No. 753,034. PATENTED FEB. 23, 1904.

E. BEHN.

KNOCKDOWN CHAIR.

APPLICATION FILED MAY 2, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

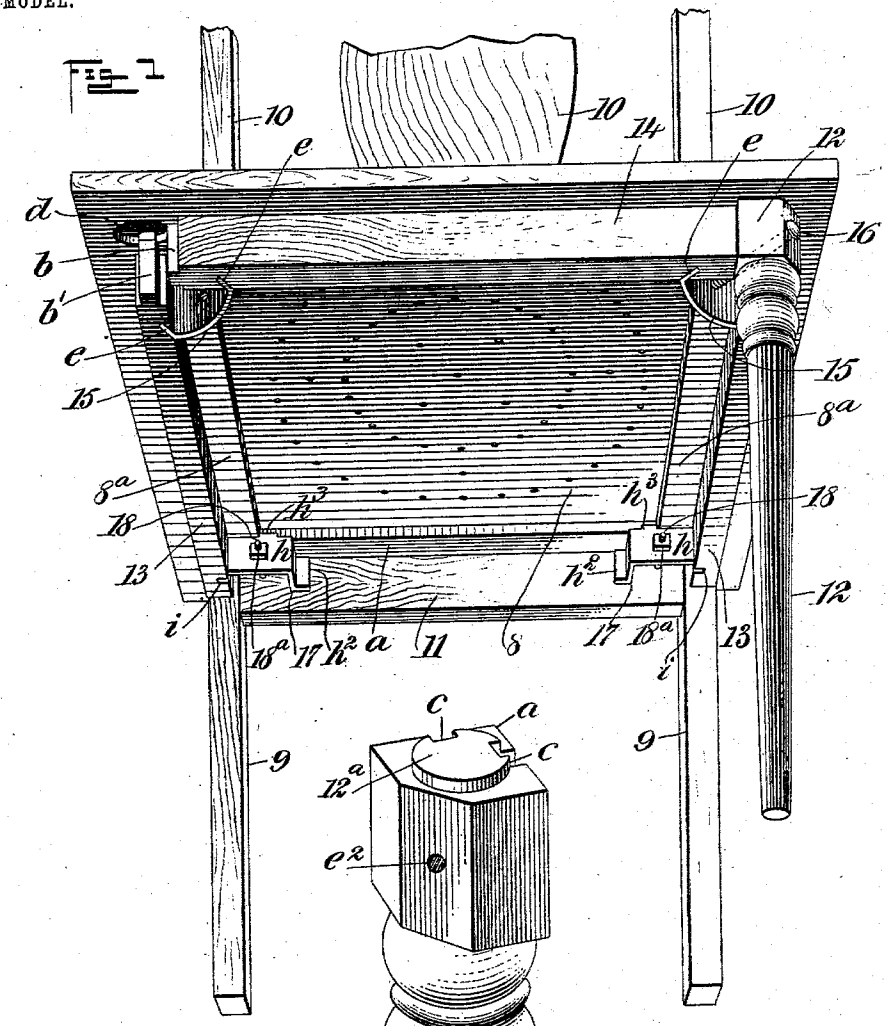



Fig. 5.




Fig. 7.

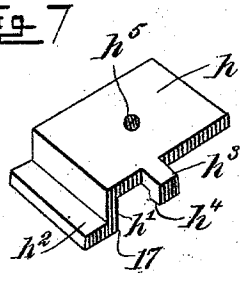
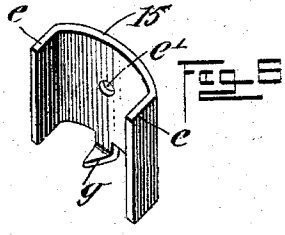



Fig. 6.




