(No Model.)

W. S. NEVINS.

FOLDING BED.

No. 482,266. Patented Sept. 6, 1892.

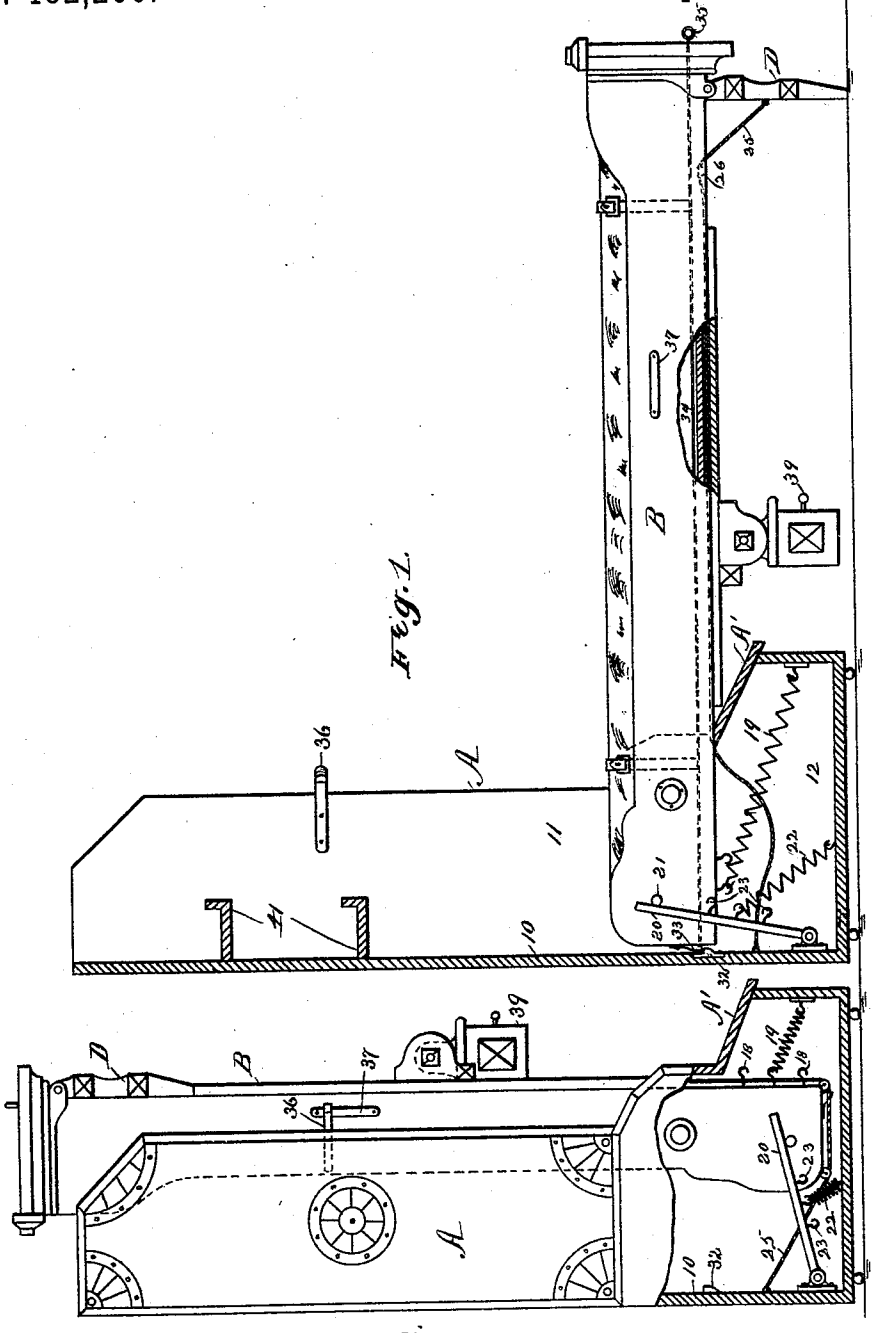

Fig. 1.

Fig. 2.

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WILLIAM S. NEVINS, OF TERRE HAUTE, INDIANA.

FOLDING BED.

SPECIFICATION forming part of Letters Patent No. 482,266, dated September 6, 1892.

Application filed December 19, 1891. Serial No. 415,601. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. NEVINS, of Terre Haute, in the county of Vigo and State of Indiana, have invented a new and useful Improvement in Folding Beds, of which the following is a full, clear, and exact description.

My invention relates to an improvement in folding beds, and has for its object to provide a bed of simple, durable, and economic construction, and to provide a means whereby the bed may be manipulated with ease without the use of weights.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a sectional side elevation with the bed swung down, and Fig. 2 is a similar view with the bed swung up.

The bed consists of two main portions, the casing A and the bed proper B. The casing comprises a back 10, sides 11, and an inclosed base 12, and the base at its ends is made to simulate lockers, as illustrated best at A′ in Figs. 1 and 2. The bed B is somewhat box-shaped, as is usual with most folding beds, and is not broken at any point throughout its length, being adapted to fold up and let down readily. The bed near its rear end is pivoted within the casing A just above the base portion thereof.

