No. 864,289. PATENTED AUG. 27, 1907.

R. S. CALEF.

KNOCKDOWN CHAIR.

APPLICATION FILED DEC. 19, 1906.

Fig. 1.

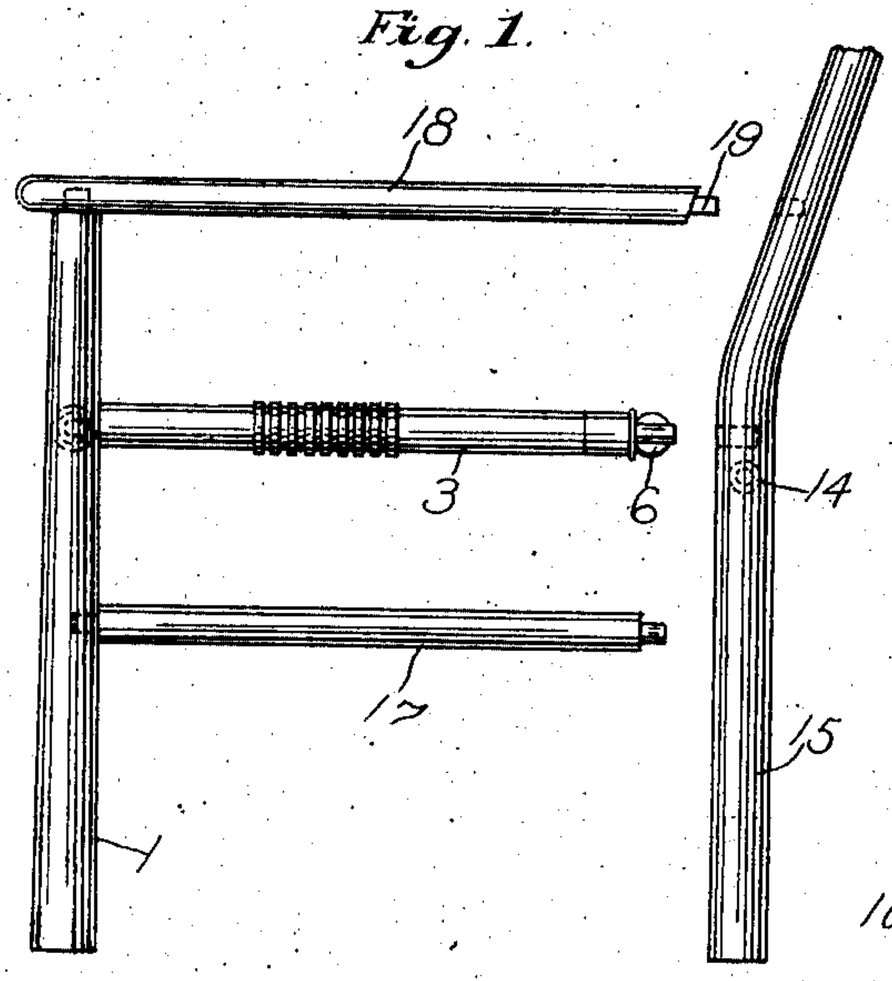

Fig. 2.

