H. S. HALE.

Wardrobe-Bedstead

No. 210,777. **Patented Dec. 10, 1878.**

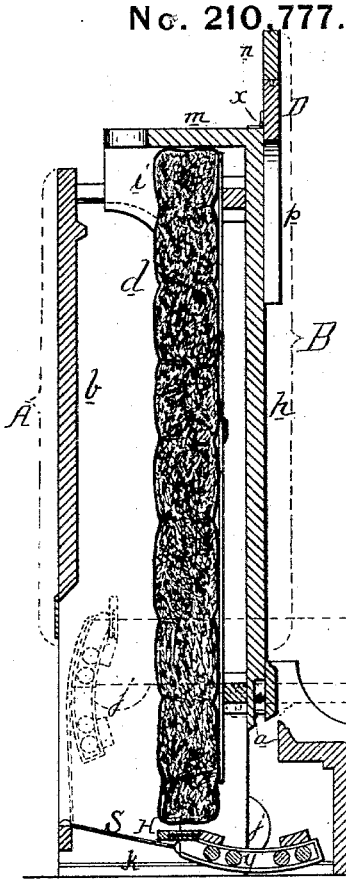


FIG. 1.

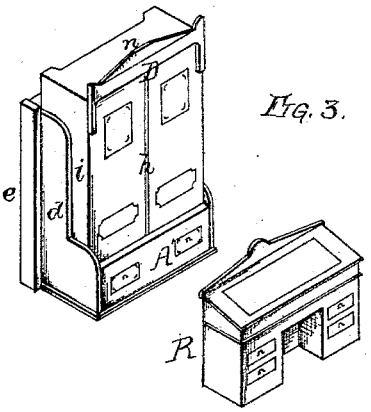
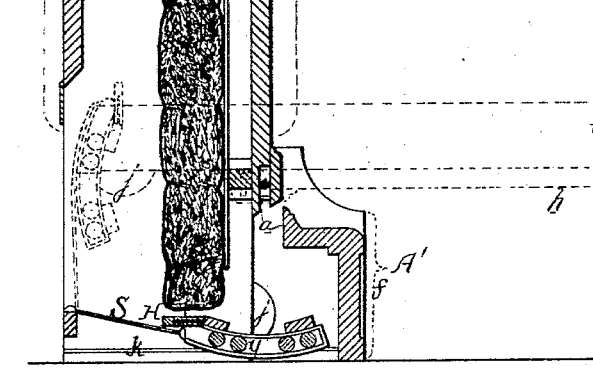


FIG. 3.



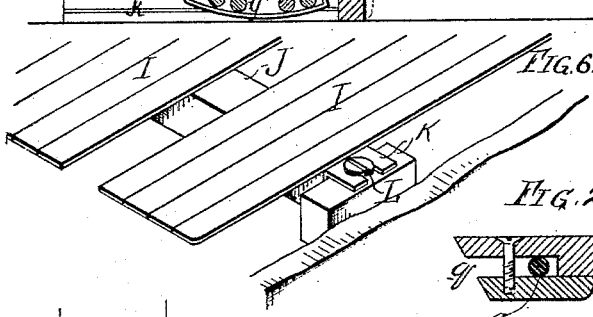


FIG. 6.

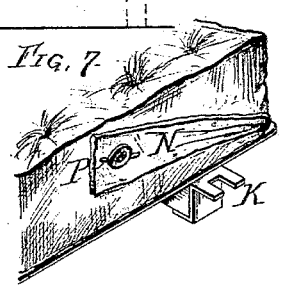


FIG. 7.

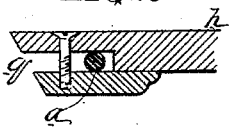


FIG. 2.

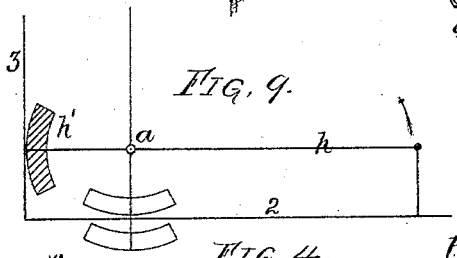


FIG. 9.

FIG. 5.

