(No Model.) 2 Sheets—Sheet 1.

W. P. TRACY.

FOLDING BED.

No. 472,321. Patented Apr. 5, 1892.

Fig. 2.

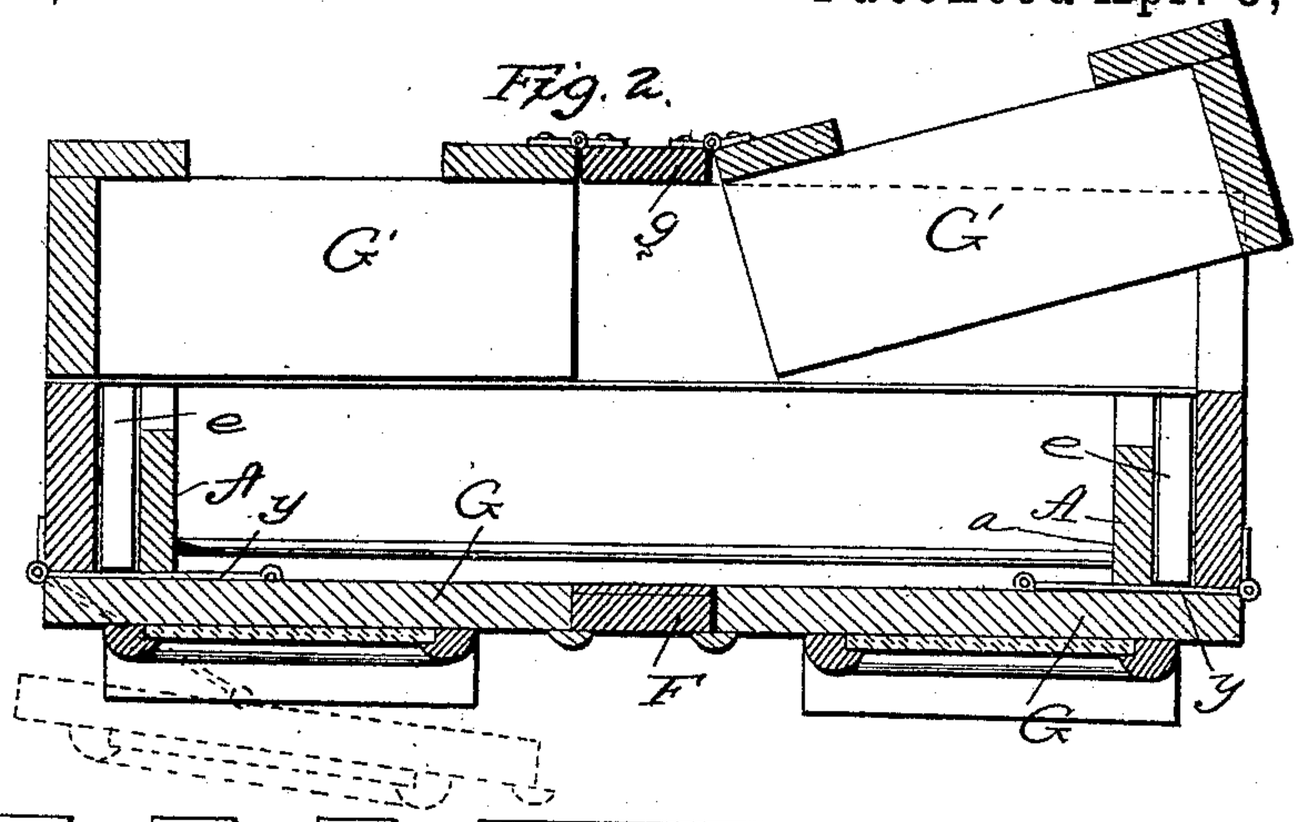
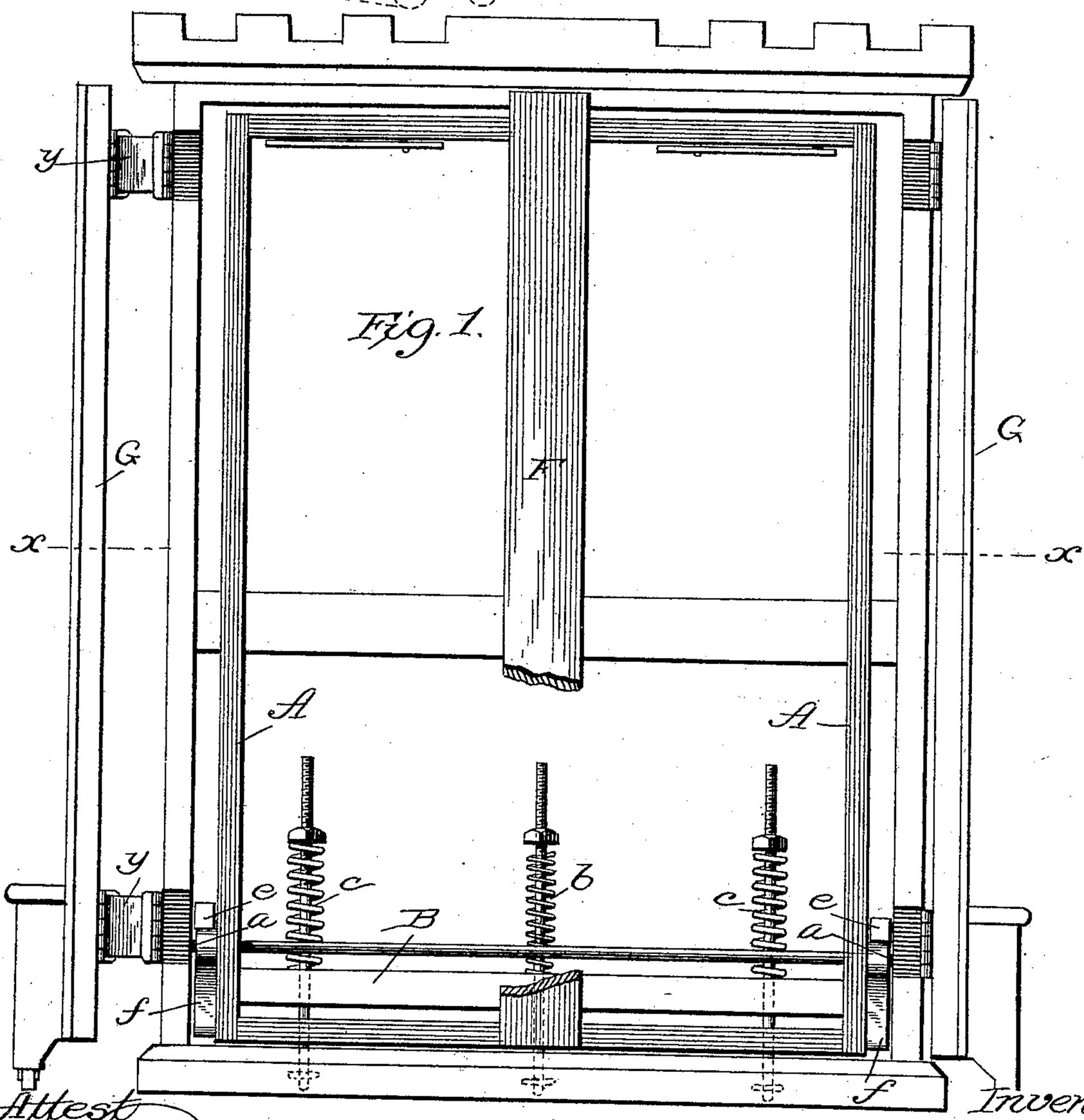