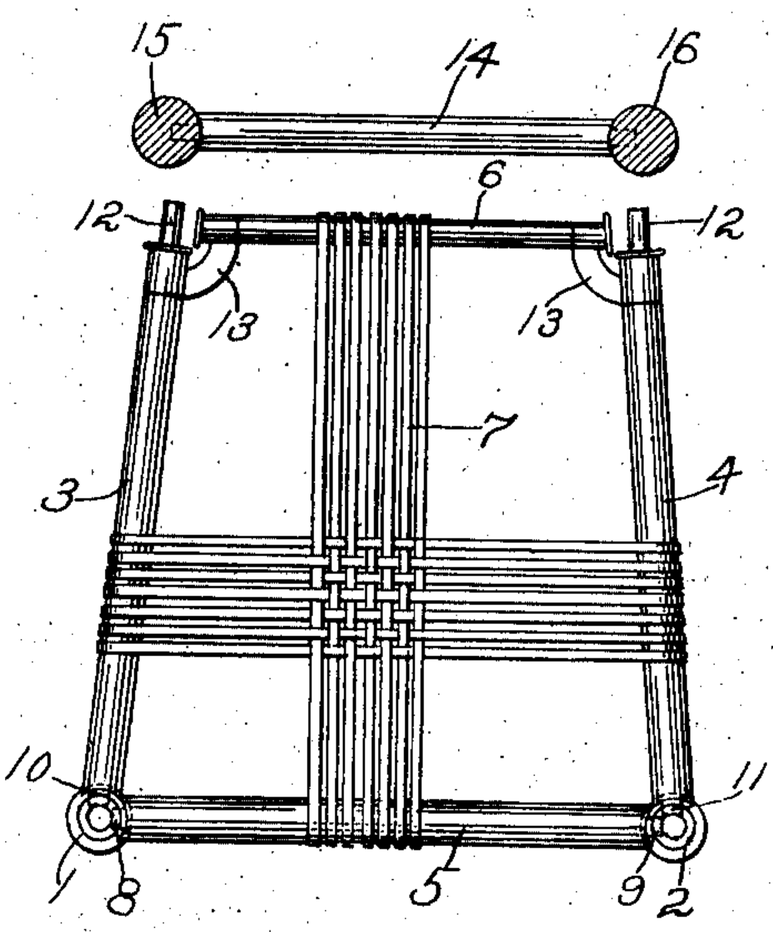

Fig. 4.

Fig. 3.

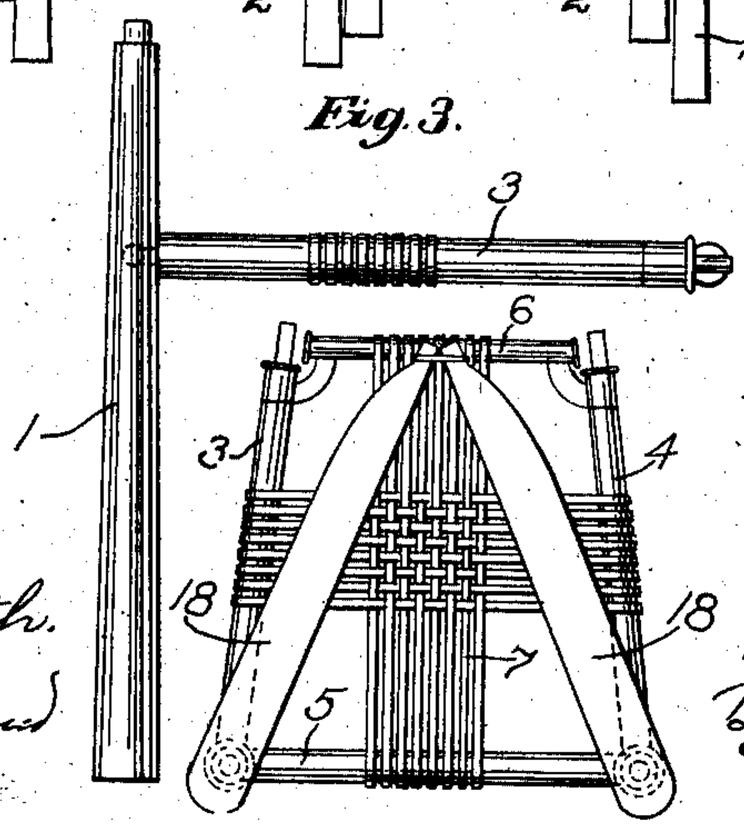

Fig. 5.

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UNITED STATES PATENT OFFICE.

ROBERT STEPHEN CALEF, OF KEENE, NEW HAMPSHIRE.

KNOCKDOWN CHAIR.

No. 864,289. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed December 19, 1906. Serial No. 348,545.

To all whom it may concern:

Be it known that I, ROBERT STEPHEN CALEF, a citizen of the United States, residing at Keene, in the county of Cheshire, State of New Hampshire, have invented an Improvement in Knockdown Chairs, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to knockdown chairs shipped from the factory in a disassembled condition to be put together at the point of destination.

Great difficulty has been experienced in assembling chairs that are shipped with the seat portion thereof entirely disassociated from the front or rear upright, inasmuch as the parts are frequently found not truly matched, so that a shrinking or stretching of the seat portion becomes necessary to fit it securely to place, resulting in the weakening thereof. Moreover, the expense of properly packing and protecting the parts of a chair shipped in an entirely disassembled condition is large, and is a serious drawback to the manufacture of this type of chair. These and other disadvantages exist which it is the province of my invention to overcome.

In order that the principles of the invention may be understood I have in the accompanying drawings set forth one type or embodiment thereof, wherein,—

Figure 1 is a side elevation of the two main portions of the chair ready to be assembled; Fig. 2 is a plan view of a chair seat showing a preferred manner of uniting the same, and herein to the front legs and showing in section the rear legs and stretcher spaced from said seat; Fig. 3 represents in side elevation one member of a knockdown chair, in the condition in which I preferably ship the same; Fig. 4 is a plan view or development representing a series of chair members, herein 12, and comprising leg members and attached seats to be rolled or positioned into a rectangular bundle for shipment; and, Fig. 5 is a plan view of a chair seat united to the front upright, the arms of the chair being connected thereto for shipment.