WITNESSES:

Geo. C. Sheney

Wm. P. Patton

INVENTOR

Ernest Behn

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

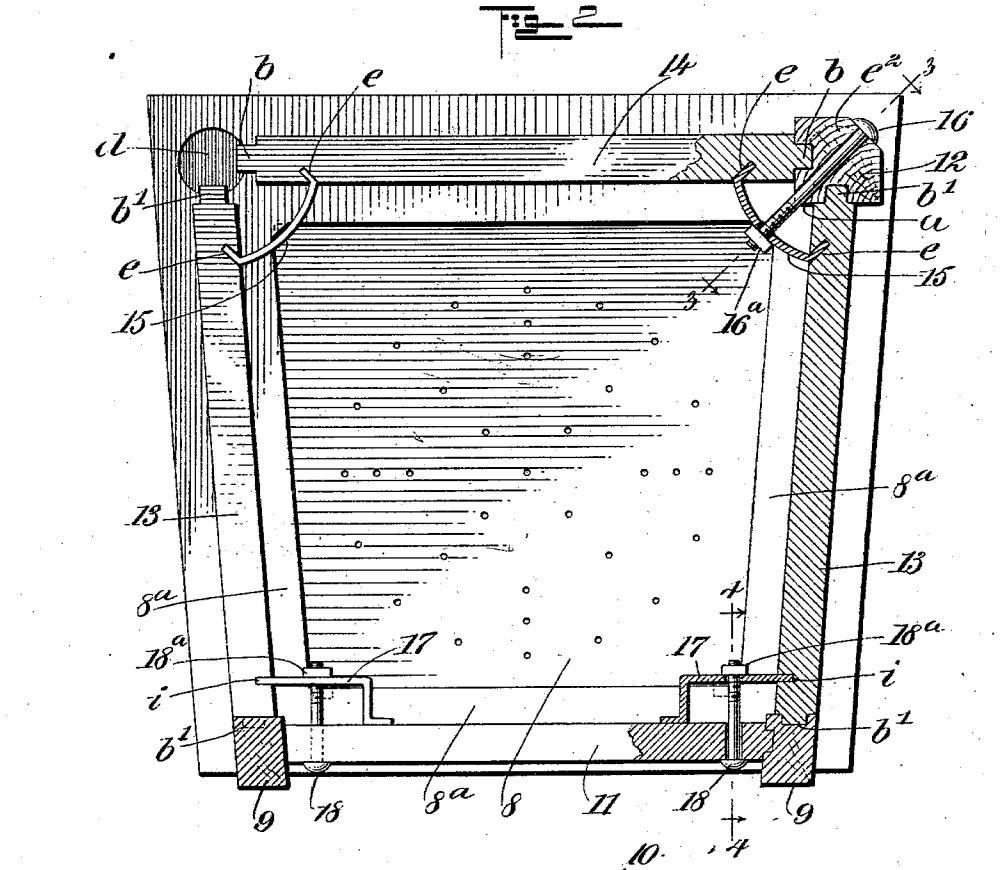
No. 753,034. PATENTED FEB. 23, 1904.

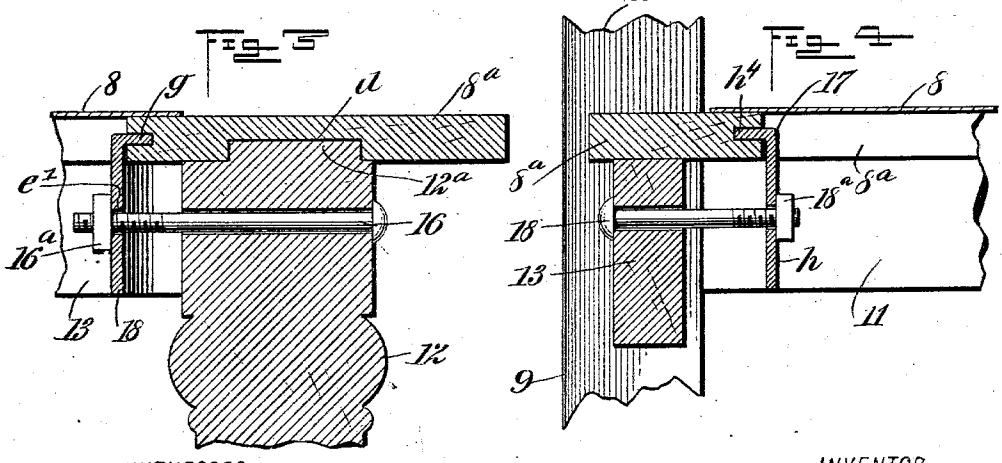
E. BEHN.

