B. F. ALLEN.

Chair.

No. 162,001. Patented April 13, 1875.

Fig 1.

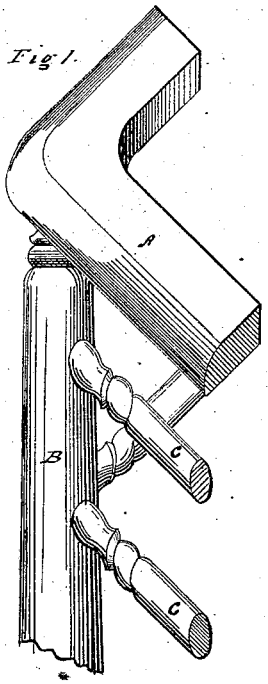

Fig 2.

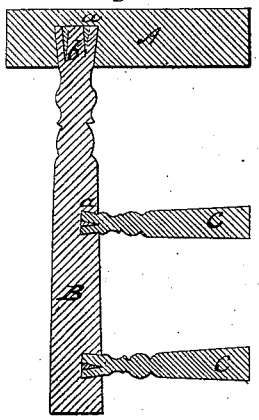

Fig 3

Fig. 4.

WITNESSES=

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UNITED STATES PATENT OFFICE.

BENJAMIN F. ALLEN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CHAIRS.

Specification forming part of Letters Patent No. **162,001**, dated April 13, 1875; application filed April 10, 1874.

To all whom it may concern:

Be it known that I, BENJAMIN F. ALLEN, of Boston, Massachusetts, have invented a new and useful Improvement in the Manufacture of Chairs, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a portion of a chair, showing my improvement in securing the legs and rounds. Fig. 2 is a vertical section of same; Figs. 3 and 4, details referred to in specification.

My improvement has special relation to chairs manufactured of wood; and consists in the novel mode of securing the legs and rounds in position.

In order to enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents a portion of the frame of the bottom of a chair; B, a leg of the chair, and C the rounds. The holes *a* are oval at bottom, but round at the entrance. In one diameter these holes are the same throughout their extent; but in the opposite direction they widen toward their bottom, forming an oval bottom. The portions *b*, which are designed to be secured within these holes, are made round to fit tightly in entering the round entrance to the holes. These portions are kerfed or split to allow the entrance of a wedge, as shown in Fig. 2. To avoid splitting too far from the end, two splits and two wedges may become necessary, as shown at *b'*, Fig. 3.

The mode of putting the chairs together is as follows: When the holes have been bored, as above described, the wedge is inserted into the end *b*, as shown in Fig. 3. This is then inserted in the hole *a*, the wedge being transverse the oval in the hole, and *b* is driven down until it reaches the bottom, the wedge in the meantime being forced up into *b*, and causing it to expand in the longer direction of the oval until it completely fills the whole space, as shown in Fig. 2.

From the foregoing description and explanation it will be readily understood that a chair thus made can never be forced apart except by breakage. It is well known that the peculiar strain, in every possible direction, to which chairs are constantly subjected causes them to become loose and fall to pieces. Joints which might be perfectly secure in any other article of manufacture fail to be efficient when applied to chairs, and the great desideratum has been some means of securing the joints of chairs against loosening and parting under the peculiar strain to which they are subjected. The object of my invention is the production of a chair which can stand without injury all the strain the wood itself will bear, and this I have fully accomplished.

I am fully aware that it has been customary to first insert a wedge into the end of a dowel or pin before driving the same into a straight hole or space with its sides parallel, for the purpose of better securing the parts in position; and I am also aware that this has been done when the mortise or socket has been uniformly enlarged at the bottom, so as to act on the principle of the dovetail, as shown in the patent to Wm. Bennett, June 29, 1858; but this is not my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A socket-and-tenon joint, substantially as described, for the manufacture of chairs and other articles, the socket being formed with two of its sides parallel, but widening in a transverse direction, so as to form an oval at its bottom, for the purpose set forth.

BENJAMIN F. ALLEN.

Witnesses:
ALBERT CUSHMAN,
CHAS. W. BLACK.