Referring to the single type or embodiment of the invention here selected for illustration, the front upright comprises legs 1 and 2, which may, if desired, be connected by a stretcher. In the present embodiment of the invention the chair seat is directly and permanently connected to the front upright at the factory or point of shipment, although it is apparent that in certain types of the invention the said seat may be permanently connected at the factory or point of shipment otherwise than to the front upright, as, for example, to the rear upright, or to one member of a front, and one member of a rear upright.

Heretofore, so far as I am aware, the chair seat of a knockdown chair has not been permanently connected to one of the uprights, but has been set into or connected to both uprights at the point of destination. A knockdown chair so constructed is exceedingly unsatisfactory, in that when the chair is finally set up, there is frequently found to be a variation in the width or depth of the seat, which necessitates the stretching or shrinking of the same to permit it to be assembled. This operation frequently causes a breakage or weakening of the strands. Moreover, in a knockdown chair wherein the seat is separately constructed to be assembled at the point of destination, it is necessary to construct a special and complete frame, thus enhancing the cost of the chair. This is due to the fact that when the seat is shipped as a separate entity, it must be so far complete in itself as to be self-sustaining. This requires special brackets or other formations at each corner of the rectangular seat.

In shipping a knockdown chair wherein the seat is disassembled from the uprights it is necessary separately to box the seats to protect them in transit, thus adding materially to the cost of shipment. With my invention, as will be shown, the seat is protected by the massing or bundling of a series of uprights having permanently attached seats. Furthermore, in the case of an entirely disassembled knockdown chair, the seat will not properly fit both the front and the rear uprights, in which case it becomes necessary to shrink or stretch the seat to cause it to fit the uprights. This results in a weakening of the seat in addition to the delay in assembling the chair.

In the case of a seat of a knockdown chair built as an entity to be thereafter and at the point of destination connected to the front and rear uprights, it has been necessary, so far as I am aware, to place the front and rear and side stretchers thereof in a common plane, both to strengthen the seat and to enable the said stretchers to be united to each other at the corners into a rectangular frame.

In a knockdown chair constructed in accordance with my invention, the front stretcher may be placed, if desired, either below or above the plane of the side stretchers.

It is frequently desirable in certain types of chairs to place the front stretcher below the plane of the side stretchers, in order more comfortably to accommodate the limbs of the user.

It will therefore be apparent that in the practice of my invention I am enabled to ship the chair at less expense and with more safety, to construct a chair of fewer parts and with variations not permissible in other types of knockdown chairs and to provide a chair that may be quickly and readily assembled at the point of destination without alteration of the seat or other parts due to mismatching the members.

In the present type of the invention the seat of the chair comprises side stretchers 3 and 4, front stretcher

5, rear stretcher 6, and seat body 7 of any suitable material. For convenience of description the front and rear stretchers 5 and 6 are termed cross stretchers. In the present type of my invention, the front stretcher 5 is directly and permanently connected to the front legs 1 and 2, as by tenons 8 an 9 thereof, fitting corresponding sockets in said legs 1 and 2. The side stretchers 3 and 4 are herein shown as similarly and permanently connected by tenons 10 and 11, to said legs 1 and 2, either in the same or a different horizontal plane. Preferably, each side stretcher has provisions connecting the same at the point of shipment to the rear uprights, and, as herein shown, has a rear tenon 12. While the rear stretcher 6 may be connected to the side stretchers in any suitable manner, as by tongue and groove or other direct engagement thereof, herein there are shown for that purpose brackets 13, preferably of metal, having sockets or other provisions for supporting them upon said side and rear stretchers. Supporting side stretchers may, if desired, be located beneath and close to the seat. While the rear stretcher may have provisions for uniting it to the rear legs, as by socket and tenon connections, in the present type of the invention, said rear stretcher is supported by the brackets 13 and by a rear stretcher 14, permanently connected to and uniting the rear legs 15 and 16 and positioned beneath said rear stretcher 6 when the parts are assembled so as actually to contact therewith or to aid in supporting the same without actual contact. I may, if desired, omit the rear stretcher uniting the legs of the rear upright and supporting the rear stretcher of the seat, as the chair may be securely made without the employment of such member.

It will be observed that in the present type of my invention one chair upright or entity when in condition for shipment comprises the legs 1 and 2, united, if desired, by a lower stretcher and a seat, as described, directly and permanently connected thereto, extending in a plane substantially normal thereto. A number of such uprights may be readily and securely shipped, as in the manner indicated in Fig. 4, wherein are typified four series of chair uprights, A, B, C and D, each series comprising three uprights superimposed upon each other with the seats extending vertically upward. In massing or bundling said members for shipment, the uprights are so assembled that the seats of the series are out of line. One of the series, as for example, B, may be considered the bottom series, in which case the uprights comprising the series A are turned through 90 degrees to the right, viewing Fig. 1, so that the seats thereof lie in between the seats of the series B. Then the uprights of the series C are merely turned through 90 degrees to the left, thus forming three sides of a rectangle, the top whereof is provided by the uprights of the series D, which are inverted from the position shown and placed upon the upper edges of the series A and C, the seats of said series D sliding in the spaces reserved between those of the series A, B and C. This bundle of uprights may be tied or otherwise suitably secured. It will be apparent that by this mode of shipment the seats are completely housed within and by the legs of the various uprights comprising the four series, so that they are thoroughly protected from injury. Thus the extra expense of separately packing or boxing the seats is avoided.

