

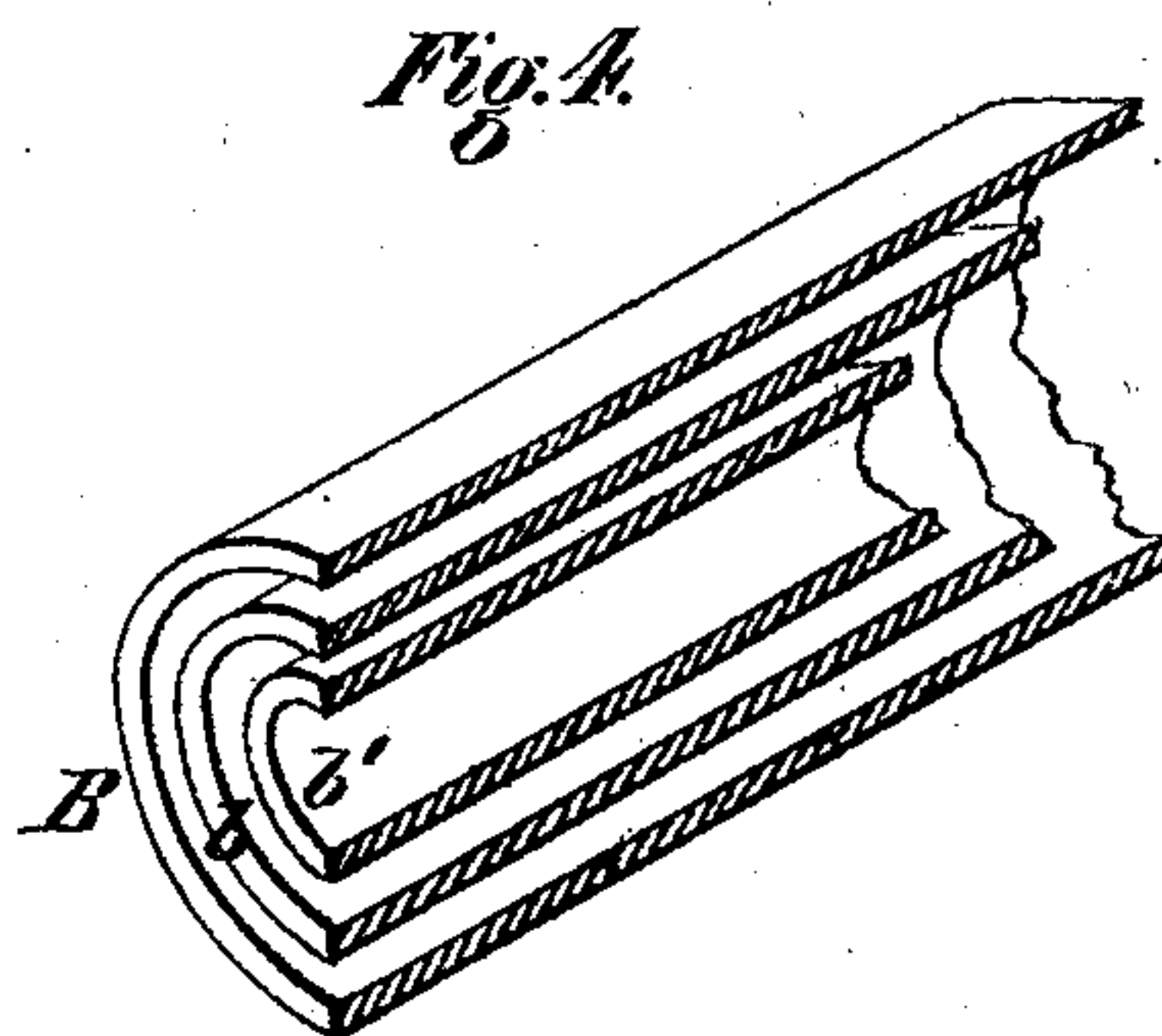
