

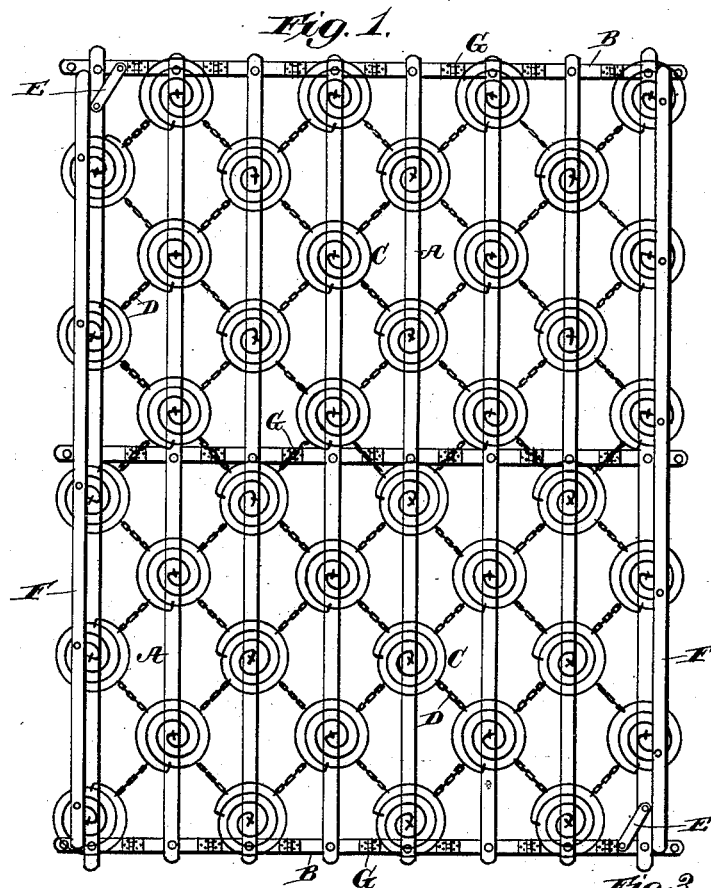
(No Model.)

J. & R. AINSLIE.

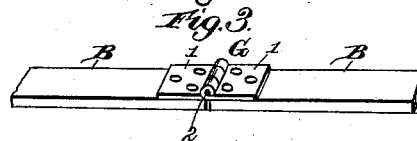
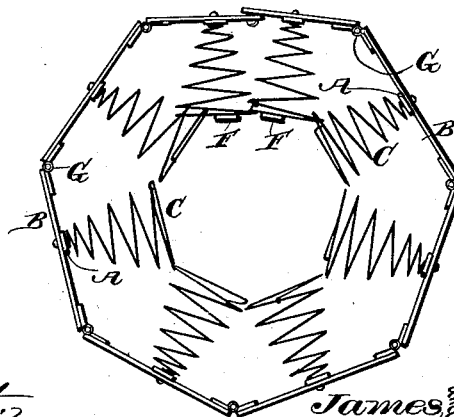
SPRING BED.

No. 264,212.

Patented Sept. 12, 1882.



*Fig. 2.*



Witnesses.

*Robert Everett.*

*J. A. Rutherford*

Inventors.

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*By James L. Norris.*  
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# UNITED STATES PATENT OFFICE.

JAMES AINSLIE AND ROBERT AINSLIE, OF BROOKLYN, NEW YORK.

## SPRING-BED.

SPECIFICATION forming part of Letters Patent No. 264,212, dated September 12, 1882.

Application filed July 29, 1882. (No model.)

### *To all whom it may concern:*

Be it known that we, JAMES AINSLIE and ROBERT AINSLIE, citizens of the United States, residing at Brooklyn, Kings county, New York, have invented new and useful Improvements in Spring-Beds, of which the following is a specification.

