No. 693,211. Patented Feb. 11, 1902.

L. N. BACHAND.

FOLDING BED.

(Application filed July 30, 1898.)

(No Model.) 4 Sheets—Sheet 1.

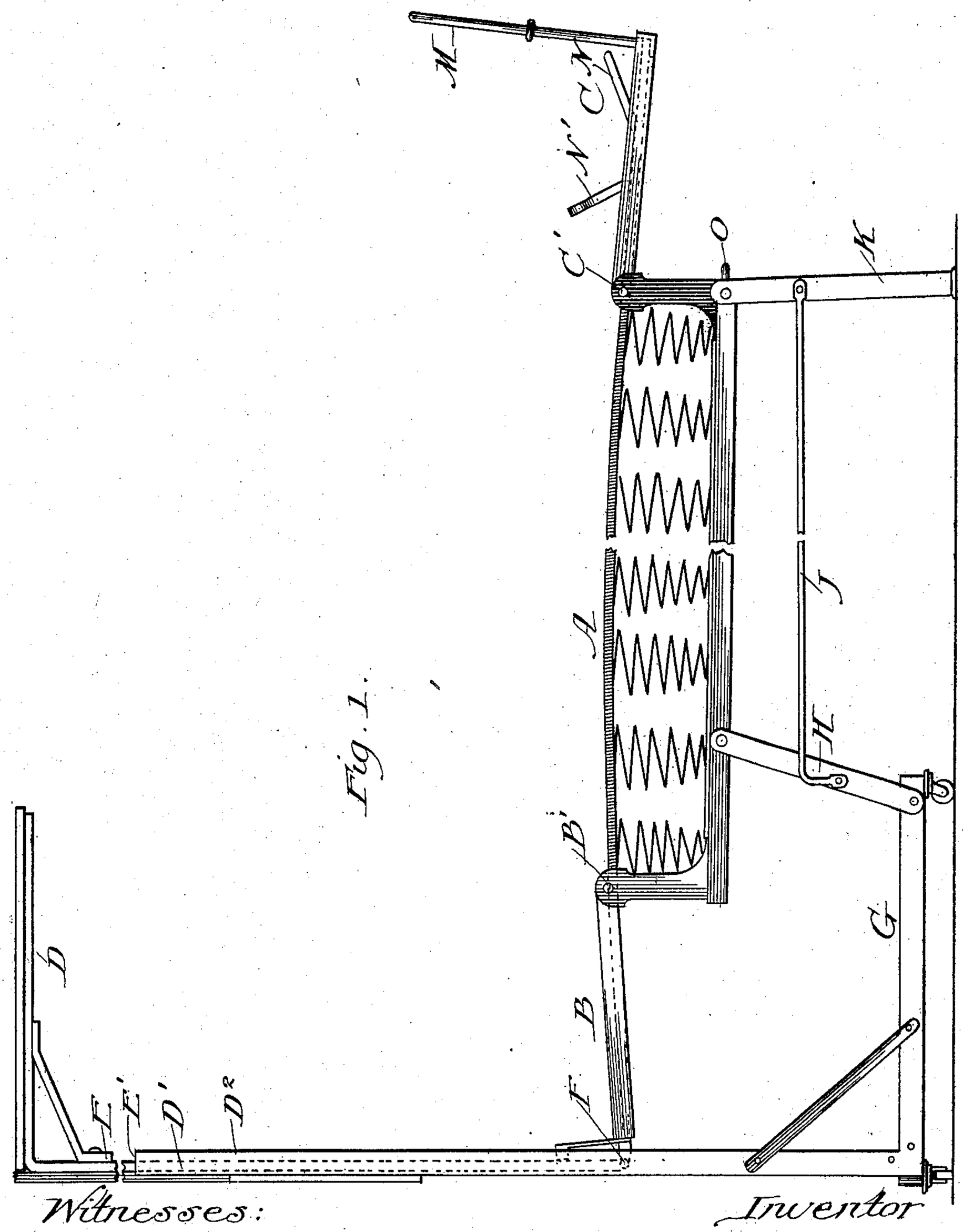

Fig. 1.

