(No Model.)

J. B. RYAN.

BED BOTTOM.

No. 599,740. Patented Mar. 1, 1898.

Fig. 1.

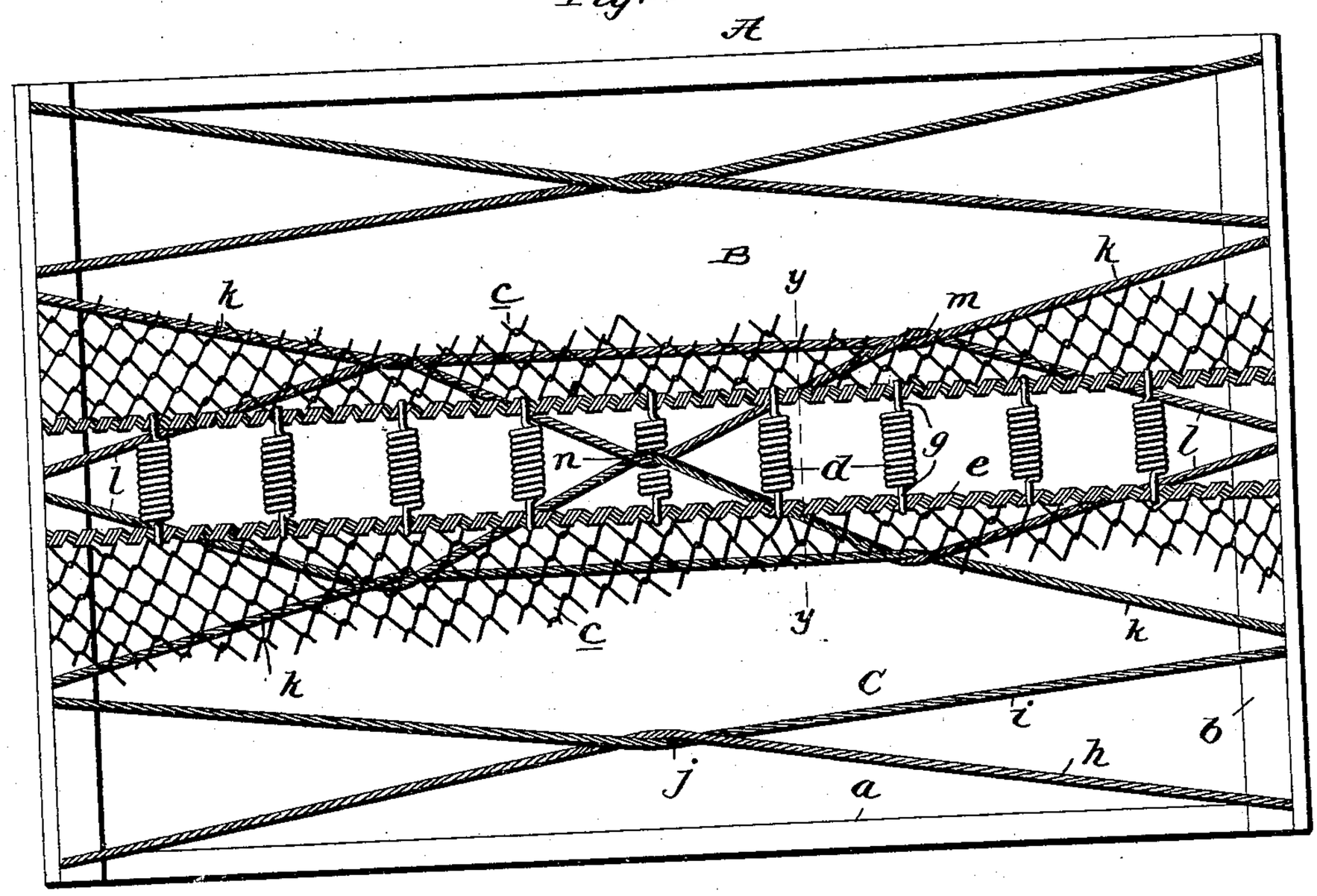
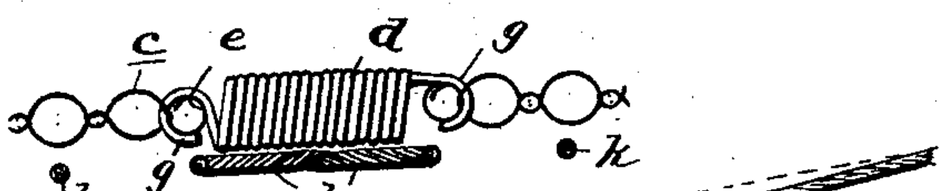


Fig. 2.



