

(No Model.)

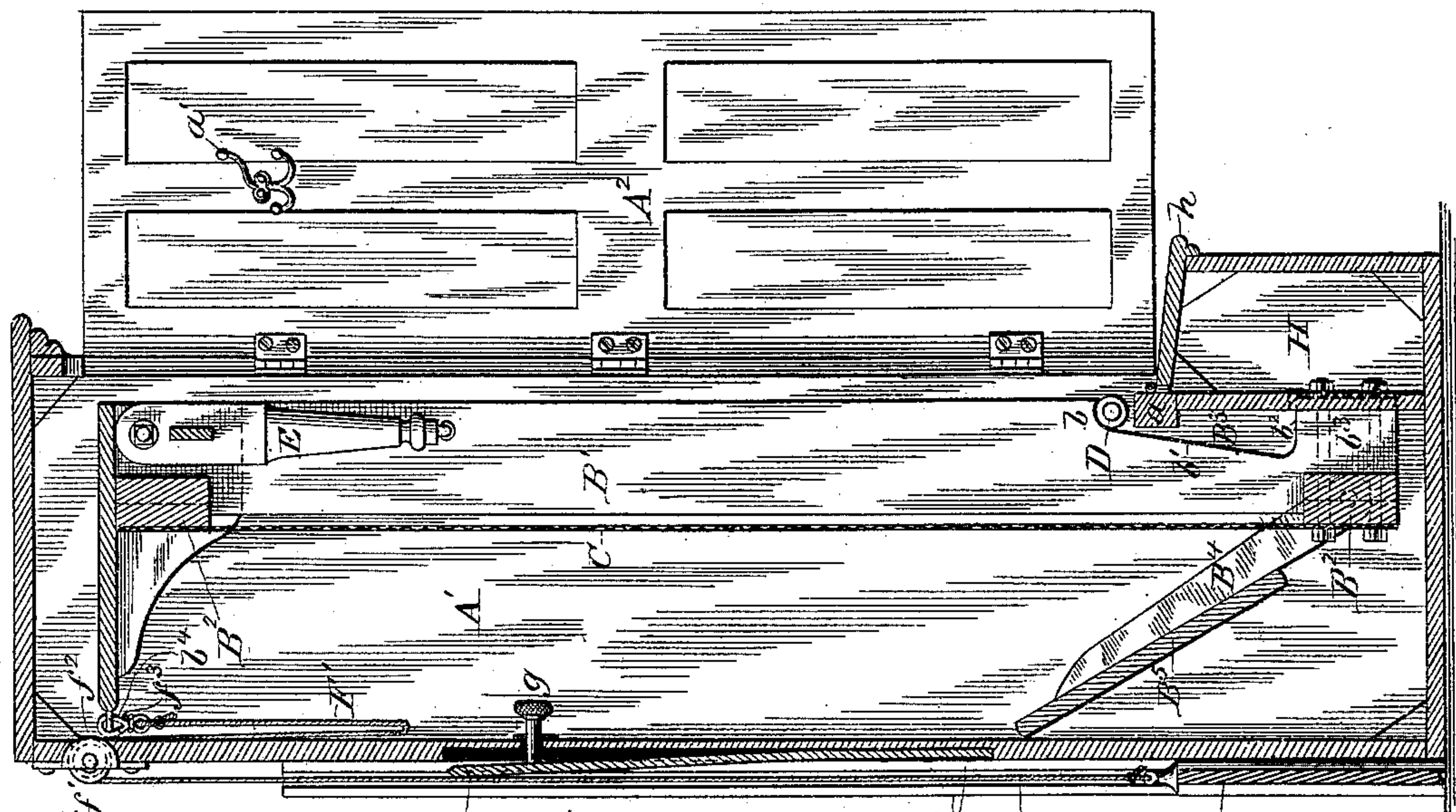