Fig. 1.



Attest
Walter Donaldson
F. L. Middleton

Inventor
Wm P. Tracy
by Ellis Spear
Atty.

(No Model.)

2 Sheets—Sheet 2.

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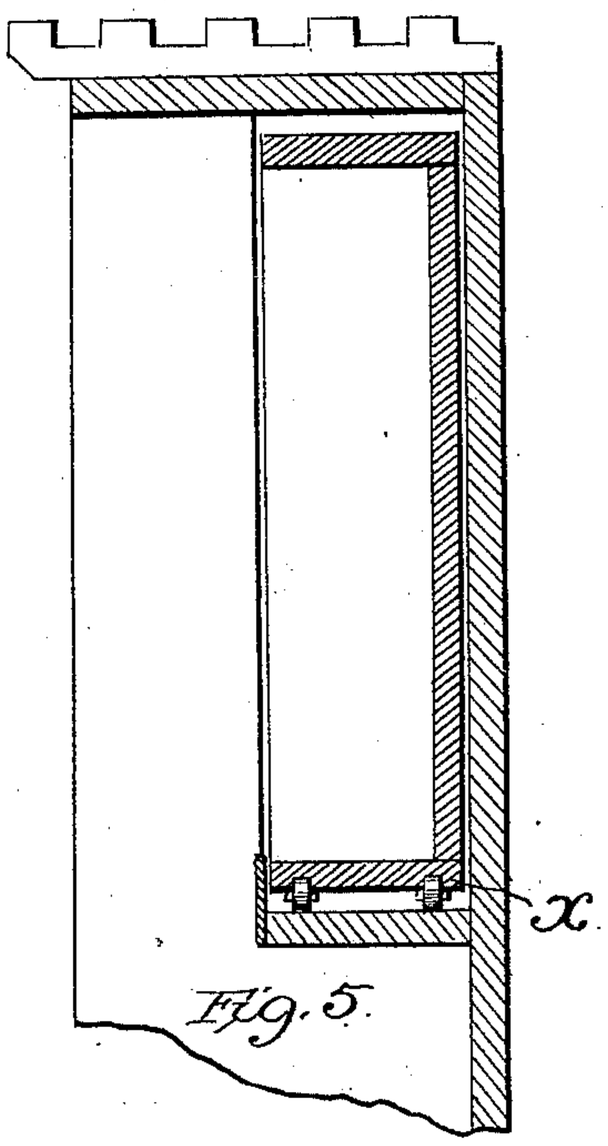


