(No Model.)

A. W. STEWART.

BED BOTTOM.

No. 248,065. Patented Oct. 11, 1881.

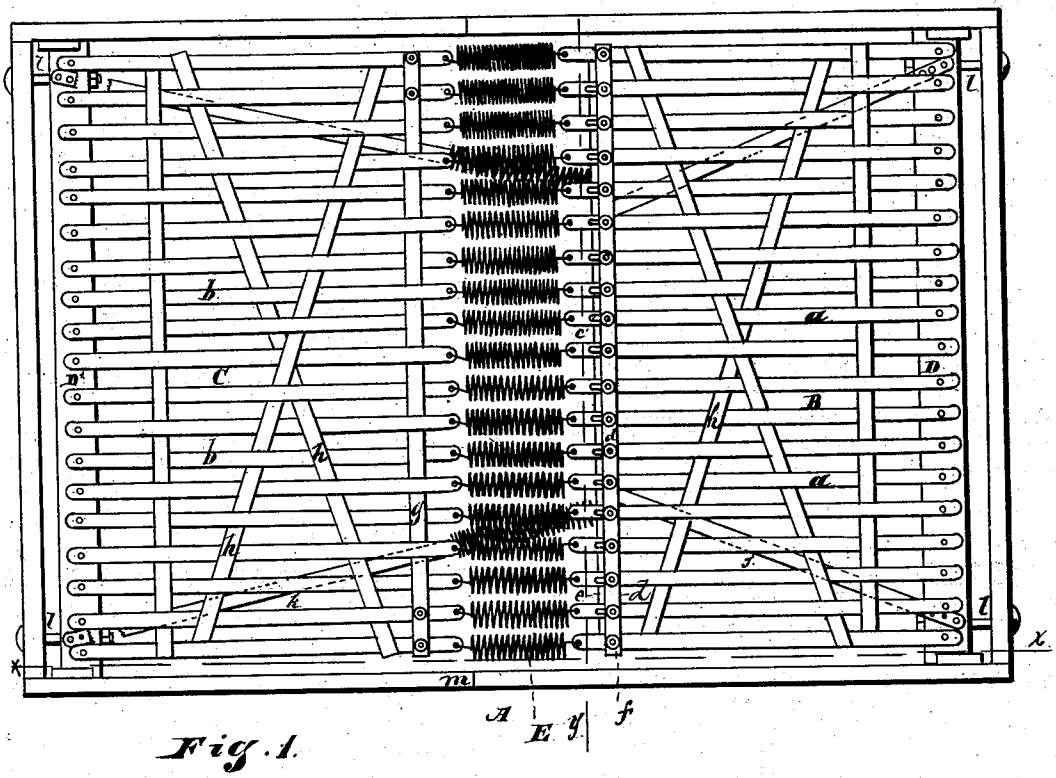


Fig. 1.

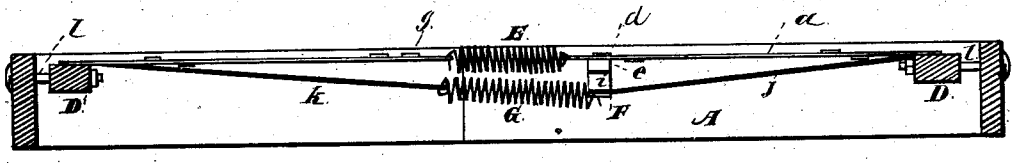


Fig. 2.

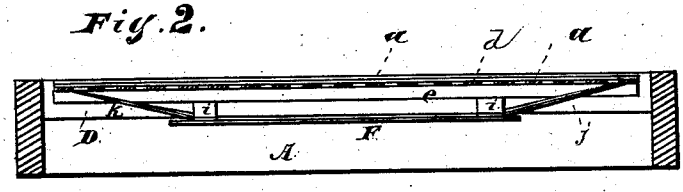


Fig. 3.

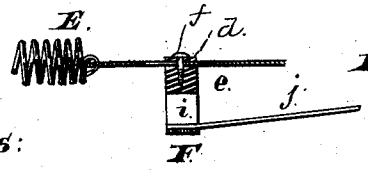


Fig. 4.

Witnesses:
Albert H. Adams.
Henr. F. Brune.

Inventor;
Alexr W. Stewart.
By West & Bond Attys.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALEXANDER W. STEWART, OF CHICAGO, ILLINOIS.

BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 248,065, dated October 11, 1881.

Application filed February 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER W. STEWART, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Bed-Bottoms, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan; Fig. 2, a section at line *x* of Fig. 1. Fig. 3 is a cross-section at line *y* of Fig. 1; Fig. 4, an enlarged detail.

My invention relates to improvements in spring bed-bottoms; and it consists, essentially, in two sets of slats respectively attached at their outer ends to cross-bars, said slats being connected at their inner ends by means of a series of springs, which constitute a central spring portion to the bed-bottom, as will be more fully hereinafter described.

The invention further consists of other features, which will be described in detail, and pointed out in the claims.

In the drawings, A represents a frame, in which the bed-bottom proper is secured.