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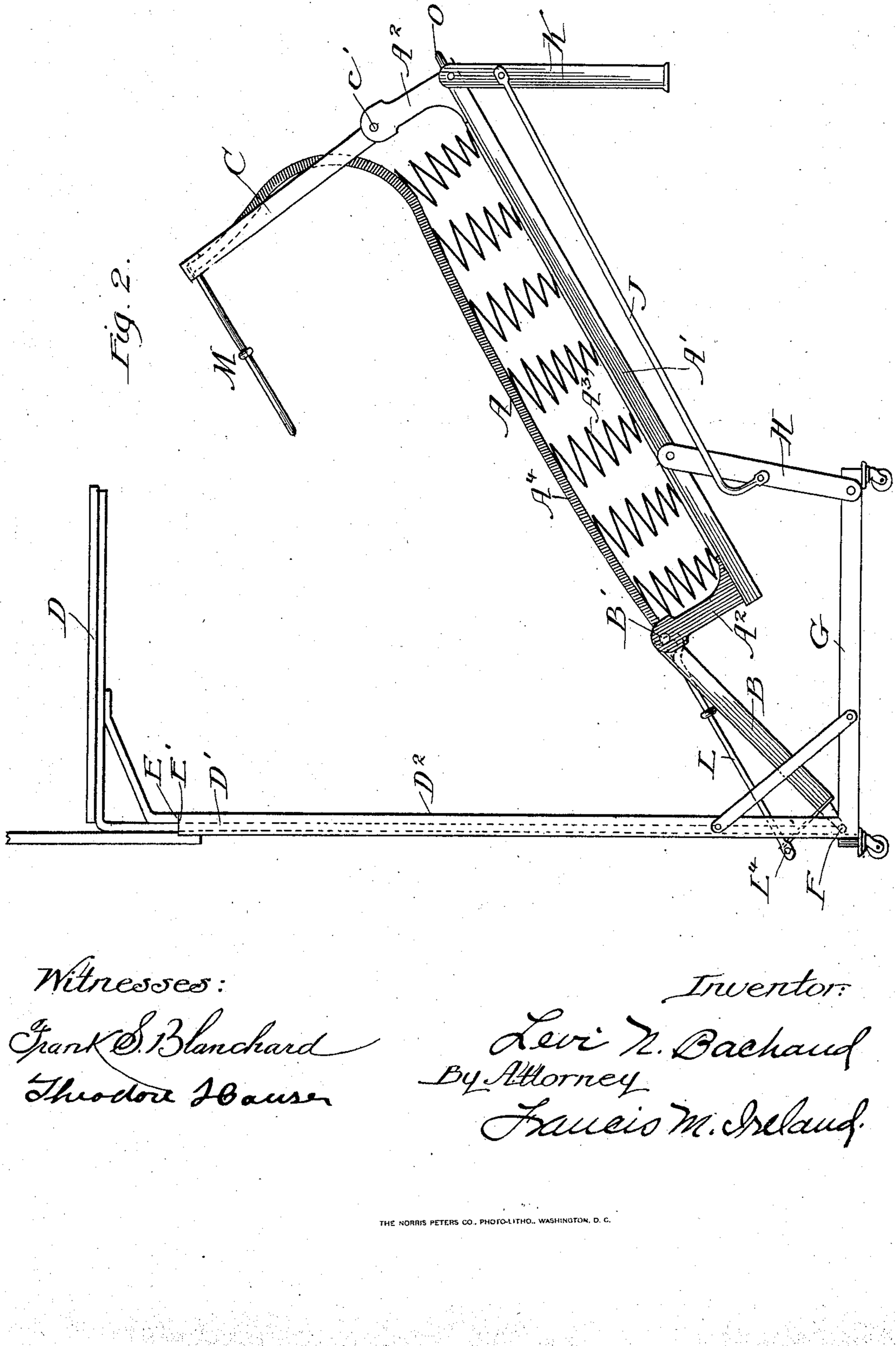
(No Model.) 4 Sheets—Sheet 2.

Fig. 2.



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(No Model.) 4 Sheets—Sheet 3.

Fig. 3.

