

(No Model.)

2 Sheets—Sheet 1.

J. MONZEL.
BED SPRING.

No. 487,288.

Patented Dec. 6, 1892.

Fig. 1.

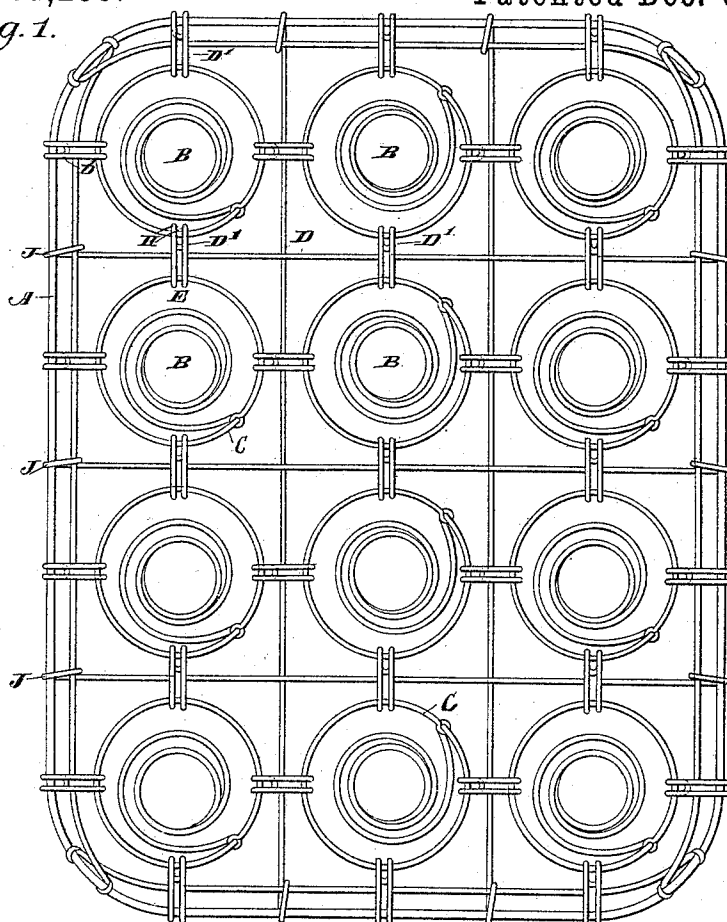
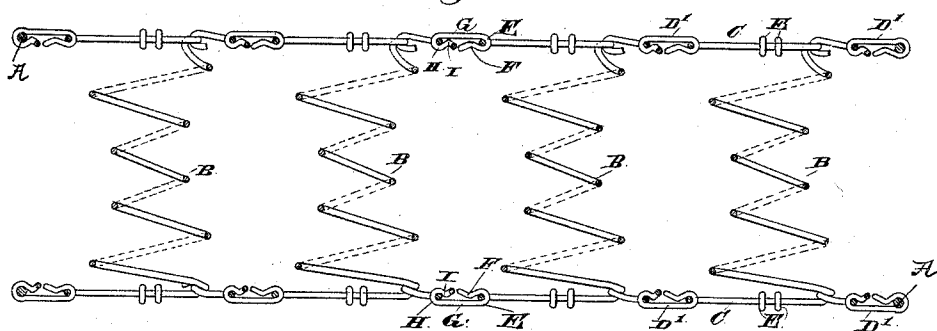


Fig. 3.