KNOCKDOWN CHAIR.

APPLICATION FILED MAY 2, 1903.

NO MODEL. 2 SHEETS—SHEET 2.





WITNESSES

INVENTOR

Ernest Behn

BY

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 753,034. Patented February 23, 1904.

# UNITED STATES PATENT OFFICE.

ERNEST BEHN, OF NEW YORK, N. Y.

## KNOCKDOWN CHAIR.

SPECIFICATION forming part of Letters Patent No. 753,034, dated February 23, 1904.

Application filed May 2, 1903. Serial No. 155,373. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST BEHN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Knockdown Chair, of which the following is a full, clear, and exact description.

This invention relates to chairs or seats that have detachable legs, and has for its object to provide novel details of construction for a chair of the character indicated which afford means for the quick and convenient detachment of the legs from the seat of the chair and for securing them thereto in a reliable manner when the chair is to be set up for use.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a backwardly-tilted chair, showing details of the invention thereon. Fig. 2 is a partly-sectional reversed plan view of the chair-seat and legs thereon, showing the improved means for detachably securing the legs upon the chair-seat. Fig. 3 is an enlarged transverse sectional view of details substantially on the line 3 3 in Fig. 2, showing the improved means for detachably securing one of the front legs upon the lower side of the seat. Fig. 4 is an enlarged transverse sectional view substantially on the line 4 4 in Fig. 2, showing a detail of the invention applied for removably securing rear legs of the chair upon the seat. Fig. 5 is a perspective view of the upper portion of a front leg for the chair, showing novel features thereon. Fig. 6 is a perspective view of a novel clamp that is one of a pair employed to hold the front legs of the chair in place on the seat, and Fig. 7 is a perspective view of a differently-shaped clamp which in duplicate holds the rear legs of the chair and seat together.

In the drawings that represent the construction and application of the invention, 8 represents a chair-seat that may be of any preferred design employing a main or border frame $8^a$, whereon the seat-bottom is secured. The two rear legs 9 and back frame 10 are constructed integrally with a transverse stretcher-bar 11, that defines the width between said legs. The two similar front legs 12 may have any ornamental design preferred for their body portions; but their upper ends may with advantage be shaped as shown in Figs. 1 and 5, having two sides disposed at a right angle with each other, as indicated at *a* in Fig. 5. The upper ends of the rear legs 9 and front legs 12 are spaced apart by the side bracket-bars 13 and the front legs by the front bracket-bar 14. The bars 13 14 are respectively provided with tenons *b' b* on their ends, the tenons *b'* on the rear ends of the bracket-bars 13 fitting snugly in corresponding sockets formed in the front sides of the rear legs 9, as shown in Fig. 2. In the two sides of each front leg 12, that are disposed at a right angle, as before mentioned, a vertical groove *c* is formed, two of said grooves receiving the tenons *b* on the front transverse bracket-bar 14. The remaining vertical groove *c* in each leg 12 and that is at the rear side thereof receives the front end tenons *b'* of the side bracket-bars 13, the tenons all fitting neatly in their respective grooves.

In the lower side of the seat-frame $8^a$, near each front corner thereof, a socket *d* is formed, and upon the upper extremity of each front leg 12 a short dowel $12^a$ is formed that fits snugly into a corresponding socket, these tenon-and-socket connections holding the front legs from displacement laterally when thus engaged with the seat-frame. Two similar clamping-plates 15 are provided for detachably holding the front legs 12 engaged with the front bracket-bar 14, side bracket-bars 13, and the border-frame $8^a$ of the chair-seat. Each clamp 15 is preferably shaped as represented in Fig. 6 and consists of a metal plate quadrangular in contour and bent at a suitable point equally distant from two opposite edges, forming two locking-flanges *e* thereon, which are parallel with each other. The clamping-plates 15 are preferably rendered concavo-convex between the flanges *e* on each

plate, so as to slightly arch the body portion thereof, and at the center of this arched portion a bolt-hole $e'$ is formed therein. From one edge of the body portion central between the flanges $e$ a locking-lug $g$ is laterally projected, as shown in Figs. 3 and 6.