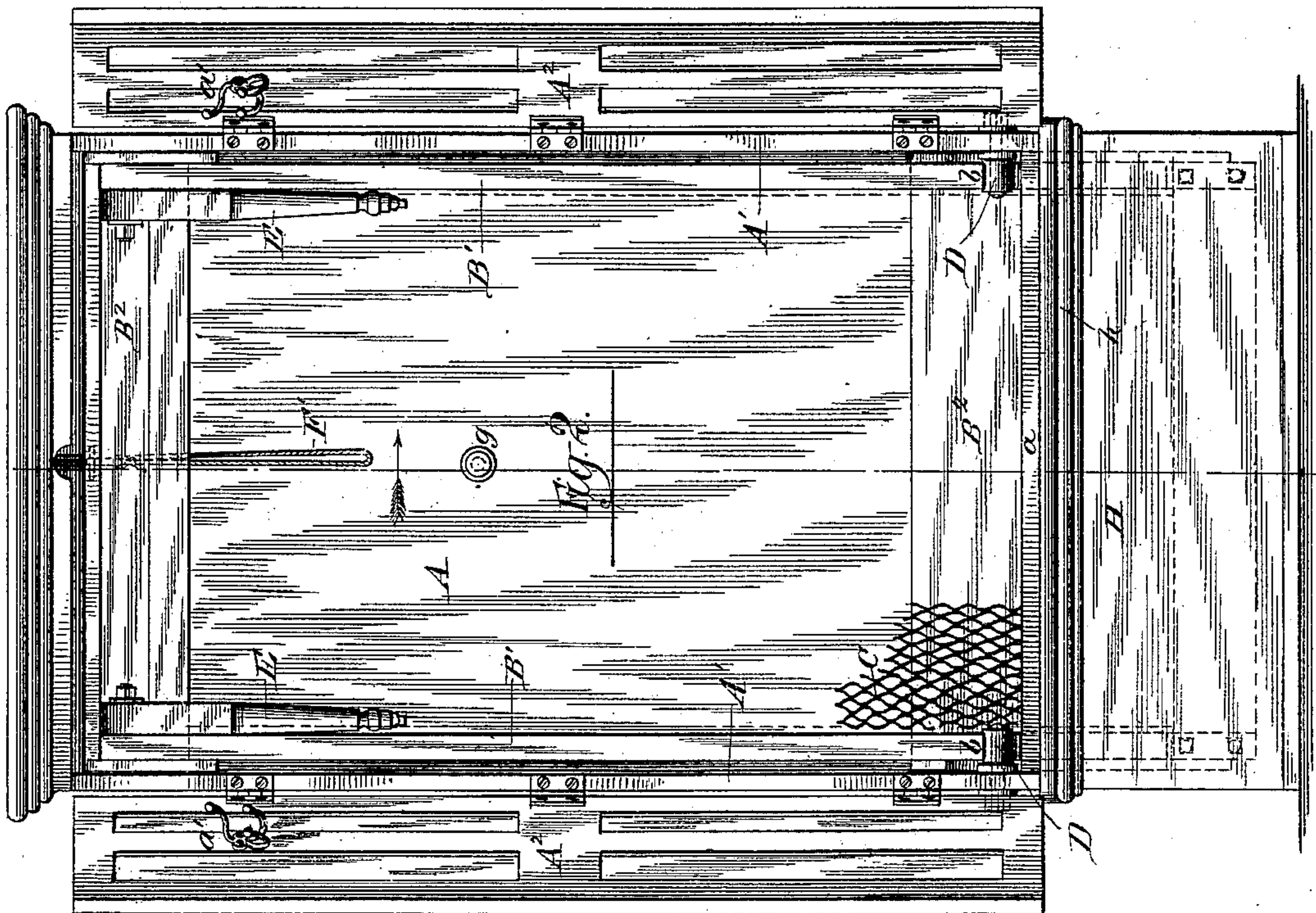
2 Sheets—Sheet 1.

