

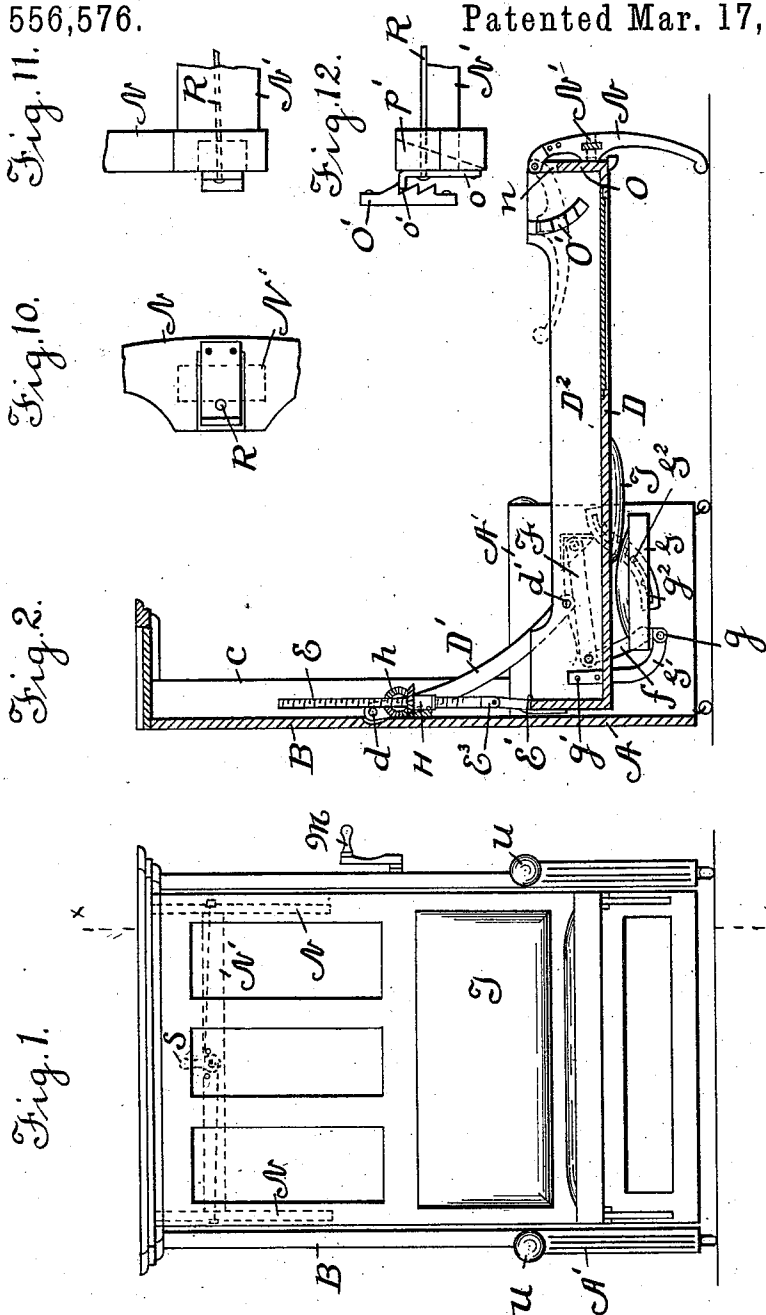
(No Model.)

2 Sheets—Sheet 1.

R. D. CODY.
FOLDING BED.

No. 556,576.

Patented Mar. 17, 1896.



Witnesses.

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L. Davis

Inventor.
R. D. Cody
by Edgar Tate
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 8.

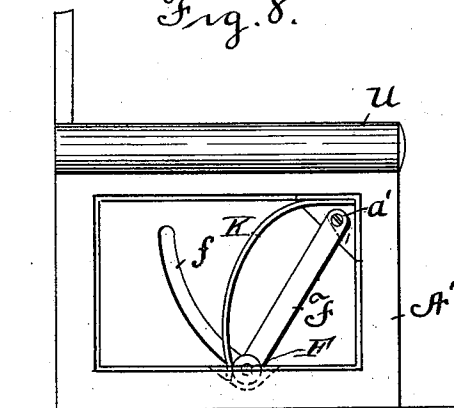


Fig. 9.

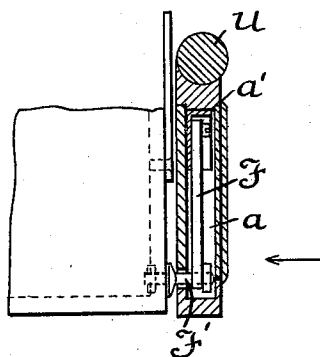


Fig. 3.