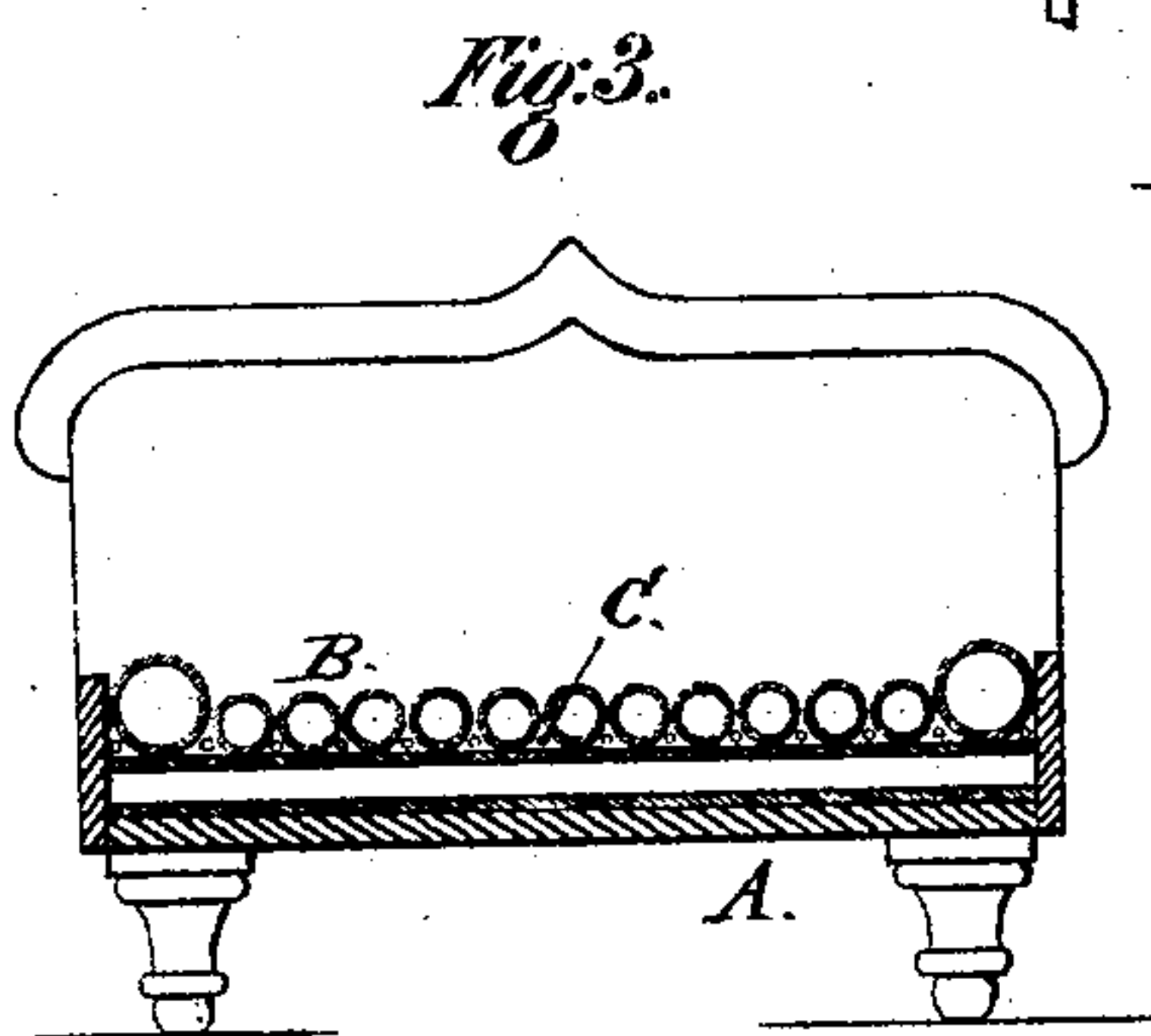
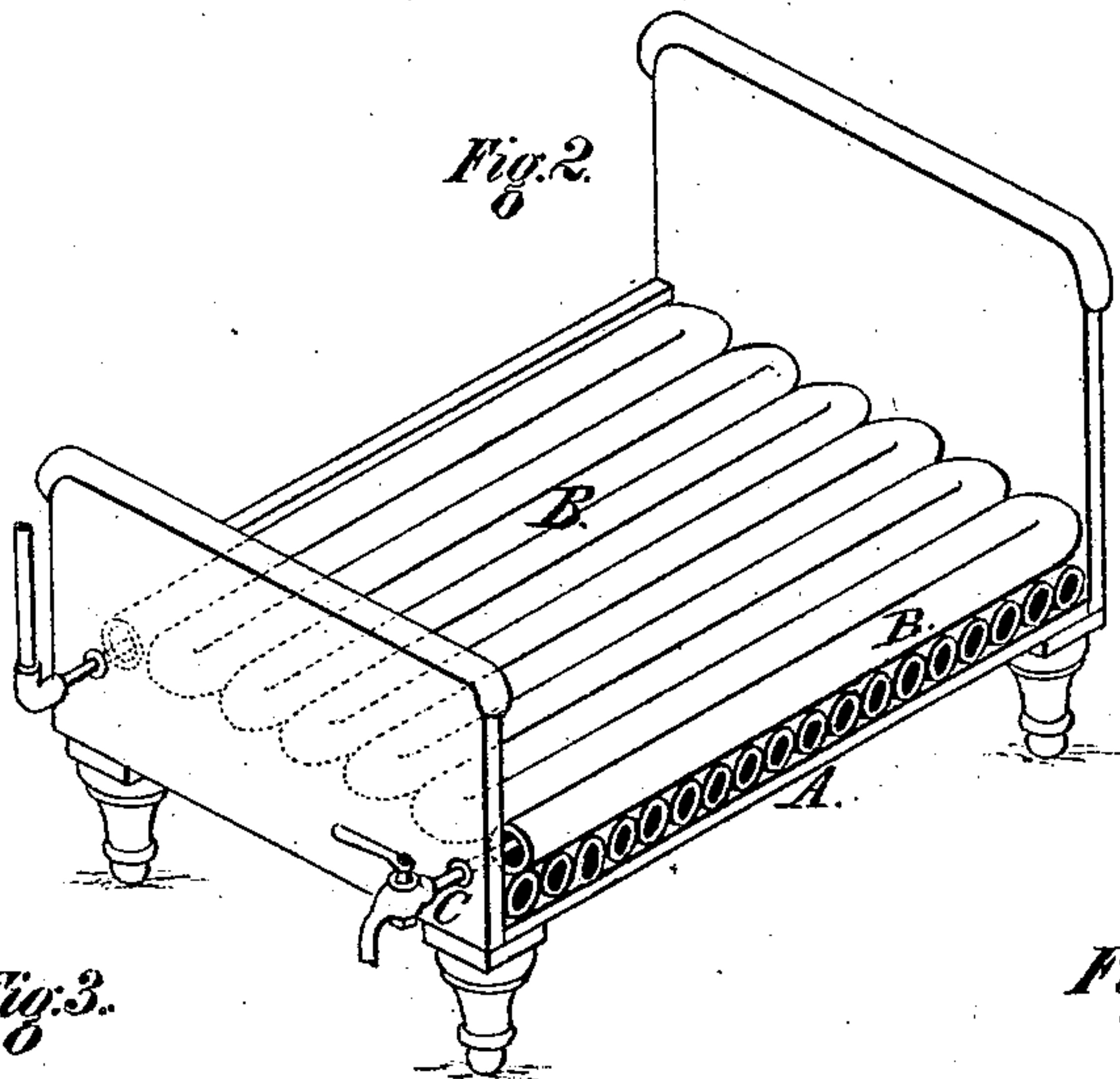