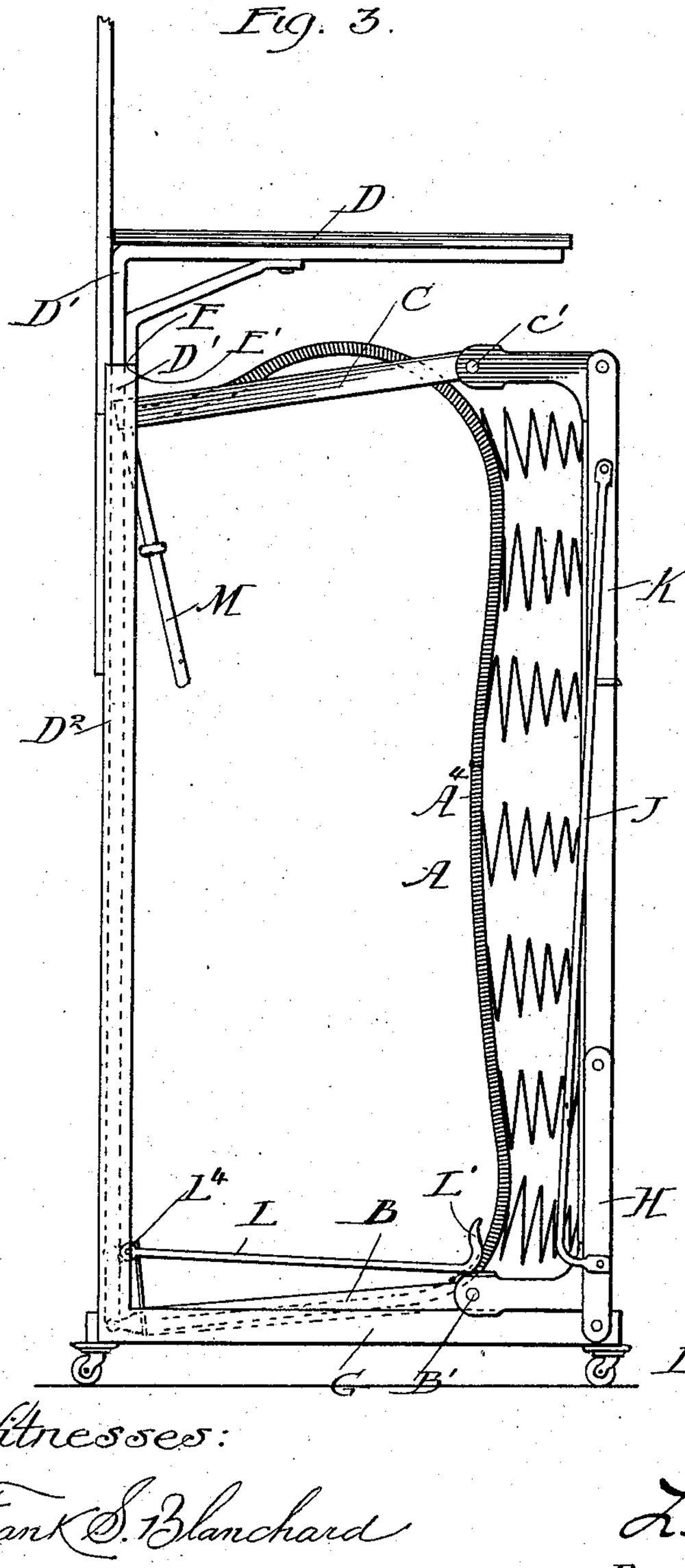


Fig. 6.

