

(No Model.)

3 Sheets—Sheet 1.

E. E. MURPHY.
COMBINATION FOLDING BED.

No. 517,357.

Patented Mar. 27, 1894.

Fig. 1.

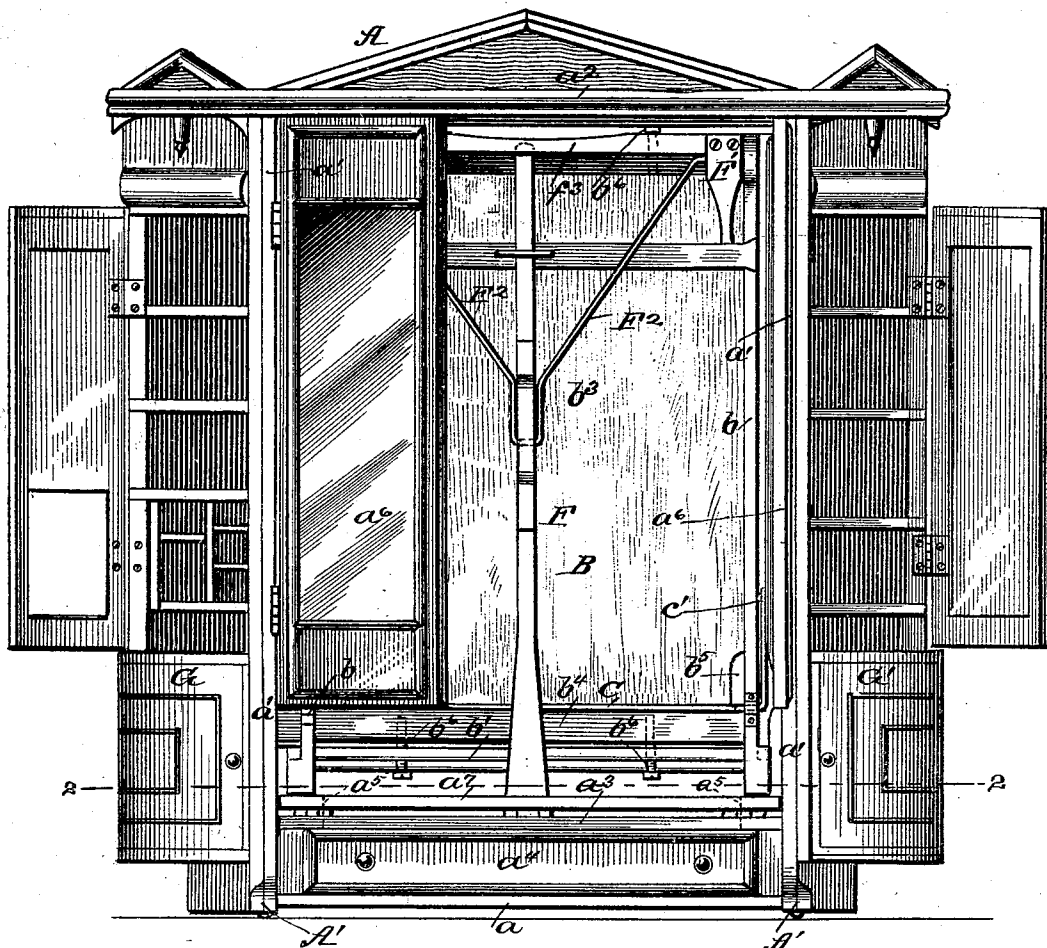
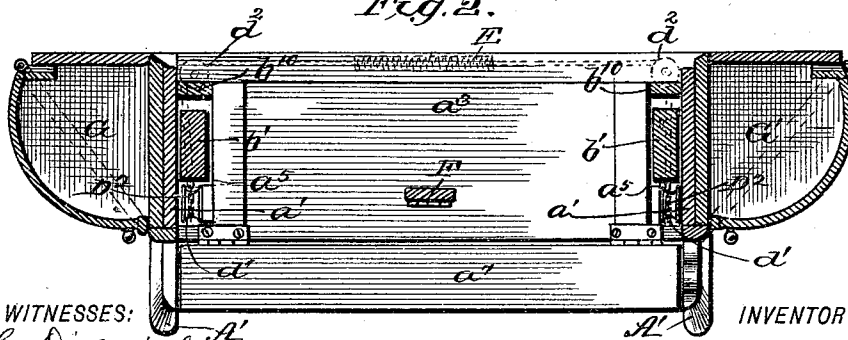


Fig. 2.