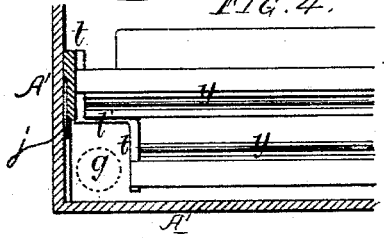


FIG. 4.

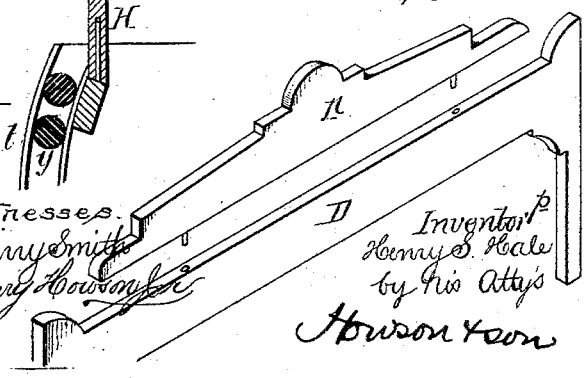


FIG. 8.

Witnesses.
Harry Smith
Henry Howson Jr.

Inventor.
Henry S. Hale
by his Attys
Howson & Howson

UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN WARDROBE-BEDSTEADS.

Specification forming part of Letters Patent No. **210,777**, dated December 10, 1878; application filed September 3, 1877.

To all whom it may concern:

Be it known that I, HENRY S. HALE, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Cabinet-Bedsteads, of which the following is a specification:

My invention consists of certain improvements in that class of bedsteads which can be converted into a representation of a wardrobe, cabinet, book-case, &c., the said improvements being too fully described hereinafter to need preliminary explanation.

In the accompanying drawing, Figure 1 is a vertical section of the folding bedstead as it appears when the movable frame is turned up, the said frame when turned down being shown by dotted lines; Fig. 2, an enlarged view of part of Fig. 1; Fig. 3, a perspective view, drawn to a reduced scale, and showing the manner of combining a desk with the bedstead; Fig. 4, a plan view of the lower portion of the permanent frame; Fig. 5, a detail view of part of one of the grooved segments for counter-balance weights, with the detachable pillow-board; Fig. 6, part of the bed-bottom and mode of securing the same; Fig. 7, a view showing the manner of securing the mattress; Fig. 8, the supporting-frame for the outer end of the movable frame, with the detachable portion of the tail-board; and Fig. 9, a diagram illustrating the operation of one feature of my invention.

A is the fixed and B the movable frame of the bedstead, the two being hinged together by the pivot-shaft *a*. The fixed or permanent frame consists of the two posts *e e*, the head-board *b*, which connects the two posts together, and the side pieces *d d*, the lower portions of which are continued outward to form the base A′, of which *f* is the front.

The movable frame consists of the bottom-board, *h*, the opposite side rails *i*, and the tail-board, which is made in two parts—namely, the lower portion, *m*, secured to the ends of the side rails, and the detachable portion *n*, referred to hereinafter.

A frame, D, is hinged at *x* to the tail-board, this frame having legs *p p* for supporting the outer end of the movable frame when the latter has been turned down.

A longitudinal slot, *q*, is formed in the rear edge of the bottom-board *h*, as best shown in Fig. 2, the pivot-shaft *a*, which is fixed to the permanent frame, passing through this slot, so as to permit the entire movable frame to be elevated under the circumstances explained hereinafter.

If desired, pivot-pins may be secured to the movable frame, and adapted to vertical slots in the permanent frame, for the same purpose of permitting the said movable frame to be elevated.

To the rear end of each end rail *i* is pivoted a roller, *j*, the peripheries of the two rollers bearing on rails *k* in the interior of the base A′ of the permanent frame. When the movable frame is turned up these rollers will come in contact with the rails *k*, and as the upward turning of the frame is continued it will be elevated. I generally restrict this arrangement to the largest and heaviest class of bedsteads for the following reasons: When the movable frame is heavy it is important that the counter-balance weights should be arranged as far from the fulcrum or pivot shaft as possible; but if the movable frame be pivoted in the usual manner to the fixed frame, the distance of the weights from the pivot must be determined by the distance of the latter from the floor, with which the weights must not come in contact.

