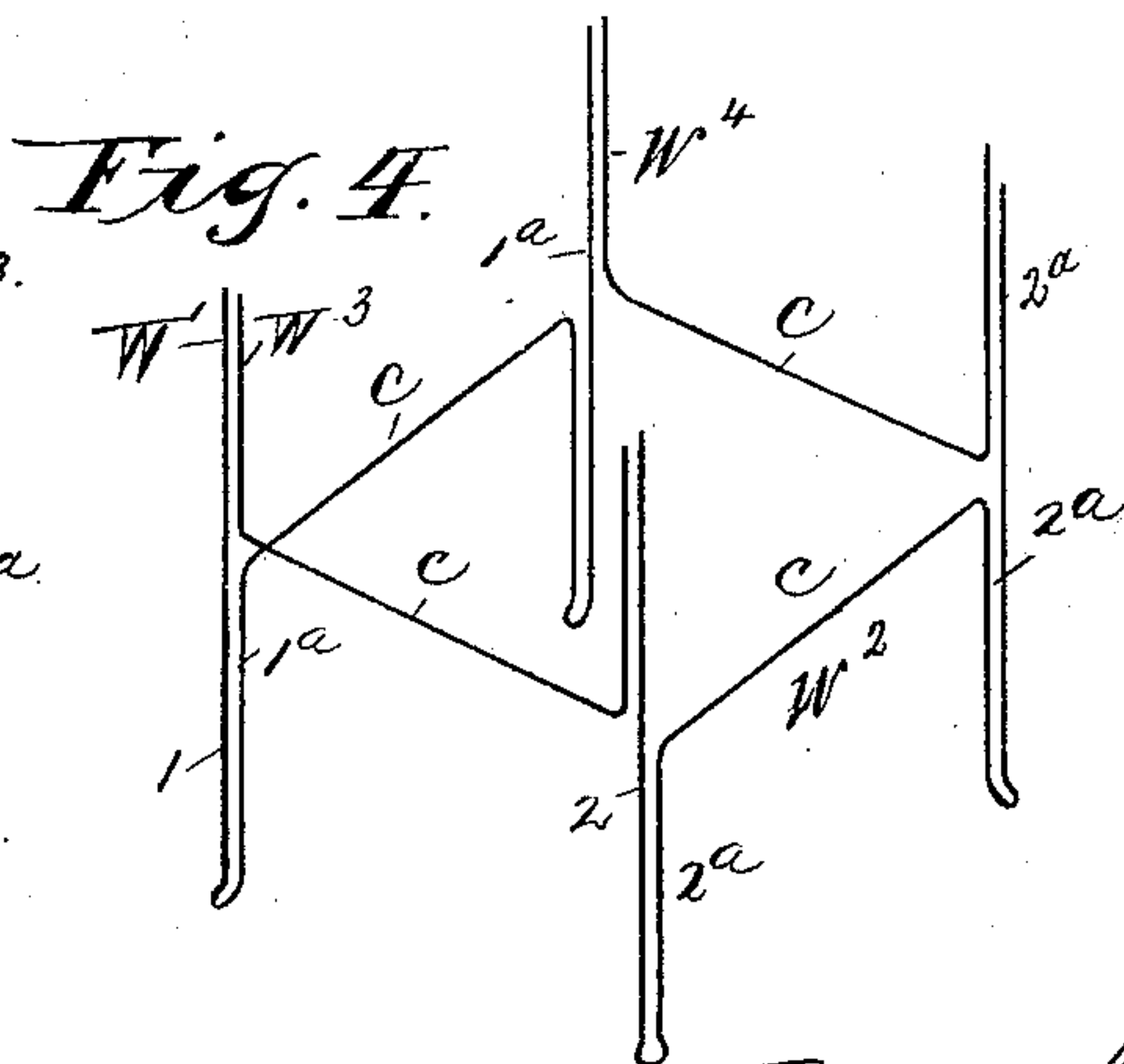
