(No Model.)

# L. V. MOULTON.

## FOLDING BED.

No. 474,027. Patented May 3, 1892.

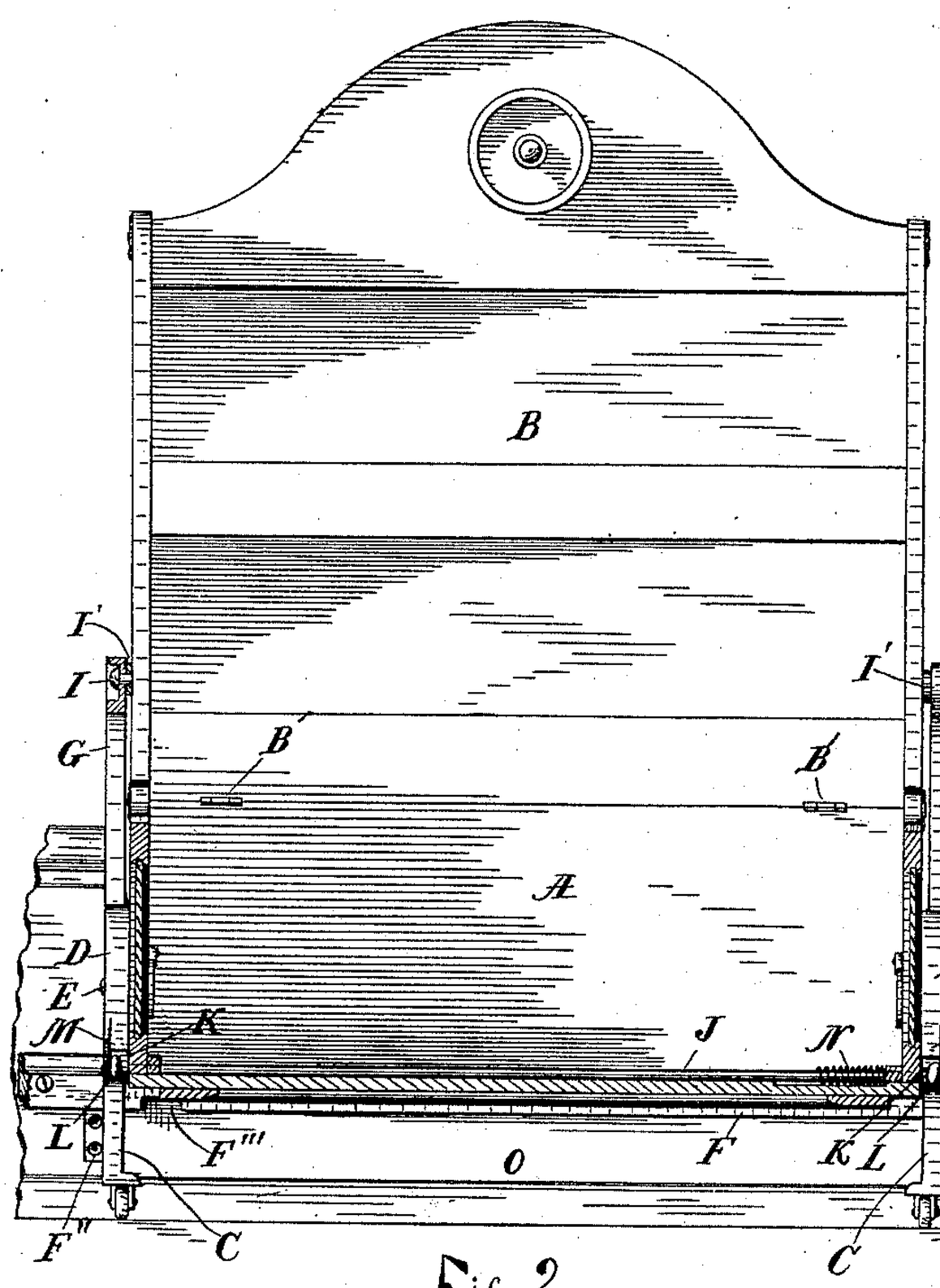


Fig. 2.