Witnesses

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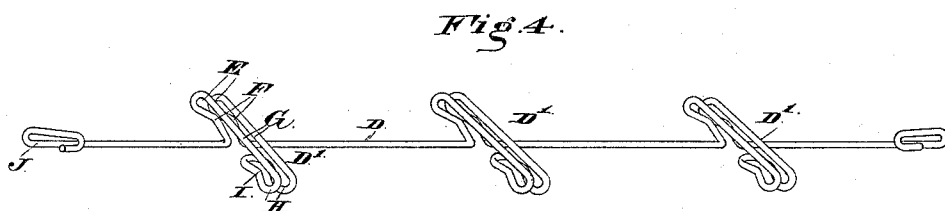
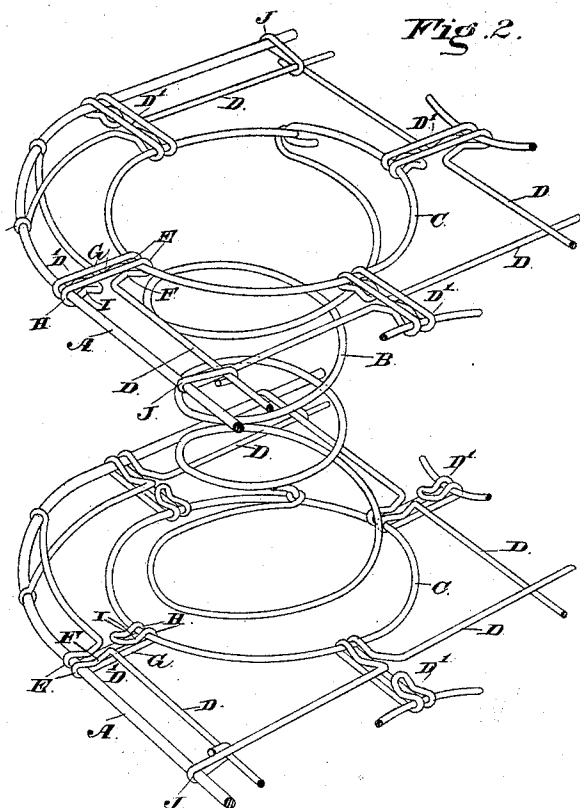
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN MONZEL, OF CHICAGO, ASSIGNOR OF ONE-HALF TO B. F. WINDSOR, OF JOLIET, ILLINOIS.

BED-SPRING.

SPECIFICATION forming part of Letters Patent No. 487,288, dated December 6, 1892.

Application filed January 15, 1892. Serial No. 418,138. (No model.)

To all whom it may concern:

Be it known that I, JOHN MONZEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Bed-Spring, of which the following is a specification.

This invention relates to spring bed-bottoms; and it has for its object to provide an extension spring-coupling link that is so arranged and coupled with the various springs comprising the bed-bottom as to provide one which while presenting a large area for the bedding will at the same time readily give and yield to every movement of the body thereon and will also compensate in a measure for unequal pressure upon any particular portion of the bed-bottom and which when the bottom resumes its normal position the said coupling-links will also spring back and hold the various parts of the spring in an even and unbroken surface. The coupling also provides a bed-bottom of exceptional strength and durability, and, being adapted particularly for connecting the wires of the spring-coils together, the said coupling may also be used in connecting all kinds of wire together in other articles, such as wire fabrics and the like.

To this end the invention primarily contemplates an improved construction of coupling-link whereby the adjacent spring-coils are securely connected, so that the disengagement of such coils from the coupling devices shall be avoided, thereby providing means for strengthening and bracing the entire area of the bed-bottom.

With these and many other objects in view, which will readily appear as the nature of the invention is fully understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a plan view of a bed-bottom constructed in accordance with my invention. Fig. 2 is a detail perspective view of one of the corner-springs of the bed-bottom, illustrating the connecting-links connected thereto and the bed-frame. Fig. 3 is a vertical longitudinal sectional view of the bed-bottom. Fig. 4 is a

detail in perspective of one of the extension coupling links or wires.

Referring to the accompanying drawings, A A represent the upper and lower rectangular wire frames, between and connected to which is the series of double-coiled springs B, arranged in any number of rows between said wire frames, according to the size of bed-bottom manufactured, this being the ordinary construction of spring bed-bottoms before the particular kind of coupling-links connect the upper and lower coils of the springs together and to the sides of the inclosing wire frames A. Longitudinally and transversely passing between the top and bottom coils C of each longitudinal and transverse rows of springs B are arranged the improved extension coupling links or wires D, which not only connect the said upper and lower bottom coils together longitudinally and transversely of the bed-bottom, but also connect said coils with the sides and ends of the wire frame, thus providing couplings which not only in crossing each other fill the spaces between the springs and thus present a greater area for the bedding, but also provides for a coupling to the inclosing wire frame of the same nature and possessing the same characteristics as the coupling devices connecting the interior coils together, thus carrying the coupling connections to the very edges of the bed-bottom without using supplemental connections, as are usually employed for connecting the outer rows of springs to the inclosing frame.