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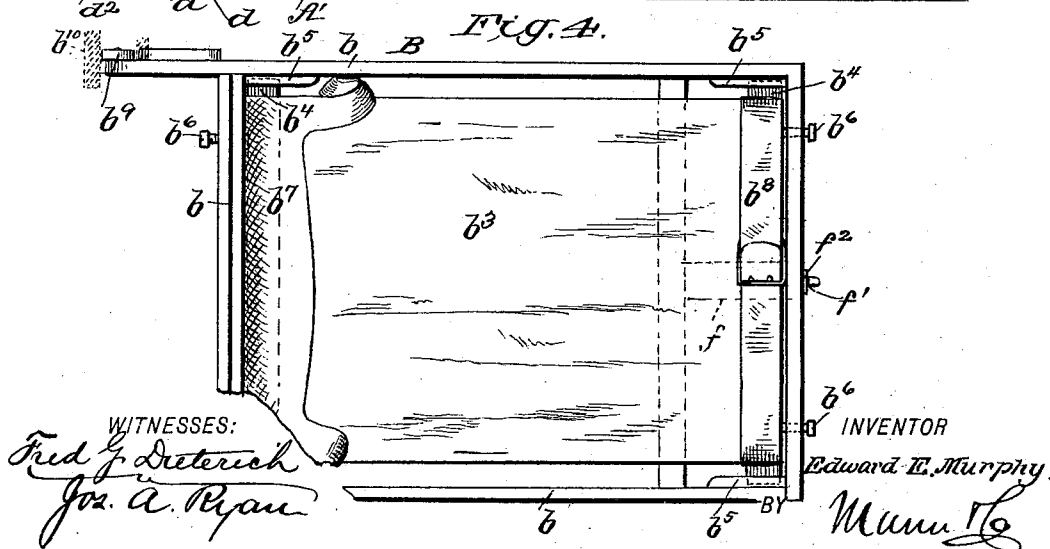
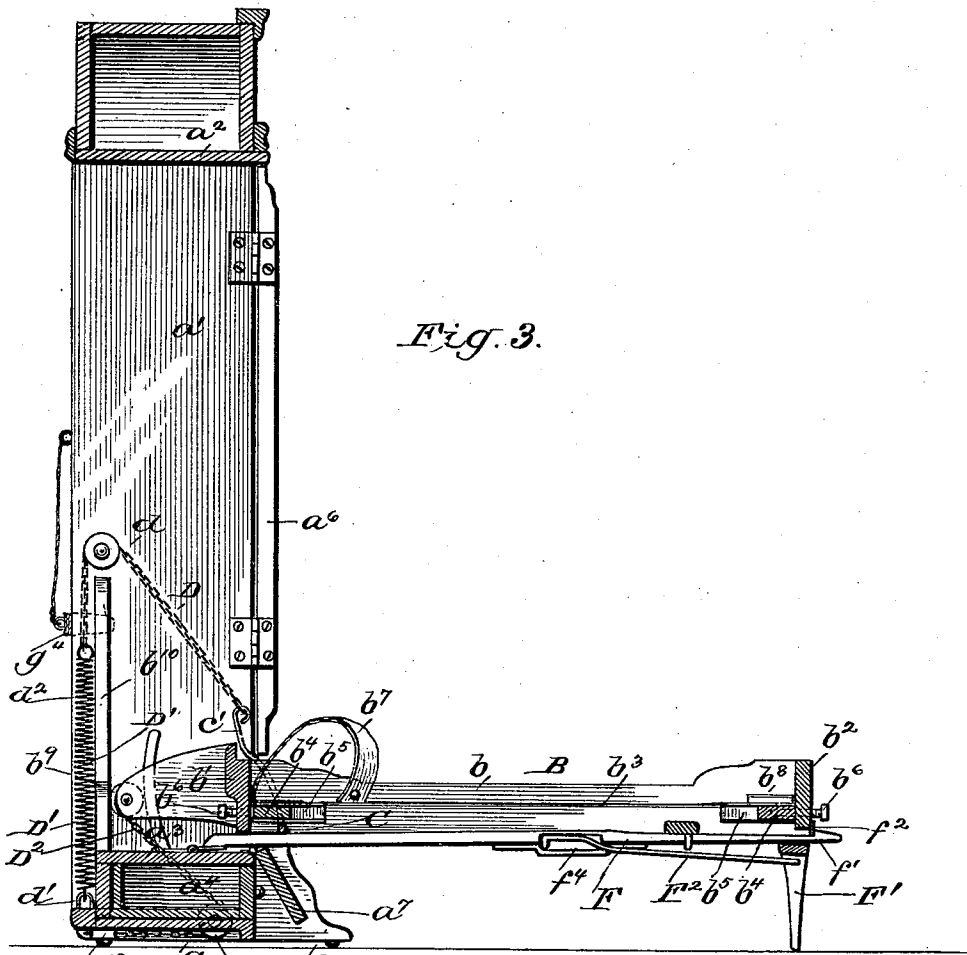