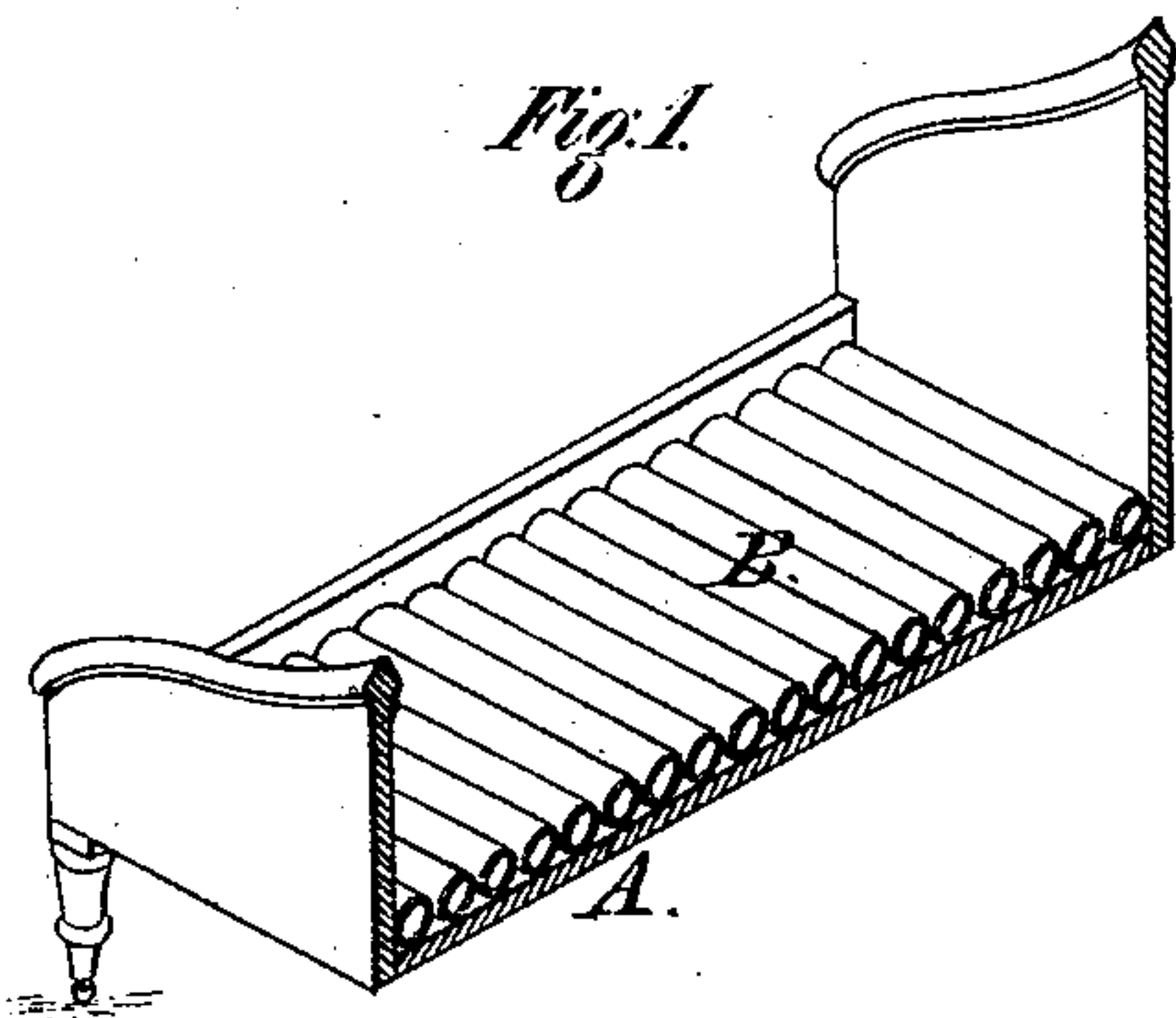
D. E. Somes,

