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CABLE: GEDRIGHT
RAPIFAX-RIFAX-INFOTEC FACSIMILE
(212) 867-2216

14 January 1983

Mr. Scott Burton
86 Thompson Street
New York, New York 10012

RE: New U. S. Mechanical Application for CHAIR AND FRAME THEREFOR Our Docket: Burton-2

Dear Scott:

I am pleased to advise that the above-identified patent application was filed in the U. S. Patent & Trademark Office on November 17, 1982, and assigned U. S. Serial No. 442,250.

Enclosed herewith is the original filing receipt for the above application for your files.

I will keep you advised of further developments.

Best regards,

Robert Scobey

RS:ab
Encl. Filing Receipt

PTO-103 (rev. 1-79)

FILING RECEIPT

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
06/442,250	11/17/82	355	$ 150.00	BURTON-2	4	12	3

ROBERT SCOBEY
261 MADISON AVE.
NEW YORK, NY 10016

RECEIVED
JAN 12 1983
R. SCOBEY

Receipt is acknowledged of the patent application identified herein. It will be considered in its order and you will be notified as to the examination thereof. Be sure to give the U.S. SERIAL NUMBER, DATE OF FILING, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this transmittal.

Applicant(s) SCOTT BURTON, NEW YORK, NY.

* SMALL ENTITY *

TITLE
CHAIR AND FRAME THEREFOR

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
442250	11/17/82	Burton	BURTON-2

EXAMINER	
PETER BROWN	
ART UNIT	PAPER NUMBER
357	7

DATE MAILED:

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

(1) Robert Scobey (3) Bill Lyddane

(2) Peter Brown (4)

Date of interview Jan 3, 1985

Type: ☐ Telephonic ☒ Personal (copy is given to ☐ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description:

Agreement ☐ was reached with respect to some or all of the claims in question. ☒ was not reached.

Claims discussed: 3; 13-15

Identification of prior art discussed: prior art of record, primarily Baccouche

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Claims were discussed but no agreement was reached as to patentability over the prior art of record.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must b attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

Unless the paragraphs below have been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1–7 on the reverse side of this form). If a response to t last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the intervie

☐ It is not necessary for applicant to provide a separate reocrd of the substance of the interview.

☐ Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections an requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill th response requirements of the last Office action.

Peter R Brown
Examiner's Signature

WILLIAM E. LYDDANE
SUPERVISORY PRIMARY EXAMI
ART UNIT 357

81-3679 PTOL-413 (rev. 1-81)

APPLICANT'S COPY

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/442,250	11/17/82	BURTON, S	BURTON-2

ROBERT SCOBEY
261 MADISON AVE.
NEW YORK, NY 10016

EXAMINER	
BROWN, P	
ART UNIT	PAPER NUMBER
357	6

DATE MAILED: 12/14/84

DUE: MARCH 14, 1985

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☑ Responsive to communication filed on Sept 19, 1984 ☑ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449
4. ☐ Notice of informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☑ Claims 3, 13-15 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☑ Claims 1, 2 and 4-12 have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☑ Claims 3 and 13-15 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☑ The proposed drawing correction, filed Sept 19 1984, has been ☑ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
    ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

PTOL-326 (Rev. 7-82) EXAMINER'S ACTION

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 13 are rejected under 35 U.S.C. 103 as being unpatentable over Baccouche taken with or without Morrison.

Baccouche (Fig. 9) discloses a chair substantially as claimed with the exception of having distinct lines of demarcation formed between the seat, side and back pieces of the chair body. However, the lines of demarcation are dictated by the material used

and the attaching means used to connect pieces of the material. Both of these features are considered to be a matter of design choice and no new or unobvious result is seen to extend therefrom. Likewise, formation of the chair body from a unitary piece of material is purely a matter of design and is conventional as shown by Morrison (Fig. 2).

3. Applicant's arguments filed September 19, 1984 have been fully considered but they are not deemed to be persuasive.

4. Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD

WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

5. Any inquiry concerning this communication should be directed to Peter Brown at telephone number 703-557-6200.

PB

P.BROWN:sab
9703)557-6200
12-08-84

WILLIAM E. LYDDANE
SUPERVISORY PRIMARY EXAMINER
ART UNIT 357

3/4 C04

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
442254	11/17/82	Burton	Burton-1

EXAMINER	
Dunkins	
ART UNIT	PAPER NUMBER
242	

DATE MAILED:

EXAMINER INTERVIEW SUMMARY RECORD

All participants (applicant, applicant's representative, PTO personnel):

(1) Atty for applicant (3) _____

(2) _____ (4) _____

Date of interview 1-8-1985

Type: ☐ Telephonic ☒ Personal (copy is given to ☐ applicant ☒ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description: _____

Agreement ☐ was reached with respect to some or all of the claims in question. ☒ was not reached.

Claims discussed: Single Claim

Identification of prior art discussed: Cited art and prior art presented by Counsel for applicant

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Rejection was adhered. Counsel was informed that foreign Patent (France NO. 929,238) would be applied against Claim in later Prosecution. Claim held unpatentable over Prior art.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

Unless the paragraphs below have been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1–7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☐ It is not necessary for applicant to provide a separate reocrd of the substance of the interview.

☐ Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action.

81-3679 PTOL-413 (rev. 1-81)

Examiner's Signature

APPLICANT'S COPY

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/442,254	11/17/82	BURTON S	BURTON-1

WYATT, GERBER, SHOUP,
SCOBEY & BADIE
261 MADISON AVE.
NEW YORK, NY 10016

RECEIVED
NOV 8 1984
R. SCOBEY

EXAMINER	
DUNKINS, B	
ART UNIT	PAPER NUMBER
292	2

DATE MAILED: 11/06/84

DUE: FEBRUARY 6, 1985

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449
4. ☐ Notice of informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-15 are pending in the application.

   Of the above, claims _____ are withdrawn from consideration.

2. ☐ Claims _____ have been cancelled.

3. ☐ Claims _____ are allowed.

4. ☒ Claims 1-15 are rejected.

5. ☐ Claims _____ are objected to.

6. ☐ Claims _____ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.

8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).

10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.

12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

This application discloses a chair as well as the segregable parts thereof whereas the subject matter of a Design patent application must be limited to a single article of manufacture.

Thus, the claim is subject to rejection under 35 USC 171 as not being directed to a single article.

It is suggested that applicant consider the advisability of cancelling the chair parts whereby to limit the claim and the disclosure to the chair of Figures 9-12.

A specific title is required in lieu of the present recitation of a plurality of articles.

The prefix to the claim must be changed to --I claim--.

Further revisions, specifically in the figure descriptions, will be suggested prior to allowance or appeal.

Furniture frames having four U-shaped legs formed of a continuous tubular member are well-known as taught by the Cosco table.

Hence, to modify the Welton chair, D-233,963, whereby to make the four legs thereof in the configuration of the Cosco item would be an obvious act under 35 USC 103 and would result in a substantial anticipation of the appearance claimed in Figures 9-12.

The Welton reference (D-238,030) is cited to show further art in re the sling portion.

Accordingly, the claim is rejected under 35 USC 171 as not being limited to a single article of manufacture. Also, the claim is rejected as being obvious in view of the references under 35 USC 103.

Any inquiry concerning this communication should be directed to Bruce Dunkins at telephone number 703-557-4962.

B.Dunkins/va

BRUCE W. DUNKINS
EXAMINER
GROUP ART UNIT 292

PTO - 948
(Rev. 8-82)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTACHMENT TO PAPER NUMBER 2

S.N. 442254

GROUP 290

NOTICE OF PATENT DRAWINGS OBJECTION

Drawing Corrections and/or new drawings may only be submitted in the manner set forth in the attached letter, "Information on How to Effect Drawing Changes" PTO-1474.

A. ☒ The drawings, filed on 11-17-1982, are objected to as informal for reason(s) checked below:

1. ☐ Lines Pale.
2. ☑ Paper Poor.
3. ☐ Numerals Poor.
4. ☑ Lines Rough and Blurred.
5. ☑ Shade Lines Required.
6. ☐ Figures Must be Numbered.
7. ☐ Heading Space Required.
8. ☐ Figures Must Not be Connected.
9. ☐ Criss-Cross Hatching Objectionable.
10. ☐ Double-Line Hatching Objectionable.
11. ☐ Parts in Section Must Be Hatched.
12. ☐ Solid Black Objectionable.
13. ☐ Figure Legends Placed Incorrectly.
14. ☐ Mounted Photographs.
15. ☐ Extraneous Matter Objectionable. [37 CFR 1.84 (1)]
16. ☐ Paper Undersized; either 8½" x 14", or 21.0 cm. x 29.7 cm. required.
17. ☐ Proper A4 Margins Required:
    ☐ TOP 2.5 cm. ☐ RIGHT 1.5 cm.
    ☐ LEFT 2.5 cm. ☐ BOTTOM 1.0 cm.
18. ☐ Other:

B. ☒ The drawings, submitted on 11-17-1982, are so informal they cannot be corrected. New drawings are required. Submission of the new drawings MUST be made in accordance with the attached letter.

TO SEPARATE, HOLD TOP AND BOTTOM EDGES, SNAP–APART AND DISCARD CARBON

FORM PTO-892 (REV. 3-78) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

NOTICE OF REFERENCES CITED

SERIAL NO.	GROUP ART UNIT	ATTACHMENT TO PAPER NUMBER
442254	292	2

APPLICANT(S): Burton

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
*	A	D 233963	12-1974	Welton	D6	55	Submitted by Applicant
*	B	D 238030	12-1975	Welton	D6	197	
	C						
	D						
	E						
	F						
	G						
	H						
	I						
	J						
	K						

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG	PERTINENT PP. SPEC.
	L								
	M								
	N								
	O								
	P								
	Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R "Cosco Contemporaries", brochure Recd. June 3, 1974, Lamptable No. 51-154-150, Copy in Box C-38

S

T

U

EXAMINER: Dunkins

DATE: 9-12-84

* A copy of this reference is not being furnished with this office action.
(See Manual of Patent Examining Procedure, section 707.05 (a).)

United States Patent Office

Des. 233,963
Patented Dec. 24, 1974

233,963

T-SLING CHAIR

Gerry D. Welton, 910 E. Tripp, Peoria, Ill. 61603
Filed May 1, 1973, Ser. No. 356,104

Term of patent 14 years

Int. Cl. D6—01

U.S. Cl. D6—55

FIG. 3

FIG. 2

FIG. 1

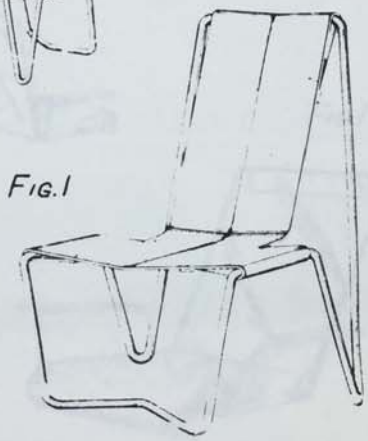


FIG. 1 is a front perspective view of a T-sling chair embodying my new design.

FIG. 2 is a rear perspective view of the T-sling chair shown in FIG. 1.

FIG. 3 is a side elevation of the T-sling chair shown in FIG. 1 and FIG. 2.

The ornamental design for [illegible]

References Cited

UNITED STATES PATENTS

D. 107,271	11/1937	Vavrik	D6—49
D. 173,881	1/1955	Pearl	D6—50
D. 210,939	5/1968	Schwarz, Jr.	D6—66
D. 122,3[illegible]	3/[illegible]0	Rogers	D6—56

OTHER REFERENCES

House & Garden, December 1962, p. 43, chair bottom right by Crafter.

House & Garden, April 1957, p. 122, chair top right by Landes Mfg. Co.

Interiors, October 1965, p. 73, chair top right.

BRUCE W. DUNKINS, Primary Examiner

United States Patent

Des. 238,030
Patented Dec. 16, 1975

238,030

STACKABLE CHAIR BODY

Gerry D. Welton, 910 E. Tripp, Peoria, Ill. 61603

Filed May 1, 1973, Ser. No. 356,107
Term of patent 14 years
Int. Cl. D6—06
U.S. Cl. D6—197

FIG. 3

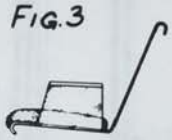


FIG. 2

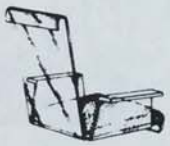


FIG. 1

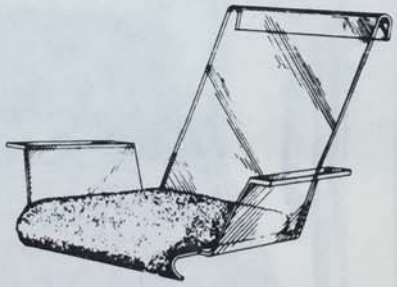


FIG. 1 is a front perspective view of a stackable chair body embodying my new design.

FIG. 2 is a rear perspective view of the stackable body shown in FIG. 1.

FIG. 3 is a side elevation of the stackable chair body shown in FIG. 1 and FIG. 2.

I claim:

The ornamental design for stackable chair body, as shown.

References Cited

UNITED STATES PATENTS

D. 174,503	4/1955	Kolb et al.	D6—67
D. 210,939	5/1968	Schwarz, Jr.	D6—66
D. 221,146	7/1971	McComas	D6—66

OTHER REFERENCES

House and Garden, December 1962, p. 43, chair, bottom right, by Crafter.

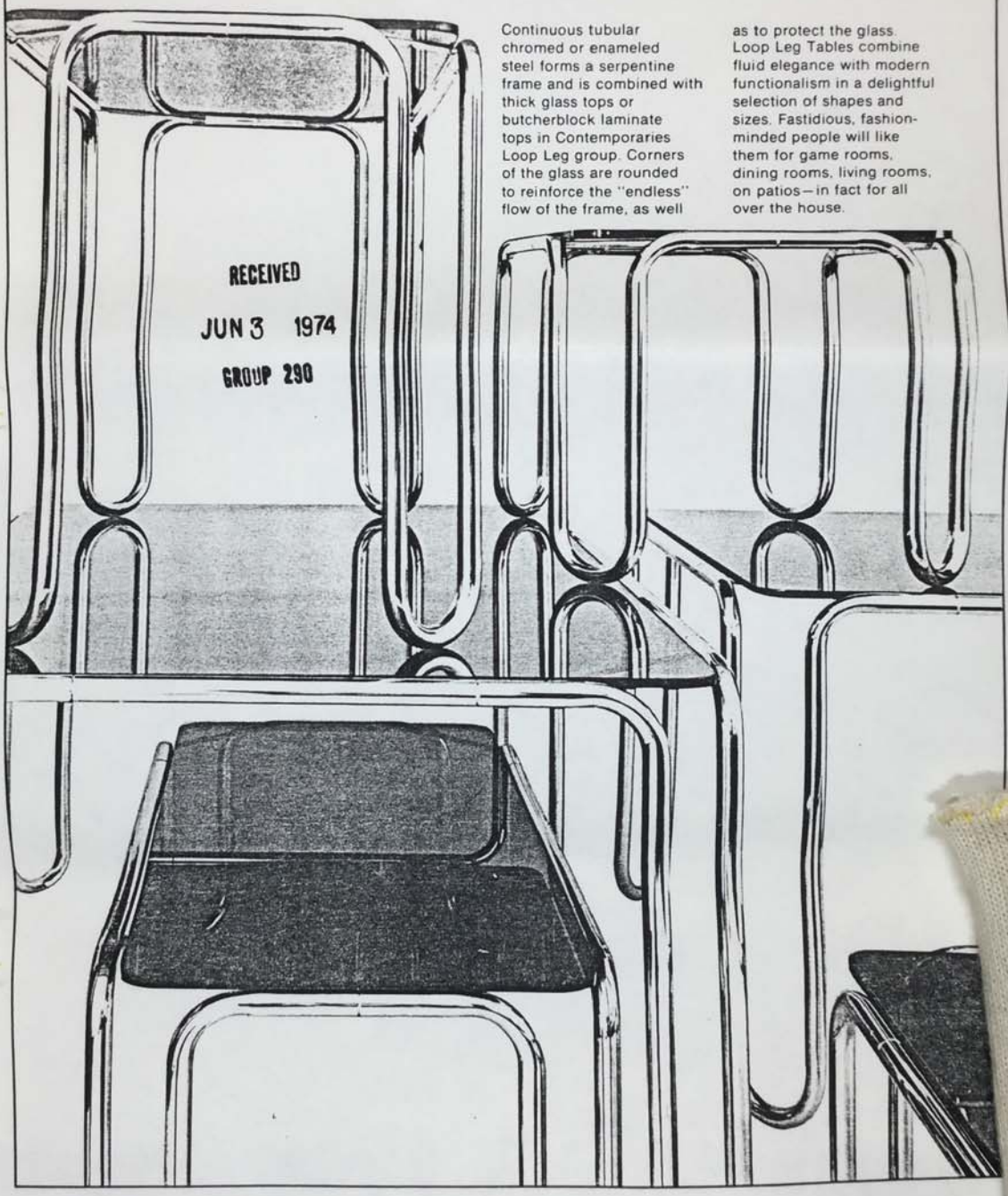
Industrial Design, June 1970, p. 52, chair in panel 16.

Domus Catalog, February 1962, chair on outside back cover.

BRUCE W. DUNKINS Primary Examiner

Box C-38

COSCO CONTEMPORARIES



Continuous tubular chromed or enameled steel forms a serpentine frame and is combined with thick glass tops or butcherblock laminate tops in Contemporaries Loop Leg group. Corners of the glass are rounded to reinforce the "endless" flow of the frame, as well as to protect the glass. Loop Leg Tables combine fluid elegance with modern functionalism in a delightful selection of shapes and sizes. Fastidious, fashion-minded people will like them for game rooms, dining rooms, living rooms, on patios—in fact for all over the house.

LOOP LEG

WYATT, GERBER, SHOUP, SCOBEY & BADIE
ATTORNEYS AT LAW
261 MADISON AVENUE
NEW YORK, NEW YORK 10016

JAMES W. BADIE
HENRY T. BURKE
ELIOT S. GERBER
ROBERT SCOBEY
GUY W. SHOUP
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GERARD F. DUNNE
THOMAS A. O'ROURKE
BARBARA A. LARSEN
WILLIAM E. MARAMES

TELEPHONE (212) 687-0911
TELEX 421733 GEDRIG
CABLE GEDRIGHT
RAPIFAX-RIFAX-INFOTEC FACSIMILE
(212) 867-2216

18 January 1983

Mr. Scott Burton
86 Thompson Street
New York, New York 10012

RE: New U.S. Design Application for CHAIR FRAME, CHAIR BODY AND CHAIR Our Docket: Burton-1

Dear Scott:

I am pleased to advise that the above design application was filed in the U. S. Patent & Trademark Office on November 17, 1982 under U. S. Serial No. 442,254.

Enclosed herewith is the original filing receipt for your files.

I will keep you advised of further developments.

Best regards,

Robert Scobey

RS:ab
Encl. Filing Receipt

P. S. Many thanks for your brief note about payment of my bill.

PTO-103 (rev. 1-79) DWW, ESG, G[redacted], RS, JWB, HTB, GFD

FILING RECEIPT

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
06/442,254	11/17/82	290	$ 62.50	BURTON-1	6	1	1

WYATT, GERBER, SHOUP,
SCOBEY & BADIE
261 MADISON AVE.
NEW YORK, NY 10016

RECEIVED
JAN 18 1983
R. SCOBEY

Receipt is acknowledged of the patent application identified herein. It will be considered in its order and you will be notified as to the examination thereof. Be sure to give the U.S. SERIAL NUMBER, DATE OF FILING, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this transmittal.

Applicant(s) SCOTT BURTON, NEW YORK, NY.

* SMALL ENTITY *

TITLE
CHAIR FRAME, CHAIR BODY, AND CHAIR

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28 January 1985

Mr. Scott Burton
86 Thompson Street
New York, New York 10012

RE: U. S. Design Application Serial No. 442,254
Filed: 11/17/82 For: CHAIR FRAME, CHAIR BODY AND CHAIR
My Docket: Burton-1

And

U. S. Mechanical Patent Appln. Serial No. 442,250
Filed: 11/17/82 For: CHAIR AND FRAME THEREFOR
My Docket: Burton-2

Dear Scott:

This letter is a status report on the two above-identified patent applications.

As you know from prior correspondence, your mechanical application serial No. 442,250 was rejected by the U. S. Patent & Trademark Office. I replied to the Action, and submitted amended claims. The Examiner has now finally rejected the application, and I am enclosing a copy of the final rejection. I am also enclosing a copy of an Examiner Interview Summary Record which briefly summarizes an interview which I had with the Examiner in the Patent Office when I was there on other business on January 8th. The Examiner and his supervising primary Examiner were both present at the interview. Both were adamant that, in their opinion, there was no patentable subject matter in this application.

Accordingly, as to the mechanical application of Serial No. 442,250, my strong recommendation is that it be abandoned by failing to respond further. The only possibility open to you is to file an Appeal before the Board Of Appeals, and such an Appeal would be due by 14 March 1985. Up to three months extension of time may be secured upon payment of an appropriate extension fee. Failure to file an Appeal will result in abandonment of the application.

