No. 762,536. PATENTED JUNE 14, 1904.

T. KLIPFEL.

ELASTIC BED BOTTOM.

APPLICATION FILED MAR. 28, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

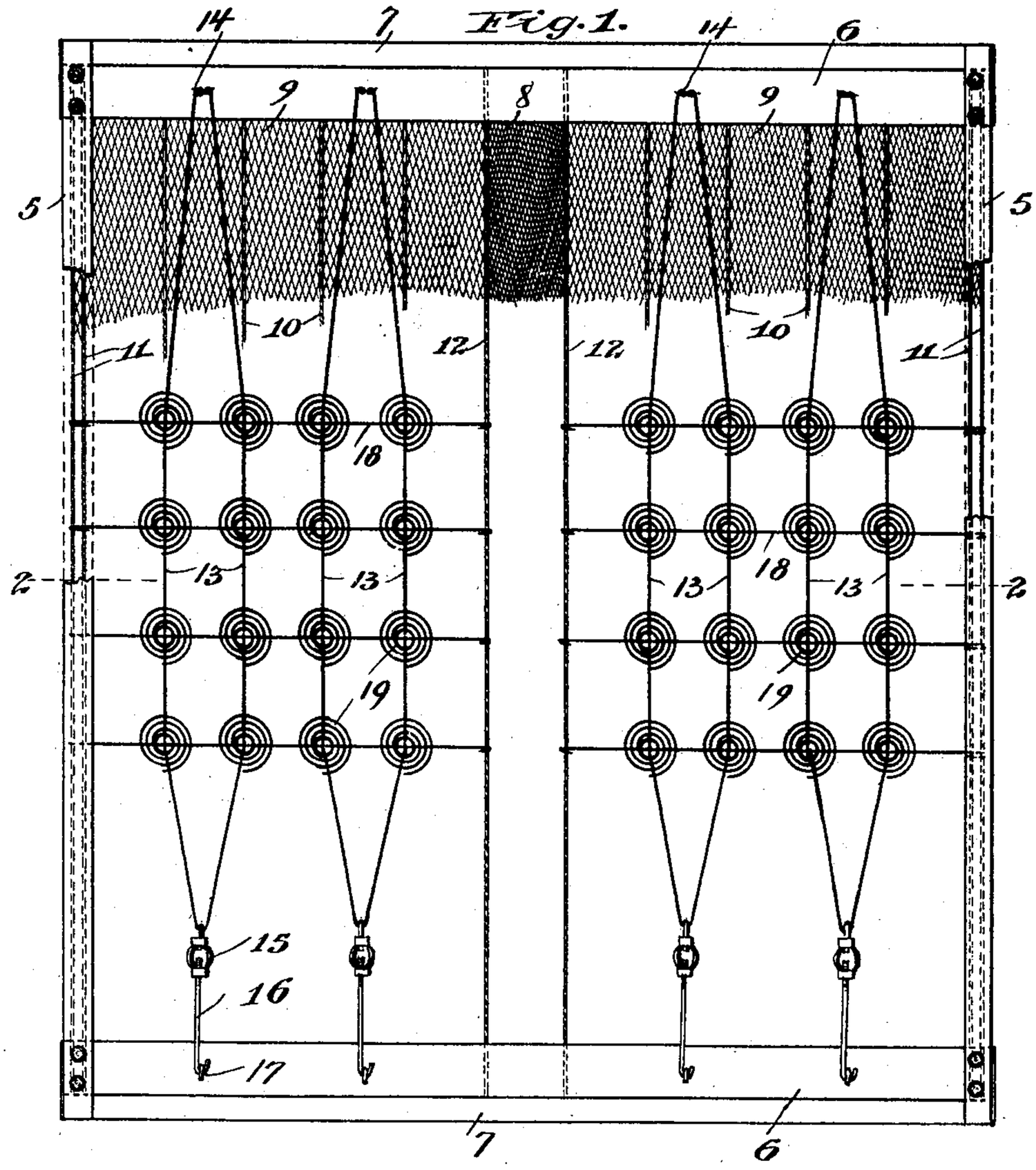
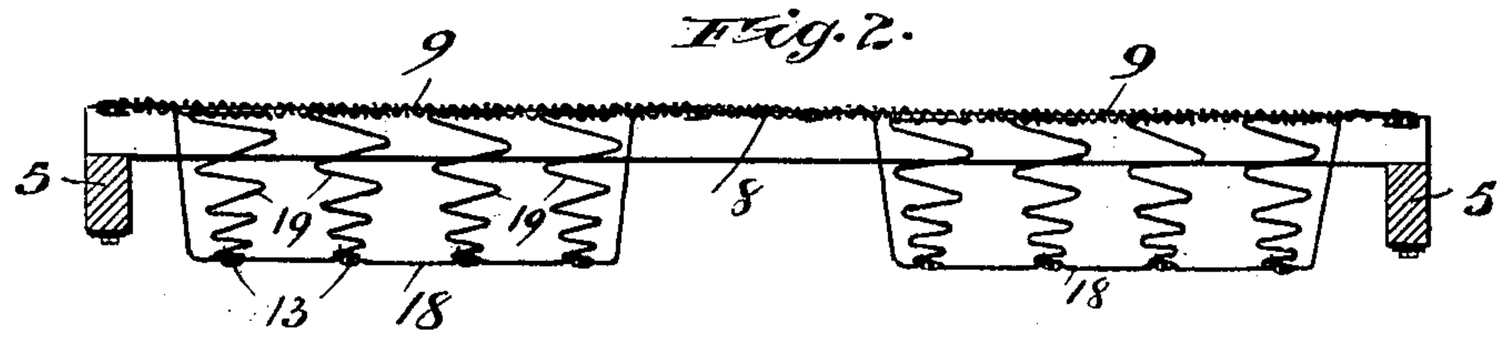