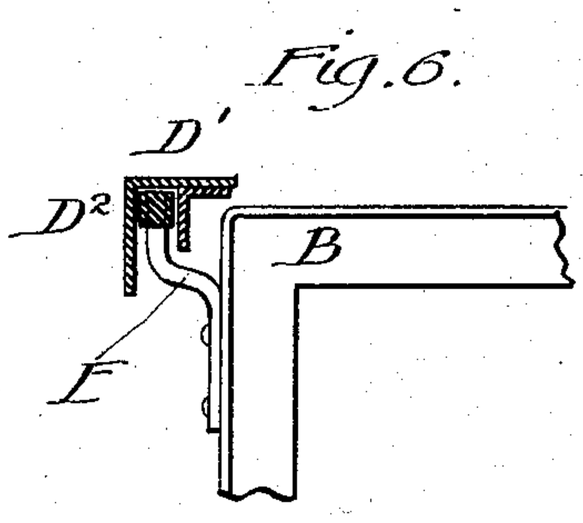
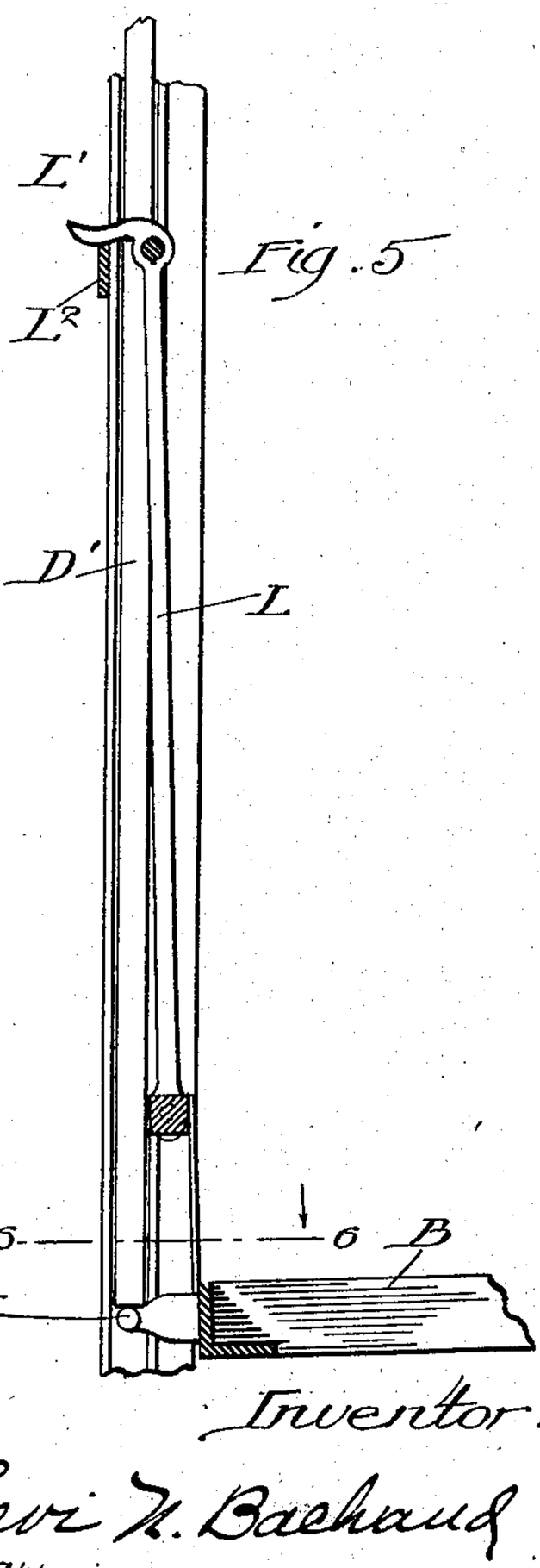


