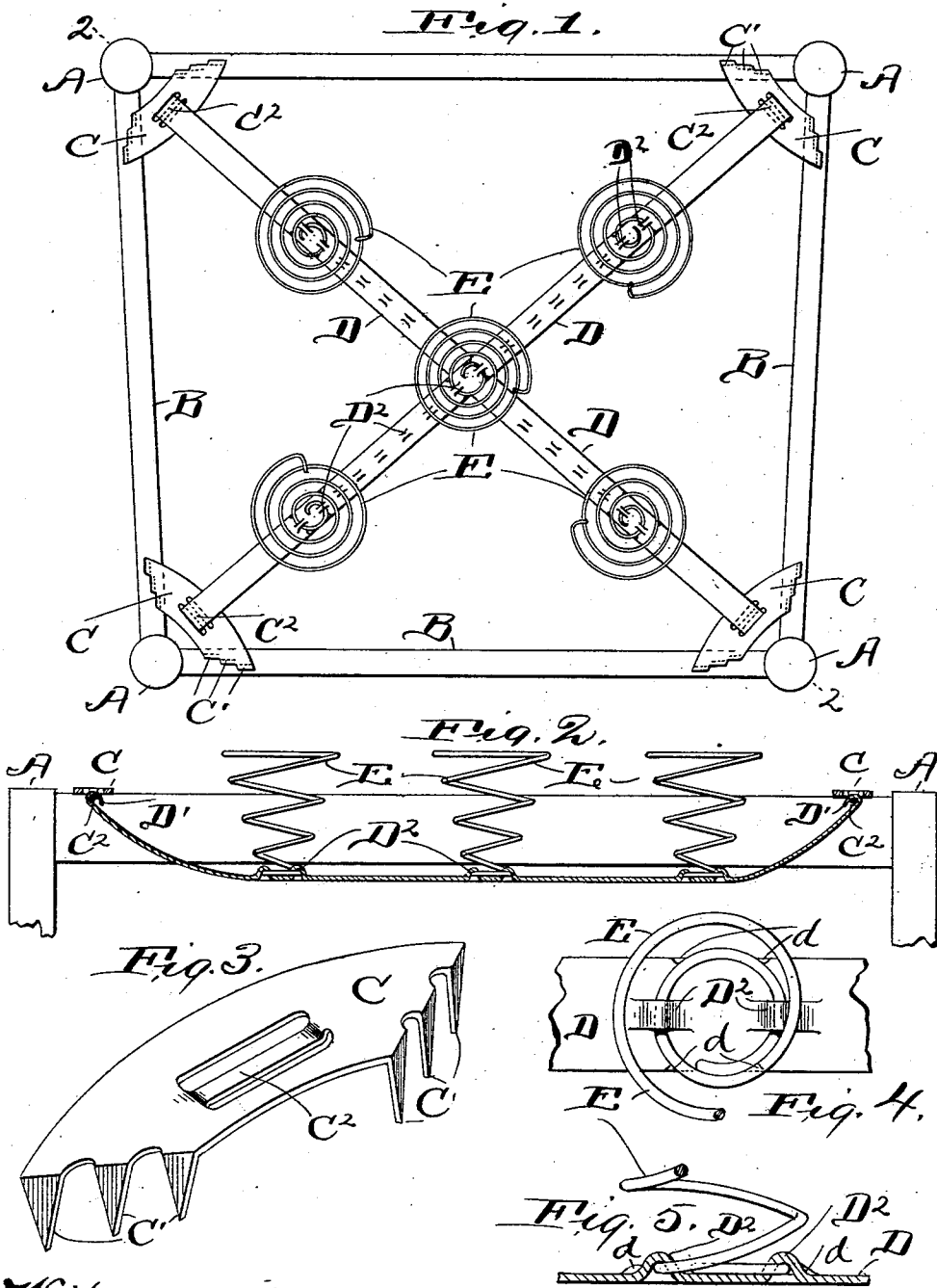


(No Model.)

F. F. FORTNEY.  
CHAIR.

No. 564,744.

Patented July 28, 1896.



Witnesses.  
E. B. Gilchrist  
Ella D. Tilden

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# UNITED STATES PATENT OFFICE.

FRANK F. FORTNEY, OF RAVENNA, OHIO.

## CHAIR.

SPECIFICATION forming part of Letters Patent No. 564,744, dated July 28, 1896.

Application filed November 21, 1895. Serial No. 569,612. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK F. FORTNEY, of Ravenna, Portage county, Ohio, have invented certain new and useful Improvements in Chairs or Seats; 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 pertains to make and use the same.

My invention relates to improvements in chairs or seats, and one object is to improve the means for tying together and bracing apart the bars of the seat-supporting frame.

Another object is to provide spring-supporting straps that are simple and durable in construction and will not stretch.