T. L. ODELL.

FOLDING BED.

No. 357,023.

Patented Feb. 1, 1887.



Witnesses:

Louis M. Whitehead

C. C. Poole

Fig. 1.

A

by:

Thomas L. Odell.

M. E. Dayton

Attorney.

Inventor:

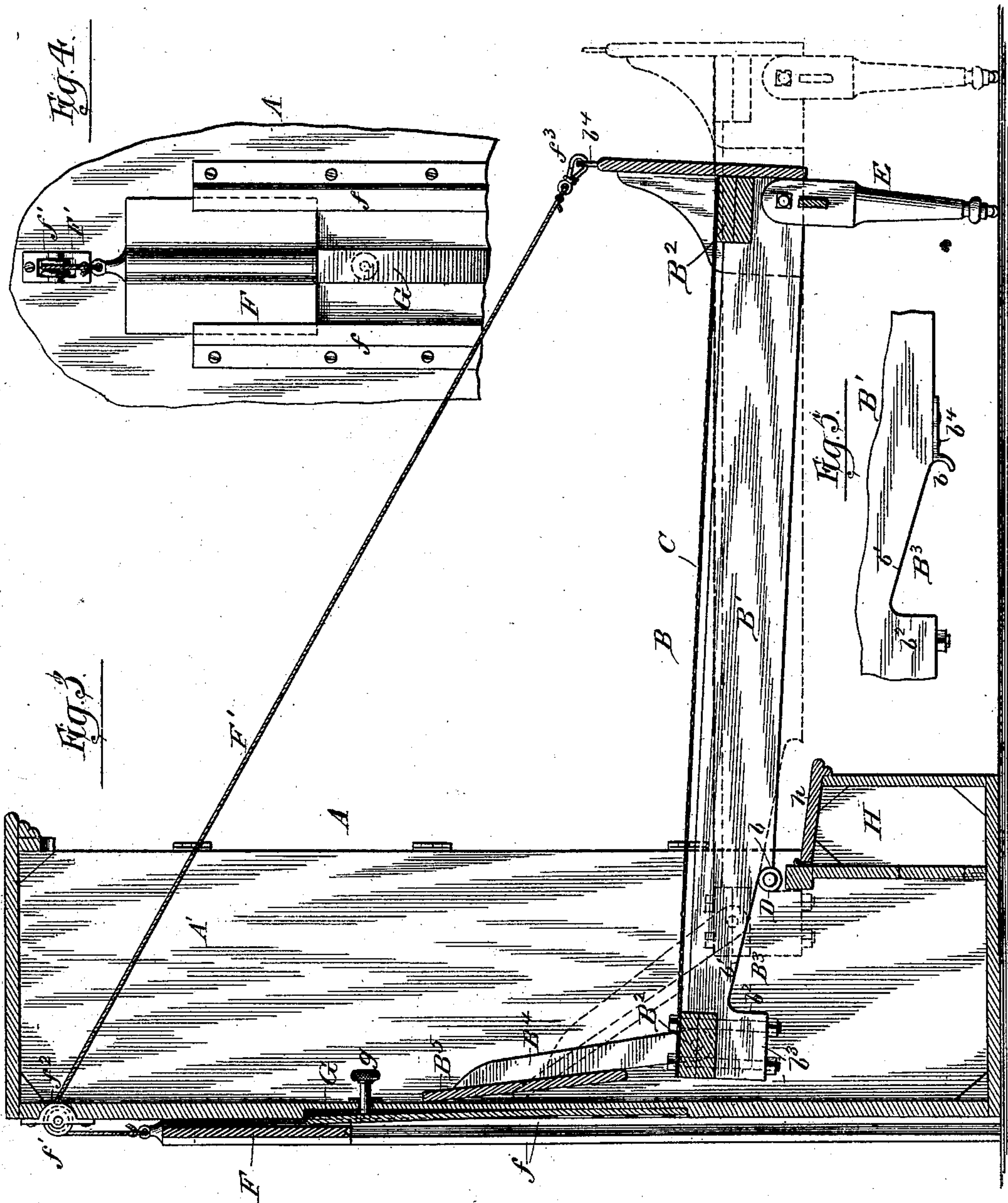
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Thomas L. Odell.
by M. E. Dayton
Attorney.

UNITED STATES PATENT OFFICE.

THOMAS L. ODELL, OF IOWA FALLS, IOWA, ASSIGNOR OF ONE-HALF TO
GEORGE W. STRAIGHT, OF CHICAGO, ILLINOIS.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 357,023, dated February 1, 1887.

Application filed September 28, 1885. Serial No. 178,338. (No model.)

To all whom it may concern:

Be it known that I, THOMAS L. ODELL, of Iowa Falls, in the county of Hardin and State of Iowa, have invented certain new and useful Improvements in Folding Beds; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature and objects of my improvements will fully appear from the following description and the appended claims.

