(No Model.)

2 Sheets—Sheet 1.

A. E. BEALL.

SPRING BED BOTTOM.

No. 546,293. Patented Sept. 17, 1895.

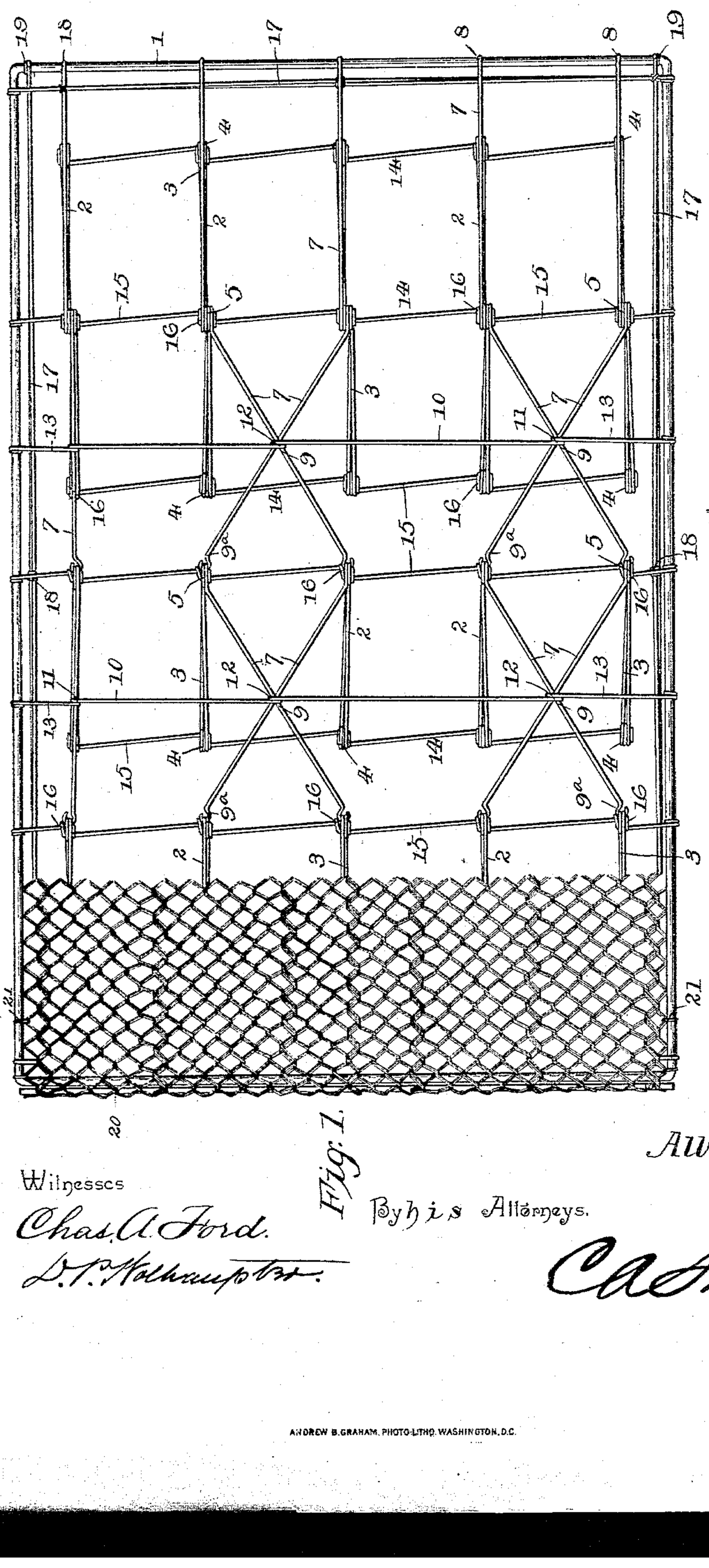

Fig. 1.