Fig. 5



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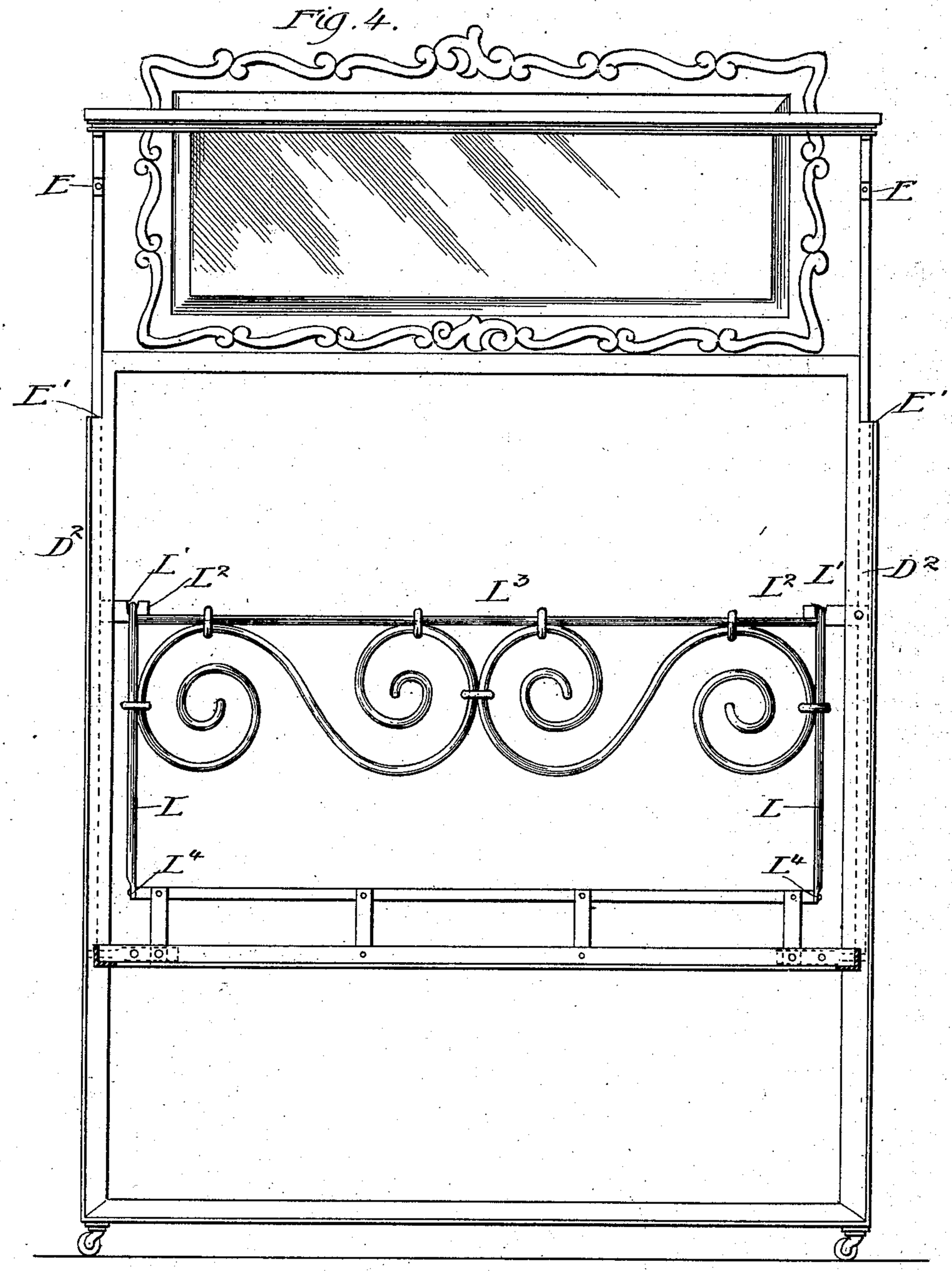
(No Model.) 4 Sheets—Sheet 4.

Fig. 4.



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UNITED STATES PATENT OFFICE.

LEVI N. BACHAND, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO WILLIAM J. GARVY, OF CHICAGO, ILLINOIS.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 693,211, dated February 11, 1902.

Application filed July 30, 1898. Serial No. 687,315. (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 certain new and useful Improvements in Folding Beds, of which the following is a specification.

My invention relates to beds of the class commonly known as "folding beds," and has for its object to produce a folding bed simple in construction, easily opened and closed, and which when closed shall be compact and at the same time admit of free access of air to the bedding.

Briefly described, my improved bed consists of a bed-body having the body formed lengthwise of sections pivotally connected together and a frame toward and against which such body is adapted to be folded to close the bed, such frame being at one end of the bed, so that the body of the bed is open and unobstructed at both sides, and a canopy mounted in the frame and provided with connections with the bed-body such that the folding and unfolding of the body operates to lower and raise the canopy.