In your design patent application serial No. 442,254, I have received an Action, and I am enclosing a copy of the same (dated 6 November 1984), together with a copy of the cited references.

I am also enclosing a copy of an Examiner Interview Summary Record detailing an interview that I had with Examiner Dunkins in the Patent Office, again on January 8th. Since I was in Washington on other business, I decided it best to interview the Examiners in both of your cases.

In the design case, I cited to Examiner Dunkins all of the patents which were developed by the examination in your mechanical patent application. I am required to bring to the attention of the Examiner pertinent prior art. Examiner Dunkins was very concerned about the French Patent No. 929,238, and expressed the belief that it was, together with the other references, destructive of patentability in this design application.

In my opinion, the design application, directed to the looks of your design (the non-functional features) is not such an open and shut case against patentability as Examiner Dunkins felt. However, during the interview, he was adamant in his position, and a very difficult if not impossible prosecution lies ahead. It seems likely that an Appeal to the Board of Appeals would be necessary, since I do not believe I can convince Examiner Dunkins of patentability.

In your design application, a response is due to be filed by 6 February 1985. Again, up to three months extension of time may be secured, upon payment of an appropriate extension fee.

I have not heard from you since I wrote you in the mechanical applicati I presume that you have lost interest in the design, at least from a patent standpoint, and do not wish to expend further funds on it. That I can understand.

Accordingly, if you wish to continue with either or both of these applications, please contact me immediately. If I do not hear from you, I will assume that you wish both applications to become abandoned, and will take no further steps in these applications.

I am very sorry that this letter must be so pessimistic, but I do not see much hope in either application

If you wish to drop these applications, I will not be billing you for any of the time that I have spent since the filing of the applications. I have deliberately withheld any billing to you for expenses incurred subsequent to the filing of the applications, upon the basis that a thorough search by the searcher should have turned up the French patent which has been so devastating against patentability. Searchers quite often miss references, and the particularly pertinent figure in the French patent could easily have been overlooked. I do not think that the searcher could be charged with negligence. However, I do feel badly about your expenditure of funds in connection with the filing of these applications. Certainly, the filing would have been much more limited (just to a design application) had I known about the French reference beforehand.

I would like to hear from you one way or the other. As noted above, however, if I do not, I will take it to mean that you do not wish to proceed further and wish to abandon both applications.

Best regards,

Robert Scobey

RS:ab
Encls. Examiner Interview Summary Record (2)
Office Actions dated 12/14/84 & 11/06/84

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17 September 1984

Mr. Scott Burton
86 Thompson Street
New York, New York 10012

RE: U. S. Serial No. 442,250 Filed: November 17, 1982
For: CHAIR AND FRAME THEREFOR My Docket: Burton-2

Dear Scott:

I have submitted the enclosed response to the Action of 15 June 1984 (I reported that action to you with my letter of 18 June 1984).

Since I did not hear from you, I amended the application to emphasize the specific chair construction provided by you, with its lines of support and planes of seat and backrest and side arm pieces, with the lines of demarcation between the various planes.

Although there is extensive prior art in this field, I am hopeful that allowable subject matter will be found by the Examiner.

I have telephoned the Examiner requesting that he communicate with me by telephone before he issues a final action, in the event that he does not find allowable subject matter at this juncture. I have found in the past that a telephone interview with the Examiner is oftentimes helpful, especially where the Examiner admits that there is patentable subject matter but does not feel that the applicant is directing his claims specifically enough to that subject matter.

I will let you know when I next hear from the U. S. Patent & Trademark Office.

Best regards,

Robert Scobey

RS:ab
Encl. Amendment w/enc.

Docket: BURTON-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : P. Brown GAU: 357

Applicant : SCOTT BURTON

Serial No. : 06/442,250

Filed : 17 November 1982

For : CHAIR AND FRAME THEREFOR

A M E N D M E N T

Hon. Commissioner of Patents & Trademarks

Washington, D.C. 20231

Sir:

In response to the Action of 15 June 1984, please amend the application as follows.

IN THE DRAWINGS

Please amend Figs. 1, 2, and 6, by making the changes shown in red ink in the attached prints of these figures.

IN THE SPECIFICATION

Page 4, line 7, at the end of the line, insert the following sentence:

--There are thus distinct lines of demarcation between the plane of the seat 14 and the planes of the side arm pieces 18 (as at 18a and 18b) and between the plane of the seat 14 and the plane of the backrest 16 (as at 16a).--

Docket: BURTON-2

IN THE CLAIMS

Cancel claims 1, 2, and 4 to 12.

Amend claim 3 by substituting the following amended claim.

--3.(amended) A chair [according to claim 1, in which] comprising a frame and a chair body slung therefrom, said chair body defining a seat and a backrest and side arm pieces, said frame supporting said chair body in lines of support, a first one of said support lines being generally horizontal at the top of said backrest, a second one of said support lines being generally horizontal at the front of said seat and lower than said first support line, and third and fourth ones of said support lines at the top of said side arm pieces being generally horizontal and generally transverse to said first and second support lines and at a level between the first and second support lines, said chair body [is] being formed from flexible material lying essentially in four distinct planes defining said seat and said backrest and said side arm pieces with distinct lines of demarcation formed between said seat and said side arm pieces and between said seat and said backrest.--

Add the following new claims 13 to 15 in the application:

--13. A chair according to claim 3, in which the outermost edges of said seat and backrest and side arm pieces are supported by the respective frame parts that provide said lines of support.

14. A chair according to claim 3, in which the entire area of each of said seat and backrest and side arm pieces is defined by a unitary sheet of said flexible material.

15. A chair according to claim 13, in which the entire area of each of said seat and backrest and side arm pieces is defined by a unitary sheet of said flexible material.--

REMARKS

By this amendment, claims 3 and 13 to 15 are presented for examination.

The specification has been amended to note the distinct lines of demarcation between the plane of the seat 14, on the one hand, and the planes of the side arm pieces 18 and backrest 16, on the other hand. The drawings have been amended in Figs. 1, 2, and 6 specifically to denote these lines of demarcation.

The claims have been amended,and a new set is presented for examination, of which claim 3 is the independent claim. Claim 3 has been amended to denote that the chair body is formed from flexible material that lies essentially in four distinct planes that define the seat and backrest and side arm pieces, with distinct lines of demarcation formed between those planes.

The applicant has invented a unique chair formed from a specific chair frame providing lines of support and a chair body formed from flexible material which nonetheless provides distinct planes of support.

Docket: BURTON-2

The cited Baccouche patent does not disclose an assembly with distinct lines of demarcation between various portions of a chair body. Further, this patent does not utilize a unitary sheet of flexible material defining the seat and backrest and side arm pieces, as in claims 14 and 15.

The Hauser patent has been cited for disclosing a single continuous rod as a frame. That feature is no longer being claimed, and this patent is not believed to be pertinent.

The remaining patents cited by the Examiner and by the applicant are not believed to disclose the invention covered by the claims remaining in this application and now presented for examination. As noted above, lines of support at varying levels for backrest and seat and side arm pieces, together with flexible material providing distinct planes for these parts of a chair body, with distinct lines of demarcation between the planes, is provided by the present invention. Allowance of the claims pending is respectfully requested.

Respectfully submitted,

Robert Scobey

Robert Scobey Reg.No. 19838
Attorney for Applicant
261 Madison Avenue
New York, New York 10016
Telephone: 212-687-0911

17 September 1984
Date

I hereby certify that this paper is being deposited this date with the U.S. Postal Service as first class mail addressed to Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Robert Scobey 9/17/84
Robert Scobey Date
Reg. No. 19,838

USSN 442,250
GAU 357

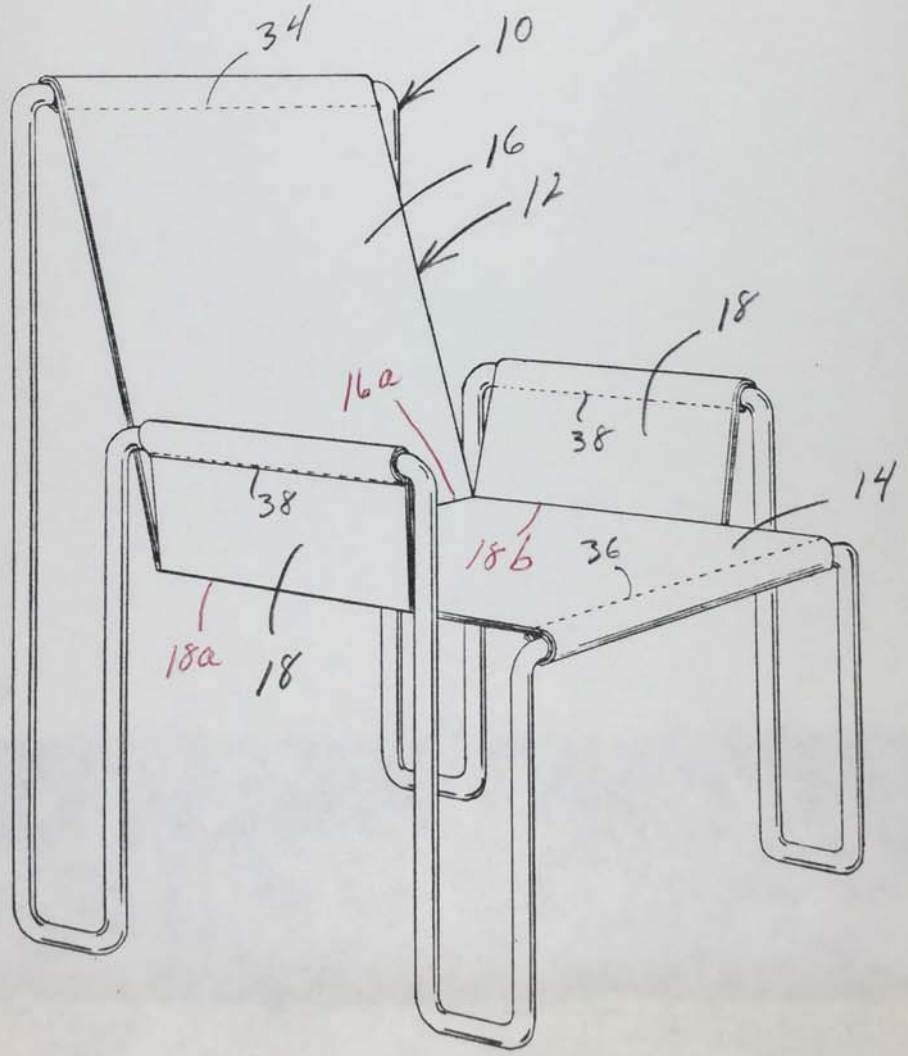

Fig. 1

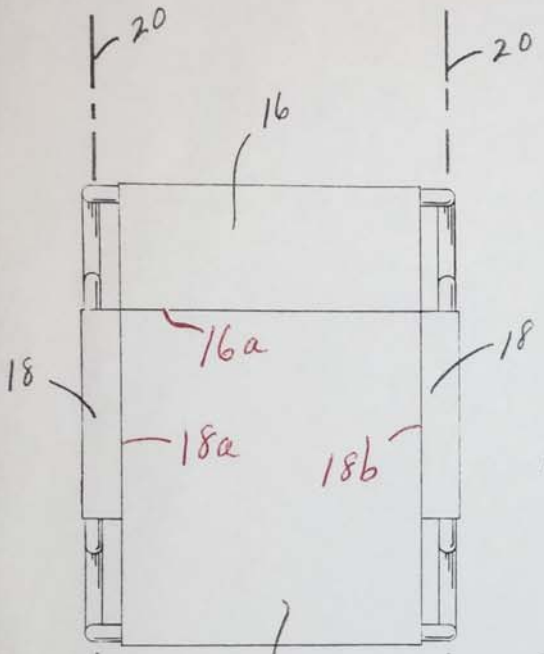

Fig. 2

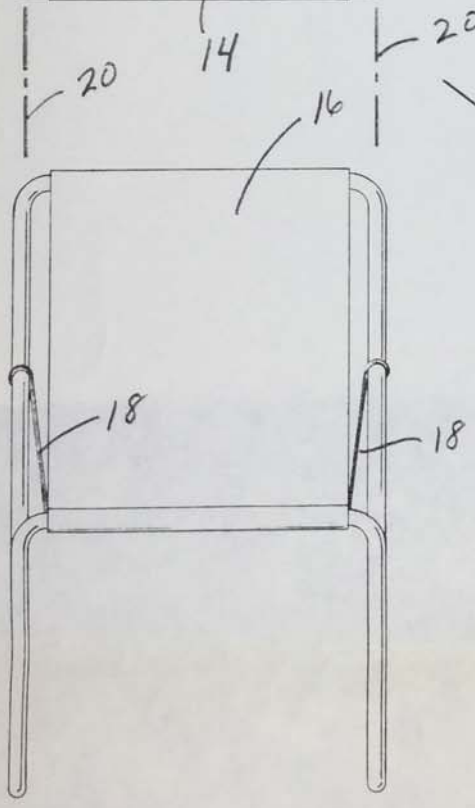

Fig. 3

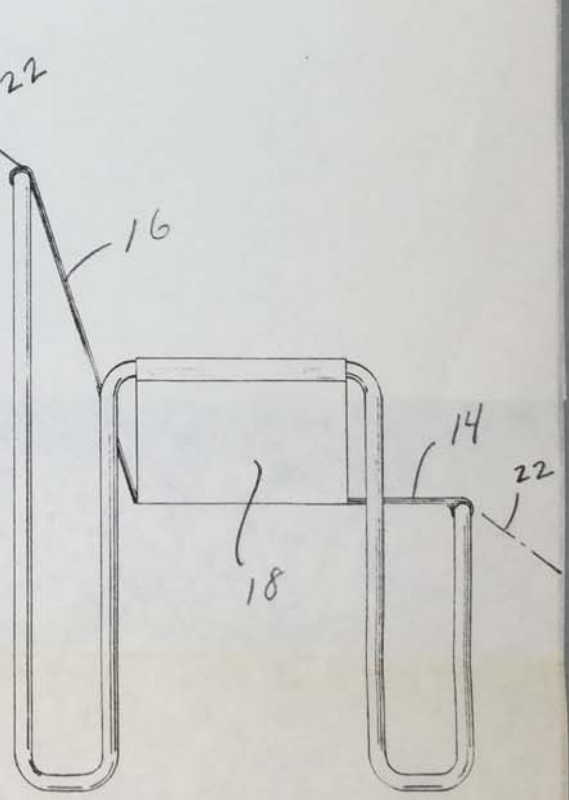

Fig. 4

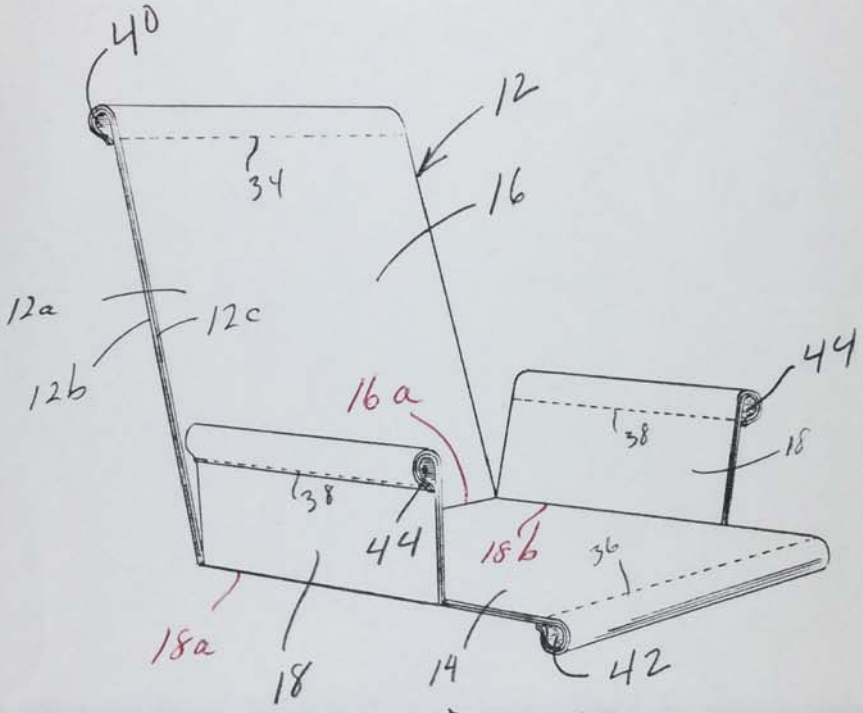

Fig. 6

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18 June 1984

Mr. Scott Burton
86 Thompson Street
New York, New York 10012

RE: U.S.Serial No. 442,250 Filed: November 17, 1982
For: CHAIR AND FRAME THEREFOR My Docket: Burton-2

Dear Scott:

I have just received an Action in your pending mechanical patent application, and I am enclosing a copy of the same, together with a copy of all of the references cited by the Examiner.

The Examiner has not allowed any claims in the application. Unfortunately, he has uncovered a very pertinent reference, the French patent to Baccouche (No. 929,238). He is rejecting claims 1 and 3 to 5 of your application as directly anticipated by Fig. 9 of that patent reference. The remaining claims are being rejected upon a combination of references namely, the Baccouche patent (Fig. 9) combined with the Hauser U. S. Patent No. 2,788,846.

I am surprised that the searcher I used to conduct the preliminary examination in the U. S. Patent & Trademark Office did not uncover this Baccouche French patent, since he did search the foreign art. However, I have reviewed his search report, and he did not search the particular sub-class (sub-class 440) of class 297 in which the Baccouche patent is classified. However, this is of no comfort to you.

I would like to meet personally with you to discuss this application and how best to proceed in the U. S. Patent & Trademark Office. Notwithstanding the closeness of the prior patents cited by the Examiner, there may be some chance of securing patent coverage if the claims are tightened to define your chair more specifically. In any event, I want to discuss the entire concept of your chair with you, to make sure that nothing is overlooked.

Please be reassured that initial rejections of all claims are most often issued in applications pending in the U. S. Patent & Trademark Office. Thus, an initial rejection of all claims, in and of itself, is not important. In your case, however, the Examiner does have a very pertinent reference in the French patent to Baccouche, in

terms of the structure of the frame of your chair, and that is why I envision the difficult prosecution ahead.

I suggest that you telephone me after you have had an opportunity to review these references and the Action that has been issued by the Examiner.

A response to the Action is due to be filed by 15 September 1984. Up to three months extension of time may be secured, if necessary, upon payment of an extension fee based upon the actual extension secured. Extension fees are as follows:

One month extension of time	$ 25.00
Two months extension of time	$ 75.00
Three months extension of time	$ 175.00

I look forward to hearing from you.

Best regards,

Robert Scobey

RS:ab
Encls. Office Action dated 6/15/84 w/encls.

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/442,250	11/17/82	BURTON S	BURTON-2

ROBERT SCOBEY
261 MADISON AVE.
NEW YORK, NY 10016

RECEIVED
JUN 18 1984
R. SCOBEY

EXAMINER	
BROWN, P	
ART UNIT	PAPER NUMBER
357	4

DUE: SEPT. 15, 1984

DATE MAILED: 06/15/84

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☑ This application has been examined ☐ Responsive to communication filed on _____. ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☑ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449
4. ☐ Notice of informal Patent Application, Form PTO-152
5. ☐ Information on How to Effect Drawing Changes, PTO-1474
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☑ Claims 1-12 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☑ Claims 1-12 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☑ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____. has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

PTOL-326 (Rev. 7-82) EXAMINER'S ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baccouche (Fig. 9).

3. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to

which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, and 6-12 are rejected under 35 U.S.C. 103 as being unpatentable over Baccouche in view of Hauser. Bacchouch (Fig. 9) discloses a chair substantially similar to that claimed with the exception of being formed from a continuous rod. However, to form a chair frame from a continuous rod is well known in the art as shown by Hauser (Fig. 2) and to make the chair of Baccouche from a continuous rod would be an obvious modification to one with ordinary skill in the art in view of the Hauser reference.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Powers, Corda, and the French Patent No. 686,875 are cited for showing chair frames formed of continuous rods. The French and Corda references are also showing leg structure similar to that claimed, Persson et al (U.S.) and Persson (French) for showing U-shaped leg members, and Morrison and Flaum for disclosing slung support members.

6. Any inquiry concerning this communication should be directed to Peter Brown at telephone number 703-557-6200.

PB
P. Brown/qef
06/09/84

William E. Lyddane

WILLIAM E. LYDDANE
SUPERVISORY PRIMARY EXAMINER
ART UNIT 357

FORM PTO-892 (REV. 3-78) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

NOTICE OF REFERENCES CITED

SERIAL NO.	GROUP ART UNIT	ATTACHMENT TO PAPER NUMBER
442250	357	4

APPLICANT(S): Burton

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
	A	D248522	7-1978	Corda	D6	73X	
	B	2738346	4-1957	Hauser	297	DIG 2	
	C	3471200	10-1969	Morrison	297	457X	
	D	3749444	7-1973	Persson et al	297	445	
	E	3991802	12-1976	Powers	297	457X	
	F	4270799	6-1981	Flaum	297	445X	
	G						
	H						
	I						
	J						
	K						

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG	PERTINENT PP. SPEC.
	L	686875	7-1930	France		297	445		
	M	929238	12-1947	France	Baccouche	297	440		
	N	2248264	4-1973	Germany	Persson	297	445		
	O								
	P								
	Q								

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

R

S

T

U

EXAMINER	DATE
P Brown	5/23/84

* A copy of this reference is not being furnished with this office action.
(See Manual of Patent Examining Procedure, section 707.05 (a).)