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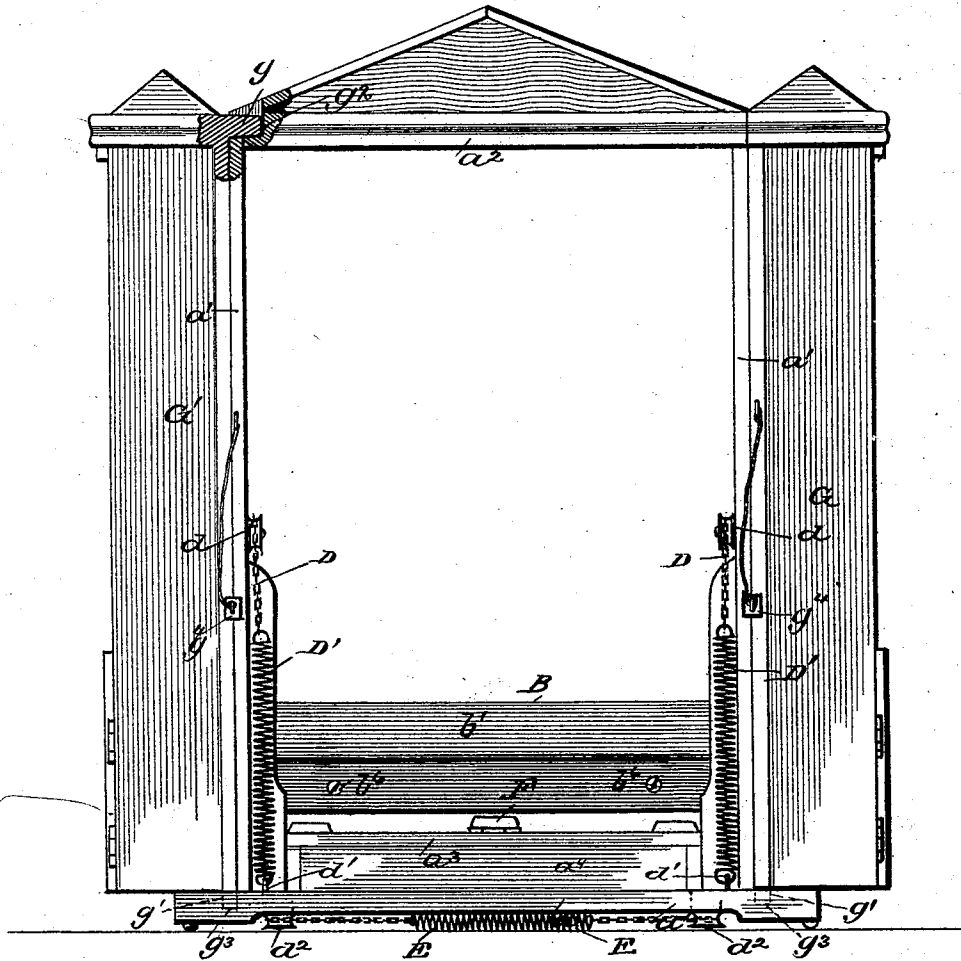
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Fig. 5.



