J. P. MALLETTE.

Bed-Bottom.

No. 221,586. Patented Nov. 11, 1879.

*Fig: 1.*

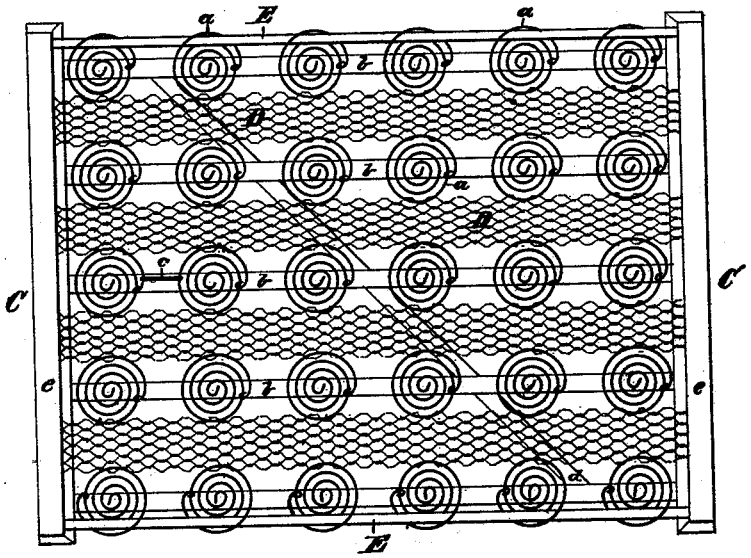
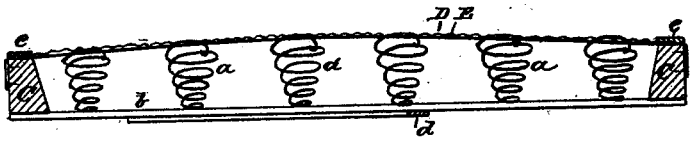



*Fig: 2.*




WITNESSES

Jesse Coe Jr.

Emil H. Frommann

INVENTOR

James P. Mallette.

Per W. E. Dayton

Attorney

# UNITED STATES PATENT OFFICE.

JAMES P. MALLETTE, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN BED-BOTTOMS.

Specification forming part of Letters Patent No. **221,586**, dated November 11, 1879; application filed November 1, 1878.

*To all whom it may concern:*

Be it known that I, JAMES P. MALLETTE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bed-Bottoms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention consists in the combination, with vertical springs of a bed-bottom arranged in rows longitudinally, of longitudinally-elastic wires or strips of woven-wire fabric intermediate between said rows of springs, which are secured at their edges to said springs and also secured to the end bars of the frame, the object being to secure in the same bed the double advantage of continuous surface peculiar to the woven fabric and the universal support characteristic of the vertical springs, substantially as hereinafter fully set forth and claimed.

Referring to the drawings, *a a a* are a number of conical springs, arranged in the usual manner upon the longitudinal slats *b b* of a bed-bottom. C C are end bars, to which the slats *b b* are secured, and *d* is a diagonal slat, secured to the several slats *b b*, to permanently hold the frame in form.

In a bed-bottom composed of the vertical springs *a a* it is customary to connect the topmost coils of the adjacent springs by a wire, a band, or other inelastic connection. In the improved bed herein described narrow strips or sections of woven or coiled wire fabric are employed instead.

D D in the drawings represent such strips or sections of wire fabric having their outer or marginal wires interlinked with the topmost coils of the vertical springs *a a*, and their ends fastened to the cross-bars C C. Wooden cap-pieces *e e* are nailed upon the cross-bars, as shown in the sectional Figure 2, to cover their irregular ends. Of proper width and thus applied, the strips D, running in a single direction, serve to sustain the springs *a* without other connections.

Other connections between the springs may be applied, as shown at *c*, Fig. 1, or transverse strips of fabric may be introduced in the same manner as strips D, with or without the latter.

The effect of combining the two forms of springs, as described, is to produce a bed-bottom wherein the surface is more continuous than in one having the vertical coils alone, and in which the support given to the body is distributed over its inequalities more perfectly than in a bed having only the wire fabric. In the latter or a woven-wire bed-bottom the supporting-points against funicular strain are the head and foot rails of the frame, and pressure at any point between these rails depresses the entire length of the coils, giving to the bed under such pressure a dishing form, not entirely comfortable.

In my improved bed the rails are merely the anchors of the cords, and the supporting-points are those vertical springs on the line of the fabric-sections, each side of the point at which the pressure is applied. The original form of the surface is made properly upwardly curved, so that under the weight of persons it will lie substantially level. This effect may obviously be obtained by placing vertical springs beneath a continuous wire fabric interlocking the two; but such a construction would be too expensive to be practicable.

In the drawings the strips of fabric are shown to contain several wires; but I do not limit myself to any particular number of wires, since a single one will operate to the same end to a lesser degree than several.

It is a common fault with vertical-spring beds that the marginal springs soon become tilted inward, in which position they have less strength to support a mattress, besides narrowing the surface of the bed. Many expedients have been tried to remedy this fault, but none have proven entirely successful. For the purpose of sustaining these springs in their original position, and also of giving lateral resistance to pressure applied to a connected surface, I introduce the longitudinal strips of spring metal E, which pass through the upper coils of the marginal springs *a a*, bearing

against the outer curve of the coils, and are firmly fastened to the head and foot rails C C, as shown. Being drawn or pressed down nearly straight when secured in place, the effect of these strips is to sustain directly the marginal springs to which they are connected, and indirectly the entire connected body of springs forming the bed-bottom. Strong wire may be advantageously used in this position, and such wire or any other suitable material securely fastened at the ends and connected with the marginal springs at their tops, so as to move vertically with them and sustain them by reason of longitudinal inelasticity, is meant to be included in my claim. The broad flat strips of spring metal shown and described are, however, obviously preferable.

When the vertical coils *a a* are joined by coils or fabric D the elasticity of the surface is nearly equal in both directions, whichever way the fabric runs, and the inward strain upon the marginal springs *a* is not great. This general elasticity of the spring-surface therefore prevents the depression of springs to any considerable extent on either side of the portion pressed.

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

In combination with the vertical springs *a a* of a bed-bottom, arranged in rows longitudinally, the longitudinally-elastic strips of wire fabric D, intermediate between the rows of springs *a a*, and connected at its edges thereto, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JAMES P. MALLETTE.

Witnesses:
M. E. DAYTON,
JOHN O. FOSTER.