Fig. 5.

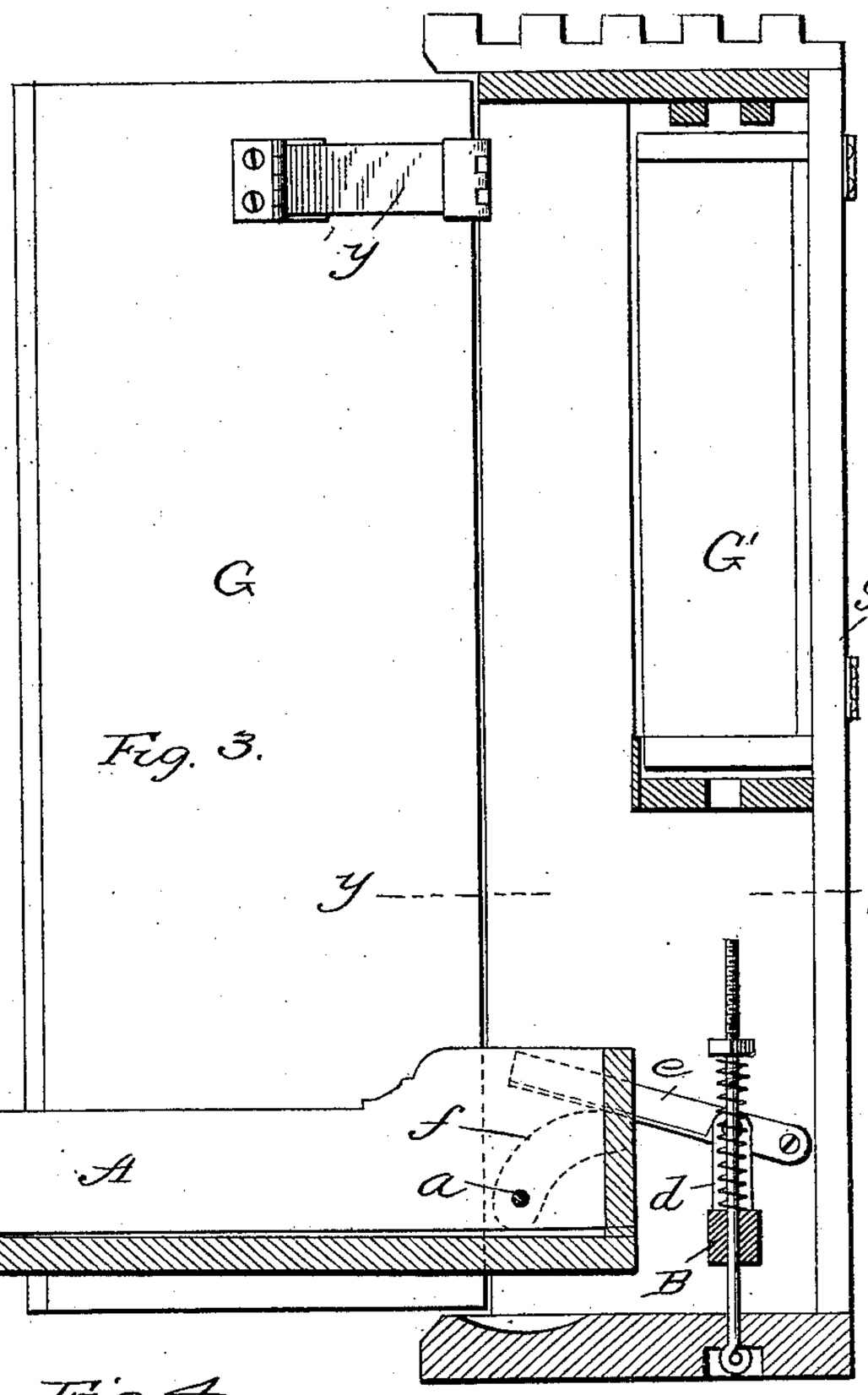
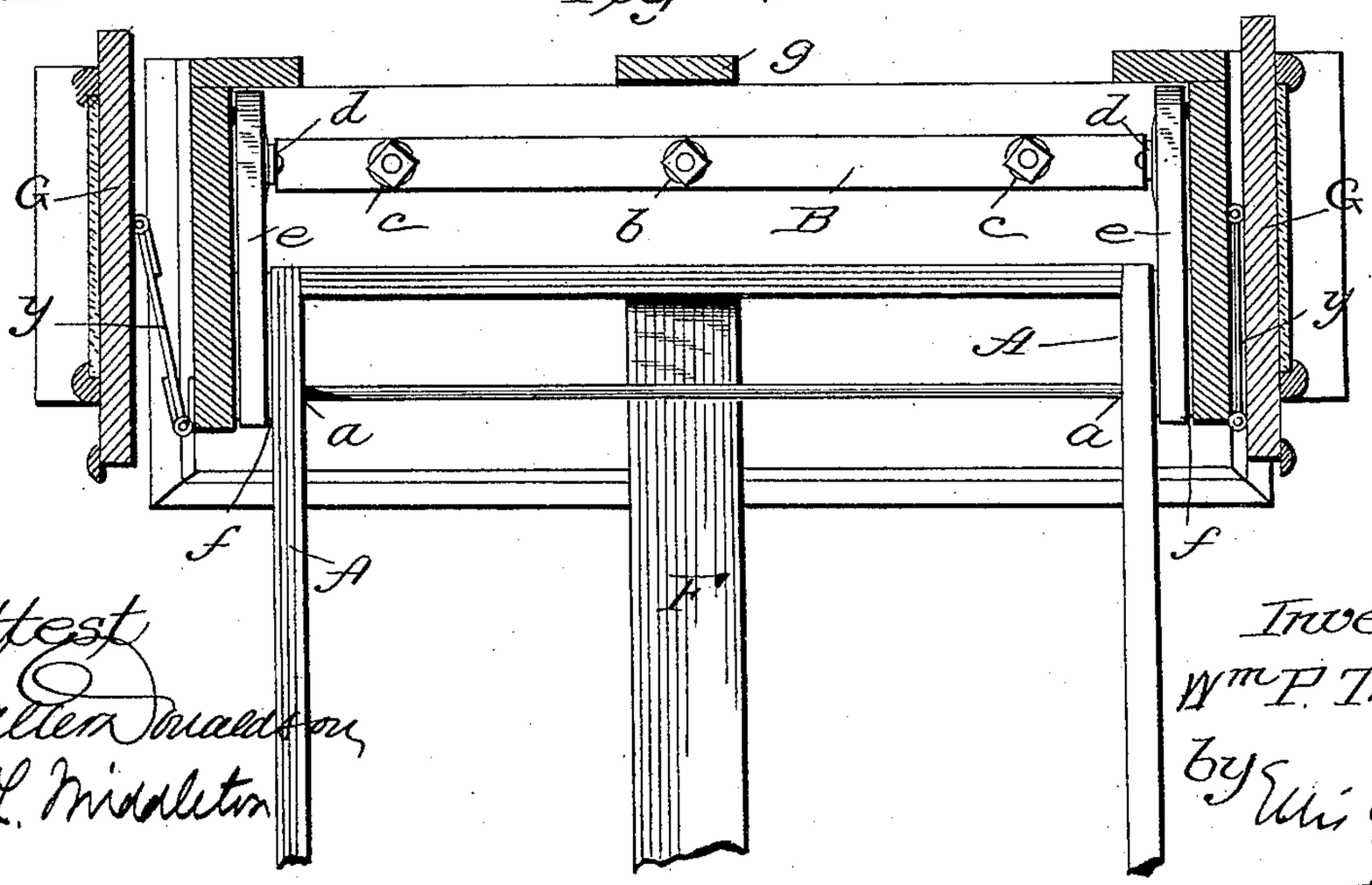


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM P. TRACY, OF GRAND RAPIDS, MICHIGAN.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 472,321, dated April 5, 1892.