With these objects in view and to the end of attaining certain other advantages herein-after referred to my invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan of the seat-frame and shows the upper ends of the four legs of a chair, the bars connecting said legs together and forming the seat-frame, my improved means for tying together and bracing apart said bars, the spiral springs for cushioning the seat, and my improved strap for supporting the springs. Fig. 2 is an elevation, mostly in vertical section, on line 2 2, Fig. 1. Fig. 3 is a perspective of one of the corner-braces that ties together and braces apart two adjacent leg-connecting bars. Fig. 4 is a top plan of a spiral spring and the engaging portion of the spring-supporting strap. Fig. 5 is a side elevation relative to Fig. 4 and shows the spring-supporting strap in central longitudinal section.

Referring to the drawings, A designates the four legs of a chair, and B represents the bars that connect the upper ends of the legs together and form the quadrangular seat-frame. Adjacent bars B are shown tied together and braced apart by a sheet-metal plate C, that at each end is provided with downwardly-projecting teeth C'. The teeth at one end of each plate C are embedded in the upper side of one of the engaging seat-frame bars, and the teeth at the opposite end of the plate are embedded in the upper side of the other en-

gaging seat-frame bar. Plates C, in the case illustrated, are provided, respectively, with three teeth at each end. If the teeth at the end of a plate C were arranged in line, the bar into which they are driven or embedded in the application of the plate would be very liable to be split along the grain running longitudinally of the bar. To avoid such splitting of the bar, I form the teeth adapted to enter said bar out of line, as shown very clearly in Fig. 3, and I would here remark that a reduction to practice of my invention has demonstrated that the teeth-receiving bar will not be split if none of the teeth are arranged in line, as shown in Figs. 1 and 3.

More definitely described, each plate C rests upon and is arranged diagonally between adjacent ends of two adjacent seat-frame bars, and at each end is provided with vertical teeth projecting downwardly into the engaging bar and arranged in close succession or contiguity lengthwise of the bar, but out of line with each other. The teeth at each end of plate C are not only essentially out of line, but are also, and essentially, vertical, to facilitate the application of the plate and to avoid chipping or mutilation of the seat-frame in the embedment of the teeth.

The plates of each pair of bracing-plates arranged at diagonally opposite corners of the seat-frame are connected together by a spring-supporting sheet-metal strap D, and the two straps D D cross each other centrally between the four corners of the seat-frame. Each strap D at each end is suitably bent to form a hook D', that hooks over or engages a tongue or cross-bar C<sup>2</sup>, formed by slotting the bracing-plate longitudinally at two points located a short distance apart. Each strap D, at suitable intervals longitudinally thereof, has portions thereof bent upwardly to form a pair of ears D<sup>2</sup>, adapted to receive the lower coil of one of the seat-cushioning springs. That is, each strap D, at any point where a spring may possibly be desired, is provided with two upwardly-projecting ears D<sup>2</sup>, arranged a short distance apart lengthwise of the strap, and the spiral spring adapted to be received by said ears has its lower extremity in its application entered into one of the ears, and is then turned in the manner of a screw or auger, so as to pass

said end through the other ear, as shown more clearly in Fig. 4. Each strap D, adjacent to each pair of ears D<sup>2</sup>, and at each longitudinal edge thereof, is shown upset upwardly to form two upwardly-projecting lugs or projections *d*. That is, two lugs or projections *d* are formed upon straps D at each side of a pair of ears D<sup>2</sup>, and the four lugs or projections *d*, formed in proximity to said ears, are preferably located equal distances, or approximately equal distances, from a point exactly centrally between the two ears and between the side edges of the strap, by which construction, when a spiral spring has its lower end passed through one of the ears, and is then turned in the manner of a screw or auger to pass said end through the other ear, the lower coil of the spring will bind against at least three of the aforesaid upwardly-projecting lugs or projections *d*, and thereby securely hold the spring in position.

E in the drawings designates the spiral springs, and *e* the lower coil of the springs.

What I claim is—

- 25 1. The combination with two of the adjacent bars of the seat-frame, of a metallic

plate C resting upon and arranged diagonally between adjacent ends of said bars, and provided, at each end, with vertical teeth projecting downwardly into the engaging bar and arranged in contiguity lengthwise of said bar but out of line, substantially as shown, for the purpose specified.

2. The combination with the quadrangular seat-frame and metallic corner-braces resting upon and tying together adjacent bars of said frame at each of said frame's corners, and having teeth at each end embedded in the engaging seat-frame bar, and slotted to form a tongue or member C<sup>2</sup>, of two crossed spring-supporting straps arranged between diagonally opposite corner-braces and bent around or hooked to members C<sup>2</sup> of said braces, substantially as shown, and described.

In testimony whereof I sign this specification, in the presence of two witnesses, this 15th day of November, 1895.

FRANK F. FORTNEY.

Witnesses:

C. H. DORER,  
ELLA E. TILDEN.