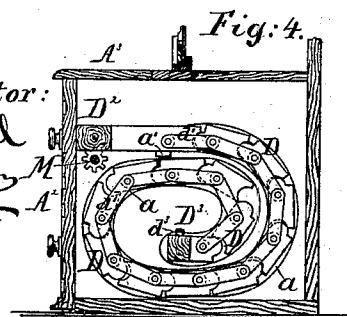
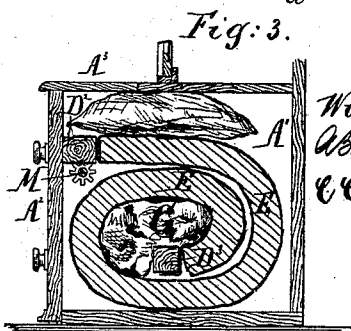
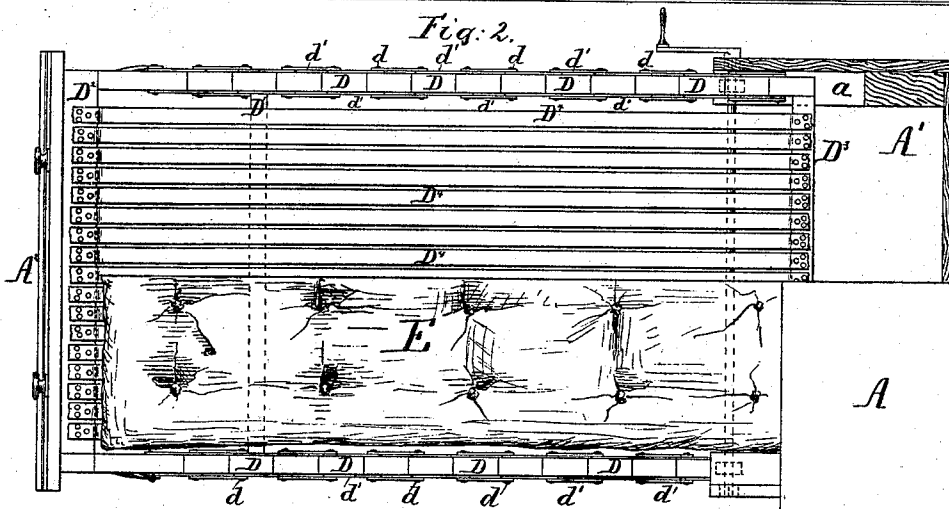
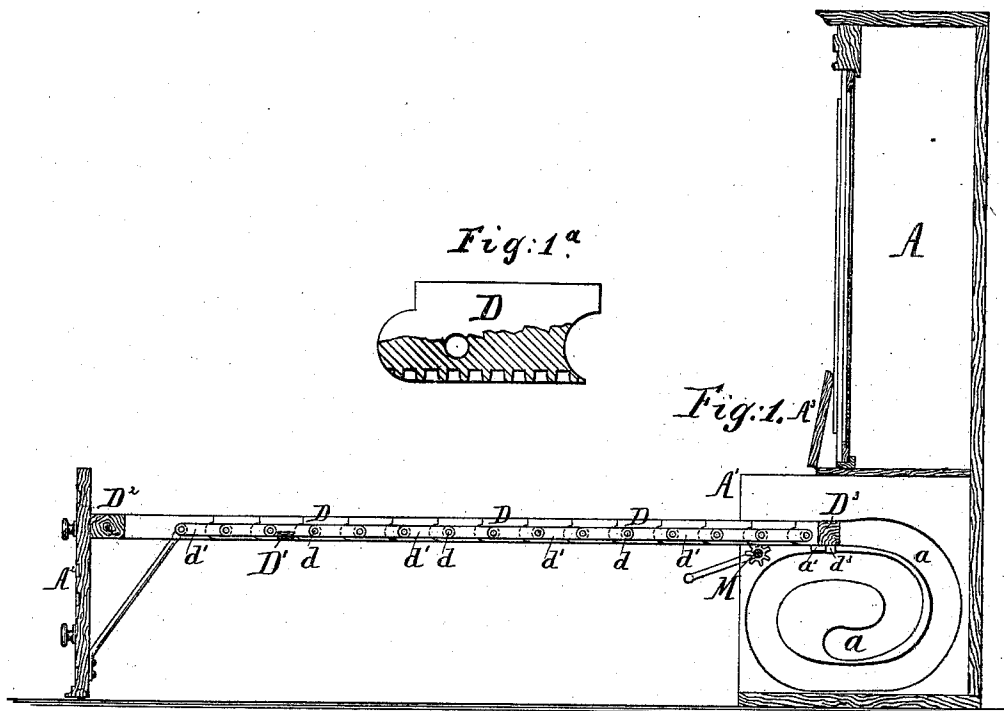


J. H. HORSFALL.
WARDROBE-BEDSTEAD.

No. 177,941.

Patented May 30, 1876.



Witnesses:
Abner C. Gentry,
C. C. Stetson.

Inventor:
J. H. Horsfall
by his attorney
J. D. Stetson

UNITED STATES PATENT OFFICE.

JOHN H. HORSFALL, OF NEW YORK, N. Y.

IMPROVEMENT IN WARDROBE-BEDSTEADS.

Specification forming part of Letters Patent No. **177,941**, dated May 30, 1876; application filed March 6, 1876.