Fig. 2.



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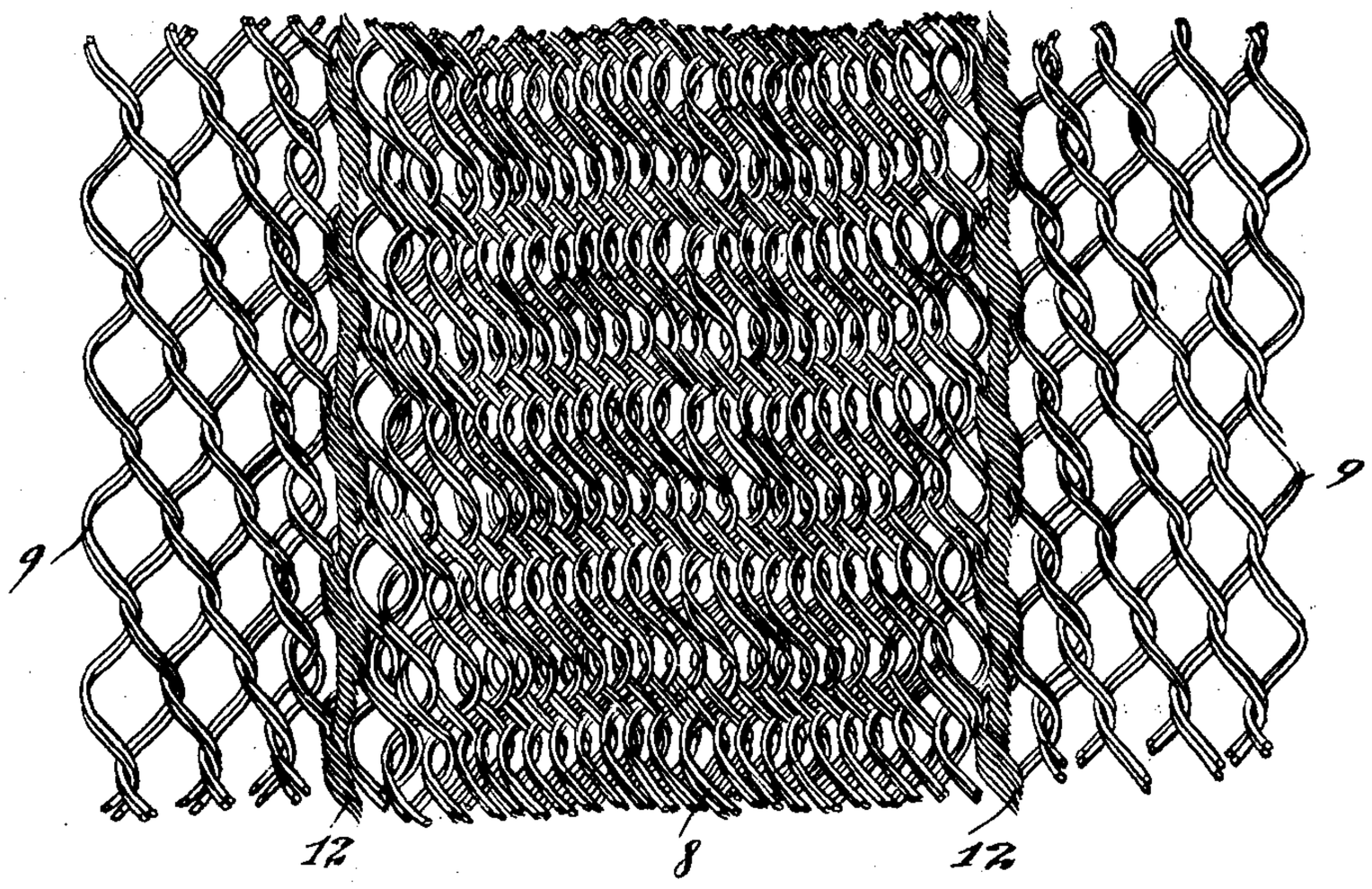
APPLICATION FILED MAR. 28, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.