In the drawings, Figure 1 is a central vertical section, from front to rear, of a bed and its case containing my improvements and closed. Fig. 2 is a front view of the case with its doors open, revealing the bed in a raised position therein. Fig. 3 is a view in the same section as Fig. 1, showing the bed in full lines as lowered before being drawn out and in dotted lines as fully extended. Fig. 4 is a detail in rear view of the case, showing the weight, when employed, together with a spring for upholding the weight. Fig. 5 is a modification of one of the details.

A is the case, which is of the upright order, and, as shown, is of a height to receive the bed-frame at full length.

B is the bed-frame, upon which, preferably, a woven-wire fabric, C, is stretched for the yielding support of the bedding. The bed-frame B is composed of side rails, B', joined at their ends by cross-rails B², to which cross or end rails the fabric C is secured under suitable and continuous tension.

D D are inwardly-projecting pins fixed to the opposite upright side pieces, A', of the case A, near the front edges of said uprights, or to the adjacent cross-bar a of the case, and upon these pins the bed-frame B tilts. The bed-frame is preferably so pivoted on these pins D as to be removable at pleasure, either to facilitate moving, to give access to all parts of the structure, or to permit the case alone to be used exclusively as a wardrobe; and the bed-frame may be employed as a woven-wire mattress in an ordinary bedstead, if desired. To this end the side rails of the bed-frame rest on

the pins D, being provided with notches or shoulders at b, by which the frame may be tilted into an upright position without disengagement from the said pins D.

In order to bring the pivotal points as far as possible from the head of the bed-frame (and to serve other purposes of the device) the case A is made deep—say eighteen or twenty inches from front to back—and the notches or shoulders b are so located on the side rails that the head of the bed will barely clear the back of the case in the raising and lowering of the bed-frame; but this construction would naturally bring the heads of the occupants within the case, which would be objectionable, wherefore I provide that the bed-frame, after being lowered to a horizontal position, may be drawn bodily outward on the pins to any desired distance—say six to ten inches—and thus bring the heads of the sleepers forward or out of the case. The pins D must obviously be placed as high from the bottom of the case as the shoulders b are from the end or head of the bed-frame, to allow the bed to swing up into an upright position. This distance, added to the depth of the bed-frame rails and mattress and bedding placed thereon, will commonly be thought to bring the upper surface of the bed too high, and I therefore, if this be the fact, provide for lowering the bed-frame in the act of drawing it forward horizontally on the pins, by making the ways for the pins inclined, as shown at b'.

I prefer to make the side rails, B', about five or six inches deep, and to cut a long and deep notch, B³, in each of said rails, having the upwardly-inclined bottom b', on which the pins D may slide or roll. The outer end walls, b², of these notches then form stops, limiting the outward movement of the bed-frame, and the depending parts b³, being in line with the lower edge of the side rails, may aid in the level support of the bed-frame when the latter is placed in an ordinary bedstead, as above suggested. It will be understood, however, that this is not essential to my invention, as other stops may obviously be provided. When the sliding surfaces b' are inclined as and for the purpose set forth, the folding foot-legs E will of course

be made of proper length to support the foot of the bed-frame level with the head when lowered and drawn out fully.

To the outside of the side rails at the head of the bed-frame B are pivoted arms B⁴, to which is attached a head-board, B⁵. When the bed is drawn forward on the pins D this head-board falls or may be pushed back against the back of the case A, and thus properly close the space that would otherwise be produced by this movement of the bed-frame. When the latter is pushed inward and raised this head-board is of course automatically folded inward upon the bedding.

The head of the bed-frame may, for the general purposes of the bed, as so far described, be weighted in any convenient or suitable manner, as heretofore frequently done in various forms of tilting beds; or it may be used without a counter-weight. I prefer a particular construction for such weight, if one is desired, which is peculiar, in being attached to the foot of the bed-frame, so as to act with greater leverage, and which may therefore be much lighter than would be sufficient to perfectly or proximately balance the bed if attached to the head.

F is the weight referred to. It is preferably a thin and broad plate of iron, arranged in guides *f f* on the outside and at the back of the case A. F' is a cord attached to the weight, thence trained over a pulley, *f'*, located in or opposite a hole, *f*², at the top and middle of the case, and provided with a loop or with a hook or eye, *f*³, by which it may be detachably engaged with the foot-rail or foot-board of the frame B, having an eye or hook, *b*⁴, applied thereto at its middle point.