United States Patent [19]

Corda

[11] Des. 248,522

[45] ** Jul. 18, 1978

[54] CHAIR

[76] Inventor: Charles Richard Corda, 2310 National Dr., Brooklyn, N.Y. 11234

[**] Term: 14 Years

[21] Appl. No.: 737,831

[22] Filed: Nov. 1, 1976

[51] Int. Cl. ..... D6—01
[52] U.S. Cl. D6/72; D6/73
[58] Field of Search D6/26, 37–39, D6/47–78

[56] References Cited

U.S. PATENT DOCUMENTS

D. 246,210 11/1977 Amey D6/63

OTHER PUBLICATIONS

Interiors, 6–1974, p. 132, chair by Cosco.
Interiors, 3–1974, p. 46, chair lower left.
Harter Catalog, Rec'd. May 14, 1973, Section 2, Armchair No. KOE–10.
Selig Import Cat., Rec'd. 3–23–1973, p. D17A–17, Chair No. 639–15.

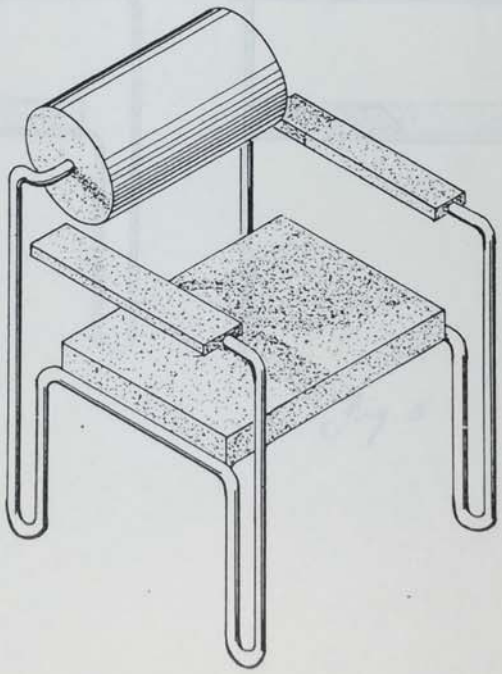
Primary Examiner—Bruce W. Dunkins

[57] CLAIM

The ornamental design for a chair, as substantially shown and described.

DESCRIPTION

FIG. 1 is a plan view of a chair showing my new design.
FIG. 2 is a side elevation thereof.
FIG. 3 is a front elevation thereof.
FIG. 4 is a isometric view thereof.
The side of the chair not shown is a mirror image of the side, while the undisclosed surface areas of the backrest bolster are plain and unornamented.



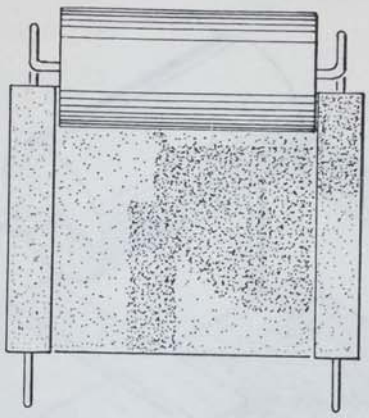


Fig. 1

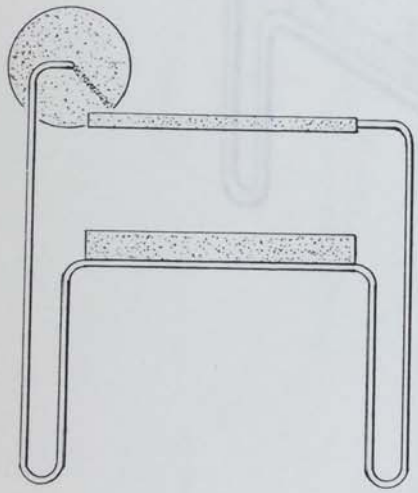


Fig. 2

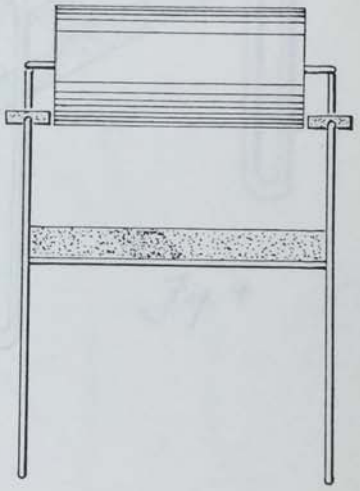


Fig. 3

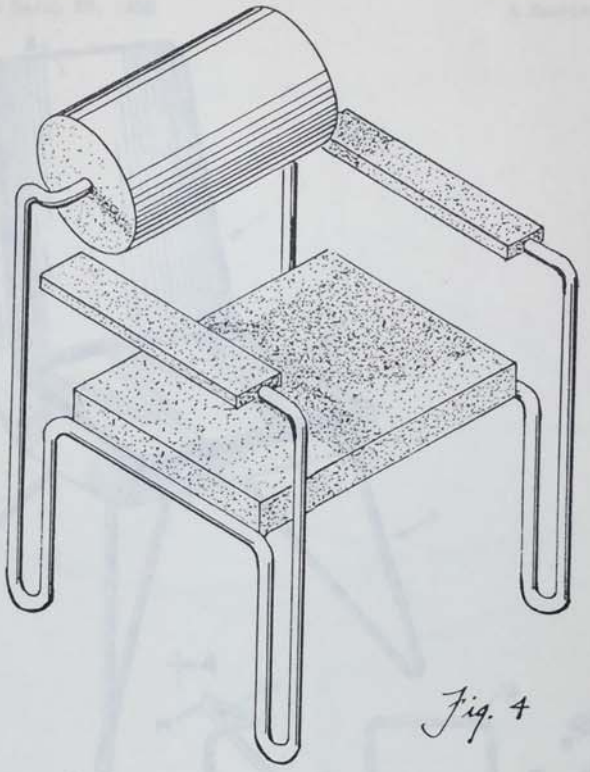


Fig. 4

2 297-D16.002

April 16, 1957 J. W. HAUSER 2,788,846

ARTICLE OF FURNITURE

Filed March 29, 1955 2 Sheets-Sheet 1

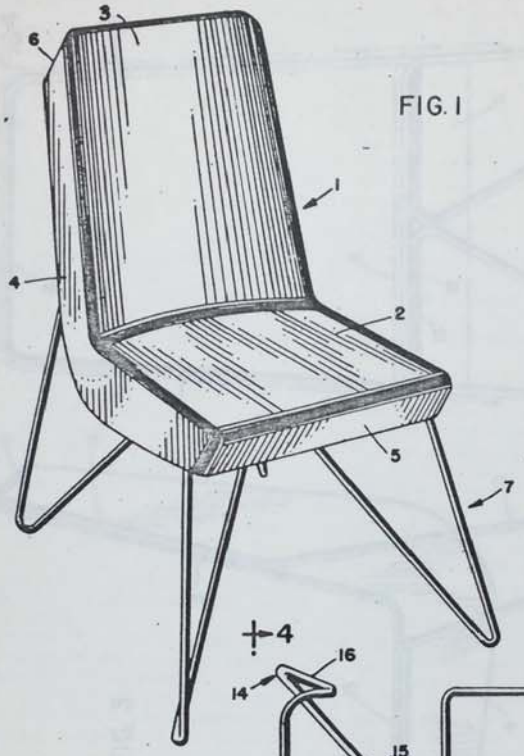


FIG. 1

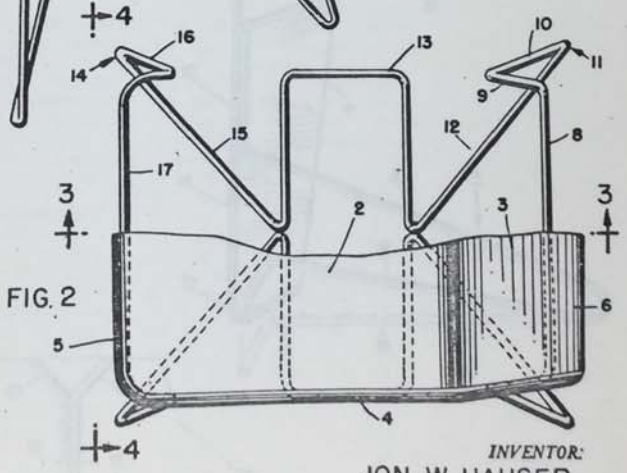


FIG. 2

INVENTOR:
JON W. HAUSER
BY Margaret, Johnston
Cook & Brant
ATT'YS

2 297-016.002

April 16, 1957 J. W. HAUSER 2,788,846

ARTICLE OF FURNITURE

Filed March 29, 1955 2 Sheets-Sheet 1

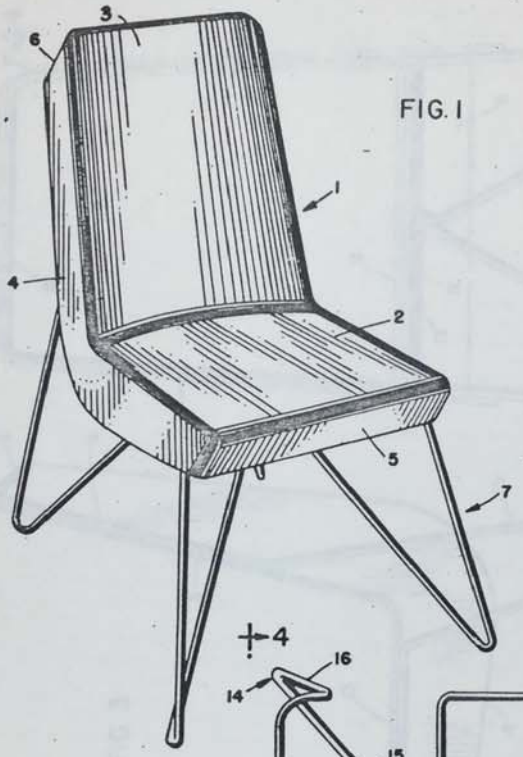


FIG. 1

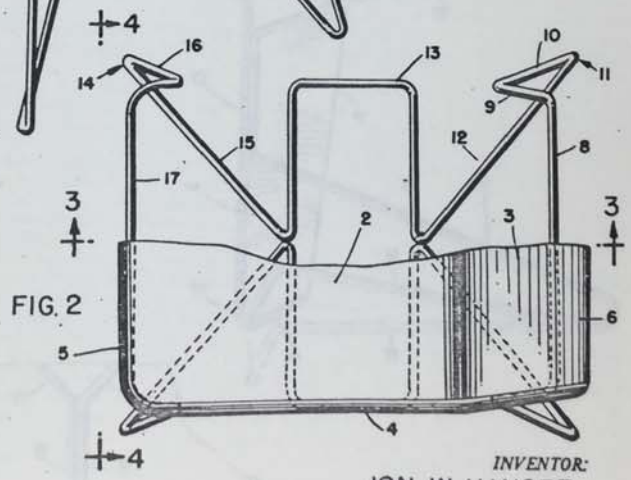


FIG. 2

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Cook & Brant
ATT'YS

April 16, 1957 J. W. HAUSER 2,788,846

ARTICLE OF FURNITURE

Filed March 29, 1955 2 Sheets-Sheet 2

FIG. 4

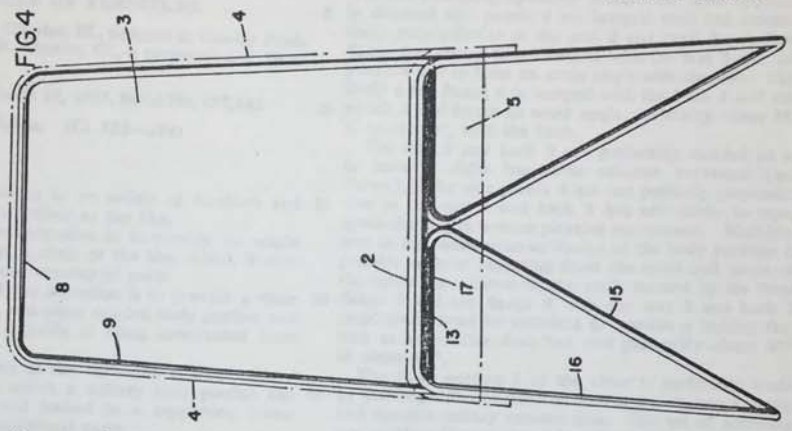


FIG. 3

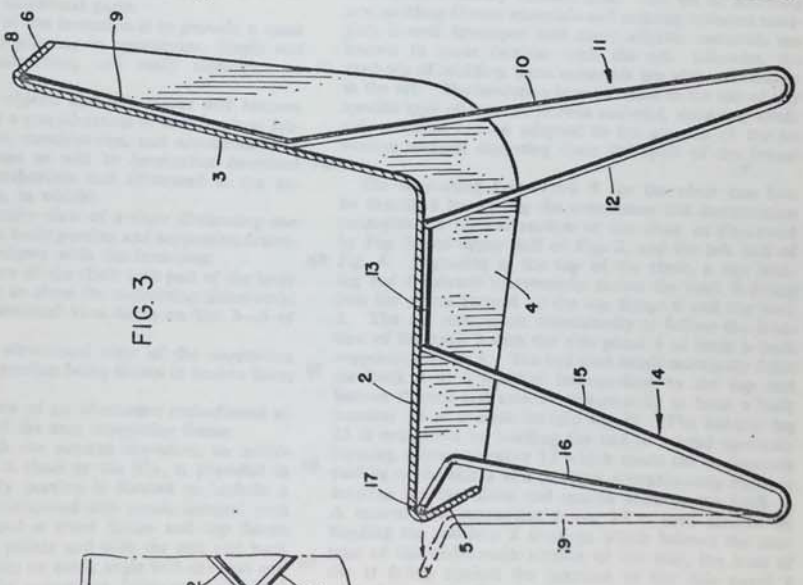
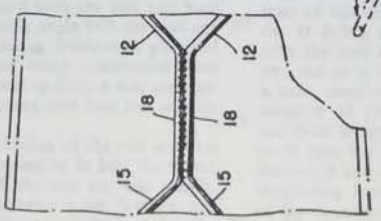


FIG. 5



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2,788,846

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2,788,846

ARTICLE OF FURNITURE

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Application March 29, 1955, Serial No. 497,662

3 Claims. (Cl. 155—194)

This invention relates to an article of furniture and more particularly to a chair or the like.

One object of the invention is to provide an article of furniture, such as a chair or the like, which is constructed of a minimum number of parts.

Another object of the invention is to provide a chair or the like having a one-piece molded body portion and a supporting frame capable of being constructed from one continuous rod.

Still another object of the invention is to provide a chair or the like in which a unitary body portion can be mounted upon and locked to a supporting frame without the use of additional parts.

A further object of the invention is to provide a chair or the like which is pleasing in appearance, simple and economical in construction, and easily assembled or disassembled.

These and other objects and advantages will become more apparent from a consideration of certain novel features of construction, combination, and arrangement of elements and portions as will be hereinafter described in detail in the specification and illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a chair illustrating one embodiment having a body portion and supporting framework made in accordance with the invention;

Fig. 2 is a plan view of the chair with part of the body portion broken away to show the supporting framework;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 2;

Fig. 4 is a front elevational view of the supporting frame with the body portion being shown in broken lines; and

Fig. 5 is a plan view of an alternative embodiment of the central portion of the seat supporting frame.

In accordance with the present invention, an article of furniture, such as a chair or the like, is provided in which a molded body portion is formed to include a seat, back, oppositely disposed side panels integral with the seat and back, and a front flange and top flange integral with the side panels and with the seat and back respectively and forming an acute angle with the seat and back respectively. The supporting framework provided by the invention is capable of being constructed from one continuous rod which is bent to form a seat supporting frame, a back supporting frame, and four legs extending downwardly therefrom.

The seat supporting frame portion of the rod includes a front locking rod portion adapted to fit into the recess formed by the front flange with the seat and side panels. The back supporting frame includes a top locking rod similarly adapted to fit into the recess formed by the top flange with the back and side panels. When the body portion is mounted upon the framework, the front and top locking rods exert an outward pressure to lock the framework firmly in place. The chair provided by the invention is inexpensive since there are only two essential parts which must be constructed.

The molded body portion 1 of the chair is clearly illustrated in Figs. 1 and 3 which show a seat 2 in a substantially horizontal position and a back 3 integral with the seat and extending upwardly therefrom. Two oppositely disposed side panels 4 are integral with and substantially perpendicular to the seat 2 and back 3. A front flange 5 is shown to be integral with the seat 2 and side panels 4 and to form an acute angle with the seat. Similarly a top flange 6 is integral with the back 3 and side panels 4 and forms an acute angle, preferably about 30° to about 60°, with the back.

The seat 2 and back 3 are preferably molded so as to have a slight transverse concave curvature (not shown). The side panels 4 are not perfectly perpendicular to the seat 2 and back 3 but are shown to taper upwardly to give a more pleasing appearance. Modification in the constructon or design of the body portions is possible without departing from the spirit and scope of the invention. However, the angle formed by the front flange 5 and top flange 6 with the seat 2 and back 3 respectively must be sufficient to provide a locking feature as hereinafter described and preferably about 30° to about 60°.

The body portion 1 of the chair is preferably made by molding a fibrous material and/or a resin into a strong and durable unitary construction. The art of accreting and molding fibrous materials and molding resinous materials is well developed and many suitable materials are known to those familiar with the art. Likewise, the methods of molding these materials are also well-known in the art. The invention is not limited to the use of any specific type of resin or fibrous material, since any available material can be adapted to the practice of the invention without departing from the spirit of the invention.

The supporting framework 7 for the chair can best be described by tracing the continuous rod construction throughout a vertical section of the chair as illustrated by Fig. 3, the upper half of Fig. 2, and the left half of Fig. 4. Beginning at the top of the chair, a top locking rod 8 extends transversely across the back 3 fitting into the recess formed by the top flange 6 and the back 3. The rod next bends downwardly to follow the juncture of the back 3 with the side panel 4 to form a back supporting frame 9. The rod then bends outwardly from the back 3 at a position intermediate to the top and bottom thereof and extends downwardly to form a back member 10 of a back hairpin leg 11. The hairpin leg 11 is completed by bending the rod to extend upwardly forming a front member 12 which meets the underneath surface of the seat 2 at a position approximately halfway between the two sides and spaced towards the back 3. A central seat supporting frame 13 is then formed by bending the rod into a U-shape which follows the contour of the underneath surface of the seat, the base of the U fitting against the juncture of the side panel 4 with the seat 2. The front hairpin leg 14 is then constructed in a manner similar to the back leg, forming a back member 15 extending downwardly and a front member 16 extending upwardly toward the seat. The rod then bends to form a front locking rod 17 adapted to fit into the recess formed by the front flange 5 with the seat 2 and side panels 4 and to provide an additional supporting frame for the seat 2. The remaining half of the framework 7 is formed in exactly the same manner.

Fig. 5 illustrates an alternative embodiment of the central seat supporting frame. Instead of a U-shape supporting frame 13 as shown in Figs. 2 to 4, a straight bar support 18 is provided between the elements 12 and 15 of the back and front hairpin legs 11 and 14 respectively. The straight bar supports 18 formed between

each set of legs follow the contour of the underneath surface of the seat 2 in a central position and abut each other longitudinally. Although it is not necessary, these straight bar supports 18 can be suitably connected together by welding, as shown, or by strapping, bolting or the like.

A continuous rod from which the supporting framework is formed is preferably made of tubular wrought iron, but other materials can also be used including any solid or hollow tubular metal which is capable of being bent into the required shape. The two ends of the continuous rod preferably meet at a point within the molded body portion, such as at the center of the front or top locking rods, and can be welded together or maintained separately as desired.

The chair is assembled by placing the top locking rod 8 into the recess formed by the top flange 6 with the back 3 and side panels 4, and then forcing the front elements 16 of the front hairpin legs 14 backwardly to a position sufficient to permit the front locking rod 17 to pass by the lower edge of the front flange 5 into the recess formed by the front flange 5 with the seat 2 and side panels 4. The front element 16 of the front hairpin leg 14 is illustrated in Fig. 4 by a dotted line 19 as a preferred position to which this element is originally bent when the framework is constructed.

When the chair is assembled, the front element is constrained to the position 16 and a spring tension is provided whereby the front locking rod will more forcefully press outwardly against the front flange 5. This force is also transmitted to the top locking rod 8 causing it to press upwardly against the top flange 6. The acute angle formed by the front flange 5 and the top flange 6 with the seat 2 and back 3 respectively prevents the front and top locking rods from slipping out of place even though the chair is lifted or moved about by grasping the body portion thereof. The weight of an occupant of the chair tends to spread the legs slightly apart, whereby a further outward or upward pressure is exerted by the front and top locking rods. Thus, the body portion of the chair is at all times firmly locked to the framework.