I will now describe my invention more in detail, reference being had to the accompanying drawings, wherein it is illustrated.

Figure 1 is a side elevation of a bed embodying my invention, the parts being in open position. Fig. 2 is a similar view with the bed partly closed. Fig. 3 is a similar view with the bed wholly closed. Fig. 4 is an elevation of the head of the bed, the body being removed. Fig. 5 is a detail. Fig. 6 is a cross-section on line 6 6 of Fig. 5.

The same reference-letters are employed to indicate the same parts throughout the several views.

As shown, the bed-body consists of the three sections A, B, and C, the middle section A having pivotal connections with the end sections at B′ and C′, respectively. These pivotal connections are preferably such as to permit movement through only about ninety degrees, so that the middle section may be at substantially right angles to each of the other sections when the bed is closed.

The section A, forming the middle or main portion of the body, is so constructed as to be without side rails or other side obstructions in the line of the bedding, presenting a saw-spring edge upon each side. This may be accomplished, as shown in the drawings, by having the frame-pieces A′, which form the base of this section, below the level of the end sections and providing at the corners of this frame the standards A^2, to the upper ends of which the end sections are pivoted. Coil-springs A^3 are supported on the base-frame of the middle section and support the middle portion of the woven-wire mattress A^4, where the greatest weight rests in use. The ends of this woven-wire mattress are secured at the ends of the end sections.

The canopy D is supported by the extension-rods D′, which slide in grooves or guideways in the standards D^2, which with connecting cross pieces or braces form the head of the bed. Stops E are provided upon the rods D′, which oppose corresponding stops E′ on the standards D^2 of the frame to stop the downward movement of the canopy at the desired height. As shown herein, the stops E are merely the ends of the braces which support the canopy, and the stops E′ are merely the ends of the standards D^2. Fingers F, secured at each side to the head-section B of the bed-body, project into the grooves in which the rods D′ slide below the ends of such rods in order to engage such rods and effect the raising and lowering of the canopy as the bed is opened and closed.

G represents bars forming a base-frame upon which the bed rests.

H represents links, one upon each side of the bed, each pivoted at one end to the base-piece G and at the other end to the bed-body. They are connected by the links J with the legs K, and these legs are pivoted to the outer end of the middle section of the bed-body. Locking-rods L are attached to the bed-body at their lower ends and are provided at their upper ends with catches L′ to interlock with corresponding catches L^2 upon the standards D^2. By means of this locking device the bed may be locked securely in its open position. In the bed shown the locking-rods L form part of an ornamental headpiece L^3, hinged at L^4 to the bed-body and adapted to be turned down upon the pillows and bedding to hold

the same in position when the bed is to be closed.

The footpiece M may be stationary, in which case it is preferable to have some device for holding the bedding in position at the foot of the bed when the bed is to be closed. For this purpose a bent rod N, pivoted at each side to the foot-section, may be provided. When the bed is open, this piece may be turned back, so as to lie at the end of the bedding, out of sight. When the bed is to be closed, this rod will be turned forward over the bedding, so as to clamp it firmly, and the catches N′, pivoted at each side of the bed, may be turned so as to catch and hold the rod.