2. Sheets. Sheet 1.

Air Bed.

No. 95,848.

Patented Oct. 12. 1869.



Witnesses.

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James S. Grinnell

Inventor.

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2. Sheets. Sheet. 2.

Air Bed.

No. 25,848.

Patented Oct. 12. 1869.

Fig. 5.

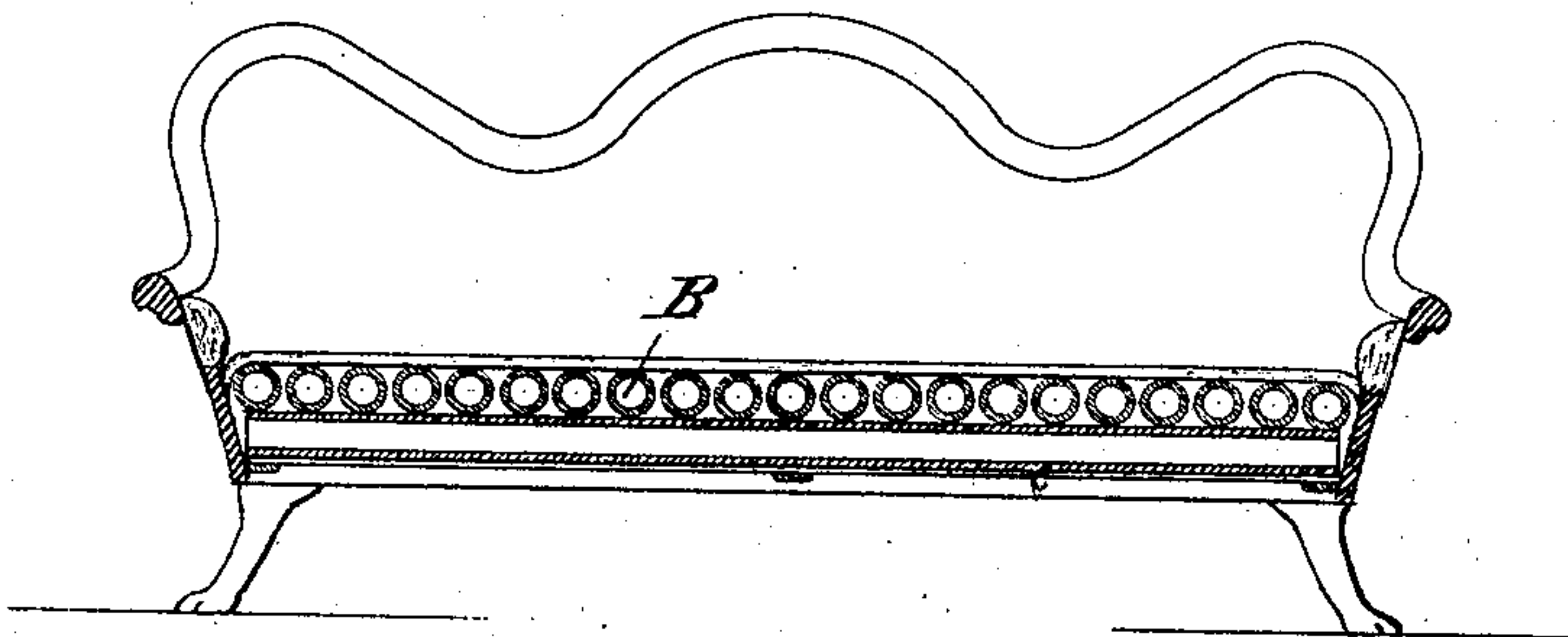


Fig. 7.