G is a spring of wood or metal, fastened to the back of the case A, and adapted to throw out beneath and to thereby uphold the weight F when the latter is sufficiently raised.

The weight F may be provided with a central vertical groove, of the thickness of the spring, through which the latter may pass when depressed; or the spring may be let into the back of the case, as shown, in order that the whole may occupy as little space as possible between the case and the wall.

The cord F' should, desirably, be of such length as to fall short of lifting the weight entirely above the spring G when attached to the foot-board and the bed is lowered, but not drawn out upon the pins D, as indicated in full lines of Fig. 3. Then by seizing the cord over the bed and deflecting it the weight may be raised enough farther to let the spring fly out beneath it, after which the cord may be detached from the foot-board and the bed drawn out. When it is desired to raise the bed, it will first be pushed inward upon the pins D, and the cord will be again attached to the foot-board. The weight will be again lifted by deflecting the cord with one hand, while with the other the spring will be drawn inward clear of the weight by means of a button, *g*, which protrudes through the back of the case,

after which the weight will be lowered over the end of the spring by releasing the cord. The foot of the bed may then be easily raised with the aid of the counter-weight. The weight in falling to the floor or to a suitable stop therefor will cease to act on the bed after the latter has reached a nearly perpendicular position; but beyond this point it is not needed in lifting the bed, and it may advantageously not act through the first part of the movement of the bed-frame when the latter is to be lowered.

Hinged to the front edges of the side uprights, A', of the case are doors A², by which the front of the case may be closed. To these may be applied clothes-hooks *a' a'* at points opposite the space between the side rails of the raised bed-frame, the said space, in the use of a woven-wire or other fabric applied as shown to the frame B, affording a recess several inches deep between the same and the doors, in which garments may be hung from said hooks. Thus the structure forms both a wardrobe and a bed. Ample room for the bedding and to permit its proper ventilation is provided in the space between the fabric C and the back of the case A. To give desired breadth of base to the case the latter is extended forward at H, forming a receptacle, preferably distinct from the interior of the case A, and closed by a lid, *h*.

At *b* in Fig. 5 the shoulder which affords a bearing for the pin or rod D is formed by the application of a metal piece, *b*⁴, to the lower surface of the side rail.

I am aware that it has been proposed heretofore to employ in a folding bed a counter-balance-weight attached to a rope passing over a pulley in the top of the bed and connected with the folding bed-frame, and I do not therefore broadly claim such weight and rope.

I am aware, also, that it has been proposed to construct a folding bed-frame and case therefor in such manner that space is afforded between the bed-frame and the doors of the case, when the frame is folded, for garments hung upon the doors. In such prior construction, however, parts of the bed-frame have occupied the space between the side and end rails thereof, so that it has been necessary to set the entire frame some distance inwardly from the front of the case in order to obtain the necessary space for clothing. In the construction employed by me, on the contrary, the space between the side rails of the frame is left vacant to form the space for clothing, whereby the lower or outer edges of the frame, when the latter is folded, may be located close to the front of the case, so that the desired space for clothing may be obtained without materially increasing the size of the case for this purpose.

I claim as my invention—

1. The combination, with an inclosing-case provided with doors, as shown, of a tilting bed-frame, consisting of side and end pieces and having a fabric for the support of the bedding attached at the upper side of said frame,

whereby an open space or chamber is formed within the frame and between the fabric and the doors for garments suspended from said doors, substantially as described.

5 2. The combination, with an inclosing case and a bed-frame pivoted near the head thereon, of a weight suspended from a cord which is trained over a pulley at or near the top of the case and detachably connected with the foot
10 of the bed, and means for sustaining the weight when elevated independently of the connection of the cord with the foot of the bed, substantially as described.

3. The combination, with an inclosing-case

and a bed-frame pivoted thereon, of an external weight connected by a cord with the bed- 15 frame, guides for the weight on the outside of the case, a spring, also exterior to the case, for engaging and supporting the weight, and means for operating the spring from the interior of 20 the case, substantially as described.

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

THOMAS L. ODELL.

Witnesses:

M. E. DAYTON,

G. F. LANAGHEN.