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No. 762,536. Patented June 14, 1904.

UNITED STATES PATENT OFFICE.

THOMAS KLIPFEL, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNION WIRE MATTRESS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ELASTIC BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 762,536, dated June 14, 1904.

Application filed March 28, 1903. Serial No. 150,016. (No model.)

To all whom it may concern:

Be it known that I, THOMAS KLIPFEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Elastic Bed-Bottoms, of which the following is a specification.

My invention relates to elastic bed-bottoms of that type wherein a rectangular bed-bottom frame is provided with a covering of elastic woven-wire fabric on which the mattress rests; and my invention has for its primary object to provide a new and improved structure which shall render the two longitudinal halves of the elastic fabric constituting the mattress-support independent in respect to their capacity to support different weights without at all affecting each other. As is well known, the ordinary woven-wire bed-bottom covering consists of a single sheet of woven-wire fabric of uniform weave throughout, the result of which is that when applied to double beds and subjected on its two longitudinal halves to widely-different weights of the two occupants thereof the greater sagging or yielding of that half supporting the heavier occupant affects the other half supporting the lighter occupant by causing the latter half to also sag and drop unduly along its inner portion, thus detracting from the comfort of both occupants. It has heretofore been proposed to obviate this objection in a double-bed construction through the provision of a pair of independent fabric coverings having their inner adjacent longitudinal edges overlaid by a third independent strip constituting a support for the mattress along the longitudinal center of the bed-frame.

By my present invention I am enabled to eliminate the disadvantages above referred to and at the same time preserve the integral character of the woven-wire covering.

In many bed-bottom constructions the elastic wire covering is reinforced on its under side by a series of coil-springs, themselves resting upon underlying longitudinal or transverse supports of the frame. In the preferred form of my invention I also contemplate the employment of such springs; and to this end my invention further consists in the combination, with my novel form of a woven-wire covering, of a novel means of supporting a nest of coil-springs therebeneath.

To these ends my invention consists in a new and improved elastic bed-bottom structure having the peculiarities of construction and operation, substantially as hereinafter set forth, and defined in the claims.

Referring to the drawings, Figure 1 shows in bottom plan view an elastic bed-bottom embodying the principle of and constructed in accordance with the preferred mechanical form of my invention. Fig. 2 represents a transverse section thereof on the line 2 2 of Fig. 1; and Fig. 3 is an enlarged detail plan view of a fragment of the elastic fabric covering, more particularly illustrating the central gathered portion thereof, in which resides the principal novel feature of my invention.

Referring to the drawings, 5 designates the side rails, and 6 the end rails, of the usual rectangular bed-bottom frame.

7 designates auxiliary end bars or rails, between which and the end rails 6 are securely clamped and held the ends of the woven-wire elastic covering of the bed-bottom. This covering, in accordance with my invention, consists of a single integral sheet of woven-wire fabric; but instead of employing a sheet of fabric of uniform density or weave throughout I take a sheet having a width considerably in excess of the width of the frame and condense the longitudinal central portion thereof laterally, thus forming a central gathered strip 8 and on either side thereof companion longitudinal supports 9. It will be obvious from this construction that a weight applied to and supported by one of the fabric-sections 9 will affect that section only, since the bending or sagging of the inner edge of the section is yielded to only by the adjacent edge portion of the central gathered section 8 without at all drawing upon, depressing, or in any way affecting the companion section 9 on the opposite side of the central section 8.

Wire fabric employed for the purpose of bed-bottoms is frequently woven with longitudinal strengthening-strands 10, designed to prevent undue flexing or bowing of the sheet, especially at its central portion, and with a group of two or more longitudinal marginal strands 11, designed to stiffen the outer edges of the fabric, especially where the latter are not secured to the side members 5 of the frame. Where such a fabric is employed in carrying out my present invention, I may bound the intermediate gathered portion 8 by a pair of such strands in the simpler forms of my invention, or, preferably, I bound the longitudinal edges of such gathered portion by a plurality of such strands or in lieu thereof by single strands 10, as shown in the drawings, of increased caliber or strength, especially when contemplating the employment of a nest of underlying coil-springs as auxiliary supports. This latter being the most complete and preferred form of the invention, I have herein illustrated the same in Figs. 1 and 2 of the drawings, wherein 13 designates each of a series of underlying supporting wires or cables longitudinally arranged relatively to the bed-frame, each wire or cable being preferably and as shown herein made in the form of a narrow loop, with its two ends connected to one of the end rails 6, as shown at 14, while the opposite looped end is passed through the eye of a turnbuckle 15, mounted on the end of a screw-threaded rod 16, the outer end of which is hooked through an eye or staple 17, the turnbuckle and threaded rod thus constituting a simple means for tensioning the wire or cable 13.