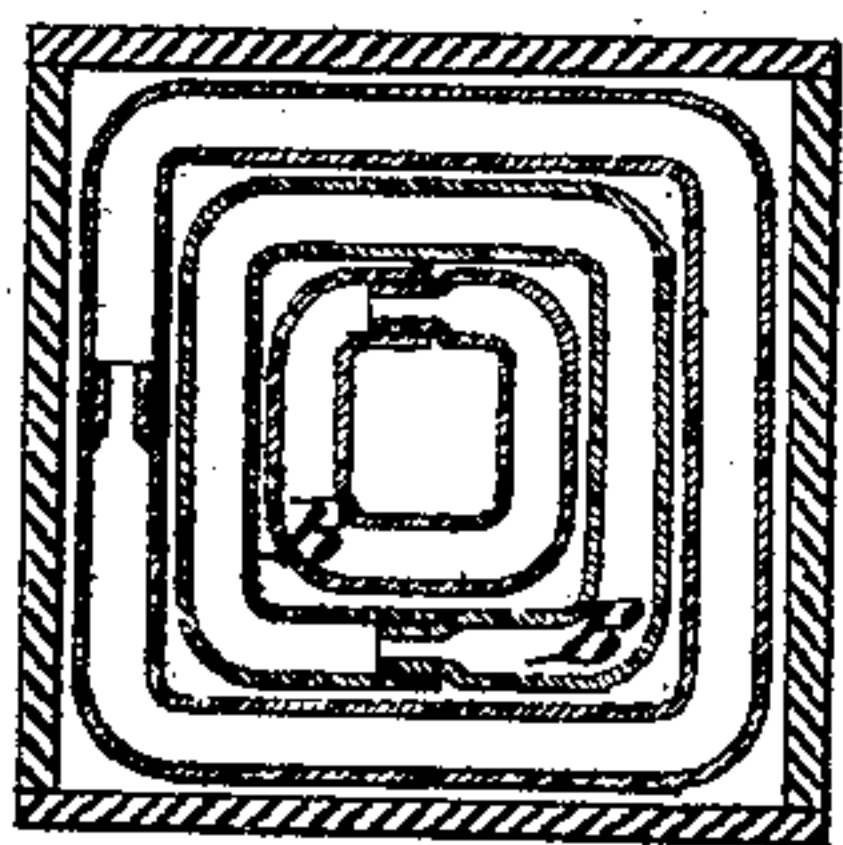


Fig. 6.

