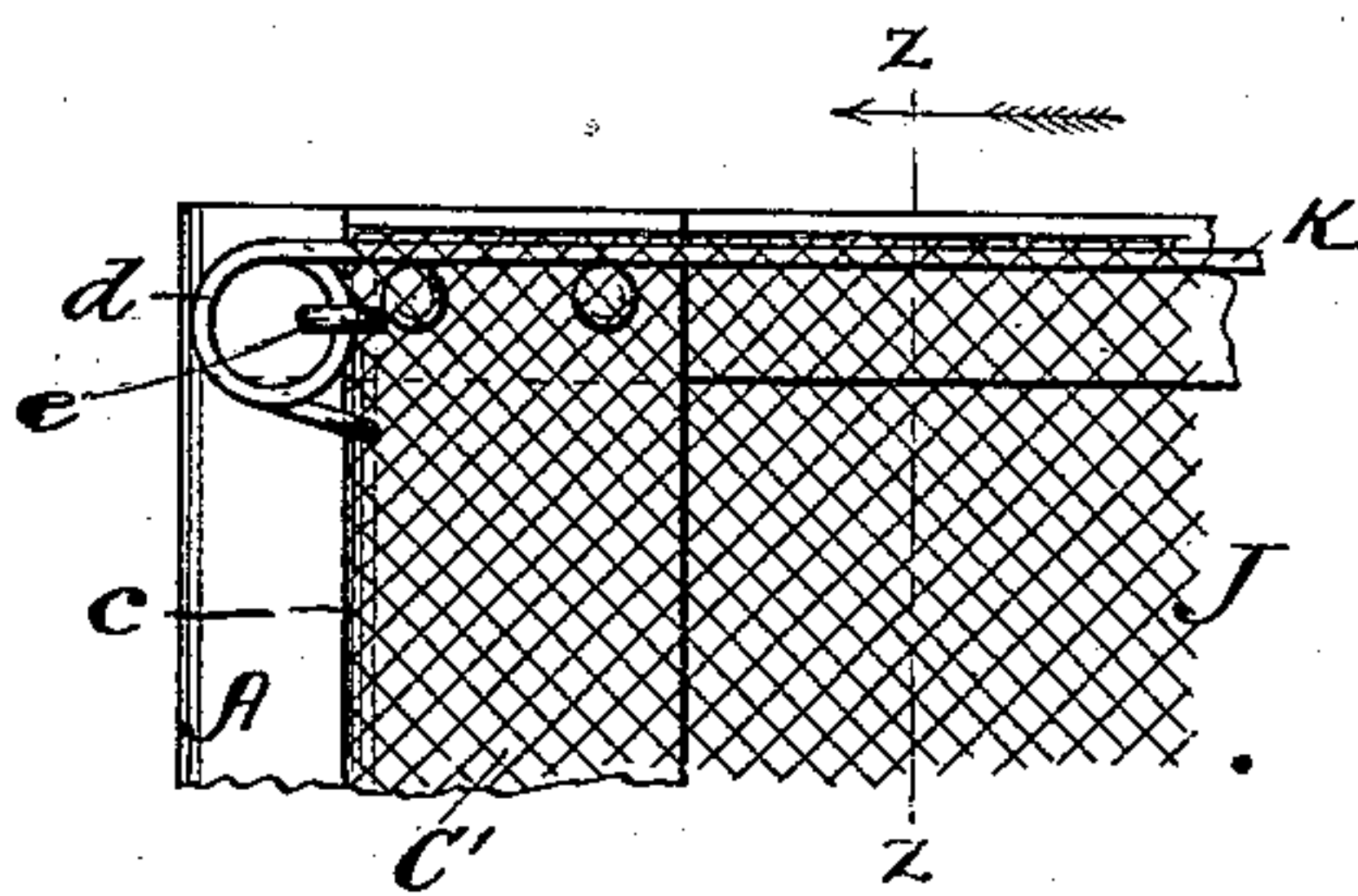
*Fig. 4.*



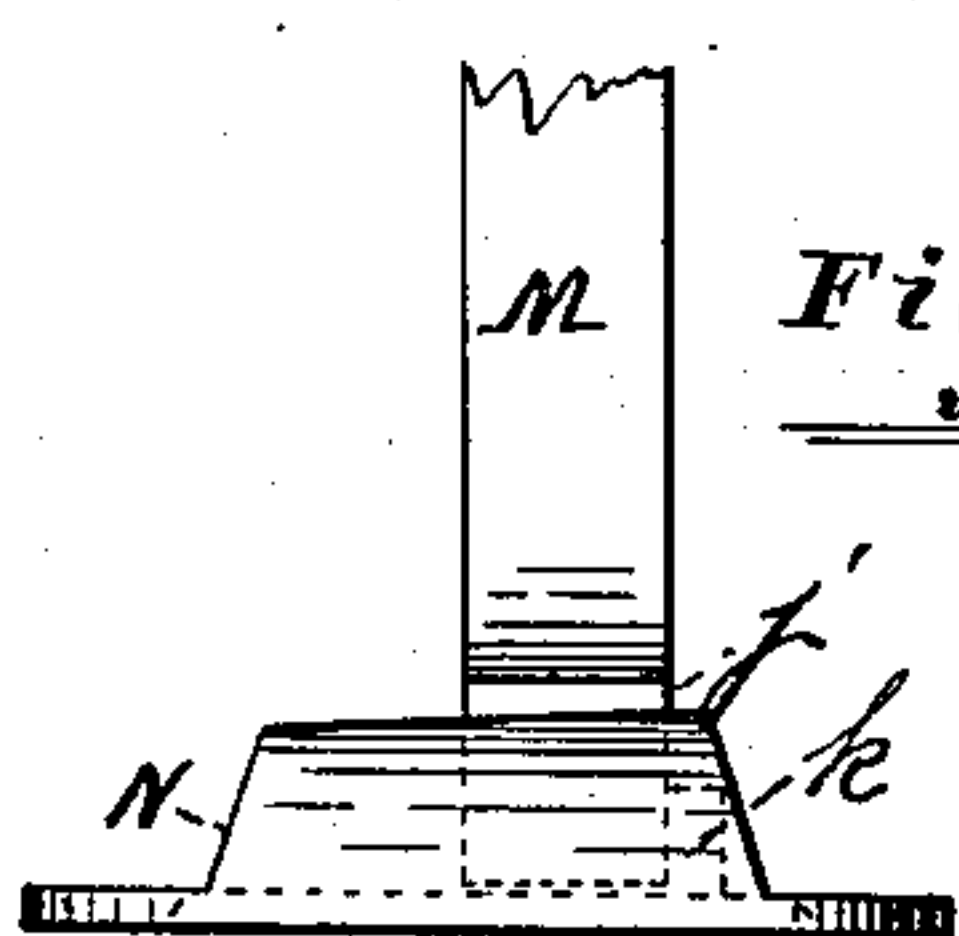