18 designates each of a series of transverse wires constituting spring supports or hangers bent to the shallow U shape, shown in Fig. 2, at their points of intersection with the wires or cables 13, constituting seats for the lower ends of coil-springs 19, and having hooked ends which engage over the central bounding cables 12 of the gathered portion of the fabric and over the outer marginal strands 11, the hangers 18 thus being suspended and operated entirely by elements of the fabric itself. A nest of springs 19 thus assembled and supported beneath each of the sections 9 of the fabric covering constitutes a desirable reinforcement for the longitudinally intermediate portion of the fabric, preventing undue bowing or sagging thereof without detracting from the elastic qualities of the structure as a whole. There being no connection between the last-described underlying elastic supports of the two sections 9, except the intermediate gathered section 8 of the fabric, it follows that the actions of these underlying elastic supports are equally independent with the actions of the fabric-sections themselves.

Among the advantages resulting from the formation of the narrow intermediate section of the woven-wire covering in gathered form and integral with the main sections on either side thereof, as distinguished from making the same in the form of a separate overlying section unattached to the main sections, may be mentioned the fact that in the former construction the intermediate section lies in the same plane as the main supporting-sections rather than above or below the latter, thus leaving the upper surface of the fabric level and uniform throughout, being connected throughout its entire length to the adjacent margins of the main sections. The bending or bowing of the latter when in use does not produce any gap between the sections through which the superposed bedding may protrude more or less, as is the case where a separate strip secured only at its ends is employed. Furthermore, my improved integral construction effects an economy in the cost represented by the time and labor involved in assembling the parts, since an integral sheet of fabric may obviously be cut and applied quicker and with less work than three separate sheets.

Although I have shown and described my invention as embodied in an elastic bottom for beds, yet it is obvious that the principle of the invention might advantageously be employed in connection with elastic bottoms for other analogous articles—such as sofas, lounges, and the like—designed to support the weight of more than one occupant. I do not, therefore, limit my invention to its specific application to bed-bottom constructions, nor to the specific details of construction hereinabove described and shown in the drawings, except to the extent specified in certain of the appended claims.

I claim—

1. The combination with a bed-frame, of an elastic covering therefor, said covering having an integral intermediate gathered portion disposed in the plane of said covering, substantially as and for the purpose described.

2. The combination with a bed-frame, of a woven-wire covering therefor, said covering having an integral central longitudinally-extending gathered portion disposed in the plane of said covering, substantially as and for the purpose described.

3. The combination with a bed-bottom frame, of an elastic covering therefor, said covering comprising a pair of independently-depressible main longitudinal sections and an intermediate gathered section integral therewith and disposed in the plane of said covering, and independent elastic supports underlying said main longitudinal sections, substantially as and for the purpose described.

4. The combination with a bed-bottom frame, of a woven-wire covering therefor, said covering comprising a pair of independently-depressible main longitudinal sections and an intermediate gathered section integral therewith and disposed in the plane of said covering, longitudinal and transverse sup-

ports underlying each of said main longitudinal sections, and springs interposed between the intersections of such supports and the under surface of the coverings, substantially as and for the purpose described.

5. The combination with a bed-bottom frame, of a woven-wire covering therefor, said covering comprising a pair of independently-depressible main longitudinal sections and an intermediate gathered section integral therewith and disposed in the plane of said covering, longitudinally-extending underlying supports secured at their opposite ends to the end sills of the frame, transversely-extending underlying supports secured at their ends to the margins of said main longitudinal sections of the covering, and coil-springs interposed between the intersections of said underlying supports and the under surface of said main longitudinal sections of the covering, substantially as and for the purpose described.

6. The combination with a bed-frame, of an elastic covering therefor, said covering having an integral intermediate gathered portion disposed in the plane of said covering and interwoven longitudinal strengthening-strands on either side of and laterally bounding said gathered portion, respectively, substantially as described.

7. The combination with a bed-frame, of an elastic covering therefor, said covering having an integral intermediate gathered portion disposed in the plane of said covering and interwoven longitudinal strengthening-strands on either side of and laterally bounding said gathered portion, respectively, longitudinal and transverse supports underlying the sections of said covering on either side of said intermediate gathered portion, and springs interposed between the intersections of such supports and the under surface of the covering, substantially as described.

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