Each of the extension coupling links or wires D is made of a single piece of wire, and at regular intervals, regulated according to the distance between the coils, the same are bent at right angles to their length at one side and rebent back over the top of the body of the wire to form the hook-loops E upon one side of the straight portion or body of the wire, said hook-loops being first thrown into engagement with the upper and lower coils of the springs in the row adjacent to said hook-loop portions. Directly in advance of the closed loops E the bottom portions of the out-bent wire are provided with the integral shoulders F, bent upward therefrom to meet the parallel top straight portions G of the

link-couplings, and the said shoulders serve to retain the coils of the springs within the hook-loops after the same have been once placed into engagement therewith, and any pressure, however unevenly exerted upon the bed-bottom, cannot possibly throw the coils of the springs out of engagement with said hook-loops. The parallel straight portions of the link-couplings extend from the loops E, which they form, directly over and above the top of the straight portion or body of the wire, so as to leave an entrance-space into said closed loops, and the same project to the opposite sides of the straight portion of the wire and to the same distance therefrom as the loops E extend and are there rebent below their respective planes to form the end hooks II, that are designed to engage the upper and lower coils of the springs in the adjacent row to those connected with the opposite hook-loops of said couplings after said closed hook-loops have been placed into engagement with the coils. It will be readily seen that in coupling the coupling-wires to the coils the hook-loops must be sprung into engagement with the coils first before the end hooks, and, vice versa, the end hooks unhooked before the hook-loops; otherwise it would be utterly impossible to release the loops from the coils. This provides a connection wherein the body of the wire itself is bent into a closed loop, which after once being placed into engagement with the coils of the springs can only be released after a certain manipulation, because even if the closed loop were sprung out of engagement with the upper coil the connection would not be broken, as the longitudinal portions of the wire D form the lower portion of the mouth or entrance-space to said loops, and therefore form end stops for such loops, which would come beneath the upper coil after the said coil has passed the stop F. The closed loops therefore could not of themselves become disengaged from the coil, and such disengagement can only be effected by first releasing the opposite end hook and then passing the same through that coil which the closed hook-loop engages. The said hooks H are also provided with the under shoulders I, that strike the straight portions of the coupling and also serve to prevent the coils from becoming displaced therefrom. The inner terminals of the end hooks H project in close proximity to the straight or body portion of the wire in order to leave but a small space between the entrance to the hook-loops and said end hooks, thereby providing a construction which renders the coupling much more secure and less liable to become disengaged from the spring-coils. Thus it will be seen that each of the coupling links or wires D comprises a regular series of separate coupling heads or links D', comprising the right-angularly-disposed hook-loops and the opposite end hooks disposed at right angles to and in the line of the straight portions

of the wire. The arrangement of these wires has also been noted. The same are run both longitudinally through the upper and lower coils of the springs and also transversely, crossing each other, and are connected at J to the sides and ends of the rectangular wire frames. The coupling-wires D are also run between the sides and ends of said wire frames and the upper and lower coils of the springs and serve to carry out the longitudinal and transverse disposition of the wires to the very edges of the bed-bottom, as already stated, and for the purposes set forth.

The construction and adaptation of the herein-described coupling, which may be as applicable for other purposes as for the bed-bottom described, are thought to be apparent without further description. Each coupling-link D', from the nature of its construction, by being bent from the wire itself, forms a spring portion, which, as already mentioned, compensates for uneven weight upon the bed-bottom, and which when the bed-bottom or at least the springs thereof resume their normal position the said coupling-wires on account of said spring-links will also resume their normal position, as will be readily apparent.

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

In a spring bed-bottom, the combination, with the springs and the inclosing wire frames, of the coupling-wires arranged longitudinally and transversely between the longitudinal and transverse rows of springs, said coupling-wires being made of a single piece of wire and provided with a regular series of right-angularly-disposed coupling-links, each of said links comprising closed hook-loops bent to one side of the straight or body portion of the wire, which forms end stops at the mouth or entrance-space to said loops when the same are in engagement, said closed loops also having parallel top portions projecting back over said straight or body portion of the wire and above the same to leave a mouth or an entrance-space to the loops, end hooks formed at the ends of the parallel top loop-forming wires and upon the opposite side of the straight or body portion of the main wire, said end hooks having their inner terminals projecting in close proximity to the straight or body portion of the wire to leave but a small space between the entrance to the hook-loops and said end hooks, and integral upwardly-bent stop-shoulders bent from the wire within the closed loops and the end hooks and meeting the upper parallel top wires, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN MONZEL.

Witnesses:

B. F. WINDSOR,
J. W. DEBENHAM.