(No Model.)

A. F. PUREFOY.

SPRING BED BOTTOM.

No. 486,183. Patented Nov. 15, 1892.

FIG. I.

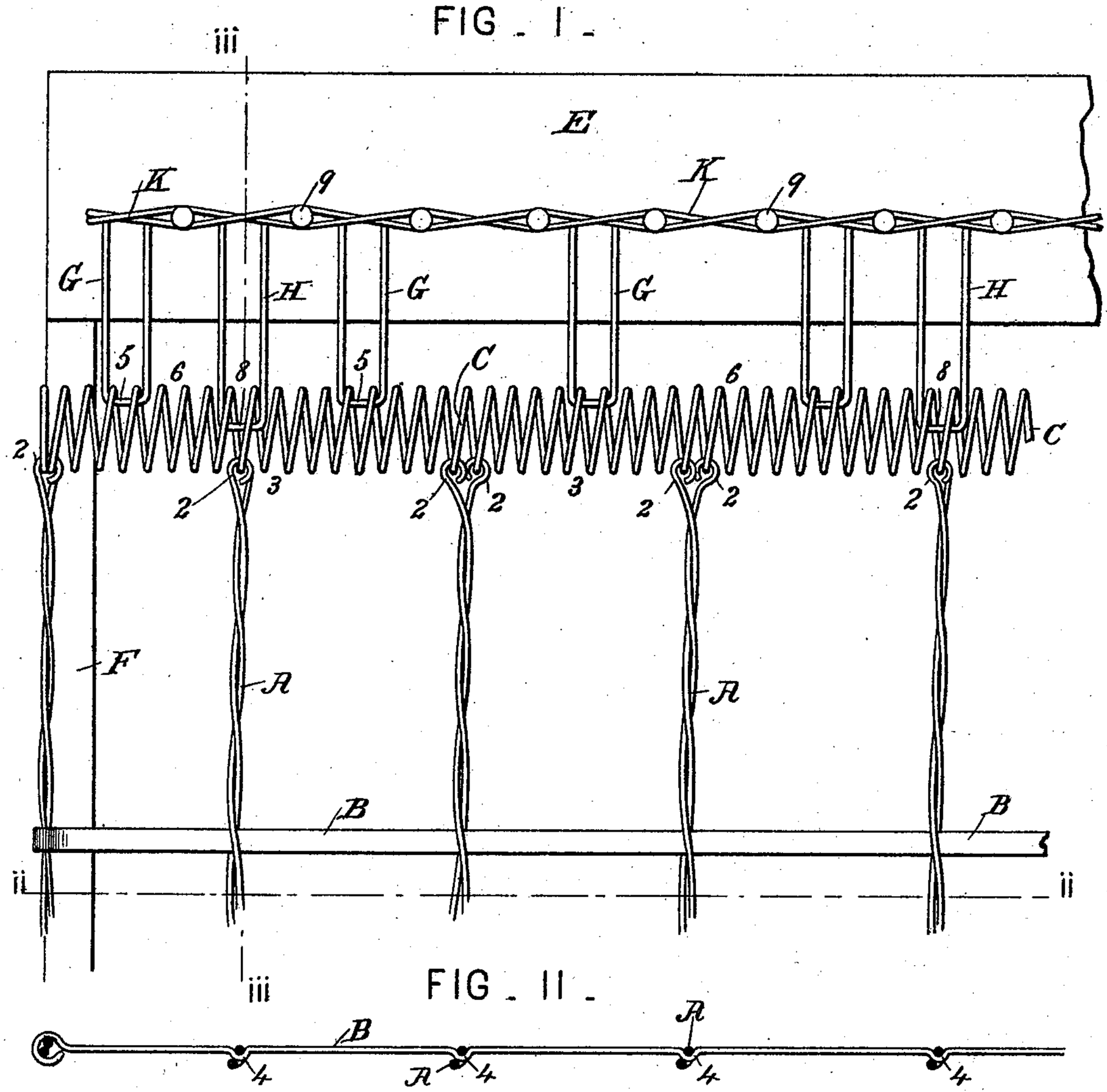
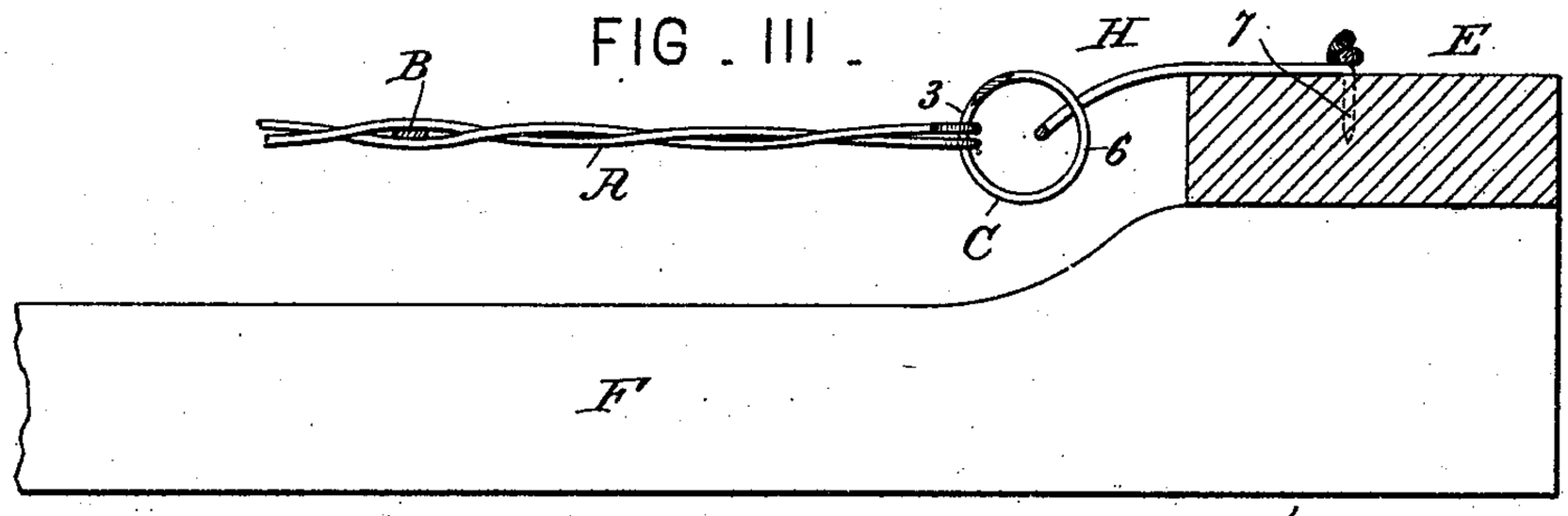