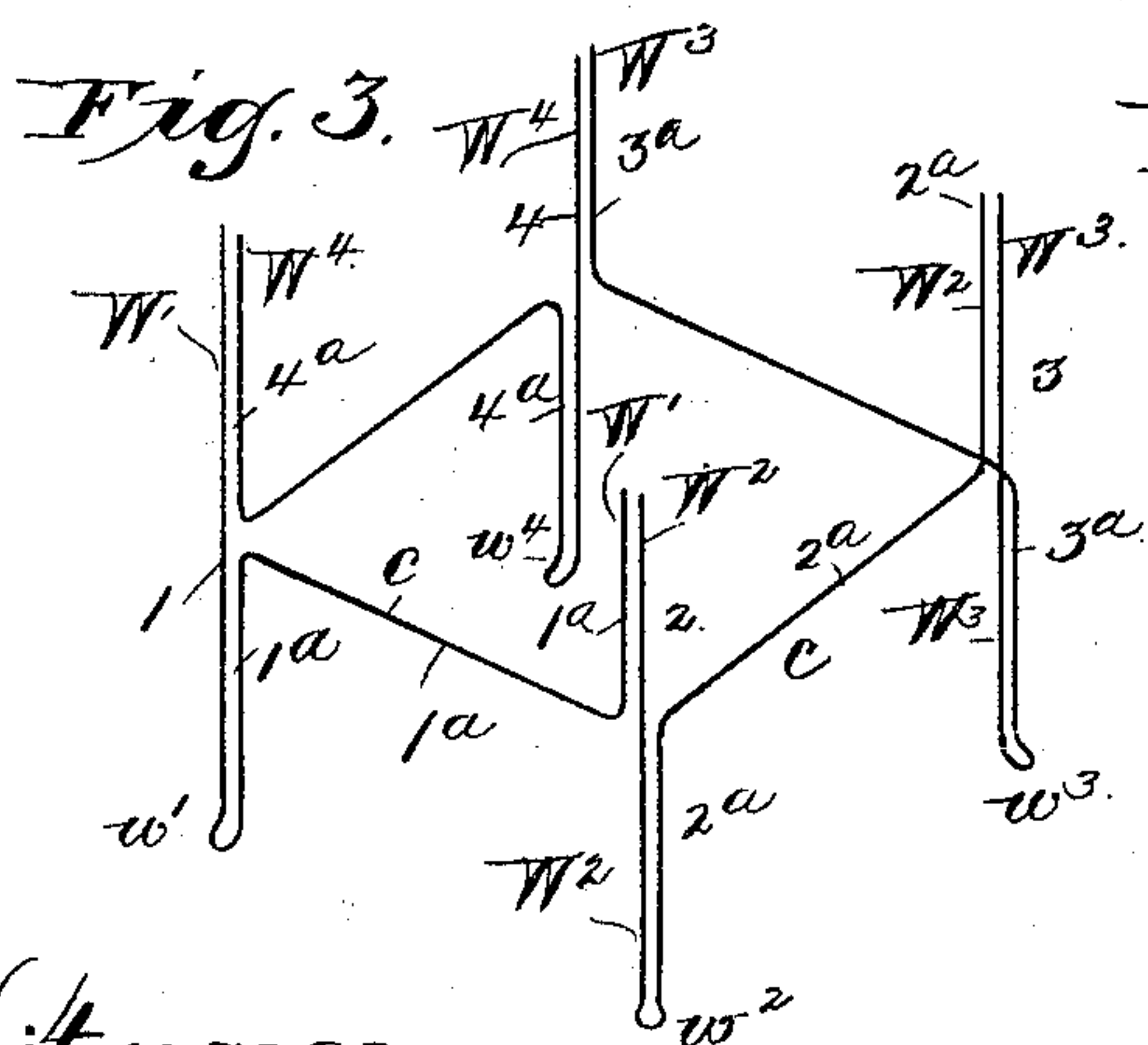
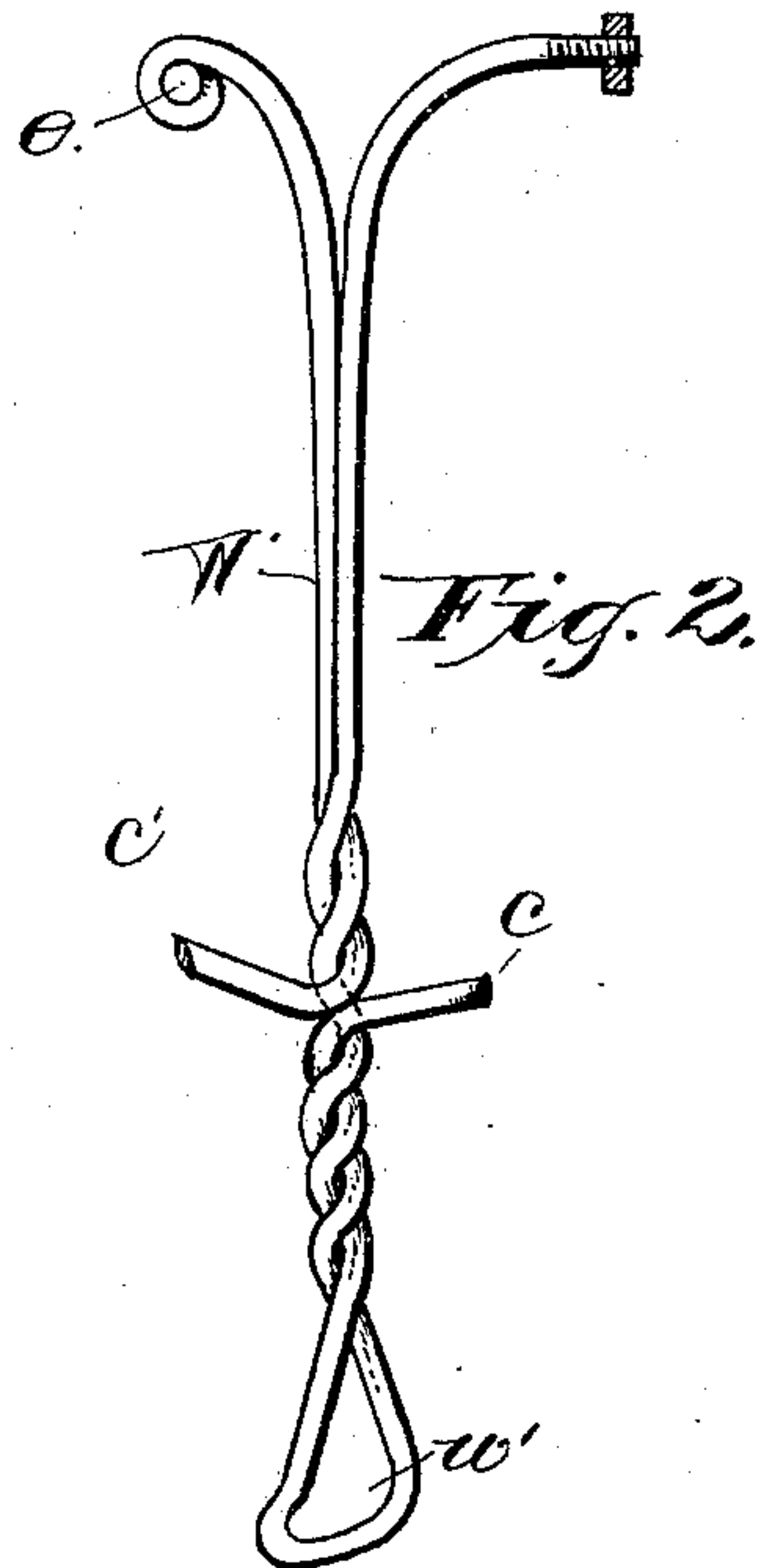