*Fig. 5.*



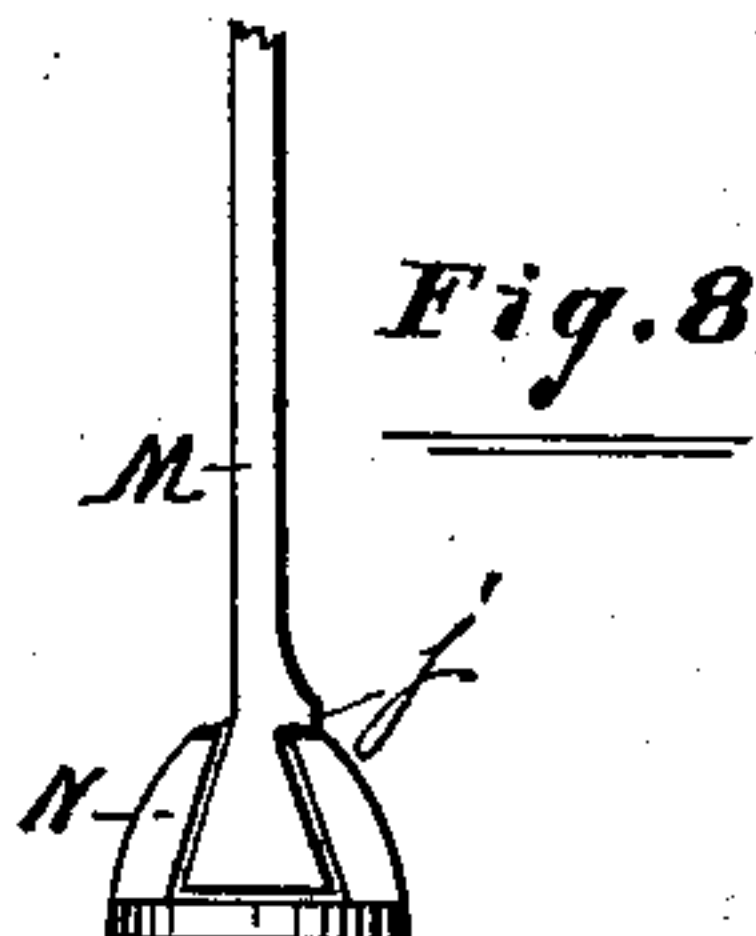
*Fig. 6.*