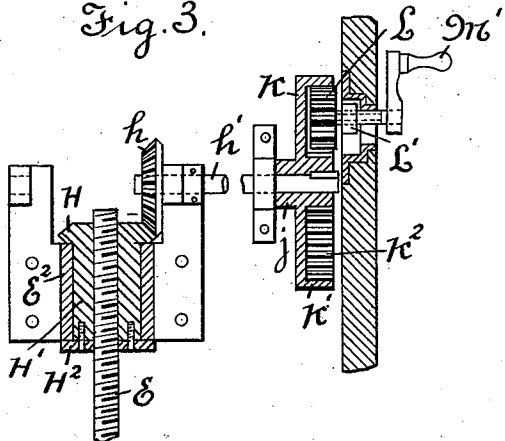


Fig. 4.

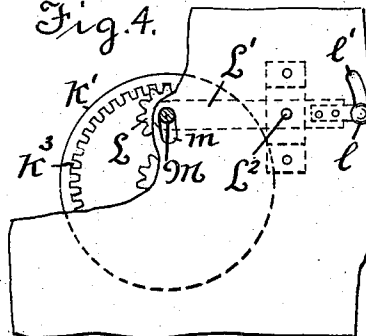


Fig. 5.

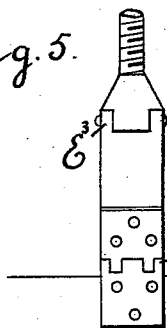


Fig. 6.

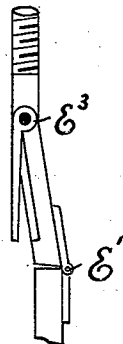
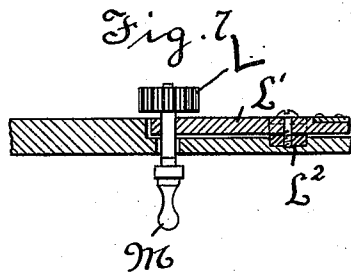


Fig. 7.



WITNESSES:

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UNITED STATES PATENT OFFICE.

RICHARD D. CODY, OF WINONA, MINNESOTA.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 556,576, dated March 17, 1896.

Application filed May 10, 1895. Serial No. 548,877. (No model.)

To all whom it may concern:

Be it known that I, RICHARD D. CODY, a citizen of the United States, and a resident of Winona, county of Winona, and State of Minnesota, have invented certain new and useful Improvements in Folding Beds, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to beds, and the object thereof is to provide an improved folding bed in combination with a settee or sofa.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a front elevation of a bed embodying my invention; Fig. 2, a section thereof on the line $x\ x$, the bed being in the lowered position; Figs. 3, 4, 5, 6, and 7, detail and sectional views of the mechanism employed for raising and lowering the bed; Figs. 8 and 9, detail views of the inner end or head supports of the bed; and Figs. 10, 11, and 12 are details of the foot-support of the bed.

In the practice of my invention I provide an upright frame of substantially the usual form, consisting of the base A, provided with bottom side extensions A' , a back B, and vertical sides C.

The inner end of the bed-frame D is supported by arms D' , pivotally connected at each side with the upright sides C and the sides D^2 of the bed at d and d' , respectively, but one of the arms D' being shown in Fig. 2, and a vertical bar E, which is hinged to the bed at E' and which passes upwardly through a boxing or housing E^2 , secured to the back B.

The side extensions A' at the bottom of the frame are provided with interior spaces a of substantially the same form as the extensions, in the upper outer corners of which are angular pieces a' , with which are pivotally connected rods or bars F, provided at their lower ends with pins or pivoted rods F' , which pass through a curved slot f in the inner side of the extension A, and into and through the side D' of the bed, as shown in Figs. 2 and 9, and a spring f' is secured at its upper end within the angle-iron a' , the lower end of which rests and presses upon the lower end of the rods or

bars F, as is also clearly shown in Fig. 8, said figure being a view in the direction of the arrow shown in Fig. 9, the outer side of the extension A' being removed.

Beneath the inner end of the bed D is a settee or sofa seat G, the inner side of which, at each end, is pivotally connected with the lower end of a curved lever G' at g , the upper end of said lever being extended upward through the bottom of the bed and secured to the inner surface of the side D, as shown at g' . The ends of the seat G are also provided with pins or projections G^2 , which extend into curved slots g^2 , formed in the inner sides of the extensions A' of the frame, the operation of these parts being hereinafter described.

The upper part of the rod or bar E is screw-threaded and provided near the lower end thereof with a hinge E^3 , so constructed that the lower part of the bar can move inwardly, as shown in Figs. 5 and 6, and the upper screw-threaded end thereof passes through a beveled gear-wheel H, provided with a cylindrical hub or shoulder H' , revolvably mounted in the box or housing E^2 , and provided at its lower end with a plate H^2 secured thereto, which abuts against the lower end of said box or housing, as shown in Fig. 3.