One of the principal advantages of the chair or similar article of furniture provided by the invention is that only two parts need be constructed, the body portion and a framework. In the preferred form of the invention, each part is a single unit, the body being of molded construction and the framework being formed by bending a continuous rod. Another advantage is that the unitary body portion can be firmly locked to the supporting frame without using additional parts. The construction and assembly of the article of furniture can be accomplished very easily and economically and is well suited to mass production methods.

A further advantage of the invention is that the chairs and frames can be readily disassembled and separately stacked and/or nested for shipping and storage.

The invention is hereby claimed as follows:

1. A chair comprising a molded body portion which includes a seat, a back, oppositely disposed side panels integral with said seat and back, and a front flange and top flange integral with said side panels and with said seat and back respectively and forming an acute angle with said seat and back respectively, and a continuous rod bent to form a seat supporting frame including a front locking rod adapted to fit into the recess formed by the front flange with the seat and side panels, a back supporting frame including a top locking rod adapted to fit into the recess formed by the top flange with the back and side panels, and means connecting said top locking rod and said front locking rod, said means including downwardly extending legs.

2. A chair comprising a molded body portion which includes a seat, a back, oppositely disposed side panels integral with said seat and back, and a front flange and top flange integral with said side panels and with said seat and back respectively and forming an acute angle with said seat and back respectively, and a continuous rod bent to form a seat supporting frame including a front locking rod adapted to fit into the recess formed by the front flange with the seat and side panels and also including a central seat supporting frame having two U-shaped support members in which the sides of each U are substantially parallel to and spaced inwardly from the front and back edges of the seat and the base of each U fits against the juncture of the side panel and the seat, a back supporting frame including a top locking rod adapted to fit into the recess formed by the top flange with the back and side panels, and means connecting said top locking rod and said front locking rod, said means including downwardly extending legs.

3. A chair comprising a molded body portion which includes a seat, a back, oppositely disposed side panels integral with said seat and back, and a front flange and top flange integral with said side panels and with said seat and back respectively forming an acute angle with said seat and back respectively, and a continuous rod bent to form a seat supporting frame including a front locking rod adapted to fit into the recess formed by the front flange with the seat and side panels and also including a central seat supporting frame having two straight bar support members which follow the contour of the underneath surface of the seat in a central longitudinal position and abut each other longitudinally, a back supporting frame including a top locking rod adapted to fit into the recess formed by the top flange with the back and side panels, and means connecting said top locking rod and said front locking rod, said means including downwardly extending legs.

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CHAIR CONSTRUCTION

Filed Feb. 23, 1968

2 Sheets-Sheet 1

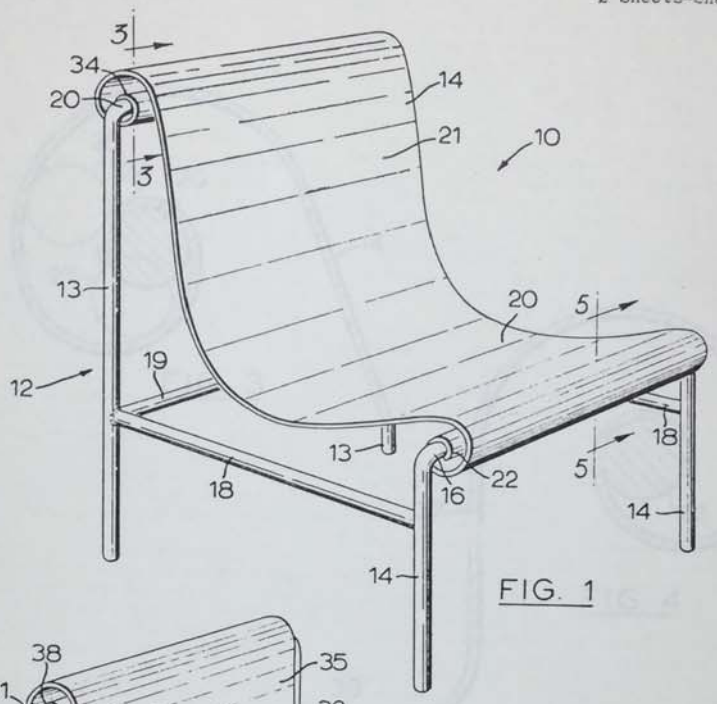

FIG. 1

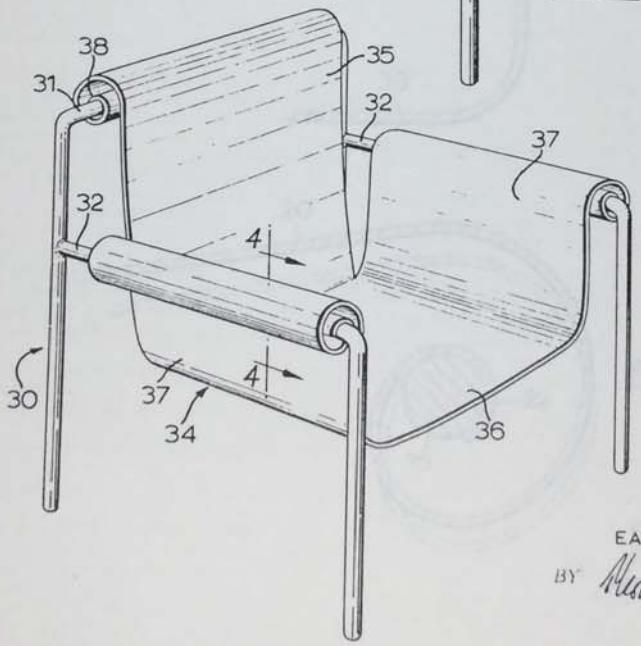

FIG. 2

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CHAIR CONSTRUCTION

Filed Feb. 23, 1968

2 Sheets-Sheet 2

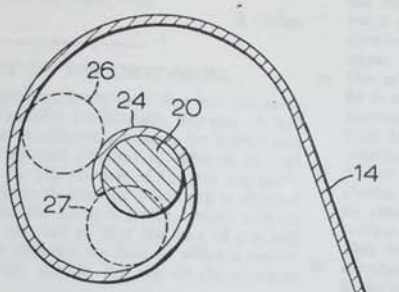

FIG. 3

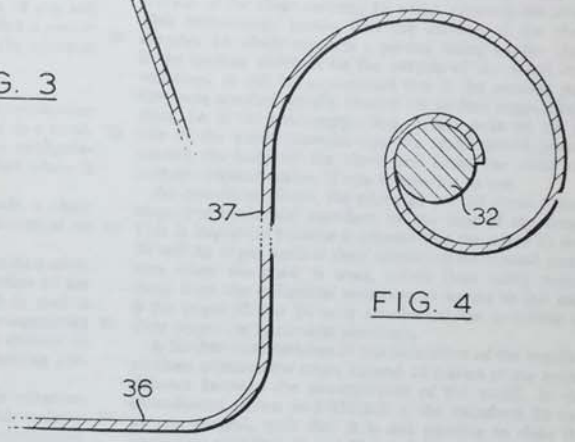

FIG. 4

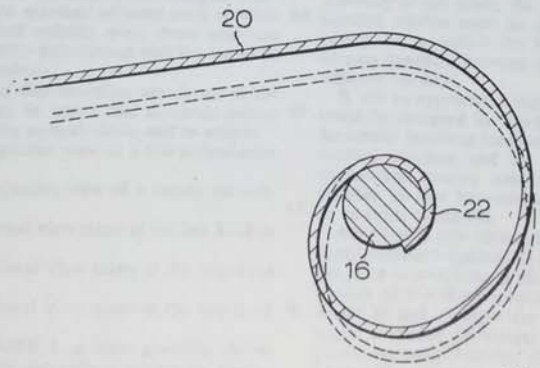

FIG. 5

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Patented Oct. 7, 1969

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CHAIR CONSTRUCTION

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Filed Feb. 23, 1968, Ser. No. 707,524

Int. Cl. A47c 7/02

U.S. Cl. 297—441

4 Claims

ABSTRACT OF THE DISCLOSURE

A chair has a supporting framework that includes elongate members substantially horizontally oriented. A stiff but resilient member constitutes a support for a sitter and has at least two extremities attached to different ones of the elongate members. The portion of the stiff but resilient member adjacent each attached extremity is scrolled spirally so as to bring the extremity into contact with its respective elongate member so that the face of the stiff but resilient member opposite the face on which a person sits bears downwardly against the top of the elongate member.

This invention relates generally to chair constructions wherein a body-supporting portion is attached to a structural framework, and more particularly to the configuration of the body-supporting portion of the chair where it is connected to the structural framework.

It is an object of this invention to provide a chair construction which is both simple and economical to manufacture.

It is a further object of this invention to provide a chair construction in which the body-supporting portion of the chair is attached to the structural framework in such a way as to increase the deflection of the body-supporting portion of the chair under a given load, and thereby to enhance the "cushion" effect in the body-supporting portion.

Accordingly, this invention provides a chair construction, comprising: a supporting framework which includes elongate members in substantially horizontal orientations, and a stiff but resilient member adapted to support a sitter on one face thereof, the member having at least two extremities attached to different ones of said elongate members, the portion of the member adjacent each attached extremity being scrolled spirally away from said one face to bring the extremity into contact with the top of its respective elongate member.

Two embodiments of this invention are shown in the accompanying drawings, in which like numerals denote like parts throughout the several views, and in which:

FIGURE 1 is a perspective view of a first embodiment of this invention;

FIGURE 2 is a perspective view of a second embodiment of this invention;

FIGURE 3 is a sectional view taken at the line 3—3 in FIGURE 1;

FIGURE 4 is a sectional view taken at the line 4—4 in FIGURE 2; and

FIGURE 5 is a sectional view taken at the line 5—5 in FIGURE 1.

Turning first to FIGURE 1, a chair generally shown at **10** is seen to comprise generally a supporting framework **12** and a body-supporting sheet member **14**. The supporting framework **12** includes two rearward vertical members **13** (of which only one is visible in FIGURE 1), two forward vertical members **14**, a forward horizontal member **16** bridging between the upper ends of the forward vertical members **14**, two side horizontal members **18** (only one of which is visible in FIGURE 1), a lower rearward horizontal member **19** bridging between the two rearward vertical members **13**, and an upper rearward horizontal member **20** bridging between the upper ends of the rearward vertical members **13**. In the embodiment shown in FIGURE 1, the body-supporting member **14** is a stiff but resilient sheet member shaped to provide a seat portion **20** and a back portion **21** for supporting the body of a sitter. The forward edge **22** and the rearward edge **24** of the sheet member **14** are attached, respectively, to the forward horizontal member **16** and the upper rearward horizontal member **20**. The marginal portion of the sheet member **14** adjacent each edge **22** and **24** is scrolled spirally such that it encircles its respective horizontal member, passes therebeneath, and brings the edge **22** or **24** into contact with the top of the elongate member. This configuration is clearly shown in FIGURE 1. For the sake of clarity of definition in the appended claims, the scrolled portions of the sheet member **14** will be referred to as being scrolled spirally away from the surface of the sheet member **14** which supports the sitter. This terminology means that the surface of the sheet member **14** which contacts a person sitting on the chair is the surface which is on the outside of the scroll convolutions. It will be appreciated that if the scrolled portion were scrolled spirally toward the surface supporting a sitter, i.e. if the sitter-supporting surface were on the inside of the scroll convolutions, the scroll would project toward the body of the sitter and make the chair extremely uncomfortable, if not impossible to use.

As mentioned above, the edges **22** and **24** contact their respective horizontal members on the tops of the latter. This is important because it ensures that the edges **22** and **24** will be urged against their respective horizontal members when the chair is used, rather than being pulled away from the horizontal members as would be the case if the edges **22** and **24** were attached at the underside of their respective horizontal members.

A further consideration in the formation of the scrolled portions adjacent the edges **22** and **24** relates to the radial distance between the convolutions of the scroll. In the embodiment shown in FIGURE 1, the members **13** and **20** are integral, such that it is not possible to slide the horizontal members **16** and **20** longitudinally into position within the scrolled portions of the sheet member **14** when the chair is being assembled. Thus, in order to permit assembly of the chair, the adjacent convolutions of each scrolled portion must be spaced from each other sufficiently far to permit the respective horizontal members to pass inwardly between the convolutions to a position adjacent the edge.

It will be appreciated that other supporting frameworks could be designed in which it was possible to slide the horizontal members longitudinally into position within the scrolled portions, and for this reason the provision of convolution spacing sufficient to permit the horizontal member to pass between convolutions is not considered an essential limitation.

Attention is now directed to FIGURE 3, in which the upper rearward horizontal member **20** is shown in section, and in which the preferred curvature of the scrolled portion of the sheet member **14** is shown. Broken line circles **26** and **27** represent intermediate positions of the upper rearward horizontal member **20** as it is being passed inwardly between the convolutions to the solid line position shown in FIGURE 3. It will be noted that, at every point between the convolutions, there is sufficient spacing for the member **20** to pass without jamming.

The purpose of scrolling the portions of the sheet member **14** adjacent the attached edges **22** and **24** is to permit the sheet member **14** to deflect to a greater degree under load than it would if its edges were attached without being scrolled. In other words, the scrolling of the attached edges gives the sheet member **14** a greater "cushion" effect than it would normally have. Attention

is directed to FIGURE 5, which shows in solid lines the scroll configuration at the forward horizontal member **16** when the chair is unloaded, and which shows in broken lines the scroll configuration when the chair is loaded. It will be clear from this figure that the "cushion" effect is derived from the distortion of the scroll under load.

Attention is now directed to FIGURES 2 and 4, in which the second embodiment of this invention is shown. A supporting framework **30** includes a rearward horizontal member **31** and two side horizontal members **32**. The sheet member **34** includes a back portion **35**, a seat portion **36**, and two side portions **37**. The back portion **35** is scrolled adjacent the edge **38** in exactly the same manner as the back **21** in FIGURE 1. The sides **37** are scrolled similarly to the back portion **35**, as can be seen in FIGURE 4. Again, in FIGURE 2, as in FIGURE 1, the edges which are attached to the horizontal members contact the horizontal members along the top of the latter, in order to ensure a compression load as between the horizontal member and the attached edge.

A large choice of materials is available for the sheet member **14**. Reinforced plastics, sheet metal and laminated wood products, for example, could all be employed for the manufacture of the chair construction according to this invention. The use of sheet metal, however, is particularly advantageous with respect to the ease with which a flat edge can be scrolled, and the accurate duplication of a given scroll configuration. In this connection, it will be noted in FIGURES 3, 4 and 5, that the configuration of the three scrolled portions is identical. Note, for example, that the actual edge of each sheet member (the termination point of each scroll) lies in a plane which contains the axis of the respective horizontal member and which is normal to the flat portion of the sheet member immediately adjacent the scrolled portion thereof. This is not, of course, an essential limitation of this invention, but merely a consequence of providing identical scroll portions on the sheet member, which provision is likewise not essential to this invention.

In the embodiment shown in FIGURE 1, it will be readily appreciated that the sheet member **14** could be replaced by a plurality of parallel, spaced-apart bands all having the same general outline and scroll configurations as the sheet member **14**, without departing from the essence of this invention. It will further be appreciated that the principle of this invention would be employed if the sheet member **14** were replaced by a plurality of rods having no appreciable lateral dimension. In the appended claim **1**, the word "member" is intended to include within its ambit slat-like, band-like or rod-like members, as well as sheet members of the kind illustrated.

In the two embodiments disclosed in this invention, the framework members to which the edges of the sheet members **14** and **34** are attached are shown as horizontal. It will be appreciated that a small departure from horizontal

orientation in these members will not affect the advantages deriving from this invention. Provided that the force being transmitted from the seat member to the framework member has its largest component perpendicular to the framework member, the "cushion" effect will be retained.

The attachment of the edges of the sheet members to the framework members can be accomplished in any number of conventional ways. For example, the edges can be welded to the framework members, or attached thereto by means of mechanical fastening devices such as screws, rivets, bolts, etc.

What I claim as my invention is:

1. A chair construction comprising:

a supporting framework which includes elongate members in substantially horizontal orientations,

and a stiff but resilient member adapted to support a sitter on one face thereof, the resilient member having at least two extremities attached to different ones of said elongate members, the portion of the resilient member adjacent each attached extremity being scrolled spirally away from said one face to encircle its respective elongate member in spaced relation therewith and to bring the extremity into contact with the top of its respective elongate member.

2. A chair construction as claimed in claim **1**, in which said stiff but resilient member is a sheet member, the extremities of said sheet member being the edges thereof.

3. A chair construction as claimed in claim **1**, in which adjacent convolutions of each scrolled portion are spaced from each other sufficiently far to permit the elongate member to pass inwardly between the convolutions to a position adjacent said opposite face of the extremity.

4. A chair construction as claimed in claim **2**, in which adjacent convolutions of each scrolled portion are spaced from each other sufficiently far to permit the elongate member to pass inwardly between the convolutions to a position adjacent said opposite face of the extremity, and in which the elongate members are of circular cross-section.

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CASMIR A. NUNBERG, Primary Examiner

U.S. Cl. X.R.

297—457

7-31-73 UR 3,749,444

United States Patent [19]

Persson et al.

[11] **3,749,444**

[45] **July 31, 1973**

[54] **SITTING FURNITURE**

[75] Inventors: **Eric Sigfrid Persson**, Horby; **Signe Harriet Persson-Melin**, Malmo, both of Sweden

[73] Assignee: **Expo Nord, AB**, Horby, Sweden

[22] Filed: **Nov. 30, 1971**

[21] Appl. No.: **203,321**

[30] **Foreign Application Priority Data**

Feb. 11, 1971 Sweden 1706/71

[52] **U.S. Cl.** **297/445**, 297/457

[51] **Int. Cl.** **A47c 5/00**, A47c 11/00

[58] **Field of Search** 297/287, 441, 445, 297/446, 448, 452, 457

[56] **References Cited**

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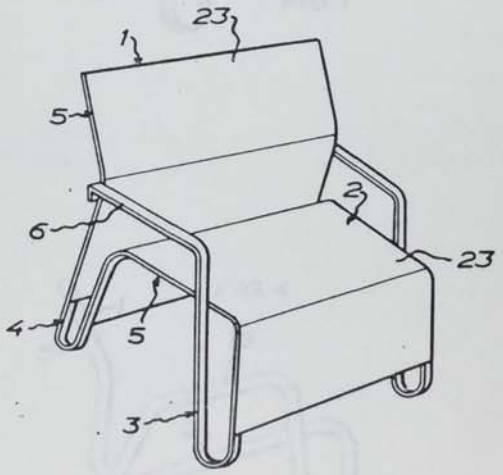
Primary Examiner—Casmir A. Nunberg
Attorney—John Lezdey et al.

[57] **ABSTRACT**

A piece of sitting furniture with back rest and seat members has two lateral frame bars which extend each along one side edge of the seat member and are bent from the front end of the seat member first downwardly and then rearwardly and upwardly so as to form front legs which in side elevation are of U-shape and the rear U-limbs of which are extended in an upward direction past the seat member and bent rearwardly so as to form an arm rest portion.

9 Claims, 6 Drawing Figures



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SHEET 1 OF 3

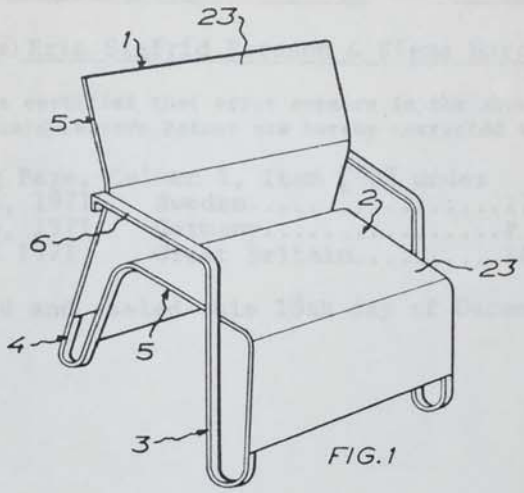
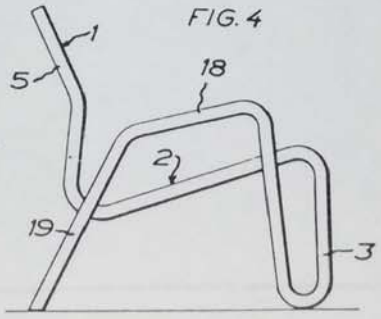


FIG. 1

FIG. 4



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297/445

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,749,444 Dated July 31, 1973

Inventor(s) Eric Sigfrid Persson & Signe Harriet Persson-Melin

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Covering Page, Column 1, Item [30] under
"Feb. 11, 1971 Sweden.....1706/71" please add
--Feb. 26, 1971 Germany.....P 21 09 242.2
May 10, 1971 Great Britain.....14001/71--.