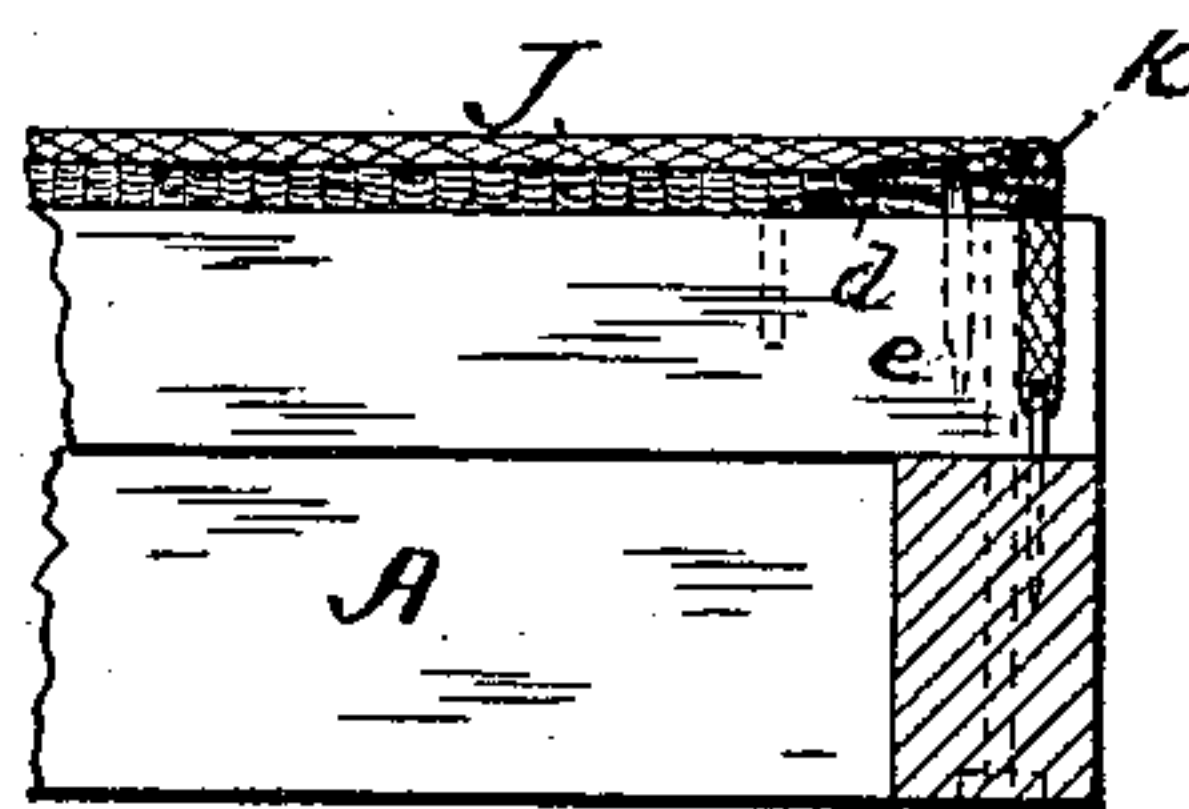
*Fig. 9.*



*Fig. 7.*



*Fig. 8.*



*Fig. 10.*

Witnesses.