The front bar 14, the rear bar 11, and the two side bars 13 when all united in operative relation by the front clamps 15 and the rear clamps 17 (to be referred to hereinafter) constitute what may be termed an "auxiliary" seat-frame upon which the main seat-frame $8^a$ rests.

As indicated in Fig. 2, a slot is formed vertically in the inner side and near each end of the front transverse bracket-bar 14, these slots being equally distant from and inclining toward a respective tenon $b$ on the ends of said bracket-bar. Similar slots are formed in the inner sides and near the forward ends of the side bracket-bars 13, these slots, respectively, inclining toward the tenons $b'$ on the front ends of said bracket-bars.

The flanges $e$ on each plate 15 are respectively seated in one of the inclined slots in the front bracket-bar 14 and a like slot in the adjacent end of a side bracket-bar 13, which engagement serves to dispose the clamping-plates 15 across the inner corners of the front legs 12, it being understood that said legs have been placed in position so that the dowels $12^a$ and tenons $b$ are respectively engaged with sockets $d$ in the seat-frame $8^a$ and the slots in the legs 12, as before explained. Each leg 12 is perforated diagonally, so as to aline said perforations $e^2$ with the perforations $e'$ in the respective clamping-plates 15, and through each leg a tie-bolt 16 is inserted from the outer side of the leg, said bolts having threaded inner ends whereon nuts $16^a$ are screwed after these ends of the bolts are passed through the bolt-holes $e$, formed in the clamping-plates, as before explained. The lug $g$ on each clamping-plate 15 is inserted into a recess formed opposite it in the inner angle of a respective corner of the seat-frame $8^a$, as shown in Fig. 3, which engagement will lock the seat-frame upon the front legs 12 when the nuts $16^a$ are screwed tightly upon the tie-bolts 16, as is clearly shown at the right upper corner of Fig. 2.

The side bracket-bars 13 are held engaged with the rear legs 9, stretcher-bar 11, and the seat-frame $8^a$ by two similar clamps 17 and bolts 18. Each clamp 17 is formed as shown in Fig. 7, having an oblong, preferably rectangular, member $h$, formed with a depending leg $h'$ at one end and an outwardly-projected toe $h^2$ at the lower end of said leg. At a side edge of the flat member $h$ a lug $h^3$ is outwardly projected, and an ear $h^4$ is projected at a right angle from the outer end of the lug, thus giving substantially L shape to the lug and the ear. A perforation $h^5$ is formed in each member $h$ near its center. Near the tenons $b'$ on the rear ends of the bracket-bars 13 a slot $i$ is formed transversely in the inner side of each of said bars. In applying the clamps 17 for service their plain ends are inserted in the respective slots $i$, and the toe $h^2$ on the leg $h'$ at the opposite end of each clamp is seated upon the inner side of the stretcher-bar 11. The position of each lug $h^3$ on a clamp 17 is such that when the clamps 17 are properly engaged at their plain ends within the slots $i$ the lug $h^3$ on each clamp will project toward and over the rear transverse inner edge of the seat-frame $8^a$, so that the ear $h^4$ thereon may occupy a recess formed in said inner edge adjacent to an inner angular corner of the seat-frame, as indicated in Figs. 2 and 3. A perforation is formed near each end in the stretcher-bar 11, these perforations being respectively opposite the perforations $h^5$ in the clamps 17, and the headed bolts 18 are respectively inserted inwardly through the alined perforations in the stretcher-bar and clamp members $h$, said bolts having threaded ends on which nuts $18^a$ are screwed to a bearing on the clamps 17, as is shown in Figs. 2 and 4.