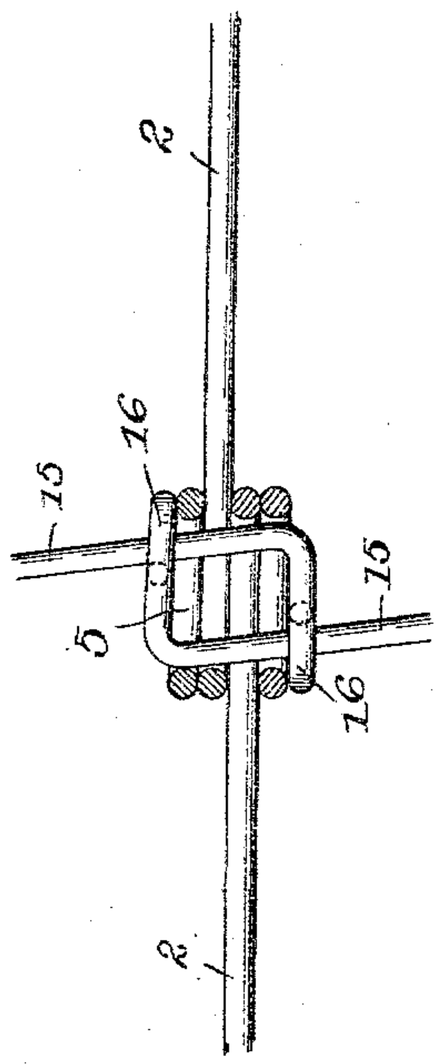

Fig. 5.

Witnesses
Chas. A. Ford.
D. C. Wolhaupter.

Inventor
Albert E. Beall,
By his Attorneys.
C. A. Snow & Co.

(No Model.)

2 Sheets—Sheet 2.

A. E. BEALL.

SPRING BED BOTTOM.

No. 546,293.

Patented Sept. 17, 1895.

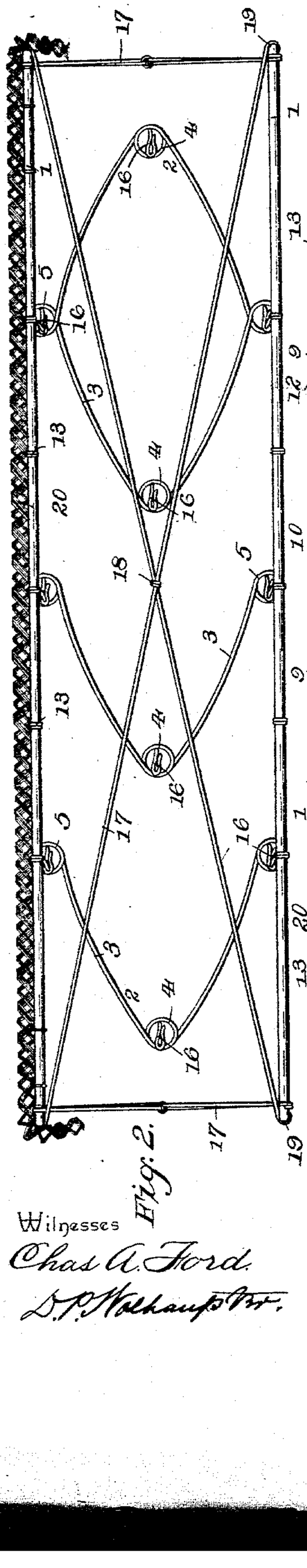

Fig. 2.

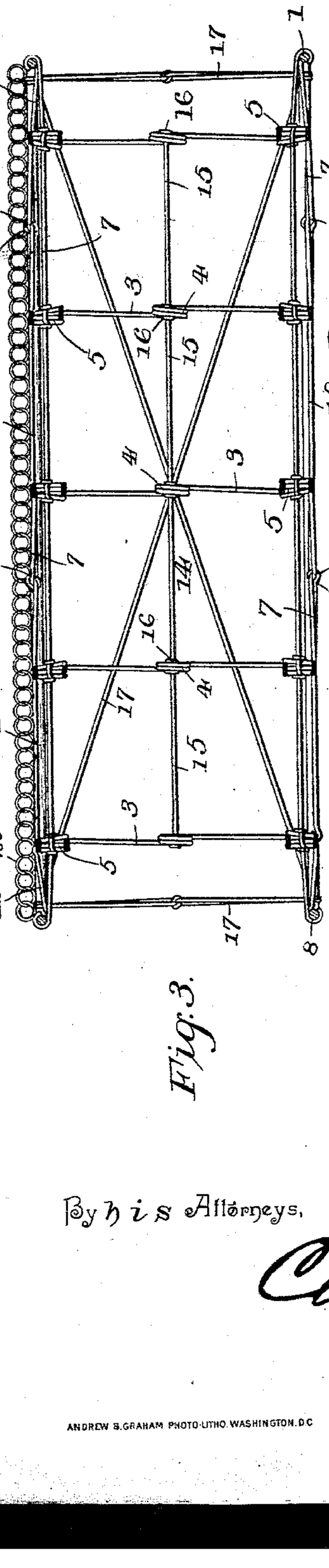

Fig. 3.