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EDWARD E. MURPHY, OF MADISON, WISCONSIN.

COMBINATION FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 517,357, dated March 27, 1894.

Application filed August 26, 1893. Serial No. 484,135. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. MURPHY, residing at Madison, in the county of Dane and State of Wisconsin, have invented a new and
5 useful Improvement in Combination Folding-Beds, of which the following is a specification.

My invention is a combination folding bed and comprises a casing finished off in the style of a wardrobe and cabinets upon each
10 side of the casing, one of which is intended for bed room articles while the other is fitted up as a writing desk or secretary.

The object of my invention is to provide a cheap, simple, efficient and safe folding bed,
15 one that has few operating parts and one in which the balancing weights are dispensed with.

Another object is to provide a folding bed in which the legs will be automatically unfolded when the bed is lowered and also one
20 that is locked when the bed is down.

A further object is to provide improved means for tightening the mattress spring and means for holding the bed clothes when the
25 bed is folded up.

With these various objects in view my invention consists in the peculiar construction of the several parts and their novel combination or arrangement, all of which will be fully
30 described hereinafter, and pointed out in the claims.

In the drawings forming part of this specification Figure 1 is a front view of my combined bed and cabinet some of the doors being opened to show the interior. Fig. 2 is a
35 horizontal section on line 2—2 Fig. 1. Fig. 3 is a transverse vertical section showing the bed in its lowered position. Fig. 4 is a plan view of the bed frame. Fig. 5 is a rear view of the case the bed being lowered.

Referring to the drawings A indicates the main upright casing consisting of the base *a*, side pieces *a'* and top piece *a²*. Above the base *a* is arranged a horizontal platform *a³*
40 and between this platform and base is arranged a drawer *a⁴*. The ends of the platform are cut away at *a⁵* to receive the ends of the side pieces when the bed is folded up. Doors *a⁶* are hinged to the side pieces *a'* and a door
45 *a⁷* is hinged to the platform *a³* and in connection with the doors *a⁶* entirely closes the front of the case. The doors *a⁶* are provided with

mirrors to give the article a finished appearance.

B indicates the bed and consists of the side pieces *b*, the lower end pieces *b'* and the upper end piece *b²*. The mattress support *b³* is preferably of canvas and is secured to the end slats *b⁴*, which slide in guide irons *b⁵* secured to the inner faces of the side pieces, and these slats
55 are adjusted by means of the end adjusting bolts *b⁶* passing through the end pieces of the bed frame and by means of which the fabric can be tightened whenever desired. Straps *b⁷*
60 are connected to the lower end of the mattress support for holding the pillows, &c., and a strap *b⁸* is arranged at the upper end to secure the covers.