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his Attorney.



# UNITED STATES PATENT OFFICE.

EDWARD YEOMAN, OF CHICAGO, ILLINOIS.

## SOFA-BED.

SPECIFICATION forming part of Letters Patent No. 324,205, dated August 11, 1885.

Application filed December 11, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD YEOMAN, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sofa-Beds, of which the following, in connection with the accompanying drawings, is a specification.

In the drawings, Figure 1 represents a vertical central longitudinal section taken through the seat of a sofa-bed arranged for use as a sofa, a portion of the covering or upholstery being removed or broken away from the back to more clearly show the construction thereof. Fig. 2 is a cross-section in the plane of the line *x x* of Fig. 1, viewed in the direction indicated by the arrow there shown, excepting that the parts shown in full lines in said section represent the sofa when open or unfolded for use as a bed, while the dotted or broken lines there shown indicate the position of the parts when arranged for use as a sofa. Fig. 3 is a section in the plane of the line *y y* of Fig. 1, viewed in the direction indicated by the arrow there shown. Fig. 4 is a top view of the unfolded sofa, certain parts being removed and broken away to show the construction more clearly. Fig. 5 is an end view of the sofa. Fig. 6 is a detail showing the means employed for connecting the back to the seat detachably. Fig. 7 is a detail, the same being a side representation of the means employed for connecting one of the heads or bolsters removably to the sofa. Fig. 8 is an end view of the same. Fig. 9 is a detail showing an enlarged top view of the means employed for producing a yielding edge on the seat and back; and Fig. 10 is a section in the plane of the line *z z* of Fig. 9, viewed in the direction indicated by the arrow there shown.

Like letters of reference indicate like parts.

A represents the seat-frame, and *a a* are fixed legs attached thereto.

B B are bars sliding horizontally and in a rearward direction in cross-bars *a' a'*, forming a part of the frame A, and *a'' a''* are legs on the rear end of the bars *a' a'*.

C C are loops or staples in cross-bars or end pieces C' C', forming a part of the frame A, and D D are spiral springs connected at one end to the said staples, respectively. C' C' are staples in the front and rear bars of the seat-frame.

D' D' are spiral springs connected to the staples C' C', respectively.

E is a cross-bar connecting the front and rear bars of the seat-frame.

F F are metallic strips connected to the springs D D, and passing underneath the bar E.

G G are metallic strips connected to the springs D' D', and passing transversely over the strips F F.

H H are tapering spiral springs resting on the strips G G, and suitably connected thereto.

I is the back of the sofa, which is hinged to the frame A, as shown at *b*, and constructed substantially the same as the seat, so far as now described, excepting that the back has no legs directly in connection therewith.

J is a woven-wire mattress spread continuously over the springs H H in the seat and in the back, as is clearly indicated in Figs. 2 and 4. The mattress, at its ends—that is, at the ends of the sofa—is clamped between a bar, C', and another bar or rail in both the seat and back, as indicated at *c*, and at its longitudinal edges it is connected by means of staples *c' c'*, to the front of the seat-frame and to the top of the back-frame.

K K are comparatively heavy wires passing through the meshes of the fabric J near the longitudinal edges thereof. These wires are coiled near their ends, as shown at *d d*, and their ends enter the frames of the seat and back, respectively. To brace the coils *d d*, I pass them through staples *e e*, which also enter the frames.

L and L' are the arms or bolsters. These arms are frame-like structures in the form of hollow cylinders, and consist of circular end blocks or disks, *e' e'*, connected by woven-wire fabric *f* and an interior frame or brace, *f'*. One of these arms—L, for example—I connect to the seat by means of hinges *h h'*, attached to the said arm and to the seat. By this means the arm L may be folded back into the position shown by the dotted lines at *h''*, Fig. 1, being there supported by means of stops or rests *i i*. The arm L' is removably connected to the foot of the sofa-seat by means of arms M M, attached to the arm L', and entering grooved plates N N, attached to the seat. The arms M M and plates N N have a dovetail con-



nection with each other, as is clearly indicated in Fig. 8, and *j* is a shoulder on each arm *M* to make the said connection more firm or rigid, and *I* make the grooves in the plates *N N* broader at one end than at the other to permit easy connection and disconnection. A stop, *k*, may be employed to limit the extent of the movement of the arm in the plate, as indicated in Fig. 7. Dowels on the bolsters may be employed instead of the arm *M* and plate *N*.