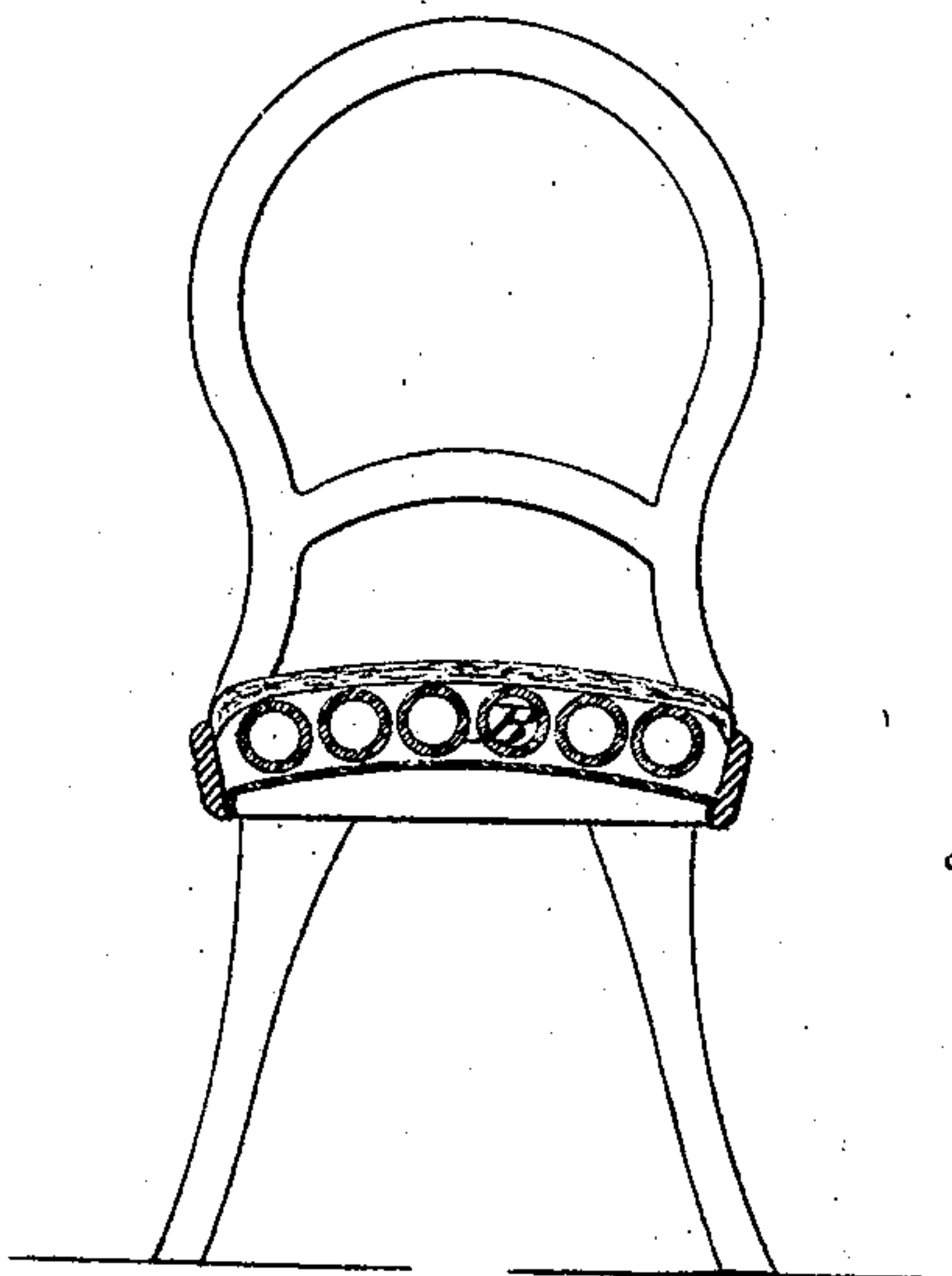


Fig. 8.

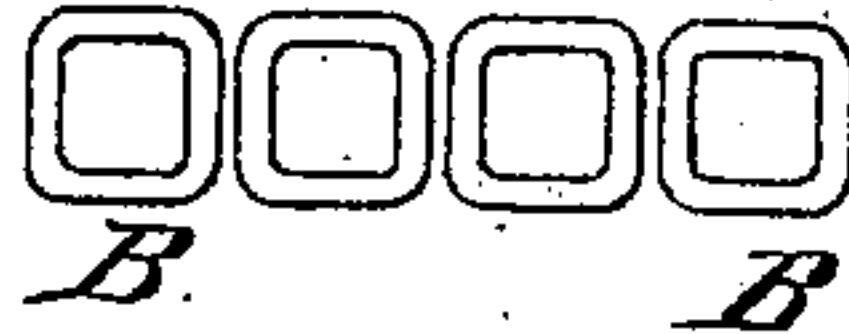


Fig. 11.