The operation of opening and closing the bed shown herein will be readily understood. When the bed is open in the position shown in Fig. 1, the canopy is in its extreme upward position, and is held in such position by the lower ends of the extension-rods resting upon the fingers F, attached to the bed-body. The locking-rods L will also have their upper ends interlocked with the catches upon the standards, so that it will be impossible for the body to swing upward or the upright frame to move relative to the body without these catches first being unlocked. To close the bed, these catches will be disengaged and the scroll L^3 be turned down over the bedding. The holder at the foot of the bed will also be turned down over the bedding, so as to hold it in position. The section C will be turned into a position substantially at right angles to the middle section, and the handle O will then be grasped and the bed-body be swung upward, the weight of the canopy and extension-rods bearing upon the fingers F assisting in the operation. As the bed-body moves upward the fingers F move downward and the extension-rods and canopy descend until the stops E and E′ engage. When the movement has progressed so far, as indicated in Fig. 2, the fingers F will have reached the lower ends of the grooves and their further movement will be prevented. As the operation continues, these fingers being thus held stationary, the sections A and B will turn upon the pivotal connections (indicated at B′) until when the bed reaches its closed position (shown in Fig. 3) they will be at substantially right angles to each other, the section B lying in a horizontal position and the section A in an upright position. Through the action of the links H and J the legs K will be folded up against the bed-body. The whole bed will then be in a compact condition, and at the same time since the end sections are turned only at right angles the bedding will not be folded upon itself and will be as freely open to the air as when the bed is open. If desired, a curtain might be provided suspended upon a rod about the canopy, and this curtain would now be drawn about the closed bed to conceal it from view, giving the whole somewhat the appearance of a chiffonnier. To open the bed, this operation is simply reversed. The bed is pulled outward and downward. The parts will pass, as before, into the position shown in Fig. 2, and from that position on the fingers F will push the extension-rods carrying the canopy upward, and the weight of the rods and canopy will again in part balance the weight of the bed-body and make the labor of opening the bed lighter. The legs will be extended so that the weight of the bed-body when open will rest upon them and the links H. The section C will then be turned down and the locking-rods L be locked in position.

It will be readily apparent that many changes could be made in the mechanism here shown without departing from the scope of my invention. What I have attempted herein is merely to illustrate one embodiment in practical form of the essential principles of my invention. The arrangement of parts herein shown is particularly desirable in that it results in a bed in which the canopy and supporting-frame are at one end of the bed instead of at one side of the middle section and the middle section is open and presents a saw-spring edge at both sides. This is an important feature, particularly in double beds.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a metal folding bed, the combination with a middle section A pivotally mounted to fold crosswise of the bed, of end sections B C pivoted to the said middle section at a point above the frame-pieces A′, of the middle section, and a flexible mattress A^4 attached to the end sections and adapted to be drawn taut when the bed is opened, said mattress then being held in a position above the level of the frame-pieces A′, whereby a free and unobstructed spring edge is provided at both sides of the middle portion of the bed, substantially as described.

2. In a metal folding bed, the combination with the middle section A pivoted to fold crosswise of the bed substantially to a vertical position, the said middle section being provided with standards A^2 and coiled springs A^3, of sections B C pivoted to the said standards above the plane of the frame-pieces A′ of the middle section, and a woven-wire mattress A^4 secured to said end sections and adapted to be drawn taut over the springs A^3 above the level of the frame-pieces A′, whereby a free and unobstructed spring edge is provided at both sides of the middle section, substantially as described.

3. In a folding bed, the combination with a pivoted section A adapted to fold substantially to a vertical position, of a section B pivoted to the section A within the point of the latter's pivotal mounting, whereby said section B is automatically folded or unfolded with regard to the section A as the latter section is moved toward or from the vertical to close or open the bed, grooved standards D^2

mounted at the end of section B, a movable canopy, rods supporting the canopy and passing within the standards, and fingers upon the section B of the bed-body extending within the grooved standards adapted to actuate the canopy when the bed is operated, substantially as described.

4. In a folding bed, the frame forming the head of the bed, in combination with the bed-body formed lengthwise of sections pivotally secured together and mounted so that when open the bed-body lies with its head toward said frame, and a spring-mattress mounted at the ends of the bed-body and held thereby above the frame-pieces of the middle section so as to present a free and unobstructed spring edge at each side of the bed, substantially as described.

5. In a folding bed the combination of the grooved standards and frame forming the head of the bed, the canopy having the extension-rods which slide in grooves in the standards and support said canopy, the bed-body formed lengthwise of sections pivotally secured together and mounted so that when open it lies with its head toward said frame and its sides open and unobstructed, fingers upon the head-section of the bed-body which extend into the grooves in the standards and are adapted to move the extension-rods and canopy upward when the bed is being opened, and the pivoted headpiece L^8 adapted as set forth to serve as a locking device when the bed is open and to hold the bedding in position when the bed is to be closed, substantially as described.

Chicago, July 7, 1898.

LEVI N. BACHAND.

In presence of—
FRANCIS M. IRELAND,
THEODORE HAUSER.