This invention relates to that class of spring-beds which are composed of a series of longitudinal and transverse metal strips or slats united together and supporting volute or spiral springs which are connected at their larger ends by a system of chains or links. Such class of beds are capable of being rolled into cylindrical form when not in use; but in some beds of this character the extent to which they can be rolled or folded is limited by the inherent elasticity or flexibility of the transverse metal strips or slats. In one instance these transverse metal strips or slats have been composed of a series of links provided at their ends with eyes loosely encircling and engaging pintles secured to the opposite ends of clips, each of such clips being rigidly attached to one of the longitudinal metal strips composing the bed, and provided with projecting ears at its ends, between which the aforesaid pintles are rigidly secured to engage the eyes on the links composing the cross-stays, as above stated. This construction of bed-bottom permits the same to be rolled or folded, and in this respect is very desirable; but, owing to the peculiar construction of the aforesaid clips, the necessity of providing both ends of each link with an eye to loosely engage pintles on the clips, and the rigid attachment of the longitudinal metal strips or slats centrally to such clips, the cost of manufacturing the beds involves such expense as to preclude extensive sale of the beds. Besides this, the peculiar arrangement of the parts necessitates the clips being made of considerable length for the purposes of receiving and supporting the longitudinal metal strips or slats; and obviously this prevents, to a considerable extent, the rolling of the bed into the least compass and into the smallest cylindrical form; and, further, the excessive strain brought on the eyes of the links and the pintles of the clips, which must necessarily be made small, materially weakens the structure of the bed and renders it exceedingly liable to become broken and disarranged.

The objects of our invention are to overcome such objection, to provide a bed which possesses substantial and strong qualities, to permit the bed to be rolled into the least possible compass, and to enable it to be cheaply manufactured and hence save considerable expense to the public. These objects we accomplish by the construction of spring-bed illustrated in the accompanying drawings, in which—

Figure 1 is a top or plan view of our improved spring-bed spread open. Fig. 2 is an end view of the same rolled up, and Fig. 3 is a detached enlarged view clearly showing the form of hinge-joint used to couple or connect the adjacent ends of the sections composing the transverse metal strips or slats.

The letter A refers to the longitudinal spring-metal slats or strips, which are arranged parallel with each other at suitable distances apart, and riveted or otherwise secured at their ends to the transverse strips B, a third transverse strip being also attached to the middle of the longitudinal strips.

C indicates the volute wire springs, which are attached, as usual, to the longitudinal strips; and connected together by means of chains D, which, when the bed is open, lie in the outlines of diamond-shaped figures, as illustrated in Fig. 1. The outer longitudinal strips of the series are further connected with the end strips at the corners of the frame by brace-links E, and upon each line of springs at the two sides of the bed are secured the upper side strips, F, which prevent the bed from sagging at its sides.

In carrying out our invention we form each one of the transverse metal strips of any desired number of sections, and these sections we connect together at their ends by butt-hinges G, so as to form a complete jointed metal strip. Each of these hinges is composed of two leaves, 1, united by a connecting-pintle, 2, which serves as a means for articulating the leaves together, and each leaf is rigidly attached to the upper side of one end of each section composing the transverse metal strips or slats. It will be observed that this mode of joining the sections serves to bring their adjacent ends in close juxtaposition, and therefore the bed can be rolled into the very least possible compass; and, further, the entire structure is materially strengthened by such

mode of hinging the sections. A further function resulting from this mode of constructing the bed is that when the same is opened the adjacent ends of the sections abut against each other, thereby acting as stops and in a measure limiting the movement of the parts in opening the bed. These hinges allow the bed to be spread out, as shown in Fig. 1, or admit of it being folded or rolled up, as in Fig. 2. They will also admit of one portion of the bed being readily raised or rolled while the other lies in a spread condition upon the bedstead-slats or other support for the spring-bed.

It will be observed that each transverse strip has a hinge between each pair of longitudinal strips, and hence the bed can be folded into quite a small compass.

Any suitable fastening devices can be provided at the terminals of the transverse strips—as, for example, a strap could have an eye at one end and a hook or button at the other, whereby after the bed has been rolled up, as in Fig. 2, the meeting ends of the transverse straps can be connected together, and thus render the bed convenient for shipment or storage.

The transverse strips need not necessarily be made of very thin spring metal, as hereto-

fore, since even if made quite stout the bed can be rolled up into the form shown in Fig. 1, or otherwise folded, as already specified.

It will be seen that the volute springs in no wise interfere with the folding up of the bed into compact form, and that while the hinges admit of the bed being rolled up much more readily than heretofore they also permit the bed to be made considerably stronger.

What we claim is—

As an improved article of manufacture, a spring-bed consisting of longitudinal and transverse metal strips or stays supporting connected volute or spiral springs, each of said transverse strips or stays being composed of sections having their adjacent ends rigidly fixed to the leaves of butt-hinges, and thus brought into close juxtaposition, in the manner and for the objects herein set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JAMES AINSLIE.  
ROBERT AINSLIE.

Witnesses:

MICHAEL CONKLIN,  
JOHN WILDE.