No. 788,825. PATENTED MAY 2, 1905.

J. F. GAIL.

SPRING BOTTOM.

APPLICATION FILED JUNE 8, 1904.

2 SHEETS—SHEET 1.

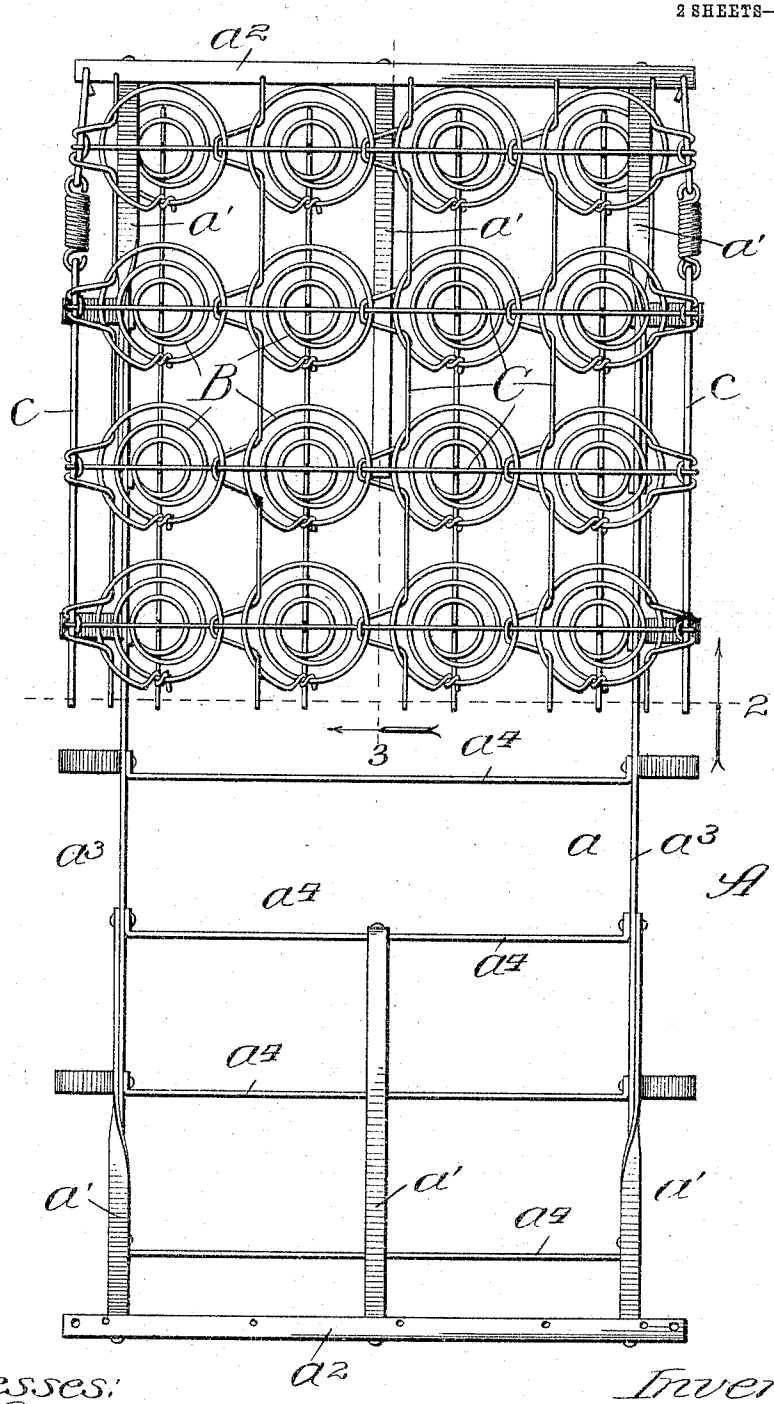


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

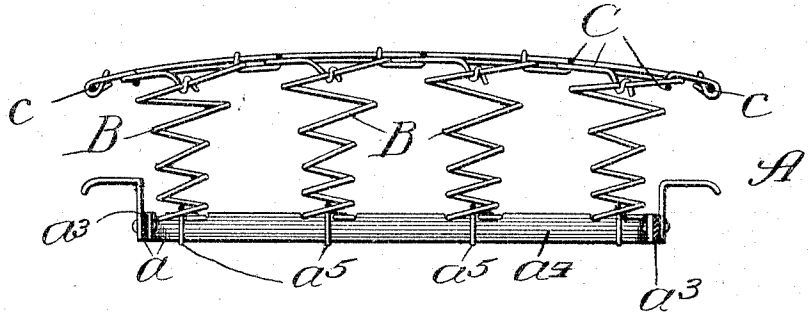


Fig. 3.