The desired height of the movable frame (when turned down) from the floor restricts the distance between the pivot and the weights; but if the movable frame can be raised vertically as it is turned up, the weights can clear the floor; hence an advantageous length of leverage can be obtained without making the arrangement of the movable frame (when the latter is turned down) at an unnecessary altitude from the floor. This may be better explained in connection with the diagram Fig. 9, in which 2 represents the floor, 3 the wall against which the bedstead is placed, *a* being the pivot-shaft, *h* the bottom of the movable frame, placed at a convenient height above the floor, and *h′* the weighted lever for counterbalancing the frame. The longer this lever is the better; hence it is made to extend nearly to the wall; but in turning up the movable frame the weight would strike the floor unless the said frame, while being turned up, was

caused to rise by the contact of the rollers *j* with the rails *k*, as described above.

In ordinary folding bedsteads it is usual to make the side rails of such a depth that their upper edges are on a level, or thereabout, with the top of the mattress—a plan objectionable to those getting in and out of bed. To remedy this defect, I cut down or recess the side rails from the top, so as to expose the edges of the mattress; and I make the side pieces *d* of the frame of such a form that, when the movable frame has been turned up, the portions of the said side rails which are recessed or cut away shall be concealed by the said side pieces, as shown in the perspective view, Fig. 3.

The counter-balance weights consist of bars, the ends of which fit into grooved segments *t*, attached to the rear ends of the side rails of the movable frame.

It will be seen on referring to the plan view, Fig. 4, of the lower portion of the permanent frame, that each segment is made in two parts, connected together by and forming a part of a horizontal bar, *t'*, some of the counterbalancing-bars *y* being consequently longer than the others. By constructing the segments in this manner spaces *g* are presented within the base of the permanent frame for receiving casters with rollers of sufficient size to permit the structure to be moved from place to place with ease, one of these casters being indicated by dotted lines in Fig. 4.

From the upper edge of one segment *t* to to that of the other segment extends a board, H, which serves as a backing for the mattress to bear against, this rest being made detachable, so as to permit the introduction of the counterbalancing-bars into and their withdrawal from the grooves of the segments.

Two or more springs, S, connect the rear end of the movable frame to a cross-bar on the permanent frame, as shown in Fig. 1, these springs being such that they will be stretched both when the movable frame is turned down and when it is turned up; hence the springs must serve to prevent the too-sudden contact of the movable frame with the floor when it is turned down and its too-sudden contact with the permanent frame when it is turned up.

The bed-bottom consists of longitudinal slats I, secured to cross-rails J, as shown in Fig. 6, and to the ends of these rails are secured slotted plates K, which fit under the heads of pins or screws L, secured to blocks on the inside of the rails *i* of the movable frame, so that when the latter is turned up the bed-bottom cannot be displaced.

In order to retain the mattress under like circumstances, loops N, secured to the outer end of the bed-bottom, are connected to buttons P, or other suitable fastenings, on the edge of the mattress, as shown in Fig. 7.

Prior to turning up the movable frame, the detachable upper portion, *n*, of the tail-board should be removed and adjusted to the frame D, when the two combined will form an appropriate upper finish for the cabinet, which the bedstead represents when the movable frame has been turned up. (See Fig. 3.)

In order that the structure may represent a combined cabinet and writing-desk, I make the desk R with ends and back arranged to fit snugly to the permanent frame, the lower portion of which, when used in connection with the desk, may be free from expensive ornamentation.

The desk itself may be constructed for writing purposes, or its interior may be arranged as a wash-stand, as described in a separate application for a patent, or the desk may be so constructed that it can be converted into a crib, as described in another application.

I do not desire to claim, broadly, the elevation of the movable frame in the permanent frame, as said movable frame is turned up; but

I claim as my invention—

1. In a folding bedstead, the permanent and movable frames, pivoted to each other by means of a shaft or pins adapted to a slot or slots in one or other of the frames, as described, in combination with rollers *j*, carried by the movable frame, separate from the pivoting devices, and adapted to rails on the permanent frame, all substantially as set forth.

2. The combination of the grooved segments with a detachable board, H, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY S. HALE.

Witnesses:

HARRY A. CRAWFORD,

HARRY SMITH.