If desired, a knockdown chair when constructed in accordance with my invention, may be provided with other side stretchers, such as the stretcher 17 and arms 18. Should it be desired to coat and varnish the chairs before shipping, all the side stretchers may be placed in the fronts and the arms may be attached, thus making but two pieces, the front and the back, to handle during this process. In packing the chair, however, I preferably remove the side stretchers, such as 17, and, if desired, the arms 18, and separately box them for shipment or tie them to the bundles of chair fronts when packed in shape, as described. In certain cases, however, I may ship the arms with the front, in which case the extra expense of packing is avoided. This may be conveniently done by placing said arms upon the front legs 1 and 2, and turning the same to the position shown in Fig. 5, so that the adjacent ends or tenons 19 of said arms may be tied or otherwise secured together.

It will of course be understood that the principles of my invention may be employed in various types of chairs, such as rocking chairs and the like, as will be evident.

Having thus described one type or embodiment of my invention, I desire it to be understood that although specific terms have been employed, they are used in a generic sense and for purposes of description merely, and not as terms of limitation and that the scope of the invention is set forth in the following claims.

Claim.

1. A mass of partially assembled chairs comprising two series of opposed chair uprights, each series comprising a plurality of chair uprights superimposed and longitudinally overlapping, each upright having attached thereto a seat comprising cross stretchers, side stretchers and a seat body, a cross stretcher and one end of each of said side stretchers being permanently and directly connected to said uprights respectively, one series of uprights being inverted upon the other series with the seats thereof depending therefrom and positioned between the seats of the other series so that the seats of the corresponding uprights in said series are brought into proximity in adjacent parallel planes.

2. A mass of partially assembled chairs compacted for shipment, comprising two pairs of opposed series of chair uprights, one pair of such series being disposed at right angles to and between the other pair, each series of uprights comprising a plurality of uprights superimposed and longitudinally overlapping, each upright having attached thereto a seat comprising front, side and rear stretchers and a seat body, the front stretchers and one end of each of said side stretchers being permanently and directly connected to said uprights respectively, and said rear stretcher being permanently connected to and supported by said side stretchers, the seats and stretchers projecting from each series so that the seats of corresponding uprights in the several series are brought into proximity in adjacent parallel planes, each upright having a pair of arms mounted upon the upper end thereof and adapted to be swung inward over the seat and secured for shipment.

3. A mass of partially assembled chairs comprising two pairs of opposed series of chair front uprights, one pair being disposed at right angles to and between the other pair, each series comprising a plurality of chair front uprights superimposed and longitudinally overlapping, each upright having attached thereto a seat having front, side and rear stretchers and a seat body, the front stretchers and one end of each of said side stretchers being permanently and directly connected to the said front uprights, the seats projecting from the uprights so that the seats of corresponding uprights of the several series are brought into proximity in adjacent parallel

planes, the front uprights of each series being extended and having arms mounted thereon adapted to be swung inward over the seat of such upright and to be secured for shipment.

4. A mass of partially assembled chairs comprising two opposed series of chair uprights, each series comprising a plurality of chair uprights superimposed and longitudinally overlapping, each front upright having attached thereto a seat comprising front, side and rear stretchers and a seat body, the front stretchers and one end of each of said side stretchers being permanently and directly connected to the uprights respectively, and the rear stretchers being permanently connected to and supported by the side stretchers, one series of front uprights being inverted upon the other series with the seats thereof depending therefrom and positioned between the seats of the other series, the front uprights of each series being extended and having arms mounted thereon adapted to be swung inward over the respective seats when positioned as described.

5. A mass of partially assembled chairs comprising two series of opposed chair uprights, each series comprising a plurality of chair uprights superimposed and longitudinally overlapping, each upright having attached thereto a seat comprising front, side and rear stretchers and a seat body, the front stretchers and one end of each of said side stretchers being permanently and directly connected to said uprights respectively, one series of uprights being inverted upon the other series with the seats thereof depending therefrom and positioned between the seats of the other series so that the seats of the corresponding uprights in said series are brought into proximity in adjacent parallel planes.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ROBERT STEPHEN CALEF.

Witnesses:

CHARLES C. STURTEVANT,

L. G. LITCHFIELD.