FIG. II.

FIG. III.



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UNITED STATES PATENT OFFICE.

ADDISON F. PUREFOY, OF WAKE FOREST, NORTH CAROLINA.

SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 486,183, dated November 15, 1892.

Application filed November 2, 1891. Serial No. 410,700. (No model.)

To all whom it may concern:

Be it known that I, ADDISON F. PUREFOY, a citizen of the United States, residing at Wake Forest, in the county of Wake and State of North Carolina, have invented certain new and useful Improvements in Spring Bed-Bottoms, of which the following specification is a full, clear, and exact description.

This invention relates more particularly to that kind of spring bed-bottoms which have springs at one or more edges of the bed-bottom, in connection with a flexible web composed of a number of slats or strips or of a fabric or the like suspended in whole or in part through said springs. The mattress or bed is mainly supported by or it may be composed of said flexible web, to which the springs impart a desirable elasticity. Each of the improvements constituting the said invention is, however, included for all the uses to which it may be adapted.

In accordance with the present invention a long spring of coiled wire is arranged with its axis parallel with the plane of the web, or so as to have a substantially-similar relation thereto, and is attached on one side of the coils at suitable intervals to a holding-frame and on the other is connected with the said flexible web. Weight on the web thus tends to draw the coils apart and also to bend the spring between the points of attachment, so that said weight is supported with yielding elasticity. The long spring aforesaid can be easily and cheaply made, is durable, and is found to give an agreeable and good sort of elasticity to the bed-bottom. The spring-coils enable the attachment to the holding-frame and the connection with the flexible web to be effected readily.