B C are the two parts of the bed-bottom.

a are longitudinal slats in that part of the bed-bottom next to the head of the bed, and *b* are slats in the other part. The outer ends of the slats *a* are suitably secured to a strong cross-bar, D. The inner ends of each of these slats or strips *a*, except the two outer ones, are provided with a slot, *c*.

d is a cross-strip, to each end of which the inner end of one of the outer slats, *a*, is secured. On the under side of the slats *a*, and beneath the cross-strip *d*, is a cross-bar, *e*, the outer ends of which are secured to the inner ends of the outside slats or to the strip *d*, or to both slat *a* and strip *d*.

f are pins, which pass through the strip *d* and through the slots *c* in the slats *a*, but not into the strip or bar *e*. The space between the strip *d* and bar *e* is sufficient to permit the slotted ends of the slats *a* to move longitudinally. The outer ends of the slats *b* are secured to a strong cross-bar, D′, and near the inner ends of these slats *b* is a cross-strip, *g*, secured either to all or a part of such slats *b*.

E are a series of strong coil-springs. One end of each spring is connected with the inner end of one of the slats *a*, and the other end to a corresponding slat, *b*. These springs are near the center of the bed-bottom.

h are cross-strips, which are interlaced with the slats *a* and *b*. Their outer ends may be secured to the outside slats. The parts *a*, *b*, *d*, *g*, and *h* may be made of metal.

F is a strip or bar, bolted to this bar *e*, blocks *i i* being placed between the bars *e* and F, so that these parts in fact form a truss.

j j are diagonal strips, the outer ends of which are secured to the bar D, one near each end, and their inner ends are secured to the bar F or some other part of the truss.

k k are diagonal strips, the outer ends of which are secured to the end bar, D′, one near each end.

G are two strong coil-springs. One end of each is secured to one end of the bar F, and the other end to one of the diagonal strips *k*. These strips *k* are provided with a series of holes, either at one end or at both ends, to permit an adjustment of the springs G, so as to increase or decrease their tension. The bars D D′ are a little distance from and connected with the end pieces of the main frame by means of bolts *l*. By turning the nuts upon the inner ends of these bolts the tension of the springs E can be adjusted.

In use the bed-bottom constructed as described is secured in a suitable frame at the corners and at the ends only by means of the bolts *l*, suitable tension being given to the springs, as stated. The two parts B and C and the connecting-springs E can yield under the weight of the occupant, as usual. Each of the slotted slats *a* can also yield a little independently of the adjoining slats if more pressure comes upon it than upon the other slats, the slots *c* permitting such separate movement. The slats *b*, which are not secured to the bars *g*, have the same separate movement.

The truss described and the diagonal strips *j k* and springs G strengthen the central part of the yielding bed-bottom, and furnish some support thereto which is not rigid, and which is desirable without interfering with the action of the springs E.

I am aware that a series of vertical springs have been placed beneath the central part of

yielding bed-bottoms for the purpose mentioned, but this construction requires considerable room.

I regard the slotted slats *a* desirable, but not essential.

I have shown my improvements in connection with a folding bed, the frame being jointed at *m*, the springs E serving the usual purpose of springs, and also serving the purpose of a joint, permitting the lower half of the bed-bottom to be folded over upon the upper half; but my improvements are adapted and designed to be used in connection with frames which do not fold, but are rigid.

By making the central cross-bar, *e*, sufficiently strong the bar F may be omitted, in which case the diagonal strips *j* and the springs G could be connected to the bar *e*.

When the yielding portion of a bed-bottom is connected to the frame only at the ends without any central support the sides will be drawn toward each other under pressure. The bar *e*, being connected rigidly to the outside slats *a*, wholly obviates this difficulty, as to the part B. If the bar *g* be strong enough, it will operate in the same way as to the part C.

It is desirable to limit the longitudinal movement of the slats *a* which are in that part upon which the most strain comes. This is accomplished by the slots *c*.

The slats *b* might be provided with slots, but it is not essential in this part of the bed-bottom.

The bars D D′ are both a little distance from the end bars of the frame, as shown; but one of these bars might be close to the corresponding end bar.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a bed-bottom, the combination of two sets of slats, *a* and *b*, respectively attached at their outer ends to the cross-bars D and D′, with the series of springs E, connecting the inner ends of the slats together and constituting a central spring portion to the bed-bottom, substantially as and for the purpose described.

2. The combination, with the slats *a b*, attached at their ends, respectively, to the cross-bars D and D′, and provided with the cross-bar F, of the strips *j* and *h*, extending diagonally from the bars D D′ toward the cross-bar F, the ends of the strips *j* being attached to the latter, and the strips *k* being connected therewith by attached intermediate springs, G, all substantially as and for the purpose described.

3. The slats *a*, secured at their outer ends to a bar, D, and provided with a slot, *c*, near the other end, in combination with the cross-pieces *d e*, pins *f*, and springs E, substantially as and for the purpose specified.

4. A bed-bottom consisting of a frame, A, and two parts, B C, composed of slats *a b*, connected by springs E, end bars, D D′, and cross-pieces *d g*, in combination with diagonal strips *j k*, and springs G, substantially as and for the purposes specified.

ALEXANDER W. STEWART.

Witnesses:
E. A. WEST,
A. H. ADAMS.