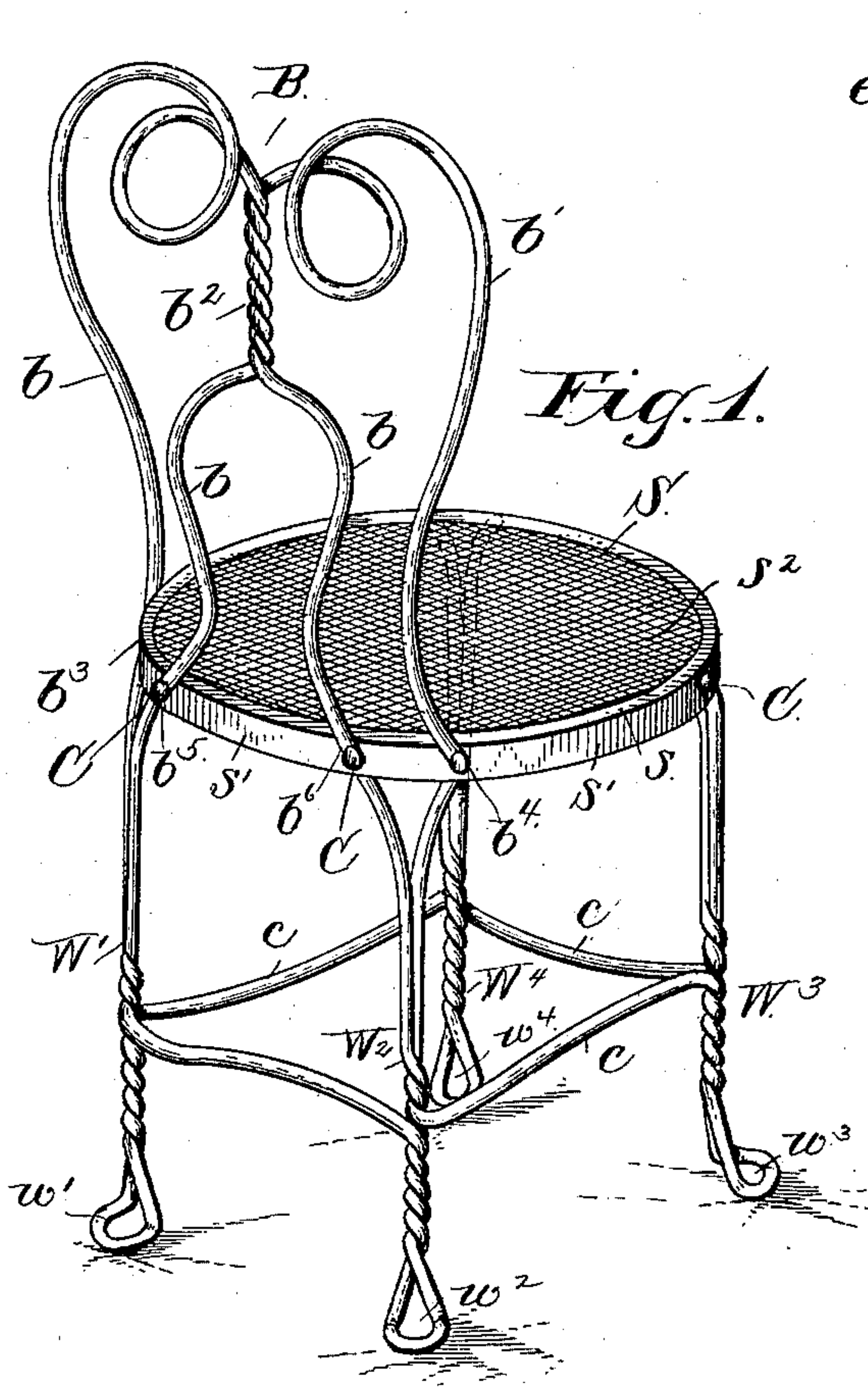