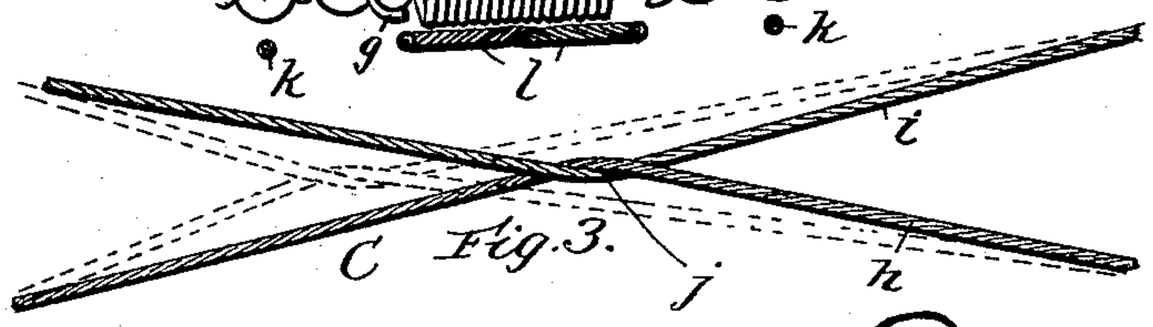


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES B. RYAN, OF NEW YORK, N. Y., ASSIGNOR TO THE NEW YORK WOVEN WIRE MATTRESS COMPANY, OF SAME PLACE.

BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 599,740, dated March 1, 1898.

Application filed October 15, 1897. Serial No. 655,309. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. RYAN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Bed-Bottoms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bed-bottoms and will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a plan view of my improved bed-bottom with the sections of the mattress partially broken away. Fig. 2 is an enlarged transverse section taken in the plane indicated by the line *y y* of Fig. 1. Fig. 3 is a detail plan view illustrative of the manner in which the points at which the cables of the support are intertwined may be shifted.

A designates a bed-bottom frame, which may comprise the usual side bars *a* and end bars *b*, suitably connected together, and B designates the mattress, which is of a peculiar and advantageous construction. This mattress B comprises two sections *c*, of woven-wire fabric, disposed at opposite sides of the longitudinal center of the bed-bottom and connected at their ends to the end bars *b* of the frame, and a longitudinal series of transversely-disposed helical springs *d*, occupying the longitudinal center of the bed-bottom and interposed between and connected with the contiguous edges of the sections *c*, the said series of helical springs being designed and adapted to render the mattress very strong at the place where strength is most needed to prevent the objectionable sagging toward the center so often experienced, and being also adapted, when a greater weight is imposed on one section *c*, from being transmitted to the other section *c*, and thus obviate the liability of the occupant or occupants of the bed to roll toward the center.

The mattress-sections *c* preferably have selvages *e* at their inner edges, while the springs *d* preferably terminate in hooks *g*, designed and adapted to engage the selvages *e*. This manner of connecting the springs and fabric sections permits of the springs being readily adjusted—that is to say, when great strength is desired at some particular point in the length of the bed-bottom a number of springs may be assembled in close proximity at such point.