Signed and sealed this 18th day of December 1973.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

RENE D. TEGTMEYER
Acting Commissioner of Patents

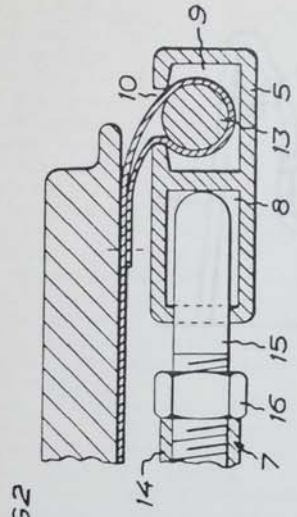
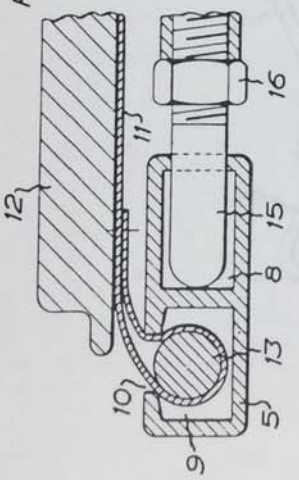


FIG2



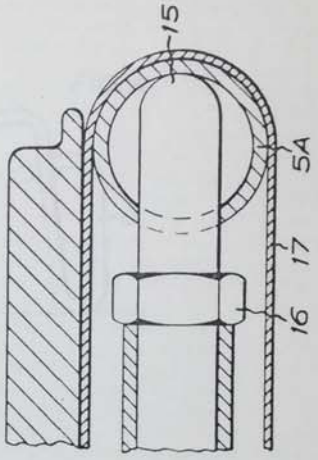
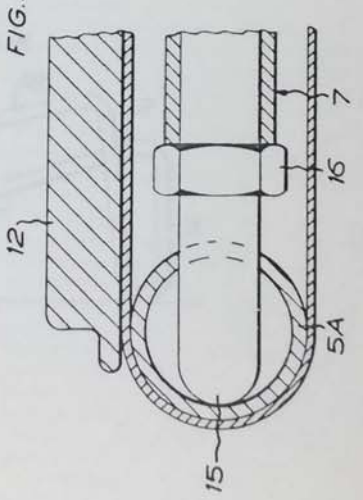


FIG.3



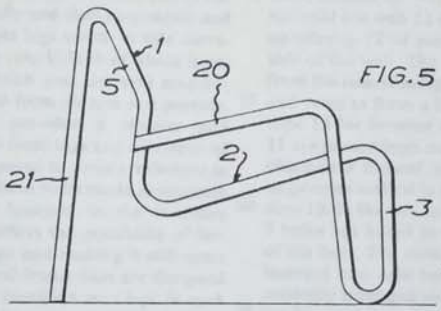


FIG. 5

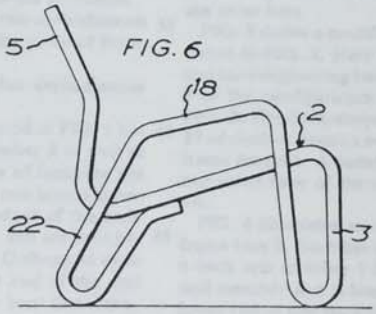


FIG. 6

SITTING FURNITURE

This invention relates to a piece of sitting furniture having back rest and seat members, front and rear legs, and two lateral frame bars which have seat portions extending each along one side edge of the seat member and merging at the front end of said seat member integrally in bar portions so as to form the front legs of the piece of furniture. Characteristic of the invention is that said bar portions are bent from the front end of the seat member first downwardly and then rearwardly and upwardly so as to form front legs which in side elevation are of U-shape and the rear U-limb of which is extended in an upward direction past the seat member and bent rearwardly so as to form an arm rest portion.

The present invention provides a simpler and cheaper construction of the front legs and arm rests of the sitting furniture as compared to prior art designs in which at least the arm rests have to be made as separate details which have to be fastened to the furniture frame. The invention also offers the possibility of further simplifying the furniture and making it still more inexpensive in that the lateral frame bars are designed so as also to constitute the furniture rear legs in such a way that the lateral frame bars constitute two unitary lateral frame elements which carry the back rest member and seat member.

The invention will be more fully described hereinbelow with reference to the accompanying drawings which diagrammatically illustrate some embodiments of the sitting furniture. In the drawings:

FIG. 1 is a perspective view of an embodiment of a piece of sitting furniture according to the invention;

FIGS. 2 and 3 are cross sections of two embodiments of the seat or back rest member of the piece of furniture; and

FIGS. 4 to 6 are side views of further embodiments of the piece of furniture.

The piece of sitting furniture illustrated in FIG. 1 has a back rest member 1 and a seat member 2 as well as front legs 3 and rear legs 4. The piece of furniture has a supporting rigging of bars including two lateral frame bars 5 which extend along the side edges of the back rest member 1 and the seat member 2 and are bent between these members downwardly in U-shape so as to form the rear legs 4. From the front end of the seat member 2 the lateral frame bars 5 are bent first downwardly and then rearwardly and upwardly so as to form front legs 3 which in side elevation are of U-shape and the rear U-limb of which is extended in an upward direction past and outside the seat member 2 and is bent rearwardly so as to form an arm rest portion 6 the rear end of which is connected to the back rest member portion of the lateral frame bars 5.

The two lateral frame bars 5 thus bent carry between them a body-supporting material 23 at least within the regions of the back rest member 1 and the seat member 2. If the body-supporting material 23 is rigid, for example is of wood or rigid plastics material with or without upholstery, it can constitute the only connection between the two lateral frame bars. However, it is often advantageous to make the body-supporting material 23 from a flexible web or cloth and in such a case the two lateral frame bars 5 must be interconnected at several points, preferably within the region of the back rest member and the seat member.

An advantageous embodiment of the last mentioned kind is illustrated in FIG. 2. It will be seen from this Figure that the lateral frame bars 5 can be made of metal and each contain two longitudinal channels 8 and 9. The channel 9 is in communication with the atmosphere though a constricted lateral mouth or slot 10 extending throughout the length of the bar. The channel 9 having the slot 10 serves for the fixation of the body-supporting material to the frame bars 5. In the embodiment chosen by way of example the body-supporting material is a web 11 of cloth or plastics material and an upholstery 12 of some suitable design secured to one side of the web. The portions of the web 11 projecting from the lateral margins of the upholstery 12 are folded and sewn to form a hem in which is inserted a wire or rope 13 for forming a bead. The two beads of the web 11 are passed from one end of the frame bars 5 into the channels 9 thereof, and these beads are of sufficiently large cross section to prevent being withdrawn from the slots 10. In the two facing walls of the lateral frame bars 5 holes are bored at spaced points into the channel 8 of the bars. The ends of the aforesaid cross bars 7 are inserted into said holes. Each cross bar consists of a centrally arranged guide tube 14 in the ends of which are inserted threaded end pins 15 to which are screwed nuts 16 engaging the ends of the tube 14. The pins 15 are inserted through said holes in the bars 5 and by rotation of the nuts 16 the ends of the pins can be tensioned against the intermediate wall of the bars 5 between the channels 8 and 9 and move apart the frame bars 5 while stretching the web 11 between the frame bars which are kept together only by the body-supporting material which urges the frame bars against the cross bars.

FIG. 3 shows a modification of the embodiment illustrated in FIG. 2. Here the frame bars 5A are tubular and have registering holes for the insertion of cross bars 7 of the configuration described in conjunction with FIG. 2. The body-supporting material here is a tubing 17 of cloth or plastics material which is passed onto the frame bars 5A. A suitable upholstery 12 is secured to one outer face of the tubing between the frame bars 5A.

FIG. 4 illustrates an embodiment having two lateral frame bars 5. Each bar extends from the upper edge of a back rest member 1 in a downward direction along said member and is bent in a forward direction at the lower end of said back rest member so as to form a seat member 2. At the front end of the seat member the frame bar is bent downwardly and then upwardly so as to form a front leg 3 which in side elevation is of U-shape. That limb of the U which does not merge in the seat member portion of the frame bar extends on the outer side in an upward direction past the seat member portion of the frame bar and is bent rearwardly above said portion so as to form an arm rest portion 18 which has its rear end bent downwardly so as to form a rear leg 19 of the piece of sitting furniture. A body-supporting material is stretched between the back rest member and seat member portions of the frame bars in a manner described in conjunction with FIGS. 2 and 3.

FIG. 5 shows a modification of the embodiment illustrated in FIG. 4. Here that portion of each lateral frame bar 5 which forms the arm rest portion 20 extends from the front leg means 3 above the seat member 2 rearwardly to the back rest member where the arm rest portion terminates and is secured to the back rest member

portion of the lateral frame bar **5**. Each lateral frame bar **5** extends from the upper end of the back rest member **1** downwardly so as to form rear legs **21** of the piece of sitting furniture.

FIG. **6** illustrates an embodiment which resembles that illustrated in FIG. **4** except that the frame bar **5** is bent from the rear end of the arm rest portion **18** first downwardly and then upwardly again so as to form a rear leg **22** which in side elevation is of U-shape and of which that limb which is not connected to the arm rest member **18** extends in an upward direction towards the seat member portion **2** of the frame bar and is preferably connected thereto.

What we claim and desire to secure by Letters Patent is:

1. A piece of sitting furniture, comprising a back rest member, a seat member, two front legs and two rear legs supporting said back rest and seat members, two lateral frame bars, seat portions of said frame bars extending each along one side edge of said seat member, front leg portions of said frame bars integrally extending from the front ends of said seat portions of said frame bars first downwardly and then rearwardly and upwardly so as to form said front legs which in side elevation are of U-shape, and arm rest portions of said frame bars integrally extending from the rear U-limb of said U-shaped front leg portions of said frame bars in an upward direction past said seat portions of said frame bars and bent rearwardly for forming arm rest members.

2. A piece of sitting furniture, comprising a back rest member, a seat member, two front legs and two rear legs supporting said back rest and seat members, two lateral frame bars, back rest portions of said frame bars extending each along one side edge of said back rest member, seat portions of said frame bars extending each along one side edge of said seat member, front leg portions of said frame bars integrally extending from the front ends of said seat portions of said frame bars first downwardly and then rearwardly and upwardly so as to form said front legs, which in side elevation are of U-shape, and arm rest portions of said frame bars integrally extending from the rear U-limb of said U-shaped front leg portions of said frame bars in an upward direction past said seat portions of said frame bars and bent rearwardly for forming arm rest members, the rear ends of said arm rest portions of said frame bars being connected to said back rest portions of said frame bars.

3. A piece of sitting furniture as claimed in claim **2**, comprising U-shaped rear leg portions of said frame bars, the U-limbs of said U-shaped rear leg portions integrally merging in said back rest and seat portions of said frame bars.

4. A piece of sitting furniture as claimed in claim **2**, comprising rear leg portions of said frame bars, integrally merging in the upper ends of said back rest portions of said frame bars.

5. A piece of sitting furniture as claimed in claim **2**, comprising rear leg portions of said frame bars formed by downwardly bent extensions of the rear ends of said arm rest portions of said frame bars.

6. A piece of sitting furniture as claimed in claim **2**, comprising U-shaped rear leg portions of said frame bars, one U-limb of each of said U-shaped rear leg portions merging integrally in the rear end of each one of said arm rest portions of said frame bars and the other U-limbs of said U-shaped rear leg portions being connected to said seat portions of said frame bars.

7. A piece of sitting furniture comprising a back rest member, a seat member, two front legs and two rear legs supporting said back rest and seat members, two lateral frame bars, back rest portions of said frame bars extending each along one side edge of said back rest member, seat portions of said frame bars extending each along one side edge of said seat member, front leg portions of said frame bars integrally extending from the front ends of said seat portions of said frame bars first downwardly and then rearwardly and upwardly so as to form said front legs, which in side elevation are of U-shape, arm rest portions of said frame bars integrally extending from the rear U-limb of said U-shaped front leg portions of said frame bars in an upward direction past said seat portion of said frame bars and bent rearwardly for forming arm rest members, the rear ends of said arm rest portions of said frame bars being connected to said back rest portions of said frame bars, cross bars extending between said lateral frame bars, and body-supporting flexible material extending between said lateral frame bars at least within the region of said back rest and seat portions of said frame bars and keeping said frame bars urged against said cross bars.

8. A piece of sitting furniture as claimed in claim **7**, comprising means for adjusting the length of said cross bars.

9. A piece of sitting furniture as claimed in claim **7**, comprising means on said lateral frame bars forming channels extending longitudinally of said frame bars and having constricted lateral mouths opening in a side face of said frame bars, and marginal beads of said body-supporting material anchored in the channels of said frame bars.

* * * * *

United States Patent [19]

Powers

[11] 3,999,802

[45] Dec. 28, 1976

[54] **CHAIR**

[76] Inventor: **George Pyrke Powers**, 209 Dianne Ave., Oakville, Ontario, Canada

[22] Filed: **Mar. 17, 1975**

[21] Appl. No.: **558,790**

[52] **U.S. Cl.** **297/447**; 297/218; 297/239; 297/295; 297/446; 297/448; 297/457

[51] **Int. Cl.²** **A47C 1/12**

[58] **Field of Search** ... 297/294, 295, 218, 445–448, 297/239, 457

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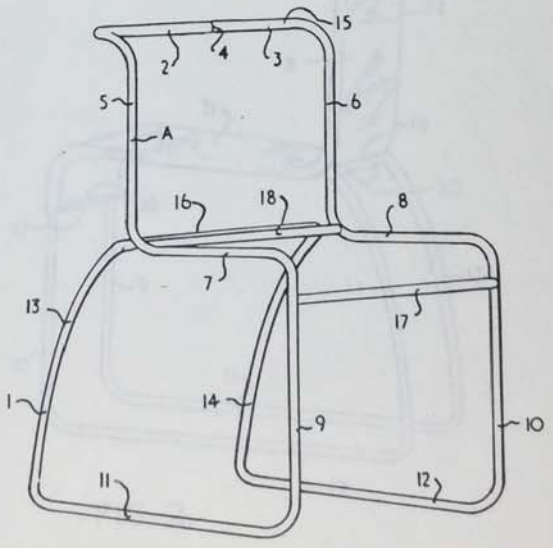
Primary Examiner—James C. Mitchell
Attorney, Agent, or Firm—W. Charles Kent

[57] **ABSTRACT**

A chair having a unitary metal frame of the so-called runner type wherein there is along each side a runner joining the bottom of the front and rear legs of such respective side of the chair, the frame being fabricated from a length of metal rod, tube or the like, the opposite ends of the length of metal being welded or otherwise permanently secured. This continuous loop of metal is shaped to provide the chair frame comprising spaced apart sides of the back and seat, the front legs, runners, and rear legs respectively and also transverse connecting reaches between the top of the sides of the back and the top of the rear legs of the chair. Reinforcing cross-pieces join the spaced apart sides of the frame near the top of the front legs and in the area where the bottom of the back joins the rear of the seat, the latter cross-piece being in juxtaposed and initially spaced relation but releasably fastenable to the transverse connecting reach between the top of the rear legs to strengthen and rigidify the chair frame against sway and twist. While the open gap or passage between the juxtaposed and spaced cross-piece and reach is unobstructed, a replaceable upholstery sleeve with one open end is applied over the back of the chair frame, extended to the front of the seat and down over the front legs to the above first-mentioned frame-reinforcing cross-piece where a flap which may be provided along one edge of the open end of the sleeve can be passed under the adjacent frame-reinforcing cross-piece and secured as by a separable fastener to the opposite edge of the open end of the sleeve, then the juxtaposed cross-piece and reach are releasably fastened capturing the upholstery sleeve against displacement.

3 Claims, 6 Drawing Figures



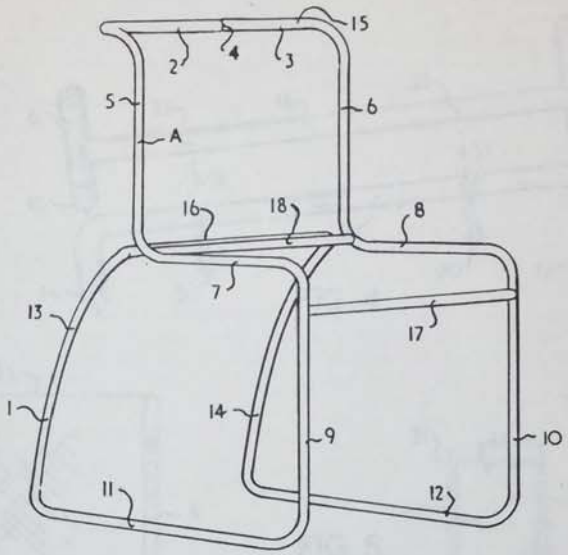


FIG. 1.

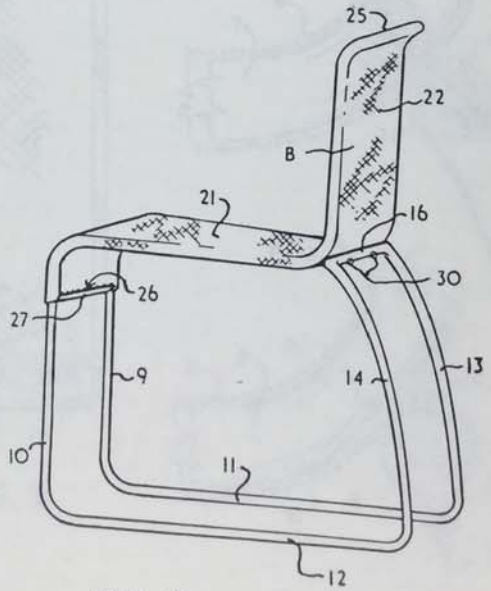


FIG. 2.

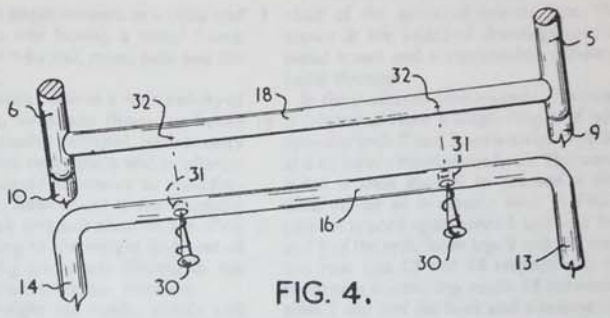


FIG. 4.

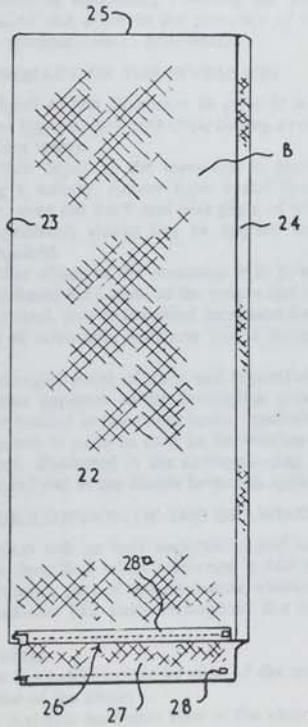


FIG. 3.

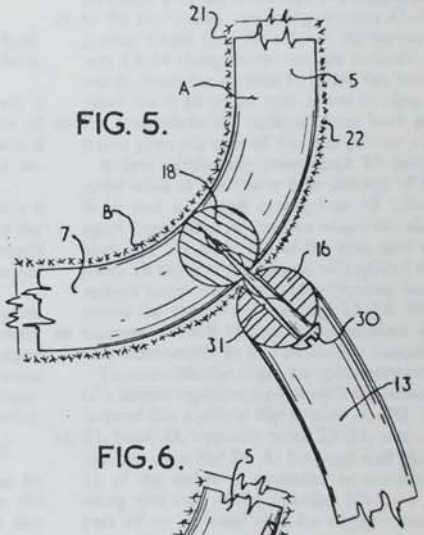


FIG. 5.

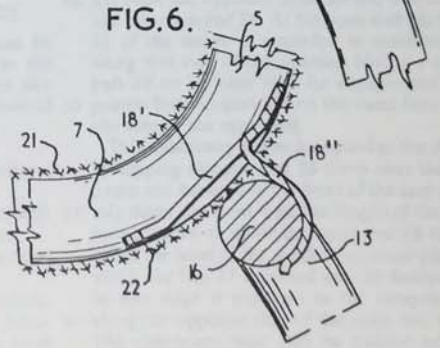


FIG. 6.

CHAIR

BACKGROUND OF THE INVENTION

This invention relates to improvements in a chair and appertains particularly to one having a metal frame such as those fabricated of wire rod, metal tube and the like, suitable for stacking.

Metal frame stacking chairs come in a wide variety of designs, many being ugly, weak and flimsy, or heavy and bulky, calling for excessive material, unnecessary forming steps, requiring too many parts and reinforcements, being thereby rendered expensive to manufacture and clumsy to handle. Subsequent to the assembly of the frame, separate back and seat sections are often permanently applied adding to the weight and cost of the chair and necessitating premature discard of the item when the upholstery covering has worn out.