To all whom it may concern:

Be it known that I, J. H. HORSFALL, of New York city, in the State of New York, have invented certain new and useful Improvements in Wardrobe-Bedsteads, of which the following is a specification:

I spirally groove, or provide with corresponding spiral guides, the inner surfaces of the two side panels of the wardrobe near the bottom. I make two series of narrow sections, adapted to serve as the sides of a bed when extended, and to be coiled or wound up in said grooves or guides in the lower portion of the side panels of the wardrobe on being pushed in by hand, or by any suitable force. I connect the sections by metal plates and pins, thus forming a side rail capable of bending freely in the proper direction to coil within the base of the wardrobe.

I can make each of the several sections extend continuously across the bed; but in what I esteem the most complete form of the invention there should be a chain of short sections on each side of the bed, these sections being strongly linged together with joints, as described, and being connected crosswise only at intervals by narrower cross-bars. These cross-bars can be dispensed with, as strain is on the webbing, connecting head and foot cross-pieces. I extend a series of flexible supports longitudinally between such jointed side rules, and mount thereon a mattress of good quality, adapted to serve permanently in this connection, being of sufficient thickness to make, in connection with longitudinal supports below, a satisfactory bed, either with or without an additional mattress, and of so little thickness as to allow of being coiled up on the forcing inward of my bed into the wardrobe.

The following is a description of what I consider the best means for carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a vertical longitudinal section, with the bed drawn out. Fig. 1^a represents a portion detached, on a larger scale, partly in section. Fig. 2 is a plan view and horizontal section. Fig. 3 is a central vertical section through the lower portion, with the

bed pushed in. It shows the mattress, with the bed-clothing packed therewith. Fig. 4 is a corresponding section near the side of the structure. It shows the series of sections or chains at the side, with the mattress beyond.

Similar letters indicate like parts in all the figures.

A is the upper and main portion of the wardrobe, which should, for appearance and for use, be somewhat narrower than the lower portion A¹, which is necessarily of considerable width, to accommodate the thick and substantial mattress and its peculiar supports which coil therein.

The inner side faces are provided with deep spiral grooves, indicated by *a*, and with internal projections *a'*, which form stops to prevent the bed from being drawn out too far. D D, &c., are sections connected together by jointed links *d'* turning on pins *d*. A series of sections, D, with their pins *d*, and strong connecting-links *d'*, form what I term a chain of sections, the sections being formed after the manner of jointed rules, so that the chain is stiff in one direction and free in the other. A² is a vertical piece, which is, preferably, paneled and ornamented in imitation of a bureau front. It forms the front of the lower portion A¹ of the wardrobe when the bedstead is forced in, and forms the foot of the bed when drawn out. The shelf or offset A³ at the junction of the parts A and A¹ of the wardrobe may be hinged and turned up against the front of the part A when the bed is drawn out and adapted for use, or it may remain rigidly fixed.

The cross-bars D¹ connect the two lines of sections or chains at intervals longitudinally. Strips of webbing D⁴, or analogous flexible material, extend from the cross-bar D² at the foot to the cross-bar D³ at the head of the bed. The head cross-bar D³ has stops *d*³, which engage with the fixed stops *a'* in the wardrobe, and determine the extent to which the bed may be drawn out.

The cross-pieces D¹ are of a less height than the straight piece or section D, and the mattress E sinks a good part within the space between the two chains or sets of sections D.

I propose to form transverse grooves on the under face of each section D, and to provide

a transverse shaft in the positions represented by M, fitting upon the shaft two pinions, which gear with the grooved bottoms of the sections. On turning the shaft M by a crank or other suitable means, the motion of the bed inward or outward may easily be effected, by reason of the small diameter of the pinions or gear wheels, and with this addition the bed may be operated with ease by a weak person, as a woman or a child. The bed, however, can be used without this.

I provide the movable front piece A² with easily-running casters, but the main part of the wardrobe remains on the floor without casters, so that it offers resistance when the bed is drawn out. A thin but sufficiently soft and elastic mattress, to serve either as a bed alone or as an under bed for a further separate mattress, is represented by E. It is secured to the cross-piece D² at the foot, and to the cross-piece D³ at the head. It may also, if desired, be attached to the sections D at the sides; but I esteem it preferable, on account of occasional want of harmony in the coiling, that the sides of the mattress be left independent of the section D.

G represents blankets or other bed clothing or pillows, which are stored in the space in the interior of the coil when the bed is forced in. These important adjuncts of the bed will be deposited in proper position for packing when the bed is pressed in so far that the chain forms about a half circle, open against the foot-board.

By my invention the bed occupies only the lower portion or base of the wardrobe, and the entire upper portion is left free for its or-

dinary uses. The bed need not occupy when coiled more than two feet of the height, and also about two feet in depth.

The upper portion A of the wardrobe may be formed in any ordinary or suitable manner. I propose, where the expense will be warranted, to make it in the manner set forth in my patent for dressing cases, obtained June 8, 1875.

I claim as my invention—

1. The side pieces, having spiral grooves *a*, in combination with a bed or bed support, coiling and uncoiling, as and for the purposes herein set forth.

2. The combination, with the bed or bed-support, of flexible chains or sections, with rule-joints, with the foot-support A², and with the spiral grooves or guides *a'* of the wardrobe A¹, as and for the purposes herein specified.

3. The combination of the mattress E, flexible strips D⁴, rule-jointed sections or chains D, cross-bars D³, the foot A², with each other and with the wardrobe A A¹, having internal grooves *a''* and stops *a'*, all substantially as and for the purposes herein specified.

4. The combination of the mattress E with a flexible jointed support therefor, to which it is permanently attached, and with the wardrobe.

In testimony whereof I have hereunto set my hand this 1st day of March, 1876, in the presence of two subscribing witnesses.

JOHN H. HORSFALL.

Witnesses:

JNO. L. DIBBLE,
C. C. STETSON.