In accordance with a further improvement limiting-stops are provided, against which the spring aforesaid is drawn when a sufficient pressure is applied to the said flexible web. Said stops are best arranged so as to engage that side of the coils which is attached to the holding-frame, as aforesaid. Thus the yielding capacity of the spring is not impaired to the like extent as if the said stops engaged (as they might) that side of the coils which is connected with the flexible web.

A further improvement consists in having the long spring aforesaid project above the top surface of the flexible web, so that it may serve for a bolster. The portion of the holding-frame at the head of the bed is with advantage arranged to project above the top surface of the flexible web, so as to be on a level with the top of the long spring. The flexible web and the means for connecting the long spring aforesaid with said web and the means for attaching it to the holding-frame may be varied within considerable limits and still be within the general features of the present invention, as above set forth, for it is evident that the long spring aforesaid could be interposed operatively between any known or suitable form of flexible web and a holding-frame, suitable means of attachment and connection being used.

The present invention also comprises, however, special improvements involving certain particular constructions of the flexible web and the means of attachment and connection and the limiting-stops for the long spring, as hereinafter set forth.

In the accompanying drawings, which form part of this specification, Figure I is a plan of a corner portion of a spring bed-bottom constructed in accordance with the invention; and Figs. II and III are views of the same in vertical section on lines *i i* and *i i i*, respectively.

The bed-bottom may be of any desired width and length. The edges of the bed-bottom are shown at the top and left-hand edge of Fig. I. At the right and bottom of Fig. I the bed-bottom is broken away. The parts of the bed-bottom not shown may be duplicates of the corresponding parts represented. As shown, the flexible web is composed of two sets of strands or strips A and B, respectively. The strands A have their ends 2 hooked into the coils of the long spring C, whose axis is parallel with the plane of the flexible web A B, the hooked ends 2 engaging the coils on the side 3 adjacent to the flexible web. The strands A are of twisted wires, and the cross-strips B (preferably flat, so that the strands A hold them from turning) are inserted between the wires of strands A. They are provided with short bends or depressions 4, which receive the uppermost wires of the strands A, so that

said cross-strips B are prevented from moving endwise across the strands A and also have their upper surfaces brought on a level with the upper surface of the strands A.

The means shown for attaching the long spring C to the holding-frame E F (composed of end rails E and side rails F) comprise looped wires G, whose loops 5 engage the coils of spring C on the side 6 away from the flexible web A B, while their other ends are secured to the rail E. For this pnrpose their ends are bent into point 7, which are driven into the wood of rail E.

The limiting-stops H are of looped wires, their loops 8 extending around the spring-coils on the side 6; but when the bed-bottom is not loaded they are out of contact with the said coils. When, however, pressure is applied to the flexible web, the spring C yields, and when the pressure is sufficient its coils are drawn against the stops H, which then support the spring C intermediate the usual attaching means G. The ends of the wires H are bent into points, which are driven into the wood of rail E, like the points 7 of the attaching means G. In order to keep the points of the looped wires G and H in the wood, the said wires are covered by the strip or strand of twisted wire K, which is fastened down by nails 9 or screws or similar fastenings.

The mode of using my new or improved bed-bottom is like that of known bed-bottoms, so that no special description is necessary. The spring C, as shown, projects beyond the upper surface of flexible web A B, and the rail E has its upper surface level with the top of spring C. This gives an elevation which may serve like a bolster at the head of the bed. At the foot of the bed the corresponding rail (not shown, as it would be similar to rail E) may or may not be so elevated, and a spring like C may or may not be interposed, or said spring could be used at the foot and not at the head, or a similar spring could be arranged one at the foot and one at the head, or other convenient arrangement could be adopted, so long as such a spring is properly interposed between the flexible web or flat body portion of the bed-bottom and the holding-frame.

In specifying a bed-bottom in certain of the following clauses of claim it will be understood that it is not intended to exclude (but rather to include) analogous articles having a construction such as is defined in the said clauses.

I claim as my invention or discovery—

1. A spring bed-bottom comprising a holding-frame, a flexible web suspended between opposite rails of said frame, and an interposed spring of coiled wire arranged parallel with the said rails and attached to said frame by portions of its coils lying between the axis of said spring and the suspending-rail, said spring being connected on the opposite side of said axis with said flexible web and constituting an elastic and yielding connection through which the tension of said web is transmitted to said frame transversely of the said spring, substantially as described.