The beveled gear-wheel H is in gear with a corresponding beveled gear-wheel h , mounted on a shaft h' , which extends at right angles to the vertical rod or bar E, and is supported by bearings secured to the back of the frame.

On one end of the shaft h' , adjacent to one of the sides C of the upright frame, is mounted a wheel K, having a hub J keyed to said shaft, said wheel being provided with an outwardly-directed annular flange K' , having sprocket or gearing teeth K^2 on its inner surface adapted to engage with a pinion L, mounted on the end of the lever L' , pivotally supported at L^2 , as shown in Figs. 3 and 4, said lever being placed in a box or housing in the side C and provided at its free end with a headed pin l , which extends outwardly through a slot l' in said side, and is provided with means (not shown) for holding it at any position in said slot.

The pinion L is mounted on the inner end of the shaft M, which extends through the end of the lever L' and outwardly through a

slot *m* in the side C, and is provided at its outer end with a crank M', and the outer end of the hub *j* of the wheel K is provided with sprocket or gear teeth with which the pinion L is adapted to engage, as hereinafter described.

Secured to the outer end or foot of the bed D is a frame consisting of curved side pieces or legs N and a cross-bar N', by which they are united, the upper ends of the legs N being curved inward and pivotally connected with the foot-board O, adjacent to the sides D', notches or recesses *n* being cut into the foot-board for this purpose, and just forward of this connection of the legs N are secured, on each side of the bed and on the inner surface of the sides D' thereof, curved racks O'.

Secured on the outer upper ends of the legs N at each side is a spring pawl or detent *o*, provided with a projection *o'*, adapted to engage with the rack-bar O', and a recess P (shown in dotted lines in Fig. 12) is formed in the legs N, (shown in dotted lines in Fig. 2,) into which said pawl or detent may be withdrawn by rods R, one of which is connected with each spring pawl or detent and also with a short lever S, pivotally connected with the bar N', and centrally thereof, as shown in dotted lines in Fig. 1.

The frame, consisting of the legs N and cross-bar N', with its attached pawls or detents *o*, rods R, and lever S, constitutes a support for the foot of the bed when in the position shown in Fig. 2, and this frame is adapted to be folded over into the position shown in dotted lines in said figure and secure and hold the mattress and bedclothes in position when the latter is folded, as shown in Fig. 1, and in the latter position the spring pawls or detents *o* engage with the racks O' and securely hold said foot frame or support, and the lever S may be operated to release the pawls or detents from the racks O' when the bed is lowered, as will be readily understood.

In operation the bed is raised or lowered by turning the crank-arm M in the following manner: If it is desired to raise or fold the bed to the position shown in Fig. 1, the lever L' is so adjusted that the pinion L thereon engages with the teeth on the inner surface of the flange K' of the wheel K, when by turning the crank M in the proper direction the rod or bar E will be forced downward by the gear-wheel H, provided with the hub H', through which said rod passes, as will be readily understood, and the inner end of the bed will be forced downward or forward and the outer end or foot thereof raised by the joint operation of said rod E and the arms or levers D' and the pivotally-connected bars or rods F and *g*, and at the same time the seat G will be raised and pressed forward by the lever G' and the pins G², working in the slots *g*², into the position shown in Fig. 1, where, in connection with the upholstered back T of the bed and the arms U of the extensions A',

it forms a substantial and attractive settee or sofa, and the entire device constitutes a neat and ornamental piece of furniture which is both useful and attractive. Whenever it is desired to lower the bed to the position shown in Fig. 2 it is only necessary to reverse the operation of the crank M, or the lever L' may be adjusted so that the pinion L thereon will engage with the teeth on the outer end of the hub J, when by turning the crank M the bed may be lowered much more quickly, and it will also be observed that the spring *f'* operates to assist in raising or folding the bed to a vertical position.

In the foregoing operation the plate H² on the hub H' of the wheel H retains said wheel in position or prevents the vertical movement thereof, as will be readily understood, and the hinges E³ and E' of the rod or bar E permit of the movement necessary in the raising or lowering the bed.

My improved bed may also be made to fold sidewise instead of endwise, if desired, and in this arrangement a settee or sofa seat may also be provided.

Having fully described my invention, I claim and desire to secure by Letters Patent—

1. In a folding bed, the combination with an upright frame having side extensions at the bottom thereof provided with slots, of arms pivoted to the sides of the frame, a bed pivotally supported by said arms between the extensions, rods or bars pivotally located in said extensions and connected to the bed through said slots, a beveled gear-wheel mounted on the back of the frame, a vertical bar having its lower end hinged to the bed and provided with a hinged joint above the bed and its upper end screw-threaded and passed through the threaded hub of said gear-wheel, and means connected with the gear-wheel to raise or lower the bed, substantially as described.