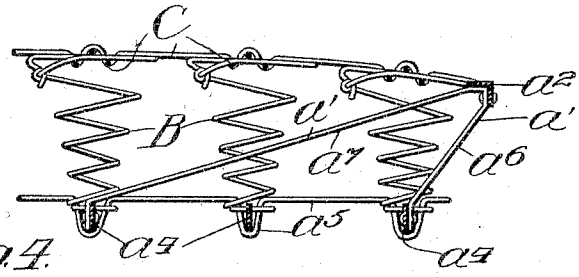


Fig. 4.

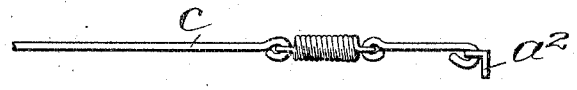
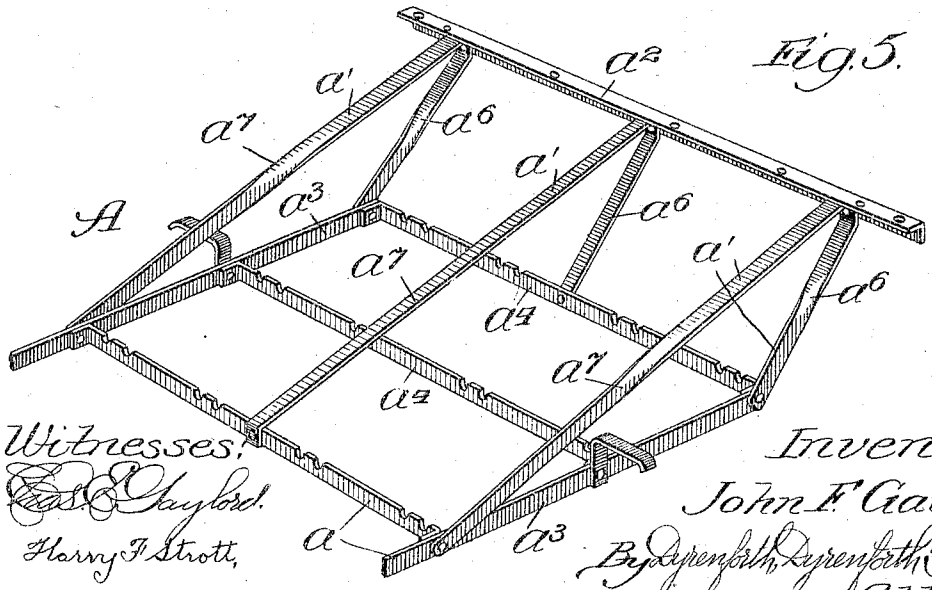


Fig. 5.



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No. 788,825. Patented May 2, 1905.

UNITED STATES PATENT OFFICE.

JOHN F. GAIL, OF KENOSHA, WISCONSIN, ASSIGNOR TO THE SIMMONS MANUFACTURING COMPANY, OF KENOSHA, WISCONSIN, A CORPORATION OF WISCONSIN.

SPRING-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 788,825, dated May 2, 1905.

Application filed June 8, 1904. Serial No. 211,617.

To all whom it may concern:

Be it known that I, JOHN F. GAIL, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented a new and useful Improvement in Spring-Bottoms, of which the following is a specification.

My invention relates particularly to spring-bottoms for beds, although the invention may be used in other situations.