The bed frame is suspended upon a shaft C, said shaft being connected to the ends of the bed frame near its lower end and upon the outside of the side pieces the ends of said shaft are bent upward as shown at *c'*. A chain D is connected to each arm *c'*, said chains passing over pulleys *d* mounted upon the side pieces *a'*; and then connected to the upper ends of the coil springs *D' D'*, the lower end of said springs being connected to the base piece *a* at the back of the case. These
70 upturned portions are of such length that when the bed is lowered as shown in Fig. 3 they project into the space or chamber in the casing, so that the chains do not come in contact with the bed or the folding doors. A second set of chains *D² D²* are connected to the
75 lower ends of the said pieces of the bed frame, and pass around the vertical pulleys *d' d'* arranged near the forward end of the base, and then around the horizontal pulleys *d² d²* mounted upon the under side of the base near
80 the rear edge. The ends of the chains are then connected to the opposite ends of a coil spring E which also rests beneath the base, and serves to raise the bed as soon as it is released from its locked position. The springs
85 *D' D'* steady the descent of the bed and also assist in its elevation. The end pieces *b* are provided with friction rollers *b⁹* which travel upon the strips *b¹⁰* secured in the back of the case, and by this means the movements of
90 this bed are rendered easy and uniform. A locking bar F, is hinged at its lower end to the platform *a³*, and extends along the bottom of the bed frame said bar sliding in a guide
95
100

way f , arranged upon the bottom of the bed, and near the outer end of the bar is produced a projection f' , which is intended to engage a catch plate f^2 secured to the foot board of the bed at its lower edge. By this construction the bar will engage the plate when the bed is lowered inasmuch as the bed has swinging supports and moves rearward so that the plate f^2 is brought back into engagement with the notch f' . When it is desired to fold the bed the locking bar is pressed down and the springs being distended will readily contract and elevate the bed.

F' indicates the legs hinged to the bed frame and connected by means of a cross bar f^3 in order to make their movements uniform and simultaneous. The legs are automatically operated when the bed frame is raised or lowered, by means of a forked arm F^2 which is connected at its opposite ends to the legs, while its central portion slides in a slot f^4 made in the locking bar F about midway its length. By this means when the bed is turned down the arm F^2 will move down in the slot until it reaches the end when the continued descent of the bar F will exert a force upon the arms F^2 and thus turn the legs out to provide a suitable support, and when the bed is raised the operations are reversed and the legs folded upon the under side of the bed frame. The casing A is formed with forward base extensions A' which avoid the necessity of employing balancing weights upon the bed.

G and G' indicate cabinets connected to the main casing A at each side of the same. Both cabinets are divided into upper and lower sections and the cabinet G is fitted as a writing desk or secretary and book case while the cabinet G' is intended to receive the commode and other bed-room articles.

The cabinets can be quickly and easily detached from the main casing and if desired the bed can be made and sold independent of said cabinets. When it is desired to lower the bed, the doors are opened and the bed pulled down until the catch plate engages the

notch in the locking bar. The bed is then locked and the doors a^6 can be closed if desired. To fold the bed the end of the locking bar is pressed down and the springs elevate the bed to its folded position and in so doing the arms F^2 move upward and cause the legs to fold also. All the doors are then closed and the article presents the appearance of a handsome wardrobe.

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

1. In a folding bed, the combination with a casing, of a bed-frame, hinged at its rear extremity to the base thereof, a shaft arranged in the bed-frame in front of the hinge, and having upturned ends which when said bed-frame is lowered, project above it into the space in the casing, chains attached to said ends, pulleys, d , over which the chains pass, and springs arranged below said pulleys and in rear of the casing, as shown and described.

2. In a folding bed, the combination with a casing of a bed frame swinging therein, and a locking bar hinged to the base of the casing extending along the bottom of the bed frame and adapted to engage a catch secured to the end of the latter, substantially as shown and described.

3. In a folding bed, the combination with the case and bed frame of the supporting shaft, having bent ends the chains and springs connecting the bed frame and case, the hinged locking bar, the hinged legs and the forked arm connecting the locking bar and hinged legs substantially as shown and described.

4. In a folding bed, the combination with the bed frame, of the locking bar, provided with a slot the hinged legs and the forked arm sliding in the locking bar and connected at its ends to the hinged legs substantially as shown and described.

EDWARD E. MURPHY.

Witnesses:

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