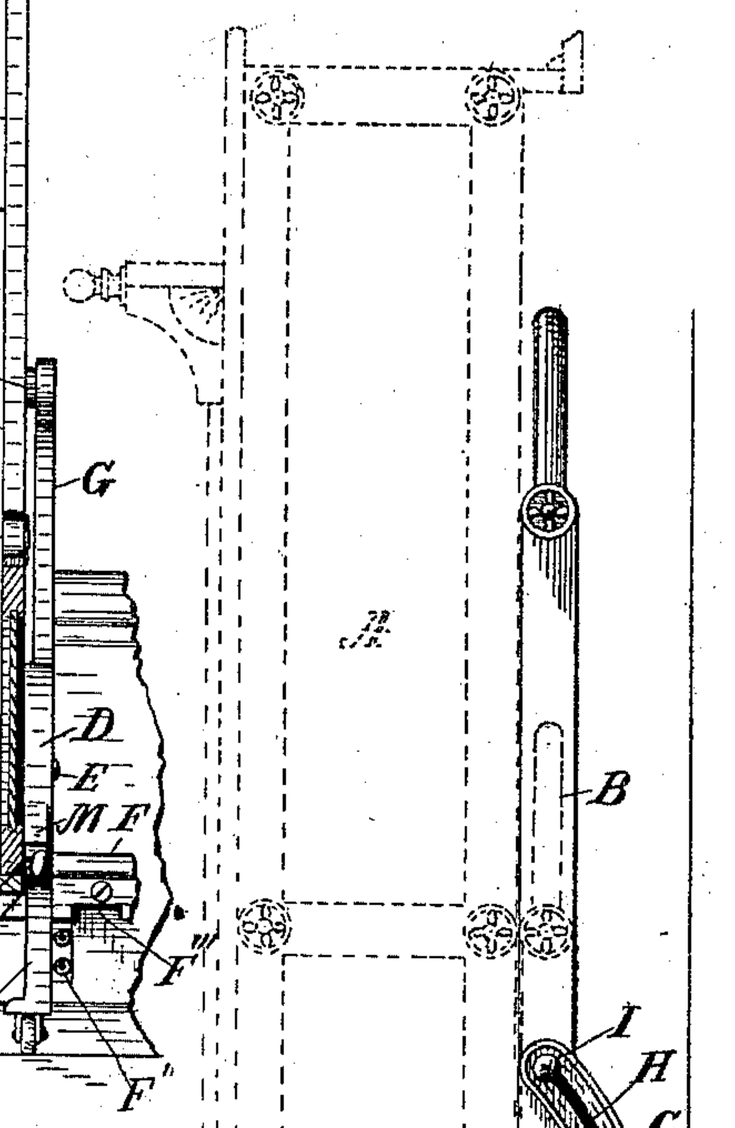





Fig. 1.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 474,027, dated May 3, 1892.

Application filed February 24, 1891. Serial No. 382,640. (No model.)

*To all whom it may concern:*

Be it known that I, LUTHER V. MOULTON, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Folding Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to folding beds; and its objects are to simplify and cheapen the construction of the same and to provide a device having certain other novel and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention; and Fig. 2, a vertical section of the same, on the line $x\,x$ of Fig. 1, with the top of one of the arms G broken away to show its construction.

Like letters refer to like parts in each figure.

A is a rectangular case having sides, bottom, and ends securely joined to each other, finished in any suitable manner, adapted to contain the bed proper, provided near the foot with any suitable support A′, and pivoted near the head at E to two independent side frames C, preferably of cast-iron, each of which has a spring-case D to contain the balancing mechanism, an upwardly-projecting curved arm G to connect with and maintain the head-board B in a vertical position, and a rearwardly-projecting portion adapted to contact the base-board of the room and terminating in an acute angle C′ at the upper rear corner, adapted to engage the downwardly and outwardly inclined lower side F′ of a strip F, attached to said base-board and having notches F‴ to permit said corner C′ to pass under and engage the same. Said frames may also be provided with suitable lugs F″, having screw-holes, by means of which said frames may be secured to the base-board. Other fastenings—such as hooks—may also be adopted; but I prefer the strip and angle, as shown.