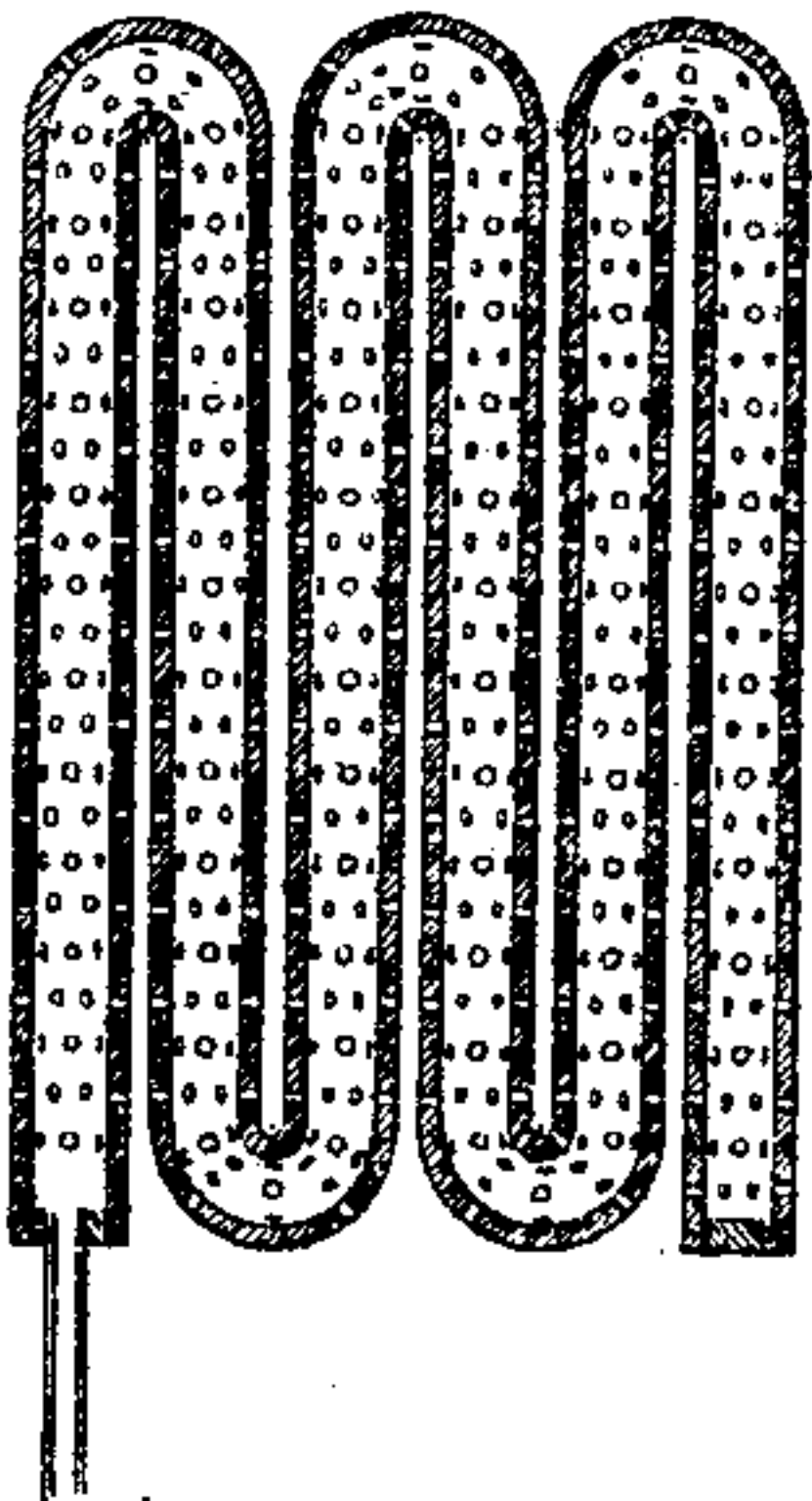


Fig. 9.

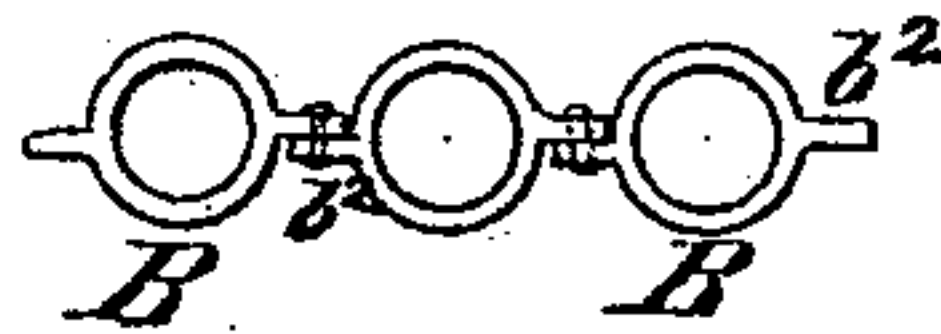
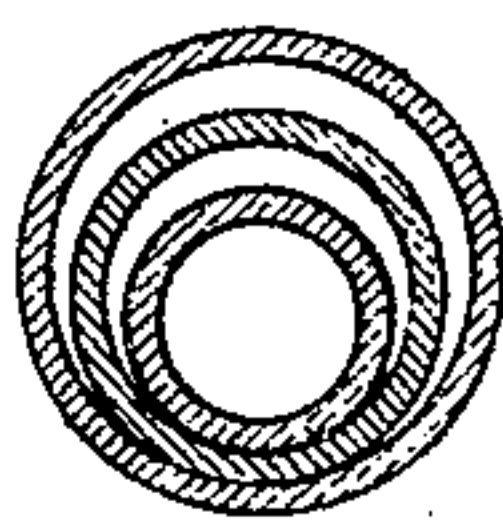


Fig. 12.



Witnesses.

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DANIEL E. SOMES, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 95,848, dated October 12, 1869.