Upon the outer face of the bed, back of its pivotal point, a series of hooks 18 or the equivalents thereof are located. These hooks are preferably arranged in vertical series, as is shown in Fig. 2, each vertical series comprising a number of hooks. Springs 19, corresponding in number to the series of hooks, are employed, the said springs being attached at one end to the forward wall of the base extensions A′, and the opposite ends of the springs are connected to the hooks 18, the tension of the springs being increased or decreased by securing them to either the upper or lower hooks of a set. These springs are adapted to act to close the bed instead of weights, and as an additional factor in closing the bed a lever 20 is pivoted in the base portion of the casing, the pivotal point of the lever being at its lower end. One of these levers is located at each side of the casing, and the upper or free ends of the levers are in constant engagement with friction-rollers 21, located on the sides of the bed near their rear ends back of their pivotal points. The levers are held in constant and positive engagement with the friction-rollers through the medium of springs 22. These springs are secured to the flooring of the base portion of the casing at one end, the other end being adjustably attached to the levers, the adjustment being effected by providing the levers with a number of hooks 23 to receive the springs or with the equivalents of the hooks. The object of rendering the springs adjustable upon the levers is to increase or decrease the tension they shall exert thereon.

The legs D, which are adapted to support the foot of the bed when it is in position for use, are adapted to constitute ornamental portions of the bed proper. These legs may be attached to the bed in many ways, and are adapted to be automatically opened when the bed is lowered and automatically closed when the bed is raised. In the form of legs shown the legs are pivoted to the bed-body at their upper ends and their backs are flat, so that they can lie snugly against the body when folded up. When the bed is lowered, the legs are automatically closed by attaching to them one end of a rope or cable 25, or a small chain, which is carried upward through an opening in the bed-body over a suitable roller 26, thence through a concealed channel formed in the bed-body, as shown in Fig. 1, and then to the base, the opposite end of the cable or chain being secured to the back of the casing. The length of this chain or cable is such that when the bed is in its lower position it is slack; but the moment that the bed is elevated it commences to tighten upon the legs, and when the bed has assumed its closed position the cables or chains will have become so tightened as to have drawn the legs into engagement with the body of the bed and will maintain them in that position. Thus

as the bed is lowered the legs will swing outward and gradually assume a position at a right angle to the body of the bed. As the bed-body is carried upward to the closed position the legs gradually gravitate inward, and when they engage with the bed-body are maintained in that position by the links folding up in the recess, and also by the weight of the attached rod 29, as at that time all the weight of the rod will be exerted upon the links and through the links directly upon the leg with which it is connected.

When the bed is in its lower position, it is advisable and desirable that it should be locked in such position in order to prevent any possibility of the springs 19 and 22 acting to lift the foot portion of the bed. To that end at or about the center of the casing a keeper 32 is located, and at the inner or head end of the bed a spring-latch 33 is located, which engages with this keeper and rests thereon when the bed is horizontally located, as shown in Fig. 1. At this time the head portion of the bed cannot be drawn downward no matter what tension is exerted upon the under face of the bed at that end. Before the bed can be elevated, therefore, the latch 33 must be disengaged from the keeper. This is accomplished by attaching to the latch a rope, cable, or chain 34 and leading the same along the bottom of the bed out through the foot-board, which is the top portion of the bed when folded, and terminating the rope, cable, or chain in a knot or loop 35 or the equivalent thereof to enable the operator to operate the cable or chain.

After the bed is folded up it is also desirable that a latch should be provided to hold it in that position. Therefore at one or both sides of the casing a spring-latch 36 is located, each latch being secured at one end and free at the other. The keepers for these latches are handles 37, which are attached to the sides of the bed in order to facilitate carrying them upward, and when the bed assumes its vertical position the latches engage with these handles and a locking connection is effected between the casing and the bed.

On the front of the bed is mounted a swinging drawer 39.

In the back of the bed-casing shelves 41 are located, upon which pillows or surplus bedding may be placed if in practice it is found desirable. These shelves are best illustrated in Fig. 1.

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

1. The combination, with the casing and the vertically-swinging bed having side projections in rear of its pivots, of levers hinged at their rear ends to the casing and crossing the said projections, a series of hooks on each lever, and a spring for each series of hooks, detachably connected therewith at one end and at the other end secured to the casing, substantially as set forth.

2. In a folding bed, the combination, with a casing and a bed pivoted in said casing, of springs connected with the casing at its base, and also connected with the head portion of the bed, and spring-pressed levers fulcrumed in the base of the casing, said levers having bearings upon extensions at the sides of the bed, as and for the purpose specified.

3. The combination, with a casing and a bed pivoted therein, of springs secured at one end in the base portion of the casing and adjustably attached to the under portion of the bed at the head, projections formed at the sides of the bed, at the head, back of the pivot of the bed, levers fulcrumed in the rear of the base and having constant bearing upon the projections of the bed, and springs secured to the base of the casing and adjustably connected with the levers, as and for the purpose specified.

4. In a folding bed, the combination, with a casing, a bed pivoted therein and removable therefrom, springs attached to the base of the casing and to the head portion of the bed back of its pivot, and spring-pressed levers fulcrumed in the base and having constant bearing upon projections formed at the sides of the bed, of a latch carried by the bed and adapted for engagement with a keeper on the casing, a trip device connected with the latch, handles secured to the sides of the bed, latches attached to the sides of the casing and adapted for engagement with the handles, all combined to operate substantially as and for the purpose set forth.

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Witnesses:
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