The head-board B is hinged to the head of the case at B′ and is provided with studs I, having heads and collars I′, engaging the respective sides of the frames C. Said studs pass through and traverse the slots H, which slots have a curvature corresponding to the curve traversed by the hinges B′ and concentric to a center directly above the pivot E and the same distance therefrom as the stud I is from the hinge B′, the described curves thus being one above the other at all corresponding points cut by parallel radial lines, the head-board being thus maintained at all times in a vertical position, while free to descend as the case A turns from the horizontal to a vertical position and vice versa. Said stud I also forms a stop as it strikes the end of the slot H, and also is a movable point of attachment for the side frames C, which attachment, together with the annular bearing of the spring-cases D, serves to maintain said frames in parallel vertical planes without other support.

J is a rod extending horizontally through and journaled in the case A and projecting therefrom at each side close to the spring-cases D, to which rod are attached pawls K, adapted to engage lugs M on the spring-case D when the bed is open, and a spring N which turns said rod to effect such engagement. At each side handles L are also provided, by means of either of which handles the said pawls may be simultaneously disengaged.

From the foregoing the operation of my device may be readily understood.

By turning the case A to the vertical position shown by the dotted lines the stud I traverses the slot H, resting at its lower end, the head-board B being parallel to and in contact with the case A. In this position the center of gravity of the structure is within the base formed by the frames C. The bed can now be moved so that the angles C′ are opposite the notches F‴, when they will pass through the same. The device is now released from attachment to the building and may be moved about at pleasure. When replaced, by passing the angles C′ through the notches and engaging them with the lower inclined surface F′ of the strip F the structure is secured against falling forward, as the center of gravity of the same comes outside its base by the forward movement of the upper part of the case A. The pawls K obvi-

ously serve to secure said case in horizontal position when opened and prevent accidental closing of the same.

Instead of a continuous strip having notches it is obvious that shorter strips may be used and the angle C′ passed under the same from the end of said strips. By this construction the slotted arms G support the head-board, and in turn the head-board assists in supporting the side frames in parallel vertical planes. At the same time I avoid any obstruction at either side near the head of the bed when open.

What I claim is—

1. In a folding bed, a case, as A, a head-board hinged to one end and side frames pivoted to the sides of the same, curved slots in said side frames, and studs attached to the head-board and traversing said slots, substantially as described.

2. In a folding bed, a case adapted to contain the bed, a head-board hinged to one end, and side frames pivoted to the sides of said case, said frames having curved slots corresponding to the curve traversed by the hinge of said head-board and above the same at corresponding points cut by parallel radial lines, and studs attached to said head-board traversing said slots and engaging the respective sides of said frames, substantially as described.

3. In a folding bed, in combination with a case to contain the bed and a head-board hinged thereto, side frames having spring-cases, said cases having rims in contact with the sides of said bed-case, said frames also having upwardly-projecting curved arms having slots curved in arcs corresponding to the arc traversed by the head-board hinges and above the same at all corresponding points cut by parallel radial lines, and studs traversing said slots and engaging the respective sides of said arms and attached to said head-board, substantially as described.

4. In a folding bed, in combination with a case adapted to contain the bed and a head-board hinged thereto, independent side frames pivoted to said case, said frames having spring-cases with rims in contact with the sides of said bed-case, curved slots in said frames, studs attached to the respective edges of the head-board, said studs traversing said slots and engaging the respective sides of said frames, and detachable fastenings connecting said frames to the building, substantially as described.

5. In a folding bed having independent detached side frames and a bed-case pivoted thereto, the following means for maintaining said frames in position: annular bearings surrounding said pivots and engaging the sides of the case, curved slots in said frames, and studs attached to said case and traversing said slots, said studs engaging the sides of said frames to maintain the same in parallel vertical planes, and detachable fastenings connecting said frames to the building to prevent said frames from tilting forward, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LUTHER V. MOULTON.

Witnesses:
MYRON FLANDERS,
DENNIS L. ROGERS.