(No Model.)

A. M. GJESTVANG.  
IRON CHAIR.

No. 401,552.

Patented Apr. 16, 1889.



Witnesses:  
J. Thomson Cross  
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per Henry O. H.  
Attorney.



# UNITED STATES PATENT OFFICE.

ALEXANDER MARTHINIUS GJESTVANG, OF CHRISTIANIA, NORWAY.

## IRON CHAIR.

SPECIFICATION forming part of Letters Patent No. 401,552, dated April 16, 1889.

Application filed September 28, 1888. Serial No. 286,641. (No model.) Patented in Norway May 5, 1888, No. 898; in France May 17, 1888, No. 190,639, and in England August 24, 1888, No. 12,230.

*To all whom it may concern:*

Be it known that I, ALEXANDER MARTHINIUS GJESTVANG, a citizen of Norway, residing at Christiania, Norway, have invented certain  
5 new and useful Improvements in the Construction of Iron Chairs, (for which I have obtained Letters Patent in the following countries, to wit: Norway, May 5, 1888, No. 898; England, August 24, 1888, No. 12,230, and in  
10 France, May 17, 1888, No. 190,639;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Referring to the drawings, Figure 1 is an  
20 isometric view of a chair embodying my invention. Fig. 2 is a detail view on an enlarged scale, and Figs. 3 and 4 are diagrams illustrating the mode of constructing the legs.

The invention relates to what are known as  
25 "metallic chairs," and has for its object to improve and simplify the construction thereof.

The invention consists in a novel construction of the legs for metallic chairs, substantially as hereinafter described, and as set forth  
30 in the claims.