In order to prevent undue sagging of the mattress without depriving the same of the major portion of its elasticity, I provide a support C, disposed immediately below the mattress. This support C is formed of cables, preferably spirally-woven wire cables, which possess endwise elasticity, and it comprises the cables *h*, which are disposed longitudinally of the frame and are connected at their ends to said frame at or adjacent to the corners thereof, the cables *i*, which are connected at their ends to the end bars *b* at points about midway between the ends and middles of said bars *a* and are intertwisted at J with the cables *h*, the cables *k*, which are connected at their ends to the end bars *b* at the same or approximately the same points as the cables *i*, and the cables *l*, which are connected at their ends to the end bars *b*, at or adjacent to the middle thereof, and are intertwisted with the cables *k* at *m* and are intertwisted with each other at *n*, as shown. Each of the cables *h*, *i*, *k*, and *l* is connected at one end to one end bar of the frame and at its other end to the opposite end bar of the frame, and they therefore each and all extend the full length of the bed-bottom. The said cables are interlooped or intertwisted, as stated; but they are free to move one upon the other, so that as the fabric is depressed at one side of the longitudinal center of the bottom the cables below the depressed portion will draw against the other cables and bring the support up against the center of the mattress, affording an efficient support and preventing sagging of the mattress at the center. While this is so, it will be appreciated that the support, especially when the cables are formed of spirally-woven wire, will not rob the mattress of its elasticity.

The support C is best adapted to support the mattress at the points where the several cables are interlooped or intertwisted. These points may be shifted with the hands in either direction, after the manner shown in Fig. 3, so

as to place the intertwisted points where the mattress is subjected to the greatest strain or weight, and thus enable the same to serve, in conjunction with an assembly of springs *d*, in strengthening a particular part of the mattress. From this it will be appreciated that the specific mattress and support disclosed may be used in conjunction to advantage and that they form a durable and highly-desirable bed-bottom.

Having thus described my invention, what I claim is—

1. In the bed-bottom described, the rectangular frame, the mattress comprising two longitudinal sections of woven-wire fabric resting at opposite sides of the longitudinal center of the bottom and connected at their ends to the end bars of the frame and having their inner longitudinal edges reinforced, and the helical springs interposed between said sections at intervals and having hooks engaging said edges whereby the springs may be adjusted when desired, and the support disposed below the mattress and comprising the longitudinally-disposed cables *h*, connected at their opposite ends to opposite end bars of the frame, the longitudinally-disposed cables *i*, connected at their opposite ends to opposite end bars of the frame and intertwisted or interlooped at *j*, with the cables *h*, the longitudinally-disposed cables *k*, connected at their opposite ends to opposite end bars of the frame, and longitudinally-disposed cables *l*, connected at their opposite ends to opposite end bars of the frame and interlooped with the cables *k*, at *m*, and interlooped with each other at *n;* the said cables being formed of spirally-woven wire and having endwise elasticity and being so arranged that the points at which they are interlooped may be shifted, substantially as specified.

2. In a bed-bottom, a frame, a mattress suitably connected to the frame, and the support disposed below the mattress and comprising cables extending in the same direction and each connected at one end to one bar of the frame and at their opposite ends to the opposite bar of the frame and intertwined at an intermediate point of their length; the ends arranged adjacent to the ends of the other cable so as to permit of the point at which they are intertwined being shifted, substantially as specified.

3. In a bed-bottom, a frame, a mattress of woven-wire fabric connected to the frame, and a support disposed below the mattress and comprising cables *k* connected at their opposite ends to opposite bars of the frame, and cables *l* disposed in the same direction as the cables *k* and connected at their opposite ends to opposite bars of the frame and interlooped or intertwisted with the cables *k* and *m* and interlooped or intertwisted with each other at *n;* the said cables being formed of spirally-woven wire and having endwise elasticity and being so arranged that the points at which they are interlooped or intertwisted may be shifted, substantially as specified.

4. In the bed-bottom described, the rectangular frame, the mattress comprising two longitudinal sections of woven-wire fabric resting at opposite sides of the longitudinal center of the bottom and connected at their ends to the end bars of the frame and having their inner longitudinal edges reinforced, and the helical springs interposed between and connecting said sections at intervals in the length thereof, and a support arranged below the longitudinal central portion of the mattress and comprising longitudinally-disposed cables *k* connected at their opposite ends to the opposite end bars of the frame, and longitudinally-disposed cables *l* connected at their opposite ends to the opposite end bars of the frame and interlooped or intertwisted with the cables *k* at *m* and interlooped or intertwisted with each other at *n;* the said cables being formed of spirally-woven wire and having endwise elasticity and being so arranged that the points at which they are interlooped or intertwisted may be shifted, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES B. RYAN.

Witnesses:

FRANK HAMMOND,

PROSPÉRE H. DUBREUIL.