Application filed December 22, 1890. Serial No. 375,470. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. TRACY, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Folding Bedsteads, of which the following is a specification.

My said invention relates in part to the mechanism brought into use in raising and lowering the bed and in part to the case on which the bed is mounted and in which it is inclosed when folded. It is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation showing the bed folded and the doors opened. Fig. 2 is a horizontal section on line *x x* of Fig. 1 with the doors closed. Fig. 3 is a vertical sectional view with the bed open. Fig. 4 is a section on line *y y* of Fig. 3, and Fig. 5 a detail view of a modification.

In the figures is represented a case, in its main features of ordinary construction. Within the recess of this case is pivoted the folding bed A. This bed is pivoted on trunnions *a a*, fixed to the sides of the bed near the head thereof and having their bearings in the walls of the case. Across the rear of the case near the bottom is a bar B, normally pressed down by springs *b* and *c c*. These springs, as shown, are coiled about standards. The lower ends of the springs bear upon the bar and the upper ends upon nuts turned down on the threaded ends of the standards. The springs are unequal, the center spring being shorter than the others, and consequently coming into action later than the others. The bar is connected at each end by a link *d* to a lever *e* by pivotal connection, the said levers being pivoted at their rear ends to the side walls of the case. The forward ends of the levers *e* rest upon cams *f*, which are fixed to the sides of the bed at the pivots, and the arrangement of the cams is such that when the bed is up the levers rest on the lower part of the cams, but are gradually transferred to the highest part as the bed is let down.

The bed is pivoted at a point sufficiently high to give the necessary elevation of the bed when it is let down. As it is let down it raises the forward end of the levers, which are of the second order, and thence through the links elevate the bar. The bar first comes into contact with the outer springs and compresses them, but before reaching the limit of these springs, and as the weight of the bed begins to increase by reason of its extension from the perpendicular position, the bar is brought in contact with the center spring and is resisted with increased force.

The construction and arrangement of the springs are very simple and effectual in order to bring them successively into action; but I do not limit myself to this precise construction, as any arrangement by means of which they may be brought successively into action to resist the downward movement of the bed and assist in returning it, the same being a successive action of springs exercising their greatest force near the lower position of the bed, is within the scope of my invention. The bar is perforated and placed upon the standards which support the springs and is guided and held in place by those standards.

The bottom of the bed-frame is provided with a centrally-arranged longitudinal strip F. The end next to the head swings into a recess cut in the base-piece of the plate, and the upper end shuts snugly under the upper cross-piece of the case. This affords a bearing against which the front doors of the case are closed. These doors are mounted on arms *y*, these arms being hinged at one end upon the front edge of the side wall of the case and the other end to the door on the same vertical line near the center of the inner face of the door. The arms are arranged to fold across in front of the opening of the case or back against the wall on the outside thereof, so that the doors G may be either closed or may be swung back against the side walls of the case without being reversed. They may also be provided with casters, if desired. The front of the door is provided with a mirror, and as the front of the door is always outward, whether the door be opened or closed against the side, the mirror is always in position for use, whether the door is open or closed.

In the upper part of the back of the case I have arranged swinging sections forming closets or shelves. These are shown at G′. They are hinged to a vertical strip *g* and when they are closed form the back and a part of the side walls of the case. They occupy the

space in the upper part over the spring mechanism which controls the movement of the bed. Instead of having the sections swing out, as shown, they may be arranged to slide out laterally, and this movement may be aided by mounting the sections on casters. I have shown such a modified construction in the drawings at X.

I claim as my invention—

1. In combination with a suitable cabinet, a folding bed pivoted directly to the sides of the cabinet, cams secured to the sides of the bed and extending upwardly from the pivots, the levers *e*, pivoted to the sides of the cabinet with their free ends bearing on the cams, and a cross-bar connected to the levers by links and springs arranged to act successively bearing on the cross-bar, substantially as described.

2. In combination with the case, the folding bed, the doors for closing the front of the case, and the arms *y*, hinged at one end upon the outer front edge of the side wall of the case and at the other end to the door near the center of the inner face, substantially as described.

3. In combination with a suitable cabinet, a folding bed pivoted to the sides of the cabinet, a cross-bar, connections between said cross-bar and the bed, a series of rods extending from the bottom of the cabinet, and springs carried upon said rods and bearing on said cross-bar, said springs being arranged to act successively, substantially as described.

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

WILLIAM P. TRACY.

Witnesses:

MARGARET E. BROWN,

WM. C. SHEPPARD.