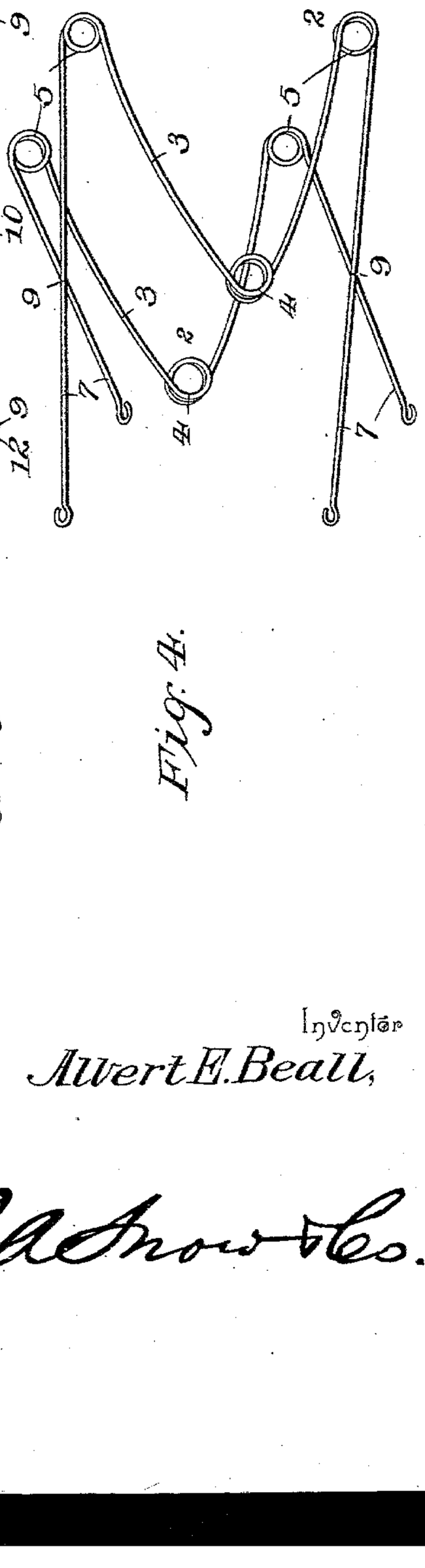

Fig. 4.

Witnesses
Chas A. Ford.
D. P. Wallaupe Jr.

Inventor
Albert E. Beall,

By his Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

ALBERT E. BEALL, OF HUBBARD, IOWA.

SPRING BED-BOTTOM.

SPECIFICATION forming part of Letters Patent No. 546,293, dated September 17, 1895.

Application filed February 28, 1895. Serial No. 540,032. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. BEALL, a citizen of the United States, residing at Hubbard, in the county of Hardin and State of Iowa, have invented a new and useful Spring Bed-Bottom, of which the following is a specification.

This invention relates to spring bed-bottoms; and it has for its object to provide a new and useful construction of spring bed-bottom having exceptional strength and durability, while at the same time providing for a comfortable yielding support for the mattress that is placed thereon.

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

In the drawings, Figure 1 is a top plan view of a spring bed-bottom constructed in accordance with this invention, showing the greater portion of the wire-fabric covering removed to expose the spring connections at the top of the bed-bottom. Fig. 2 is a side view thereof. Fig. 3 is a transverse sectional view of the bed-bottom. Fig. 4 is a detail in perspective of an adjacent pair of springs. Fig. 5 is an enlarged detail sectional view showing the connection of the sectional connecting-wires with the aligned coils of the transverse rows of springs.

Referring to the accompanying drawings, 1 1 designate upper and lower parallel rectangular wire border-frames, between which are arranged transversely and longitudinally aligned rows of springs 2. The springs 2 are each shaped from a single continuous length of spring wire that is bent to form a vertically-disposed V-shaped spring portion 3. The vertically-disposed spring portions 3 of the springs 2 are arranged in transverse parallel rows, and said V-shaped spring portions or springs 3 are provided at their intermediate apices with spring-coils 4 and at the extremities of the arms leading from said intermediate coils with terminal spring-coils 5, and from the upper and lower terminal spring-coils 5 the springs 2 have extended upper and lower horizontal wires 7. These upper and lower horizontal wires 7 of the end rows of springs have their terminals opposite the spring-coils 5, coiled or hooked onto the end wires of the border-frames 1, as at 8.

The upper and lower horizontal wires 7 of each pair of adjacent parallel springs in the intermediate rows diagonally intersect each other, as at 9, and are provided at their terminals opposite the coils 5 with the engaging hooks 9^a, that engage in the terminal coils 5 of a parallel spring in the adjacent transverse row; or, in other words, the diagonally-arranged upper and lower horizontal wires 7 of one of the V-shaped springs are connected with the terminal coils of a diagonally opposite V-shaped spring arranged in the next adjacent transverse row of springs, as will be easily understood from the drawings.