My primary object is to provide a self-contained spring-bottom in which coil-springs (of either conical or hour-glass form) are employed having provision for preventing lateral flexure or tipping of the springs, thereby obviating the injury to the springs which, as is well understood, results from the application of weight when the springs are not upright. In other words, my invention is concerned with the prevention of racking of the spring-bottom and the coils thereof, such as might occur through lateral or longitudinal movement of the top surface of the spring-bottom with relation to the bottom surface thereof, and in a practical structure involving such an expedient it is likewise important to provide yielding lateral edges for the top of the spring-bottom, so that there will be a desirable yielding thereat when the bed is used as a seat, and in my improved construction such provision is made.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of a spring-bottom for a single or narrow bed, one-half of the top structure and springs being removed, however; Fig. 2, a broken transverse section taken as indicated at line 2 of Fig. 1; Fig. 3, a broken longitudinal section taken as indicated at line 3 of Fig. 1; Fig. 4, a detail of a marginal frame-rod employed in connection with the top of the spring-bottom, and Fig. 5 a broken perspective view of the frame.

In the construction shown in Figs. 1 to 5, inclusive, A represents a frame comprising a lower side frame a and supports a', carrying top end bars a^2; B, coil-springs arranged in longitudinal and transverse rows on the lower side frame, and C a top connected with the upper ends of the coil-springs and with the end bars a^2. The lower frame comprises side members a^3 and cross members a^4, upon which latter members the coils are supported and to which they are secured in the usual manner by longitudinal rods a^5. Each of the supports a' comprises a bar bent to form an angle where it is attached to the end bar. Each bar a^3 is on edge, and each outer member a' has a short arm a^6, attached to one end of a bar a^3, and a long arm a^7, attached at a distance from the end of said bar a^3. Said arms are inclined, as shown, to brace the end bars. Each outer support a' is given a quarter-twist adjacent to its arms, so that the extremities lie in a proper plane for attachment to the corresponding member a^3, while the portion at the angle lies in a plane convenient for attachment to the end bar. Each end bar preferably comprises an angle-iron having one downturned flange and one inturned flange. The twists in the outer supports stiffen them somewhat, and the upper end bars are effectually braced against longitudinal movement. Each intermediate support comprises simply a suitably-bent flat bar having its arms connected respectively with an end and a second cross member of the lower frame.

The coil-springs B may be either of conical or hour-glass form.

The top C comprises lateral marginal rods c, having their extremities joined to the ends of the angle-irons a^2 and provided near their ends with coils c', longitudinal tie-rods c^2, joined at their extremities to the angle-bars a^2 and having lateral deflections or tongues, and transverse key-rods c^3, interlockingly connecting the tie-rods and coil-tops in a well-understood manner. Each marginal tie-rod has outturned tongues joined to said marginal rods c.

It will be observed that since the tops of the coils are tied together and secured to rigid end members racking of the spring-bottom and flexure of the springs from their true axes is obviated. At the same time the lateral edges of the top are left yielding, so that the edge of the bed may conveniently

be used as a seat. I have preferably arranged the end bars a^2 slightly below the upper ends of the springs, which imparts a full or rounded center to the top of the bed-bottom. The intermediate members a' pass between the intermediate longitudinal rows of springs, as shown in Fig. 1.

Changes in details of construction within the spirit of my invention may be made. Hence no undue limitation should be understood from the foregoing detailed description.

What I regard as new, and desire to secure by Letters Patent, is—

1. In a spring-bottom, the combination of a lower frame, supports rising from the end portions thereof, end bars rigidly carried by said supports, coil-springs supported on said lower frame and arranged in longitudinal and transverse rows, longitudinal tie-rods connected with said end bars and with the tops of the coils, marginal rods having their ends connected with said end bars, and supplied with coils near their ends, and tie-rods connected with the marginal rows of springs and having laterally-projecting tongues connected with said marginal rods, for the purpose set forth.

2. A spring-bottom comprising a lower frame, rigidly-supported end bars located above the plane of said lower frame, coil-springs having their tops normally above the plane of said end bars, marginal rods connecting said end bars, and connections between the coils, said end bars and said marginal rods, whereby the margins of the top of the spring-bottom are depressed below the central portion of the top thereof, for the purpose set forth.

JOHN F. GAIL.

In presence of—
F. M. WIRTZ,
WALTER N. WINBERG.