The need for a light-weight yet stable, sturdy and durable wire rod, runner type, stacking chair with a readily replaceable upholstery covering has thus far been unsatisfied due often to the presence of one or more of the aforementioned deficiencies.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a light-weight runner type, metal frame chair having a replaceable upholstery sleeve.

It is a further object of the invention to provide a chair having a unitary, runner type, metal frame of novel design, over the back and seat parts of which a one-piece upholstery sleeve can be applied and removed as required.

A still further object of the invention is to provide a unitary metal frame for a chair of the nature and for the purpose described, that is accorded increased strength and stability of releasable fasteners joined juxtaposed frame parts.

To the accomplishment of these and related objects as shall become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the claims hereunto appended.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be best understood and can be more clearly described when reference is had to the drawings forming a part of this disclosure wherein like characters indicate like parts throughout the several views.

In the drawings:

FIG. **1** is a front-side isometric view of the unitary, wire rod frame of the chair;

FIG. **2** is a rear-side isometric view of the chair, with the replaceable upholstery sleeve applied thereto;

FIG. **3** is an enlarged view of the rear or underside of the upholstery sleeve;

FIG. **4** is an enlarged exploded view of the reinforcing cross-piece at the rear of the seat and the juxtaposed connecting reach between the top of the back legs of the chair;

FIG. **5** is a further enlarged vertical section of the parts shown in FIG. **4**, fastened together following application of the upholstery sleeve; and

FIG. **6** is a similar sectional view of a modified form of frame-reinforcing cross-piece for releasable fastening with the juxtaposed connecting reach.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

To meet the modern demand for a metal stacking chair of the so-called runner type, this invention as shown in the attached drawings consists of a unitary metal frame and a replaceable upholstery sleeve captured thereon.

In the preferred embodiment illustrated, the frame A is fabricated from a single length of wire rod **1** whose opposite ends **2** and **3** are welded in abutting relation as at **4** to form a continuous loop. This continuous loop of metal is then shaped to provide a skeletal, unitary, chair frame as is clearly seen in FIG. **1** comprising parallel spaced apart sides **5** and **6** of the back, sides **7** and **8** of the seat, front legs **9** and **10**, runners **11** and **12** and rear legs **13** and **14** respectively, together with a transverse connecting reach **15** between the top of the sides **5** and **6** of the back and a second transverse reach **16** between the top of the rear legs **13** and **14**.

The chair frame in side elevation consists of approximately vertical sides **5–6** of the back from the bottom of which the sides **7–8** of the seat extend horizontally forwards with the front legs **9–10** depending vertically to the rearwardly extending runners **11–12** that are of greater length than the sides of the seat so that the rear legs **13–14** rising therefrom are inclined or arced forwardly from the vertical to locate the horizontal transverse reach **16** to the rear of but in close proximity to the area where the bottom of the back portion of the frame joins the rear of the seat portion of the frame.

A first reinforcing cross-piece **17** joins the spaced apart sides of the frame near the top of the front legs **9–10** and a second cross-piece **18** joins the spaced apart frame sides in the area where the sides **5–6** of the back join the sides **7–8** of the seat, said second cross-piece **18** being in juxtaposed and spaced relation to the second transverse reach **16** extending horizontally between the top of the rear legs **13–14**. The juxtaposed transverse reach **16** and the cross-piece **18** are releasably connectible as will be further described.

To complete the chair, an upholstery unit in the form of a simple replaceable sleeve B is provided. It may be formed like a pillow slip as seen in FIG. **3** with a front **21**, back **22**, opposite sides **23–24**, one closed end **25** and one open end **26**. At the open end **26**, the front side **21** of the sleeve is extended to constitute a flap **27** along that side of the opening having a slide fastener part **28** on its inner face for engagement with a companion fastener part **28**^{a} on the outer face of the opposite side of the open end.

This upholstery sleeve is applied to the skeletal frame by slipping its open end **26** down over the back of the frame and forward to the front of the seat and then part way down the front legs, the length of the sleeve being proportioned to allow the open end **26** to reach to or about the level of the reinforcing cross-piece **17**, under which the flap **27** is passed and the fastener part **28** on its free edge is attached to the companion part **28**^{a} along the opposite side of the open end of the sleeve. The upholstery item may be padded or modified as desired without departing from its simple pull-on sleeve design with only a single open end.

Once the upholstery sleeve B is in place, the open gap or passageway between the connecting reach **16** and the rear of the frame A in the area where the chair back and seat meet may be closed by releasably securing the connecting reach **16** to the juxtaposed cross-piece **18**

by the spaced pair of self-tapping screws **30** that pass through the back **22** of the upholstery and cause the same to be compressed between the reach and cross-piece and held against displacement thereby.

To facilitate the attachment of the reach **16** and cross-piece **18**, see FIG. **4**, the former may be drilled to provide screw accommodating bores **31** and the cross-piece is appropriately punch marked as at **32** in registry therewith to give locating and starting points for the screws.

The reinforcing cross-pieces **17** and **18**, where seen in FIGS. **1**, **4** and **5**, appear as bars of wire rod similar in cross-section to the material of the initial length of rod **1** fashioned into the endless loop that forms the frame. Such cross-pieces may be of any profile or cross-section shape desired. The modified structure shown in FIG. **6** employs a sheet metal cross-piece **18'** of non-planar cross-section and secured at its ends as by welding to the spaced apart sides of the frame and located near the outer arc of the curve where the sides **5–6** of the frame back join the sides **7–8** of the seat. To such a formed metal cross-piece **18'** the reach **16** could be secured by self-tapping screws as already mentioned but this modified cross-piece **18'** is provided with a transversely spaced pair of integral downwardly extending clips **18''** struck laterally therefrom, such clips being of arcuate form to accommodate and retain reach **16** inside and under the arcuate hook of the clip when press-locked firmly therein and, like the connection already described, to hold the upholstery sleeve against displacement and to strengthen and rigidify the chair assembly and resist sway and twist of the frame.

In the manufacture of a metal frame stacking chair of the so-called runner type it has been found that the novel method of construction disclosed herein contributes significantly to (a) simplifying the assembly, (b) cutting labour time and costs, (c) saving material and (d) reducing the weight of the chair. These benefits are attained by forming the wire rod frame so that the sides of the back flow into the sides of the seat and on down the front legs without interruption and by providing a gap or passageway between the frame sides where the bottom of the back flows into the rear of the seat and the juxtaposed and spaced reach connecting the top of the rear legs. Such open gap allows the one-piece upholstery sleeve, with only one end open, to be applied without obstruction and rapidly secured by fastening the open end flap around the horizontal reinforcing cross-piece near the top of the front legs. Then the gap is closed by releasably attaching the rear leg reach to the chair frame greatly adding to the strength and rigidity of the chair.

It is understood that various changes in the size, shape and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or scope of the claims.

What is claimed is:

1. A chair suitable for stacking, of the so-called runner type, comprising a metal frame consisting of a length of material forming an unbroken loop and shaped to provide continuous transversely spaced opposite sides of the back and seat, spaced apart front legs, runners and rear legs of the chair in that sequence and to connect the top of the spaced sides of the back and the top of the rear legs by horizontal transverse reaches, and a replaceable upholstery sleeve providing the back and seat of the chair, said sleeve having one open end and applied by slipping the same down over the back of the frame and forwardly along the sides of the seat to the front of the frame, said metal frame having a first horizontal frame reinforcing cross piece joining the spaced apart sides of said frame in the area where the sides of the back join the sides of the seat, the horizontal transverse reach connecting the top of the rear legs, prior to application of said upholstery sleeve being in juxtaposed and spaced relation to said first reinforcing cross piece, affording free passage therebetween for application of the upholstery sleeve, said transverse reach connecting the top of the rear legs being secured to the frame in the area where the sides of the back join the sides of the seat to capture the upholstery sleeve application thereof and rigidify the chair frame.

2. A chair according to claim **1** further comprising means for releasably fastening the first reinforcing cross piece and the juxtaposed reach connecting the top of the rear legs, said transverse reach connecting the top of the rear legs being releasably fastened by said fastening means to the frame in the area where the sides of the back join the sides of the seat.

3. A chair according to claim **2**, wherein said metal frame has a second frame reinforcing cross piece joining the spaced apart sides of the frame near the top of the front legs, and wherein said upholstery sleeve has a flap along one edge of its open end that is extendable under the second horizontal reinforcing cross piece near the top of the front legs and securable by a separable fastener to the opposite edge of said open end.

* * * * *

8/2/81 XR 4,270,799

United States Patent [19]

Flaum

[11] **4,270,799**

[45] **Jun. 2, 1981**

[54] **MODULAR CHAIR APPARATUS**

[76] Inventor: **Dennis M. Flaum**, 260 E. Chestnut, Chicago, Ill. 60610

[21] Appl. No.: **46,611**

[22] Filed: **Jun. 8, 1979**

[51] **Int. Cl.**³ **A47C 7/00**

[52] **U.S. Cl.** **297/440**; 297/441; 297/445

[58] **Field of Search** 248/188.91; 297/294, 297/419, 440, 441, 445, 447, 45, 287, 280; D6/56

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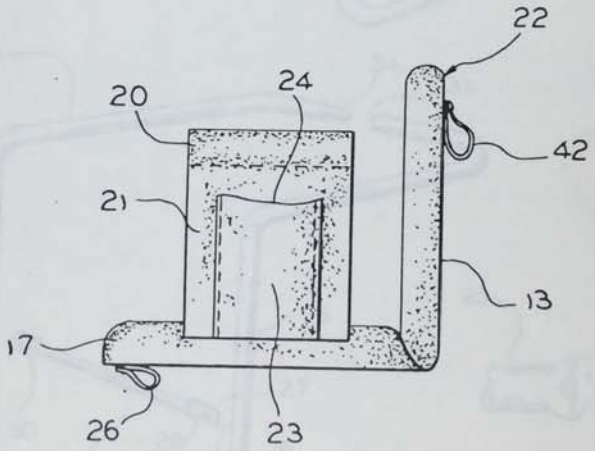
Primary Examiner—James T. McCall
Attorney, Agent, or Firm—Alter and Weiss

[57] **ABSTRACT**

A modular chair apparatus designed for easy home assembly comprising two frame elements and a connection bar which securely fastens together to form a modern and handsome chair. The interlocking frame elements are securely joined to each other with a frame attachment element locking the frames together. The chair may have an upholstered back and seat thereby producing a comfortable and secure seating apparatus.

6 Claims, 8 Drawing Figures



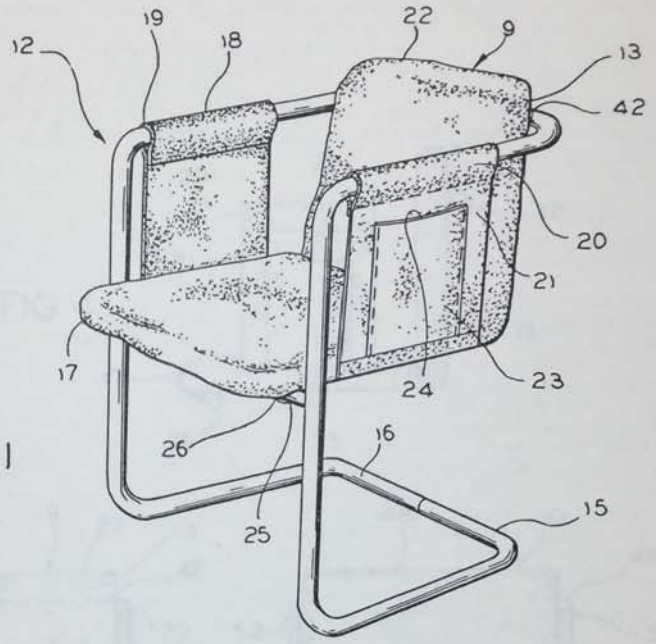


FIG. 1

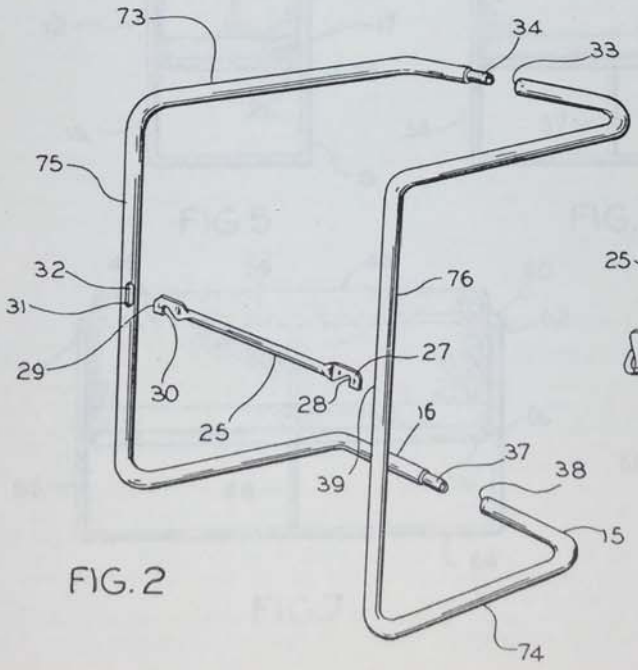


FIG. 2

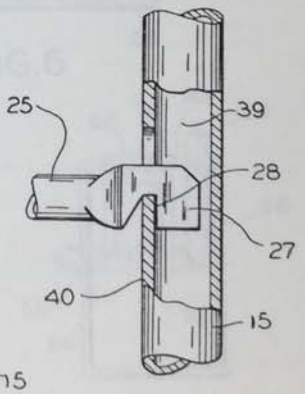


FIG. 3

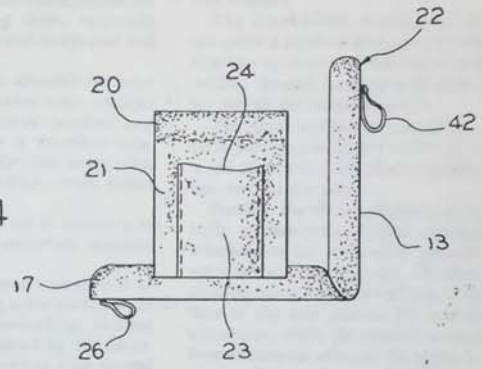


FIG. 4

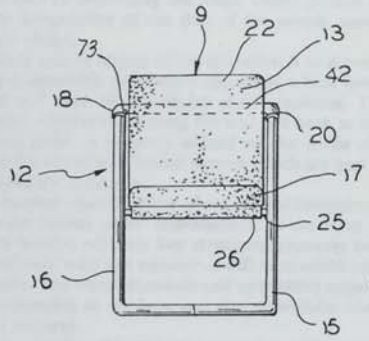


FIG. 5

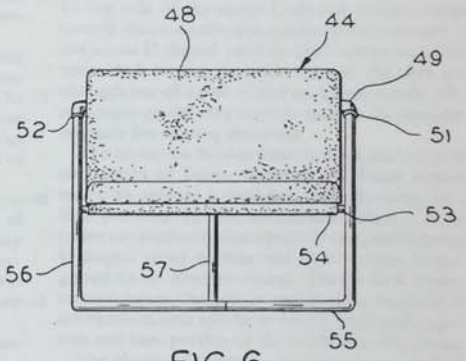


FIG. 6

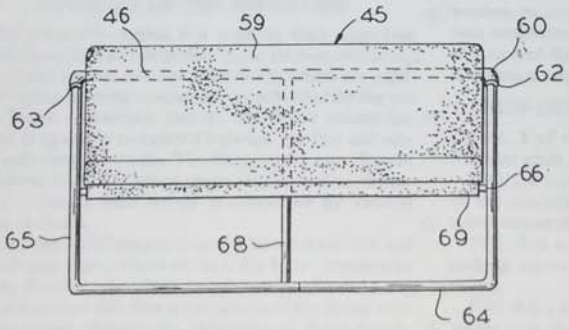


FIG. 7

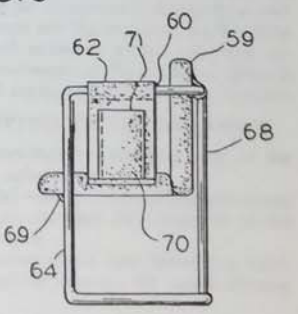


FIG. 8

MODULAR CHAIR APPARATUS

BACKGROUND OF THE INVENTION

The present invention relates, in general, to a chair and more particularly to a modular chair apparatus that is easy to assemble as well as comfortable.

Knocked-down chair assemblies which are chair assemblies that can be assembled at home have a number of problems associated with them. Unskilled people are frequently at a loss in assembling them, especially where the apparatus consists of several integrated and complex parts.

Even where the people are able to assemble the prior complex chair assemblies, one is never sure whether they are securely fastened to achieve comfort and safety. The home-assembly industry is therefore, constantly searching for easy-to-assemble chair assemblies, ones that can be assembled by unskilled people rather than by skilled people.

Accordingly, an object of the present invention is to provide a new and unique easy-to-assemble modular chair.

Another related object of the present invention is to provide a chair apparatus comprising a few parts that fit securely together by means of interlocking without fasteners. The frame elements are joined by utilization of male and female interlocking devices that extend from and are a part of the frame elements, whereby the relative ease of assembling the frame would present no problem irregardless of the skill of the people assembling the chairs.

Another related object of the invention is to provide an easy-to-assemble upholstery apparatus which forms the seat and back of a modular chair apparatus. The upholstery apparatus, forming the seat and back as one combined piece, is securely affixed on the frame element by the use of attachment sleeves which are part of the upholstery apparatus.

Still another related object of the present invention is to provide further chair embodiments in the form of different widths, wherein key structural elements may be modularaly used in a number of different width configurations. The frame elements and upholstery apparatus are adaptable to the type and size of modular chair the user requires.

These and other objects of the invention will become readily apparent from the present disclosure.

SUMMARY OF THE INVENTION

The present invention is a modular chair apparatus which comprises an integrated frame element consisting of first and second side frame elements which are capable of being securely connected to each other by the use of a frame connection means. The frame connection means is operably associated between the first and second side frame elements. The integrated frame element is a substantially U-shaped upper portion and a substantially U-shaped base which is connected by vertical frame elements.

The chair upholstery is disposed between the first and second side frame elements and the frame connection means. Further, the chair upholstery is affixed to the first and second side frame elements and the frame connection means through the utilization of sleeve attachments.

The first side frame element comprises an upper and lower frame element attachment means which is received into the apertures on the upper portion and base portion of the second side frame elements.

The frame connection means comprises interlocking members at either of its two ends each of which is attachable to the frame element means which have apertures in the vertical frame elements for receiving the interlocking members. The interlocking members are capable of insertion into the apertures for fixedly maintaining the positions of the frame elements relative to one another.

The interlocking members of the frame connector comprise a notched attachment device which protrudes into the apertures of the frame element to lock therewithin, thereby securely positioning the frame connector within the frame elements.

The chair upholstery comprises a seat portion and back portion associated with one another and is fabricated of a cushioning pliable textile material to provide comfort for the user.

Further, the chair upholstery comprises two substantially cylindrically looped elements and two sleeve attachments for removably attaching the chair upholstery to the frame elements. The first substantially cylindrically looped element affixes to the front bottom surface of the seat portion for attachment to the frame connector, while the second substantially cylindrically looped element affixs to the upper back side of the back portion for attachment to the U-shaped upper portion of the frame element. The first sleeve attachment connects to one side of the upper U-shaped portion, while the second sleeve attachment connects to the second side of the upper U-shaped portion. Each sleeve attachment is connected to the opposite side of the seat portion through one of a pair of arm enclosure panels. The arm enclosure panels may include pockets to provide a receptacle for reading materials.

The invention further contemplates the use of different widths of frame elements and frame connection means to provide a modular chair apparatus for more than one user. In this embodiment, there is a vertical frame connection means operably disposed between the U-shaped upper portion and base portion of the integrated frame element means. The vertical frame connection means also utilizes interlocking members which are received into apertures on the U-shaped upper portion and base portion of the frame element means.

The above-mentioned and other features and objects of this invention and the manner of obtaining them will become more apparent and the invention itself will be best understood with reference to the following description of the embodiments of the invention, taken in connection with the accompanying drawings, wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** of the drawings is a pictorial view of the modular chair with upholstery;

FIG. **2** is a pictorial view of the frame element means of the modular chair showing the placement of the frame connection means;

FIG. **3** is a partial-sectional view illustrating interlocking members which connect the frame element means;

FIG. **4** is a side elevated view of the chair upholstery means with sleeve attachment means;

FIG. **5** is a front elevational view of the modular chair apparatus wherein the chair upholstery means is assembled with the frame element means;

FIG. 6 is a front elevational view of different embodiments of the invention wherein there is a vertical frame connection means securely affixed to the first side frame element means;

FIG. 7 is a front elevational view of another embodiment of the modular chair apparatus illustrating the different widths of the chair upholstery means;

FIG. 8 is a side elevational view of the embodiment in FIG. 7 of the modular chair apparatus illustrating the arm enclosure panel of the chair upholstery means with pocket for containing reading material.

DETAILED DESCRIPTION

While this invention is susceptible of embodiment in many different forms, there is shown in the drawings and will herein be described in detail, two specific embodiments, with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodied embodiments illustrated.