In Fig. 1, S indicates the seat consisting of a frame of angle-iron, s, and the seat portion s<sup>2</sup> of a woven-wire fabric or any other suitable material, and B is the back, which is  
35 constructed of two wires, b and b', twisted together at b<sup>2</sup>, and shaped or bent as shown. The two ends b<sup>3</sup> b<sup>4</sup> of said wires are secured to the vertical flange s' of the seat-frame on opposite sides thereof in rear of the transverse median line of the seat, and the other two ends, b<sup>5</sup> b<sup>6</sup>, of wires b b' are secured to said flange at the rear of the seat-frame and on  
40 opposite sides of the longitudinal median line of said seat. The legs are constructed of four doubled wires, W' W<sup>2</sup> W<sup>3</sup> W<sup>4</sup>, arranged and connected together as follows: The two branches 1 and 1<sup>a</sup> of the wire W' are twisted together so as to form a loop, w', which loop is then bent at right angles to form a foot for  
45 the leg. From the twisted portion above the

loop w' the branch 1<sup>a</sup> of wire W' is carried to the next leg and so twisted with the branch 2 of the doubled wire W<sup>2</sup> as to form the upper portion of such second leg, as well as the cross-brace c, that braces both the legs. The  
55 wire W<sup>2</sup> is similarly twisted to form the foot-loop w<sup>2</sup>, the branch 2<sup>a</sup> of said wire being likewise carried in a direction at right angles and twisted with the branch 3 of wire W<sup>3</sup>, and so on, the branch 4<sup>a</sup> of wire W<sup>4</sup> being connected  
60 or twisted with the branch 1 of wire W', as plainly shown in Fig. 3. In this manner the upper portions of each leg are formed by one branch of two leg-wires, while the lower portion of each leg is formed by the two branches  
65 of the respective leg-wires W' W<sup>2</sup> W<sup>3</sup> W<sup>4</sup>.

A substantially similar arrangement is shown in diagram, Fig. 4, the foot portions and one branch of the upper portion and the cross-brace c of each pair of legs being formed  
70 by a single wire, the other branch of the upper portion of the legs and the cross-braces that connect the two pair of legs being formed by a second wire.

The ends of the wires may be connected in  
75 any suitable manner to the vertical flange of the seat-frame. For instance, an eye, e, may be formed at said ends, as shown in Fig. 2, and these secured to the flange on the inside thereof by a screw-bolt, C, and a nut, as shown  
80 in Fig. 1; or the wire ends may be bent at right angles and screw-threaded, as shown in Fig. 2, and inserted through holes in the seat-flange, and secured thereto by a nut on the inside of said flange.  
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In practice the wire ends are spread apart to form angle-braces, the ends of the two front legs being connected, respectively, on opposite sides of the longitudinal median line of the seat at the front, and in front of the transverse median line on opposite sides of said seat.  
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The ends of the two rear legs are connected to the seat-flange by the same bolts and nuts that serve to secure the ends of the back-  
95 wires, b and b'. Thus one branch of each of the two rear legs is secured to the seat with the wire ends b<sup>5</sup> b<sup>6</sup>, and the other branch of said rear legs with the ends b<sup>3</sup> b<sup>4</sup> of said back-wires, the two branches of each leg or the  
100



ends of each pair of wires forming angle-braces for the seat, and with the cross-braces give great strength to the chair. The extent of the twisted portion below as well as above the cross-braces may be varied and the upper twist may be carried to within a few inches of the seat.

The advantages of the construction referred to are simplicity and great strength and facility of transportation, as it is obvious that by untwisting that portion of the legs above the cross-brace the connection between them is broken, and they can then be closely packed together for transportation, and by disconnecting the back a compact package may be formed, or a number of chairs may be compactly packed or bundled together.

Since the individual wires are all of equal length, the cutting thereof is materially simplified and the cost of construction of the legs materially cheapened.

Having described my invention, what I claim is—

1. In a chair, the combination, with the seat,

of legs composed of doubled wires twisted together to form a foot and braced by connecting one branch of each leg-wire with a branch of another leg-wire, so that both branches of a wire form the lower portion of a leg, while one of said branches will form a cross-brace for a pair of legs, the terminals of said wires being connected to the seat, substantially as and for the purposes specified.

2. In a chair, the combination, with the seat, of legs composed of a doubled wire twisted together to form a foot, one branch of such wire being connected by twisting it with one branch of another leg-wire above the twisted foot portion, the terminals of said wires being connected to the seat, substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALEXANDER MARTINIUS GJESTVANG.

Witnesses:

OSCAR WINGE,  
ALFRED J. BRYN.