The diagonally intersecting or crossing upper and lower horizontal wires 7 of the V-shaped springs form intermediate bridges to fill the spaces between the adjacent transverse rows of springs, and said intersecting wires are securely connected together at their point of intersection, and are transversely braced by means of the continuous transverse brace-wires 10, secured at their ends, as at 11, adjacent to the side wires of the frames 1, and coiled, as at 12, around the diagonally crossing wires 7. Arranged as continuations of the wires 10 are the short brace-wires 13, connected at their outer ends to the side wires of the frames 1 and hooked at their inner ends onto the wires 7, where the terminals of the wires 10 are connected.

The parallel V-shaped springs and each transverse row of springs are securely braced apart and flexibly connected together by means of the sectional connecting-wires 14, that are connected with the intermediate and terminal aligned spring-coils 4 and 5 of the springs. The sectional connecting-wires 14, extend continuously from side to side of the bed-bottom to provide for properly connecting the transverse rows of springs together. The said sectional connecting-wires 14 consist of a series of flexibly-connected wire links 15, that are provided at their ends with right-angularly-disposed hook-loops 16, that are disposed at one side of the spring-coils through which the links are passed. The adjacent ends of the links 15 are flexibly and slidably connected together by the hook-loop 16 of

one link loosely embracing the other link, and at their connected ends the links 15 of the wire 14 are extended through the spring-coils of the springs, so as to dispose one of the hook-loops 16 of one link at one side of the spring-coil and the hook-loop of the adjacent link at the other side of the same coil, thereby completing a connection that prevents the disengagement of the wire links 15 from the spring-coils, while at the same time providing a flexible connection between the links of the sectional wires and also between the springs that are connected thereby.

At the sides and ends of the bed-bottom the same is additionally braced by the side and end pairs of diagonal brace-wires 17, connected together at their points of intersection, as at 18, and secured at their ends, as at 19, to the corners of the border-frames 1. The said side and end pairs of diagonal brace-wires 17 assist not only to brace the bed-bottom, but also to maintain the proper shape of the same.

While the construction of bed-bottom herein described provides duplicate upper and lower sides, so that the same will be reversible in character the side that is used as the upper side has preferably stretched thereover a wire-fabric covering 20, of any suitable wire-fabric material, and secured at its edges at different points, as at 21, to the upper wire border-frame of the bed-bottom.

From the above it is thought that the construction and utility of the herein-described bed-bottom will be apparent without further description, and it will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a spring bed bottom, the combination of upper and lower rectangular wire border frames, transversely and longitudinally aligned rows of vertically disposed V-shaped springs arranged between the border frames and provided at their intermediate apices and at the extremities of the arms leading from said apices with spring coils, said V-shaped springs being further provided with upper and lower horizontal wires extended from the upper and lower terminal spring coils thereof, the upper and lower horizontal wires of each pair of adjacent parallel springs diagonally crossing each other and provided at their terminals opposite the coils with engaging hooks engaging in the terminal coils of a diagonally opposite spring in the next adjacent transverse row, transverse brace wires connecting the diagonally crossed upper and lower horizontal wires of the springs, and suitable connections between the springs and the border frames, substantially as set forth.

2. In a spring bed bottom, the combination of transversely and longitudinally aligned rows of vertically disposed V-shaped springs provided at their intermediate apices and at the extremities of the arms leading from the apices with spring coils, and sectional connecting wires connecting the aligned coils of the transverse rows of springs, said sectional connecting wires consisting of a series of separate wire links having slide connections between their adjacent ends, the slide connections between the adjacent ends of the links also engaging with the spring coils through which the wires extend, substantially as set forth.

3. In a spring bed bottom, the combination of the transversely and longitudinally aligned rows of vertically disposed V-shaped springs provided at their intermediate apices and at the extremities of the arms leading from the apices with spring coils, and sectional connecting wires connecting the aligned coils of the transverse rows of springs, said sectional connecting wires consisting of a series of separate wire links provided at their ends with right angularly disposed hook loops loosely embracing the end of the adjacent link, one of the hook loops at the connected ends of the links being disposed at one side of the adjacent spring coil, and the other adjacent hook-loop being disposed at the opposite side of the same spring coil, 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.

ALBERT E. BEALL.

Witnesses:
L. O. LOWDEN,
R. A. JOHNSON.