The modular chair apparatus **9** as shown in FIG. **1**, comprises first and second side frame element means **15, 16** which join together to form integrated frame element **12** and chair upholstery means **22**. The chair upholstery means **22** comprises seat portion **17** and back portion **13**, which when assembled, rests on frame connection means **25** extending horizontally between first and second side frame element means **15, 16**, respectively.

The chair upholstery means **22** is connected to frame element **12** by the use of chair upholstery sleeve attachments **18, 20**. Chair upholstery sleeve attachment means **18, 20** are slidably associated with the U-shaped upper portion **73** of the integrated frame element **12**.

As seen further in FIG. **1**, first substantially cylindrical looped element **26** is removably attached to frame connector **25**, while second substantially cylindrically looped element **42** is removably attached to U-shaped upper portion **73** of the frame element **12**, best illustrated in FIG. **4**.

Arm enclosure panels **19, 21**, which are a part of chair upholstery sleeve attachments **18, 20**, are connected to one another and pass under seat portion **17** to provide further support to a user. Arm enclosure panel **21** further contains pocket means **23** with opening **24** into which articles may be placed.

First and second side frame element means **15, 16** are assembled to form frame element **12** by the use of upper and lower frame element attachment means, as illustrated in FIG. **2**. The frame element attachment means comprises telescopic protrusions **34, 37** located on second side frame element means **16** which securely and slidably fit into upper and lower apertures **33, 38** of first side frame element means **15**.

Further illustrated in FIG. **2** is the substantially U-shaped upper portion **73** and base portion **74** connected by vertical frame elements **75, 76** to form integrated frame element **12**.

Frame connector **25**, as shown in FIG. **2**, is received by first and second side frame element means **15, 16**. Frame connector **25** comprises inter-locking members **27, 29** at either of its two ends, each of which is respectively attachable to said first and second side frame element means **15, 16** by the use of apertures in each of the vertical frame elements **75, 76**. Each aperture **32, 39** of the vertical frame elements **75, 76** receives notched attachment device **28, 30** of frame connector **25**, best seen in FIG. **3**.

FIG. **3** is a partial sectional view of first side frame element means **15** illustrating the locking mechanism of the invention. Interlocking member **27** of frame connector **25** is received into aperture **39** on first side frame element means **15**. The notched attachment device **28** of interlocking member **27** rests on lower edge **40** of aperture **39** which forms securely assembled frame element **12**.

In FIG. **4** the chair upholsetry means **22** is shown with seat portion **17** and back portion **13** assembled illustrating the position of arm enclosure panel **21** having pocket means **23**. Further illustrated are first and second substantially cylindrically looped elements **26, 42** which when assembled, removably attach to frame element **12**.

The assembled chair apparatus **9** is illustrated in a front elevational view in FIG. **5**. Seat portion **17** is shown connected to frame connector **25** by the use of first substantially cylindrically looped element **26**. Further shown in FIG. **5** is back portion **13** connected to U-shaped upper portion **73** of frame element **12** by the use of second substantially cylindrically looped element **42**.

FIG. **6** illustrates another form of the invention **44** which has an increased width by the utilization of wider chair upholstery means **48** and lengthened first and second side frame element means **55, 56**. Further, the embodiment utilizes a vertical frame connector means **57**, in addition to horizontal frame connector **53**, which connected to U-shaped upper portion and base portion of frame element means **56**. Chair upholstery means **48** connects to assembled frame element **49** by the use of sleeve attachment **51, 52** and substantially cylindrical looped element **54**.

Beyond the above embodiments, the invention can include a wider chair upholstery means **59** such as seen in FIG. **7** where there are extended first and second side frame element means **64, 65** providing seating for more than one user. Also shown in this embodiment is the utilization of vertical frame connector **68** and horizontal frame connector **66** which securely fastens first and second side frame element means **64, 65** to form integrated frame element **60**. The locking mechanism of vertical frame connection means **68** is best illustrated in FIG. **3**: sleeve attachments **62, 63** and substantially cylindrically looped elements **46, 69** are connected to integrated frame element **60**.

Illustrated in FIG. **8** is a side elevational view of the embodiment in FIG. **7** showing the vertical frame connector **68** associated the U-shaped upper portion to the U-shaped base portion of frame element **60** which provides additional support for a user. Pocket means **70** with aperture **71** is shown on sleeve attachment **62** to give the furniture means for storage.

The foregoing description and drawings merely explain and illustrate the invention and the invention is not limited thereto, except insofar as the appended claims are so limited, and those skilled in the art have the disclosure before them will be able to make modifications and variations therein, without departing from the scope of the invention.

What is claimed is:

1. A modular disassemblable chair apparatus comprising:

an integrated tubular frame,

said frame having an independent first side frame member and an independent second side frame member assemblable one to the other to form said frame,

each said frame member, having a horizontal base seqment,

an upwardly extending leg segment integral with said base portion,

an arm segment integral with and extending rearward from said leg segment, and

a back segment integral with said arm segment and extending generally coplanar with said arm segment;

said frame, when assembled, having said leg segments oppositely disposed one from the other, and said arm segments oppositely disposed one from the other;

a frame brace extending generally horizontally between said first and second leg segments;

means to removably secure said brace to said leg segments; and

a chair upholstery assembly,

said upholstery assembly having a generally quadrilateral seat portion having four edges,

a pair of side wing segments extending from an opposed pair of said edges,

a seat back segment extending from a third of said edges; and

means terminating each said wing segment and integral with said wing segment to suspend each said wing segments from one said arm segment of said frame,

means to secure said back segment of said seat assembly to said back frame segment, and

means to removably secure said seat portion to said frame brace proximate the fourth of said edges.

2. The apparatus as recited in claim 1 wherein said suspension means for said wing segments comprises a sleeve integral with each said wing segment and formed proximate the outermost extremity thereof.

3. The apparatus as recited in claim 1 wherein said seat attaching and said back attaching means comprise loop segments having two ends, one said end attached to said seat portion or said back portion,

the remaining said end attachable to and detachable from said seat portion or said back portion respectively.

4. The apparatus as recited in claim 1 wherein said first and second frame members are telescopically joined one to the other at said base segments and said back segments.

5. The apparatus as recited in claim 1 wherein said attachment means for said frame brace includes a pair of slots formed in said leg segments of said frame whereby said slots are horizontally oppositely disposed, and

means fashioned at the ends of said frame brace shaped to extend partially into each said leg portion and engage the inner surface of said leg segment and the lowermost surface of said slot.

6. The apparatus as recited in claim 1 wherein said frame includes a vertically extending back frame brace, said back frame brace removably attachable to said frame at said back segment and said base segment.

* * * * *

July 31, 1928

N° 686875

Fig.10.

Fig.12.

Fig.13.

Fig.7.

Fig.14.

Fig.8.

Fig.9.

Fig.11.

Fig.4.

Fig.3.

Fig.5.

Fig.1.

Fig.2.

Fig.6.

445

DEUTSCHES PATENTAMT

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(33)	Land:	Schweden			
(31)	Aktenzeichen:	12557-71	15974-71	5459-72	7343-72

(54) Bez

OLS 2,248,264 Seat incorporates side frames bent from a single profile metal strip to form feet, seat, backrest and arrest. The upholstered back and seat edges can be fitted between the doubled frame sections. The design is suitable for automated production making a strong and economical article. 2.10.72. P22 48 264.0. (5.10.71; 14.12.71; 26.4.72; 5.6.72. SW. 12557-71; 15974-71; 5459-72; 7343-72) EXPO-NORD A.B. (12.4.73)

(61) Zu
(62) Aus A47c, 5/04.

(71) Anmelder: Expo-Nord AB, Hörby (Schweden)

Vertreter gem. § 16 PatG: Maxton sen., A., Dipl.-Ing.; Maxton jun., A., Dipl.-Ing.; Patentanwälte, 5000 Köln

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DT 2248264

29. SEP. 1972

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SITZMÖBEL

Die Erfindung bezieht sich auf ein Sitzmöbel von der Art, die zwei in Abstand voneinander angeordnete, gebogene Seitengestellstangen aufweist, an denen ein den menschlichen Körper abstützendes Glied befestigt ist, das zur Bildung von wenigstens einem Sitzteil und einem Rückenlehnenteil des Möbels zwischen den Seitengestellstangen und ggf. einem oder mehreren zwischen den besagten Stangen vorgesehenen Zwischengestellgliedern mittels Querstreben ausgespannt gehalten wird, die mit den Seitengestellstangen und dem oder den etwaigen Zwischengestellgliedern eingreifen.

Erfindungsgemäss ist das Sitzmöbel dadurch gekennzeichnet, dass jede Seitengestellstange zur Bildung einer in Seitenansicht geschlossenen Schlinge gebogen ist, welche die folgenden Abschnitte aufweist: einen Sitzabschnitt, der sich wenigstens der hinteren Partie des Sitzteils entlang erstreckt, einen hinteren Rückenlehnenabschnitt, der sich dem Rückenlehnenteil entlang erstreckt, und einen vor und etwa parallel zu dem hinteren Rückenlehnenabschnitt sich erstreckenden vorderen Rückenlehnenabschnitt, welcher oben mit einer Krümmung in den hinteren Rückenlehnenabschnitt übergeht und sich unten mittels weiterer Schlingenabschnitte an das vordere Ende des Sitzabschnittes der Schlinge anschliesst.

Gegenüber früher bekannten Sitzmöbeln der oben erwähnten Art ergibt die Erfindung u.a. diejenigen Vorteile, dass bei ein und derselben Querschnittsabmessung der Seitengestellstangen ein starreres und standfesteres Möbel erzielt wird, dass Stoff und Polsterungskanten besser gegen Verschleiss und Verschmutzung geschützt sind, dass dem Möbel ein ansprechendes Aussehen gegeben werden kann, dass die Seitengestellstangen wenig Gefahr laufen, bei Transport deformiert zu werden, und dass die Fertigung des Möbels automatisiert werden kann.

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Die Erfindung ist nachstehend anhand der Zeichnung, die einige Ausführungsbeispiele darstellt, näher beschrieben.

Es zeigen:

Fig. 1-3 verschiedene Ausführungsformen eines Stuhls in Seitenansicht,

Fig. 4 einen Teil eines Querschnittes nach der Linie IV-IV in Fig. 1,

Fig. 5 eine der Fig. 4 entsprechende Ansicht einer anderen Ausführung,

Fig. 6 ein perspektivisches Bild eines weiteren erfindungsgemässen Stuhls unter Weglassung von losen Rückenlehnen- und Sitzkissen,

Fig. 7 einen Schnitt nach der Linie VII-VII in Fig. 6,

Fig. 8 ein perspektivisches Bild einer weiteren Ausführungsform,

Fig. 9-11 weitere Ausführungen in schematischer Seitenansicht,

Fig. 12 ein perspektivisches Bild einer weiteren Ausführungsform der Erfindung,

Fig. 13 ein perspektivisches Bild eines Sofas mit Seitengestellstangen gemäss Fig. 12 und zwischen ihnen angeordneten Zwischengestellen,

Fig. 14 eine Seitenansicht eines in dem Sofa gemäss Fig. 13 verwendeten Zwischengestells,

Fig. 15 den in Fig. 12 gezeigten Stuhl durch einen abnehmbaren Untersatz ergänzt,

Fig. 16 im Schnitt wie der Untersatz in Fig. 15 an der Seitengestellstange des Stuhls unterhalb der einen Armlehne abnehmbar befestigt worden ist.

Der in Fig. 1 gezeigte Stuhl hat auf jeder Seite eine für sich hergestellte Seitengestellstange 1, die in der in Fig. 1 ersichtlichen Weise zu einer geschlossenen Schlinge gebogen ist. Diese Schlinge hat einen Sitzabschnitt 2, welcher sich dem Sitzteil des Stuhls entlang erstreckt und hinten in den einen Schenkel eines U-förmig gebogenen, das Hinterbein bildenden Schlingenabschnittes 3 übergeht, dessen anderer Schenkel in einen hinteren Rückenlehnenabschnitt 4 der Schlinge übergeht. Der hintere Rückenlehnenabschnitt 4 geht oben mit einer U-förmigen Krümmung

in einen vor und etwa parallel zu dem hinteren Rückenlehnenabschnitt 4 verlaufenden vorderen Rückenlehnenabschnitt 5 über. Unten geht der Abschnitt 5 in einen armlehnenbildenden Schlingenabschnitt 6 über, welcher vorn nach unten gegen den Sitzabschnitt 2 und dann nach vorn gebogen ist, um in den einen Schenkel eines U-förmig gebogenen, das Vorderbein bildenden Schlingenabschnitt 7 überzugehen, dessen anderer Schenkel in den Sitzabschnitt 2 der Schlinge übergeht. Die Enden der zu dieser Schlinge gebogenen Gestellstange können an irgendeine gewünschte Stelle des Schlingenverlaufs verlegt sein. In Fig. 1 liegen sie bei 8 im Bereich des Armlehnenabschnittes 6 der Schlinge. Die Stangenenden können in irgendeiner gewünschten Weise lose oder fest zusammengefügt sein.

Die zwei gemäss Fig. 1 zu einer geschlossenen Schlinge gebogenen Seitengestellstangen 1 sind an geeigneten Stellen ihrer Länge mittels Querstreben (in Fig. 1 nicht gezeigt) untereinander verbunden. Diese Querstreben verlaufen zwischen den Seitengestellstangen und greifen mit ihnen ein, um ein den menschlichen Körper abstützendes Glied, z.B. einen mit Polsterung versehenen Tragstoff, zwischen den Seitengestellstangen ausgespannt zu halten. In Fig. 1 ist ein solches den menschlichen Körper abstützendes Glied 9 vorgesehen, das den Sitzteil des Stuhls bildet und sich nach unten in die U-förmigen Vorder- und Hinterbeine 7 bzw. 3 erstreckt. Ausserdem ist ein den menschlichen Körper abstützendes Glied 10 vorgesehen, das den Rückenlehnenteil des Stuhls bildet und sich dem hinteren Rückenlehnenabschnitt 4 der Seitengestellstangen entlang und an den Hinterbeinen 3 nach unten zum Glied 9 hin erstreckt. Schliesslich ist ein Armlehnenbezug 11 vorgesehen, welcher über den Armlehnenabschnitt 6 der bezüglichen Seitengestellstange 1 gesteckt ist und die Enden der Seitengestellstange bei 8 verbirgt.

Wie aus Fig. 4 ersichtlich, besteht jede Seitengestellstange 1, wie sie in Fig. 1 gezeigten Ausführung aus einer Metallstange mit zwei Kanälen 12 und 13. Der Kanal 12 mündet in eine Seite der Stange 1 mit einem der Stange entlang verlaufenden Schlitz, der eine geringere Breite hat als der [illegible] Körper abstützende Glied 10 besteht aus einem Stoff [illegible] auf dessen einer Seite angebrachten

Polsterung 16 mit Bezugstoff. Jeder Randteil des Tragstoffes 15 ist zur Bildung eines Saumes umgeschlagen, in den ein Draht 17 od.dgl. zur Bildung eines Wulstes eingelegt ist. Dieser Wulst ist in den Kanal 12 der Stange 1 eingeschoben und ist von solcher Breite, dass er sich nicht durch den Schlitz 14 herausziehen lässt. Zwischen den beiden Seitengestellstangen 1 erstrecken sich mehrere an geeigneten Stellen angeordnete Querstreben. Ein Endteil einer derartigen Querstrebe ist in Fig. 4 gezeigt. Jede Querstrebe hat ein Rohr 18. In jedes Ende des Rohres 18 ist das Gewindeende eines Zapfens 19 eingeführt, dessen anderes Ende ein Loch der benachbarten Stange 1 durchsetzt und in den Stangenkanal 13 hineindringt, wo es gegen die Zwischenwand zwischen den Kanälen 12 und 13 zur Anlage kommt. Auf den Gewindeteil des Zapfens 19 ist eine Mutter 20 geschraubt. Durch Drehen der Mutter 20 nach Anbringung des den Körper abstützenden Gliedes 10 lassen sich die Seitengestellstangen 1 zum Spannen des Tragstoffes 15 zwischen diesen Stangen auseinanderschieben, welche lediglich durch die Spannung im Tragstoff 15 zusammengehalten sind. Aus Fig. 4 ist auch ersichtlich, dass die vorderen und hinteren Rückenlehnenabschnitte 4, 5 der Schlinge der Seitengestellstange 1 (vgl. Fig. 1) den Randteil des den Körper abstützenden Gliedes 10 umschliessen und schützen. Das den Sitz bildende, den Körper abstützende Glied 9 kann in einer mit Fig. 4 analogen Weise an den Seitengestellstangen montiert sein. Es sei darauf hingewiesen, dass die Kanalschlitze 14 der Seitengestellstangen 1 in der durch die bezügliche Seitengestellstange gebildeten Schlinge nach innen gekehrt sind.

Statt die Seitengestellstangen 1 in der aus Fig. 4 ersichtlichen Weise auszubilden, kann man Seitengestellstangen in der Form von üblichen Metallrohren 21 gemäss Fig. 5 anwenden, wobei das den menschlichen Körper abstützende Glied 10 aus einem schlauchförmigen Tragstoff 22 und einer darauf montierten Polsterung 16 mit Bezugstoff bestehen kann. Der schlauchförmige Tragstoff 22 ist über die beiden Seitengestellstangen 21 gesteckt. Die beiden Seitengestellstangen 21 können durch Querstreben von regelbarer Länge gemäss Fig. 4 verbunden sein. Es lassen sich jedoch auch Querstreben von unveränderlicher Länge anwenden.

Die in Fig. 2 dargestellte Ausführungsform stimmt mit der

Ausführung gemäss Fig. 1 mit Ausnahme des vorderen Teils des Stuhls überein. Hier geht nämlich der Armlehnenabschnitt 6 der Schlinge vorn in einen nach unten gebogenen Schlingenabschnitt 23 über, welcher sich zum Sitzabschnitt 2 der Schlinge hinaberstreckt und auf diesen Abschnitt stösst, um von der Seite gesehen die Schlinge an einer Stelle 24 hinter dem vorderen Ende des Sitzteils des Möbels zu schliessen. Von der genannten Stelle 24 erstreckt sich die Seitengestellstange 1 an dem Sitzabschnitt 2 vorbei nach unten als hinterer Schenkel eines U-förmigen Vorderbeines 25, dessen vorderer Schenkel nach oben und dann nach hinten verläuft, um an der Stelle 24 in den Sitzabschnitt 2 der Schlinge überzugehen. Ein weiterer Unterschied gegenüber Fig. 1 besteht darin, dass der Armlehnenabschnitt 6 in Fig. 2 mit einem hülsenförmigen Bezug 26 versehen ist.

In Fig. 3 sind die Seitengestellstangen 1 zu einer Schlinge mit einem Sitzabschnitt 27 gebogen, der hinten direkt in einen hinteren Rückenlehnenabschnitt 28 übergeht, welcher in bereits beschriebener Weise in einen vorderen Rückenlehnenabschnitt 29 übergeht, der seinerseits in einen Armlehnenabschnitt 30 übergeht, welcher vorn mit einem Schlingenabschnitt 31 direkt in den Sitzabschnitt 27 übergeht. Die Seitengestellstangen 1 sind in Fig. 3 von einem besonderen Untergestell getragen, das aus einem Ständerfuss 32 besteht, jedoch auch aus irgendeinem anderen zweckmässigen Untergestell mit z.B. Vorder- und Hinterbeinen bestehen könnte.

Der in Fig. 6 und 7 dargestellte Stuhl stimmt mit dem in Fig. 1 und 4 dargestellten Stuhl bis auf einige Ausnahmen überein, welche im folgenden besprochen werden sollen. Jede Seitengestellstange 1 hat lediglich einen Längskanal 12, der gegen eine Seitenfläche der Stange durch einen verengten Schlitz 14 offen ist. Die im Kanal mittels eines Randwulstes verankerten, den menschlichen Körper abstützenden Glieder 9 und 10 bestehen aus einem Tragstoffstück ohne daran befestigte Polsterung mit Bezugstoff. Auf den Tragstoffstücken 9 und 10 sind nicht dargestellte, lose Sitz- und Rückenlehnenkissen zur Anbringung beabsichtigt. Auf dem Armlehnenabschnitt 6 jeder Seitengestellstange ist eine dünne Armlehnenpolsterung 33 befestigt.