IMPROVED BED AND CUSHION-SPRING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, DANIEL E. SOMES, of Washington, in the county of Washington, and District of Columbia, have invented a new and useful Spring-Bed and Cushion; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a perspective section of a bedstead, provided with my improved spring-bottom;

Figure 2, a view, in perspective, of a bedstead, showing another form of the same;

Figure 3, a transverse section of a bedstead, in which the outer tubes are of larger diameter than the others;

Figure 4, a perspective section of a modified form of spring;

Figure 5, a vertical section of a sofa; and

Figure 6, a similar section of a chair, to which my improvement is applied;

Figure 7, a horizontal section of a chair-bottom, showing a different arrangement of the tubes;

Figure 8, an end view of a series of tubes, of quadrangular cross-section;

Figure 9, an end view, showing a device for uniting the tubes; and

Figure 11, a device for admitting and distributing air.

Figure 12 shows the position of the tubes when inserted one within another.

The object of my invention is to provide a simple and durable spring-bottom for beds, sofas, chairs, &c., which can be cheaply and easily constructed, and, when in use, be free from liability to breakage or derangement; to which ends,

My improvement consists in one or more layers of tubes, of rubber or other elastic material, laid upon and within suitable framing, and covered with a thin mattress or other covering, in the ordinary manner.

My invention likewise comprehends the circulation of warm or cold water, or air, through or between the tubes, for the purpose of maintaining any desired degree of heat or cold in a bed, and thereby rendering it particularly adaptable to the requirements of a sick-room or hospital.

In the accompanying drawings, which show a convenient arrangement of parts for carrying out the objects of my invention,

A represents the frame of a bedstead, and B B a series of elastic tubes, laid upon it, arranged either longitudinally or transversely, or both, and in one or more layers.

The tubes B may be of any desired diameter and thickness, and of circular, elliptical, or polygonal cross-section, as found most suitable.

In fig. 1, the tubes are shown as arranged transversely, and in fig. 3 longitudinally, while in fig. 2, two layers are shown, one above the other, the upper being composed of the serpentine bends of a single tube.

In fig. 3, the two outer tubes are of larger diameter than the others, for the purpose of forming a species of elastic rail or guard, suitable for use in a child's crib, or similar situations.

The tubes may be placed in the bed either separately, or in connection with each other, and may be either loose, or confined by cords, straps, or other fastenings.

Fig. 9 shows the tubes provided with lateral flanges b^2 , which may be united by riveting, bolting, or stitching.

In fig. 8, they are shown of quadrangular cross-section, that form, or a circular or elliptical one, being optional.

For the purpose of specially adapting a bed to the requirements of a hospital or sick-room, by varying and regulating its temperature at pleasure, warm or cold water, or air may be passed through or between the tubes, either with or without the use of an independent pipe.

In fig. 2, a separate water or air-pipe, C, is shown, passing through the upper serpentine tube, and provided with an elbow and stop-cock, to which the receiving and discharge-pipes can be attached, both being at the same end of the bed.

In fig. 3, this pipe passes between the tubes instead of through them, and, if deemed preferable, it may be dispensed with, and water or air passed directly through the tubes themselves.

By this means, it will be seen that a bed can be readily warmed or cooled at pleasure, and the comfort of a patient greatly enhanced.

My improvement is readily applicable to chairs, sofas, &c., as shown in figs. 5 and 6, and to portable or stationary cushions, pillows, &c.

In the chair-bottom represented in fig. 7, a different arrangement of the tubes is shown, each being bent into quadrangular form, and united by having its diameter reduced at one end, which is then inserted into the other end.

A similar arrangement may be made use of in a bedstead, if desired.

In fig. 4, a compound spring is shown, composed of a series of tubes, B b b' , one within the other, by which device a greater amount of elasticity can be made available than by the use of single tubes.

In some instances, instead of conveying or circulating the air entirely through the tubes, a tube may be employed, which is closed at one end, and provided with numerous perforations or orifices, through

the whole or any desired portion of its length, into the open end of which air is forced by an air-pump, bellows, or its equivalent, and escapes through the various perforations, so as to be dispersed throughout the bed, for the purpose of cooling or warming and ventilating the same.

Having thus fully described my invention,

What I claim therein as new, and desire to secure by Letters Patent, is—

1. A series of elastic tubes, one within another, as springs for bed, sofa, and chair-bottoms and cushions, substantially as set forth.

2. A spring-bottom for beds, sofas, chairs, &c., composed of a series of elastic tubes, arranged in one or more horizontal layers, and either longitudinally or transversely, or both, substantially as set forth.

3. Circulating warm or cold water, or air, through or between a series of elastic tubes of a bed-bottom, by the devices substantially as and for the purpose described.

4. Perforated tubes, or their equivalents, so arranged as to admit and distribute air, substantially in the manner described, for the purpose of warming or cooling and ventilating beds.

5. Ventilating beds by forcing air into them, and allowing it to escape through small perforations, in the manner described.

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Witnesses:

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