2. In a folding bed, the combination with an upright frame having side extensions at the bottom thereof provided with slots, of arms pivoted to the sides of the frame, a bed pivotally supported by said arms between the extensions, rods or bars pivotally located in said extensions and connected to the bed through said slots, a beveled gear-wheel supported on the back of the frame, a vertical bar having its lower end hinged to the bed and provided with a hinged joint above the bed and its upper end screw-threaded and passed through the threaded hub of the gear-wheel, means connected with the beveled gear to raise or lower the bed consisting of a corresponding beveled gear-wheel mounted on a shaft at right angles to the vertical screw-threaded rod, said shaft being provided on its end adjacent to one side of the frame with a gear-wheel and a pinion operating in connection therewith mounted on a shaft which extends through the side of the vertical

frame and a crank connected to said shaft by which the bed is raised or lowered, substantially as described.

3. In a folding bed, the combination with a
5 vertical frame having side extensions at the bottom thereof provided with slots, a bed, rods or bars located in the side extensions and connected to the bed through said slots, side arms or levers pivotally connected with
10 the sides of the vertical frame a beveled gear-wheel mounted on the frame, a vertical rod hinged to the head of the bed and having its upper end threaded and passed through the hub of said gear-wheel, said gear-wheel being
15 in engagement with another beveled gear-wheel mounted on the frame, a shaft supporting said gear-wheel and means connected with said shaft to operate the gear-wheels and rod to raise or lower the bed, substantially as
20 described.

4. In a folding bed, the combination with a vertical frame having side extensions at the bottom thereof provided with slots, of a bed the inner or head end of which is pivotally
25 supported between said extensions by means of pivoted rods or bars located in said extensions and pivotally connected with the sides of the bed by means of pins or bolts which extend through the slot formed in said extensions, and arms or levers pivotally connected
30 with the sides of the bed and with the sides of the vertical frame and a vertical rod hinged to the inner end or head of the bed, provided with a hinged joint and the upper end of which is screw-threaded and passes through the screw-threaded hub of a pivoted gear-wheel supported in a box or housing secured to the back of the bed through which
35 said hub extends and below which it is provided with a plate secured thereto to prevent the vertical movement thereof, and a corresponding beveled gear-wheel mounted on a shaft at right angles to said vertical rod, said shaft being provided with means in connection
40 thereof to operate said gear and vertical screw-threaded rod to raise and lower the bed substantially as shown and described.

5. In a folding bed, the combination with a vertical frame having side extensions at the
50 bottom thereof, of a bed the inner or head end of which is pivotally supported between said extensions by means of pivoted rods or bars located in said extensions and pivotally connected with the sides of the bed by means of
55 pins or bolts which extend through slots formed in said extensions, and arms or levers pivotally connected with the sides of the bed and with the sides of the vertical frame, and

a vertical rod hinged to the inner end or head
60 of the bed, provided with a hinged joint and having its upper end screw-threaded and passed through the screw-threaded hub of a beveled gear-wheel supported in a box or housing secured to the back of the bed through
65 which said hub extends and below which it is provided with a plate secured thereto to prevent the vertical movement thereof, and a corresponding beveled gear-wheel mounted on a shaft at right angles to said vertical rod, said shaft being provided with means in connection
70 therewith to operate said gear and vertical screw-threaded rod to raise and lower the bed, consisting of a wheel mounted on said shaft provided with an outwardly-directed annular flange the inner surface of which is
75 provided with sprocket or gear teeth, and the hub of which, extending in the same direction as the flange, is also provided with sprocket or gear teeth, and a pinion mounted between said flange and hub on a shaft which passes
80 through a lever pivotally supported in such a manner that the pinion may be caused to engage with the teeth on the flange or those on the hub, and secured in either position, and a crank mounted on the shaft of said
85 pinion substantially as shown and described.

6. In a folding bed, the combination with a vertical frame having side extensions at the bottom thereof, of a bed the inner or head end
90 of which is pivotally supported between said extensions, and provided with means to raise or lower the same, a frame for the support of the foot thereof, consisting of side legs connected by a cross-bar the upper ends of the legs being pivotally connected with the foot
95 of the bed, whereby the frame is adapted to be folded within the sides thereof, and means for holding said frame so folded, consisting of rack-bars secured on the inner surfaces of the sides of the bed, and spring pawls or detents connected with the legs of the foot-frame and adapted to operate in connection with
100 said rack-bars, said spring pawls or detents being connected with a rod or bar, each of which is pivotally connected with a lever secured to the cross-bar of the foot-frame, substantially as shown and described.
105

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 29th day of April, 110
1895.

RICHARD D. CODY.

Witnesses:

D. E. TAWNEY,
W. J. SMITH.