*O* is a hook pivoted to the frame of each of the bolsters referred to. The hooked end of this hook passes through the inner or rear end of the bolster, as is clearly indicated in Fig. 3, and *O'* is a spring rendering the said hook yielding.

*P* is a cord attached to the said spring and passing through a staple, *l*, in the head of the bolster.

*Q* is a staple in the back of the sofa. This staple is arranged to be engaged by the hook *O*.

Metallic fastenings or grooved plates, in all respects like the plates *N N*, are secured to one end of the back of the sofa, as shown at *n n*, for the purpose hereinafter set forth.

*R* is the upholstering or covering of cloth or other suitable fabric which I spread over the wire fabric in the seat, back, and arms of the sofa.

To use the parts and combinations of parts now described as a sofa, I arrange the two arms or bolsters *L* and *L'* upon the ends of the seat and raise the back *I* into a vertical position, hooking it to the arms or bolsters by means of the hooks *O O*, which, being beveled at their hooked ends, automatically engage the staples *Q Q* as the back is raised, thus connecting the back temporarily and detachably in its raised position to the arms or bolsters. When the back is in its raised position, the arm or bolster *L* is also in its raised position, owing to its engagement with the raised back, through the medium of the hooks *O O* and staples *Q Q*.

To convert the sofa into a bed, I release the back by drawing downward on the cords *P P*, thus drawing the hooks *O O* out of engagement with the staples *Q Q*, and arrange the back *I* horizontally, first drawing back the legs *a'' a''* to support it in that position. I then fold back the arm or bolster *L*, as indicated by the dotted lines at *h''*, Fig. 1. I also remove the arm or bolster *L'* and attach it to the upper end or head of the horizontally-arranged back, as indicated in Figs. 2 and 4. By tilting the arm or bolster *L* back in the manner referred to, and by arranging the bolster *L'* in a corresponding position, the bed is made practically longer than the sofa.

By employing the spring edge wires *K K* in the manner shown and described, yielding

edges are not only produced but the upholstering or covering *R* need not be stitched to the woven-wire mattress, but may be secured to the seat and back frames by means of nails or other suitable fastenings. Between the covering *R* and the woven-wire mattress a thin layer of curled hair or other suitable material may be arranged, if deemed best. By using the metallic strips *F* and *G* in the manner shown and described the usual webbing made of cloth is dispensed with.

The means employed for constructing the yielding seat and back may also be employed with advantage in the construction of chairs, lounges, seats, and railway-car seats, especially when the car-seats and backs are adapted to be arranged for use as beds.

Ordinary fastenings, *n n*, may be employed, if preferred, in lieu of the plates *N N*, as indicated in Figs. 1 and 3.

In Letters Patent of the United States of America, No. 240,568, granted to me the 26th day of April, 1881, for improvements in spring-bed bottoms, I have shown a spring-bed bottom having a mattress made of woven wire, and this mattress has woven into it at or near its lateral or longitudinal edges a number of extra coiled wires, and I do not, therefore, here intend to claim that feature of construction; but

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

1. The combination, in a sofa-bed, of the intersecting metal strips *F* and *G*, the springs *D' D'*, the springs *H H*, the woven-wire mattress *J*, turned or bent at an angle along its two longer edges, the mattress-supporting wires *K K*, passing along under the said mattress at the said angles, and the supporting-frame, substantially as and for the purposes specified.

2. The combination, in a sofa-bed, of a seat-frame, a back-frame hinged to the seat-frame, and a woven-wire mattress attached to the said frames and extending continuously across the line of junction of the said frames, substantially as specified.

3. The combination, in a sofa-bed, of a seat-frame, a back-frame hinged to the seat-frame, a woven-wire mattress attached to and extending continuously across both of the said frames, and mattress-supporting springs attached to the said frames, substantially as specified.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

EDWARD YEOMAN.

Witnesses:

F. F. WARNER,  
J. B. HALPENNY.