2. The combination, with the holding-frame, flexible suspended web, and interposed spring of coiled wire with its axis parallel with the plane of said web, of limiting-stops normally out of engagement, but arranged to engage said spring when bent by a sufficient pressure on said web, substantially as described.

3. The combination of a holding-frame, a flexible suspended web, an interposed spring with its axis parallel with the plane of said web, having its coils attached on one side at intervals to said holding-frame and connected on the other side with said flexible web, and limiting-stops normally out of engagement, but arranged when a sufficient pressure is applied to said web to engage the side of said coils attached to the said holding-frame, substantially as described.

4. A spring bed-bottom comprising a holding-frame, a flexible suspended web, and an interposed spring of coiled wire having its axis parallel with the plane of the bed-bottom and attached to the said holding-frame and web, respectively, by portions of the coils on opposite sides of said axis, said coils projecting above the surface of the said web and constituting an elevation of approximately the shape and dimensions of a bolster and adapted to serve for a bolster, substantially as described.

5. A spring bed-bottom comprising a flexible suspended web, a coiled-wire spring having its axis parallel with the plane of said web, connected with said web, and projecting beyond the same, and a holding-frame to which said spring is attached, having its surface on a level with the top of said spring, substantially as described.

6. A spring bed-bottom comprising a holding-frame, a flexible suspended web, and an interposed spring of coiled wire with its axis in the plane of said web, said frame comprising end rails and side rails, said web being suspended from said end rails and said spring being interposed between said web and an end rail, with its coils attached on one side at a number of points at intervals to said end rail and connected on the other side with said web at points intermediate the points of attachment to said end rail, substantially as described.

7. A spring bed-bottom comprising a holding-frame, a coiled-wire spring attached at intervals at a number of points to a rail of said frame parallel with said rail, and a flexible web comprising wire strands connected with the coils of said spring intermediate the points of attachment to said holding-frame, substantially as described.

8. A bed-bottom comprising a holding-frame and a flexible web suspended therein, said frame comprising end rails and side rails and said web comprising a number of parallel strands of twisted wires and flexible cross-

strips inserted between said wires and there provided with depressions to bring the upper surfaces of said cross-strips in the plane of the upper surfaces of said strands, the wires of said strands being twisted tightly together a number of times intermediate the insertions of said cross-strips, substantially as described.

9. In combination with the holding-frame, the flexible web, and the interposed spring of coiled wire connected with said web, with its axis parallel with the plane thereof, the attaching means of looped wire, the loops of said attaching means engaging the coils of said spring, and the ends secured to said frame, substantially as described.

10. In combination with the holding-frame, the flexible web, and the interposed coiled-wire spring connected with said web, with its axis parallel with the plane thereof, the attaching means of looped wire with bent ends, the loops engaging the coils of said spring, and the bent ends driven into said frame, substantially as described.

11. In combination with the holding-frame, the flexible web, and the interposed coiled-wire spring connected with said web, with its axis parallel with the plane thereof, the attaching means of looped wire with bent ends, the loops engaging the coils of said spring, and the bent ends driven into said holding-frame, and the strip or twisted-wire strand fastened over said looped wires, substantially as described.

12. In combination with the holding-frame, the flexible web, and the interposed coiled-wire spring attached to said frame and connected with said web, with its axis parallel with the plane of said web, the limiting-stops of looped wire secured to said frame, with their loops passing around coils of said spring, but out of contact therewith until sufficient pressure is applied to said web, substantially as described.

13. A spring bed-bottom comprising a holding-frame, a flexible web composed of twisted-wire strands and cross-strips inserted between the twisted wires, an interposed coiled-wire spring connected on one side with the ends of said strands, and attaching means of looped wire engaging the spring-coils on the opposite sides and secured to said holding-frame, substantially as described.

In testimony whereof I have signed this specification in the presence of two witnesses.

ADDISON F. PUREFOY.

Witnesses:

W. W. ROBARDS,

HENRY J. YOUNG.