It will be seen that as the legs 9, back frame 10, and stretcher-bar 11 are fixedly engaged with each other the clamped adjustment of the clamps 17, as described, will secure the rear ends of the side bracket-bars 13 in the rear legs and the legs 9, bars 13, and seat-frame $8^a$ be detachably secured together, so that the parts of the chair will thus be quickly assembled and secured together for service.

Obviously when the chair is to be "knocked down" for close packing to permit transportation in a compact condition when goods of this character are to be boxed in quantity for domestic or foreign trade it is only necessary to remove the bolts 16 18 from their relative positions to release all parts of the chair, which may be packed together in bundles or boxes, as may be desired.

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

1. A chair, comprising a seat-frame, with its parts fixedly secured together, a seat thereon, an auxiliary frame thereunder, a back-frame whereon two rear legs are fixedly secured, two front legs, said auxiliary frame comprising a front bracket-bar engaged with the front legs, two side bracket-bars joining the front and rear legs together, each of said bars being separably connected to a front and rear leg, a rear transverse bar, and adjustable clamping means connected with the legs, bracket-bars and seat-frame, and adapted to releasably secure said parts together.

2. A chair, comprising a seat-frame, a seat thereon, a back-frame having a transverse stretcher-bar, and two rear legs intact therewith, two front legs, side bracket-bars detachably connecting the front legs with the rear legs, a transverse bracket-bar detachably con-

necting the front legs, clamps for uniting the side bracket-bars with the front transverse bracket-bar and the rear stretcher-bar, and bolts having nuts, said bolts and nuts being adapted to releasably engage the clamps that engage the stretcher-bar, legs and bracket-bars, thereby holding them upon the seat-frame.

3. A chair, comprising a seat-frame, a seat thereon, a back-frame having a transverse stretcher-bar, and two rear legs intact therewith, two front legs having doweled ends that seat in sockets at the corners of the seat-frame, side bracket-bars having their ends engaged in openings in the rear and front legs, a transverse bracket-bar engaged at its ends in openings in the front legs, two clamps engaged at like ends in slots in the rear ends of the side bracket-bars, opposite bent ends of said clamps seating upon the stretcher-bar, lateral lugs on the clamps, having depending members adapted to enter openings in the seat-frame, bolts engaging the stretcher-bar and the clamps, nuts on the bolts drawing the clamps so as to hold the side bars clamped upon the rear legs and upon the seat-frame, two clamps having bent ends that engage slots in the front legs and in the forward portions of the side bracket-bars, said clamps also having a lug thereon that engages an opening in the seat-frame, bolts passing through the front legs and through said clamps, and nuts on said bolts that by adjustment draw the clamps into firm engagement with the seat-frame and side and front bracket-bars.

4. In a chair of the character described, the duplicate clamps for the detachable connection of the rear legs with side bracket-bars and with the seat-frame, each comprising a flat bar having an angular offset at one end, and also having a lug extending outwardly from one side thereof and in the same plane therewith, said lug terminating in an angular extension at its outer end, and said bar being perforated in the flat portion for the reception of a bolt.

5. In a chair of the character described, the duplicate clamps for the detachable connection of the front legs and forward ends of the side bracket-bars with the seat-frame, each comprising a plate of metal bent at its side edges to provide two parallel flanges both extending in the same direction, a lateral lug on one end of the plate projecting between the flanges and extending in the same direction therewith, said plate having a perforation therein between the flanges.

6. The combination with a chair having a seat-frame provided with apertures near its front corners, of an auxiliary frame including side bracket-bars and a front transverse bracket-bar, front legs having dowels on their upper ends adapted to be received into the recesses in said frame, tenons on the ends of said bracket-bars overreaching the sides of said apertures in the seat-frame, said front legs having grooves into which said tenons are received, and means for connecting said legs and bracket-bars into binding engagement with each other and with said seat-frame.

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

ERNEST BEHN.

Witnesses:
FRED RAULF,
FRED CASTELLANO.