Der wichtigste Unterschied gegenüber dem Stuhl in Fig. 1

besteht darin, dass die Enden jeder Seitengestellstange 1 nicht im Bereich der Armlehnenpolsterung 33 aufeinanderstossen. Stattdessen hat jede schlingenbildende Seitengestellstange 1 Endteile 34 und 35, die zusammengeführt sind, um gemeinsam ein Vorderbein des Stuhls zu bilden. Somit ragt der Endteil 35 vom Fussboden empor und geht in den nach hinten gerichteten Sitzabschnitt 2 der Schlinge über, während der Endteil 34 vom Fussboden dem Endteil 35 entlang emporragt, um sich ein kleines Stück von dem vorderen Ende des Sitzteils nach oben zu erstrecken und in den Armlehnenabschnitt 6 der Schlinge überzugehen. Die zusammengeführten Endteile 34, 35 jeder Seitengestellstange 1 kehren ihre den Schlitz 14 aufweisenden Seitenflächen gegeneinander und das den menschlichen Körper abstützende Glied 9 ist zwischen die zusammengeführten Endteile 34 und 35 eingeführt. Zum Zusammenhalten der Endteile 34 und 35 jeder Gestellstange 1 empfiehlt es sich ein Befestigungsglied zu verwenden, das in die Kanäle der Endteile eingreift. Ein Beispiel eines zweckmässigen Befestigungsgliedes ist in Fig. 7 dargestellt. Das Befestigungsglied hat hier die Form eines Keils 36, der im Querschnitt I-förmig oder stundenglasförmig ist und dessen schmaler Mittelteil oder Steg in die Schlitze 14 der Endteile 34 und 35 passt. Der Keil wird in die Kanäle der Endteile 34 und 35 vom unteren Ende des Vorderbeines her hineingetrieben.

An dem in Fig. 8 dargestellten Stuhl sind die Seitengestellstangen 1 zu einer Schlinge derselben Art wie in Fig. 3 mit Schlingenabschnitten 27-31 gebogen. In Fig. 8 hat indessen jede Seitengestellstange 1 zwei Endteile, die sich von einer zwischen den vorderen und hinteren Enden des Sitzteils gelegenen Stelle 37, wo sie in der Schlinge aufeinanderstossen, zunächst mit nebeneinander verlaufenden Endteilen 38 nach unten und dann in entgegengesetzten Richtungen nach vorn und nach hinten erstrecken, um ein Vorderbein 39 bzw. ein Hinterbein 40 zu bilden. Die nebeneinander verlaufenden Endteile 38 sind zweckmässigerweise miteinander verbunden, z.B. mittels Bolzen 41.

In dem in Fig. 8 gewählten Ausführungsbeispiel sind die Stangen 1 in der mit Hinweis auf Fig. 4 beschriebenen Weise mit Kanälen versehen und einerseits mittels Querstreben und andererseits mittels eines zwischen den Stangen 1 ausgespannten, den

menschlichen Körper abstützenden Gliedes in der Form eines Tragstoffes in stabiler Weise untereinander zusammengekoppelt. Der einzige Unterschied gegenüber Fig. 4 besteht darin, dass die Polsterung nicht mit dem Tragstoff fest verbunden ist, sondern im vorliegenden Fall die Form eines losen Rückenlehnenkissens 42 und eines losen Sitzkissens 43 hat. Ein Tragstoffstück 44 erstreckt sich vom Vorderende des Sitzteils nach hinten dem vorderen Teil des Sitzes entlang und nach unten der vorderen Partie 38 des Stangenendteils entlang, während sich ein anderes Tragstoffstück nach oben der hinteren Partie 38 des Stangenendteils entlang, dann nach hinten dem hinteren Teil des Sitzes entlang und darauf nach oben dem Rückenlehnenteil entlang erstreckt.

Die Ausführung gemäss Fig. 9 stimmt mit der gemäss Fig. 8 überein, mit der Ausnahme, dass die Teile 39a und 40a jeder Seitengestellstange 1 keine eigentlichen Vorder- und Hinterbeine bilden, sondern an einer Schaukelstuhlkufe 45 befestigt sind.

Die Ausführung gemäss Fig. 10 stimmt mit den folgenden Ausnahmen mit der gemäss Fig. 8 überein. Jede Seitengestellstange 1 endigt mit den Endteilen 38b, die sich in einem geringen Abstand voneinander befinden und an einem besonderen Möbeluntergestell befestigt sind. Dieses Untergestell, das mehreren auf dem Untergestell nebeneinander montierbaren Stuhlgestellen der dargestellten Art gemeinsam sein kann, hat einen hohlen, im Querschnitt rechteckigen horizontalen Träger 46, welcher wenigstens in der Nähe seiner Enden von einer Unterlage her mittels Vorder- und Hinterbeinpaare getragen ist. Ein solches Beinpaar ist in Fig. 10 in der Form einer Vorderbeinstange 47 und einer Hinterbeinstange 48 gezeigt, welche etwa L-förmig gebogen sind und von denen der eine Schenkel durch ein Loch im Träger 46 eingeführt und in irgendeiner zweckmässigen, nicht dargestellten Weise daran befestigt ist. Die Endteile 38b jeder Seitengestellstange 1 verlaufen der Vorderseite bzw. der Rückseite des Trägers 46 entlang nach unten und sind mittels eines mit ihnen eingreifenden Spanngliedes, z.B. eines die Teile 38b durchsetzenden Spannbolzens 49, gegen den Träger festgeklemmt.

Die Ausführung gemäss Fig. 11 unterscheidet sich von der gemäss Fig. 8, indem der vordere Rückenlehnenabschnitt 69 jeder Seitengestellstange 1 bis in die Nähe des Sitzabschnittes 27 der

Schlinge nach unten verläuft und dort in einen nach vorn gerichteten Schlingenabschnitt 50 übergeht, welcher sich etwa parallel zum Sitzabschnitt 27 erstreckt und vorn in diesen Abschnitt übergeht. Die Schlingenabschnitte 27 und 50 befinden sich einander so nahe, dass sie einen Randteil einer in Fig. 11 nicht dargestellten, auf dem Sitzteil angebrachten Polsterung zwischen sich ergreifen können. Die Schlinge jeder Gestellstange kann somit so beschrieben werden, dass sie die Form eines längs des Rückenlehnenteils verlaufenden U und eines längs des Sitzteils verlaufenden U hat, welche beiden U je hauptsächlich parallele Schenkel haben und mit ihren Schenkeln an einer Uebergangsstelle zwischen dem Sitzteil und dem Rückenlehnenteil ineinander übergehen.

Der in Fig. 12 gezeigte Stuhl hat auf jeder Seite eine Seitengestellstange 1, die in der aus Fig. 12 ersichtlichen Weise gebogen ist. Jede Seitengestellstange 1 ist somit zu einer in Seitenansicht geschlossenen Schlinge gebogen, welche einen Sitzabschnitt 51 aufweist, der dem hinteren Teil der Sitzfläche entlang läuft und hinten in einen hinteren Rückenlehnenabschnitt 51 übergeht, welcher in einen vorderen Rückenlehnenabschnitt 53 übergeht, der in einen Armlehnenabschnitt 54 übergeht, welcher sich vorn zum Schliessen der Schlinge nach unten zum Sitzabschnitt 51 hin erstreckt. Der eine Endteil der Seitengestellstange 1 erstreckt sich von der Stelle 55, wo der Armlehnenabschnitt 54 auf den Sitzabschnitt 51 trifft, von dem Armlehnenabschnitt 54 nach unten an dem Sitzabschnitt 51 vorbei zur Bildung eines Vorderbeins 56 des Stuhls. Der andere Endteil der Seitengestellstange bildet eine Fortsetzung des Sitzabschnittes 51 der Schlinge und erstreckt sich an derjenigen Stelle 55 vorbei, wo der Armlehnenabschnitt 54 auf den Sitzabschnitt 51 trifft, und ist U-förmig nach hinten zu einem unterhalb des Sitzabschnittes 51 gelegenen Stangenteils 57 und dann nach unten zur Bildung eines Hinterbeins 58 des Stuhls gebogen.

An irgendeiner von den Stellen oder an beiden Stellen, wo das Vorderbein 56 jeder Seitengestellstange 1 den Sitzabschnitt 51 und den Stangenteil 57 kreuzt, kann das Vorderbein an dem Abschnitt 51 bzw. dem Stangenteil 57 in einer zweckmässigen Weise, z.B. mittels einer Schraube, befestigt sein. An einer ge-

eigneten Stelle hinter dem Vorderbein 56 kann der Sitzabschnitt 51, wie gezeigt, mit dem Stangenteil 57 durch ein Verbindungsglied 59 verbunden sein. Dieses Verbindungsglied ist in Fig. 12 als starrer Zapfen gezeigt, jedoch kann auch ein federndes Glied, z.B. ein elastischer Gummi- oder Kunststoffkörper, verwendet werden.

Die Seitengestellstangen 1 sind von der mit Hinweis auf Fig. 4 beschriebenen Ausführung und sie sind auch durch Querstreben untereinander verbunden, wie mit Hinweis auf Fig. 4 beschrieben. Ein Tragstoff 60 ist mit Randwülsten in die Kanäle der Seitengestellstangen 1 in der mit Hinweis auf Fig. 4 beschriebenen Weise eingeführt und erstreckt sich von dem oberen Ende des hinteren Rückenlehnenabschnittes 52 nach unten diesem Ende entlang und nach vorn dem Sitzabschnitt 51 entlang sowie rund um das Vorderende des Sitzes nach unten zum Stangenteil 57 und ein Stück weit diesem Stangenteil entlang, wie dies aus Fig. 12 ersichtlich ist. Zum Unterschied von dem mit Hinweis auf Fig. 4 Beschriebenen, wo der Tragstoff mit einer Polsterung mit Bezugstoff fest verbunden ist, sind in Fig. 12 lose Kissen 61 auf dem Tragstoff innerhalb der Sitz- und Rückenlehnenteile angebracht.

Die bisher beschriebenen Ausführungsformen der Erfindung bezogen sich auf Stühle mit zwei Seitengestellstangen 1 und einem zwischen ihnen durch Querstreben ausgespannten Tragstoff. Indessen lassen sich auch die beschriebenen Seitengestellstangen für ein Sofa verwenden, wobei Zwischengestellglieder zwischen den Seitengestellstangen angeordnet werden. Ein Beispiel ist in Fig. 13 und 14 gezeigt. Hier sind zwei Seitengestellstangen 1 hauptsächlich von der mit Hinweis auf Fig. 12 beschriebenen Art verwendet. Das in Fig. 13 dargestellte Sofa hat drei Sitze und deshalb sind zwischen den Seitengestellstangen 1 zwei Zwischengestellglieder der in Fig. 14 gezeigten Ausbildung vorgesehen. Jedes Zwischengestellglied besteht aus einer Stange 62, die zur Bildung von Rückenlehnenteil, Sitzteil und Hinterbeinen entsprechend der Stangenabschnitte 51, 52, 57, 58 der in Fig. 12 dargestellten Seitengestellstangen 1 gebogen ist, und aus einer an der Stange 62 befestigten Vorderbeinstange 63. Die Stangen 62 weisen zwei mit Schlitzen versehene Kanäle (entsprechend dem Kanal 12, 14 in Fig. 4) auf, sodass je ein Tragstoff 64 zwischen

jeder Seitengestellstange 1 und der unmittelbar benachbarten Zwischengestellstange 62 ausgespannt ist und ein weiterer Tragstoff 64 zwischen den beiden Zwischengestellstangen 62 ausgespannt ist. Die drei Tragstoffe 64 werden zwischen den Stangen 1 und 62 mit Hilfe zwischen diesen Stangen an geeigneten Stellen vorgesehener, in Fig. 13 nicht dargestellter Querstreben, z.B. der mit Hinweis auf Fig. 4 beschriebenen Art, ausgespannt gehalten. Ist ein geschwungenes Sofa erwünscht, wie es in Fig. 13 gezeigt ist, können die Tragstoffstücke 64 mit einer vom Vorderende des Sitzes nach hinten und oben der Rückenlehne entlang zunehmenden Breite ausgebildet werden. Es empfiehlt sich, auf den Tragstoffstücken 64 im Sofa gemäss Fig. 13 Kissen der in Fig. 12 bei 61 gezeigten Art anzubringen.

In Fig. 15 und 16 ist gezeigt, wie der in Fig. 12 gezeigte Stuhl mit einem festen oder abnehmbaren Einzelteil 70 ergänzt werden kann, der in dem dargestellten Beispiel ein Untersatz ist, jedoch auch ein Aschenbecher oder ähnliches Zubehör sein kann. Der Untersatz 70 hat einen oder mehrere Beschläge 71 in der Form eines gebogenen Blechstreifens mit einem hakenbildenden Teil 72, der so schräggestellt ist, dass er bei Schrägstellung des Untersatzes nach oben rechts in bezug auf Fig. 16 in den offenen Kanal 12 der Gestellstange 1 eingeführt werden kann, um bei Abwärtsschwenkung in hauptsächlich horizontale Lage mit der einen Kante des Kanals 12 einzugreifen, gleichzeitig wie das entgegengesetzte Ende des hakenbildenden Teils 72 gegen die Unterseite des geschlossenen Kanals 13 der Gestellstange 1 abgestützt wird. Der Haken 72 ist dabei so ausgebildet, dass er sich nur dann aus dem Kanal 12 herausführen lässt, wenn der Untersatz 70 schräg nach oben nach rechts in bezug auf Fig. 16 geschwenkt wird.

PATENTANSPRUECHE

1. Sitzmöbel von der Art, die zwei in Abstand voneinander angeordnete, gebogene Seitengestellstangen aufweist, an denen ein den menschlichen Körper abstützendes Glied befestigt ist, das zur Bildung von wenigstens einem Sitzteil und einem Rückenlehnenteil des Möbels zwischen den Seitengestellstangen und ggf. einem oder mehreren zwischen den besagten Stangen vorgesehenen Zwischengestellgliedern mittels Querstreben ausgespannt gehalten wird, die mit den Seitengestellstangen und dem oder den etwaigen Zwischengestellgliedern eingreifen, dadurch gekennzeichnet, dass jede Seitengestellstange zur Bildung einer in Seitenansicht geschlossenen Schlinge gebogen ist, welche die folgenden Abschnitte aufweist: einen Sitzabschnitt, der sich wenigstens der hinteren Partie des Sitzteils entlang erstreckt, einen hinteren Rückenlehnenabschnitt, der sich dem Rückenlehnenteil entlang erstreckt, und einen vor und etwa parallel zu dem hinteren Rückenlehnenabschnitt sich erstreckenden vorderen Rückenlehnenabschnitt, welcher oben mit einer Krümmung in den hinteren Rückenlehnenabschnitt übergeht und sich unten mittels weiterer Schlingenabschnitte an das vordere Ende des Sitzabschnittes der Schlinge anschliesst.

2. Sitzmöbel nach Anspruch 1, dadurch gekennzeichnet, dass die hinteren und vorderen Rückenlehnenabschnitte der Schlinge einen Randteil einer auf dem Rückenlehnenteil angebrachten Polsterung und/oder Tragstoffes zwischen sich ergreifen.

3. Sitzmöbel nach Anspruch 1 oder 2, bei welchem die Seitengestellstangen Längskanäle aufweisen, die mit einem verengten Schlitz in eine Seitenfläche der Seitengestellstangen münden und dazu dienen, Randwülste an dem den menschlichen Körper abstützenden Glied in sich zu verankern, dadurch gekennzeichnet, dass die Kanalschlitze in der von der bezüglichen Seitengestellstange gebildeten Schlinge nach innen gekehrt sind.

4. Sitzmöbel nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass die Schlinge jeder Seitengestellstange einen U-förmig gebogenen Hinterbeinabschnitt aufweist, welcher in den Sitzabschnitt und den hinteren Rückenlehnenabschnitt übergeht.

5. Sitzmöbel nach einem der vorhergehenden Ansprüche, da-

durch gekennzeichnet, dass die Schlinge jeder Seitengestellstange einen U-förmig gebogenen Vorderbeinabschnitt aufweist, welcher in den Sitzabschnitt übergeht.

6. Sitzmöbel nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass die Schlinge jeder Seitengestellstange einen die Armlehne bildenden Schlingenabschnitt aufweist, welcher in den vorderen Rückenlehnenabschnitt übergeht.

7. Sitzmöbel nach Anspruch 5 und 6, dadurch gekennzeichnet, dass der die Armlehne bildende Schlingenabschnitt in den Vorderbeinabschnitt übergeht.

8. Sitzmöbel nach Anspruch 6, dadurch gekennzeichnet, dass der die Armlehne bildende Schlingenabschnitt vorn in den Sitzabschnitt der Schlinge übergeht.

9. Sitzmöbel nach Anspruch 6, dadurch gekennzeichnet, dass sich der die Armlehne bildende Schlingenabschnitt vorn nach unten erstreckt und zum Schliessen der Schlinge auf den Sitzabschnitt trifft.

10. Sitzmöbel nach Anspruch 9, dadurch gekennzeichnet, dass sich der eine Endteil jeder Seitengestellstange von derjenigen Stelle, wo der die Armlehne bildende Schlingenabschnitt auf den Sitzabschnitt trifft, von dem die Armlehne bildenden Schlingenabschnitt nach unten an dem Sitzabschnitt vorbei erstreckt, um ein Vorderbein des Möbels zu bilden.

11. Sitzmöbel nach Anspruch 9, dadurch gekennzeichnet, dass der eine Endteil jeder Seitengestellstange eine Fortsetzung des Sitzabschnittes der Schlinge bildet und sich an derjenigen Stelle vorbei erstreckt, wo der die Armlehne bildende Schlingenabschnitt auf den Sitzabschnitt trifft, sowie unterhalb des Sitzabschnittes U-förmig nach hinten und dann nach unten zur Bildung eines Hinterbeins gebogen ist.

12. Sitzmöbel nach Anspruch 11, dadurch gekennzeichnet, dass die unterhalb des Sitzabschnittes gelegene Partie des genannten Endteils jeder Seitengestellstange durch ein Verbindungsglied mit dem Sitzabschnitt verbunden ist.

13. Sitzmöbel nach Anspruch 12, dadurch gekennzeichnet, dass das Verbindungsglied federnd ist.

14. Sitzmöbel nach Anspruch 9, dadurch gekennzeichnet, dass jede Seitengestellstange Endteile hat, die sich von der-

jenigen Stelle, wo der die Armlehne bildende Schlingenabschnitt auf den Sitzabschnitt trifft, in zusammengeführtem Zustand von der Schlinge weg erstrecken, um ein Vorderbein des Möbels zu bilden.

15. Sitzmöbel nach einem der Ansprüche 1-3, dadurch gekennzeichnet, dass sich die Endteile jeder Seitengestellstange von einer Stelle, wo sie in der Schlinge aufeinander treffen, zunächst nach unten neben einander und dann in entgegengesetzten Richtungen nach vorn und hinten erstrecken, um ein Vorderbein bzw. ein Hinterbein des Möbels zu bilden.

16. Sitzmöbel nach Anspruch 15, dadurch gekennzeichnet, dass die genannte Stelle an dem Sitzteil des Möbels liegt.

17. Sitzmöbel nach Anspruch 15 oder 16, dadurch gekennzeichnet, dass die nach unten neben einander sich erstreckenden Endteilpartien jeder Seitengestellstange zusammengefügt sind.

18. Sitzmöbel nach einem der Ansprüche 1-3, dadurch gekennzeichnet, dass sich die Endteile jeder Seitengestellstange von einer Stelle, wo sie in der Schlinge aufeinandertreffen, nach unten neben einander erstrecken und an einer Schaukelstuhlkufe befestigt sind.

19. Sitzmöbel nach einem der Ansprüche 1-3, dadurch gekennzeichnet, dass sich die Endteile jeder Seitengestellstange von einer Stelle, wo sie in der Schlinge aufeinandertreffen, nach unten erstrecken und an einem Möbeluntergestell befestigt sind.

20. Sitzmöbel nach Anspruch 2, dadurch gekennzeichnet, dass der vordere Rückenlehnenabschnitt unten in einen nach vorn gerichteten Schlingenabschnitt übergeht, welcher sich etwa parallel zum Sitzabschnitt erstreckt und vorn in diesen übergeht, und dass der genannte, nach vorn gerichtete Schlingenabschnitt und der Sitzabschnitt einen Randteil einer auf dem Sitzteil angebrachten Polsterung zwischen sich ergreifen.

21. Sitzmöbel nach Anspruch 2 und 6, dadurch gekennzeichnet, dass die nach innen gekehrten Kanalschlitze der Schlinge Halterungen für einen in der Armlehne fest oder abnehmbar angeordneten Untersatz, Aschenbecher oder ähnliches Zubehör bilden.

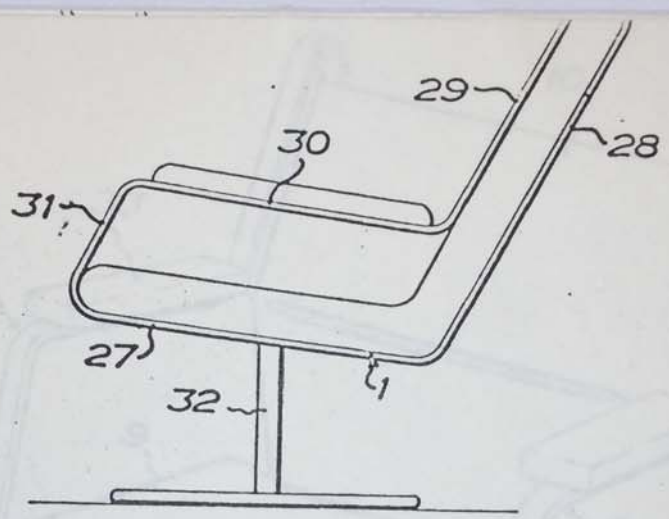

FIG.3

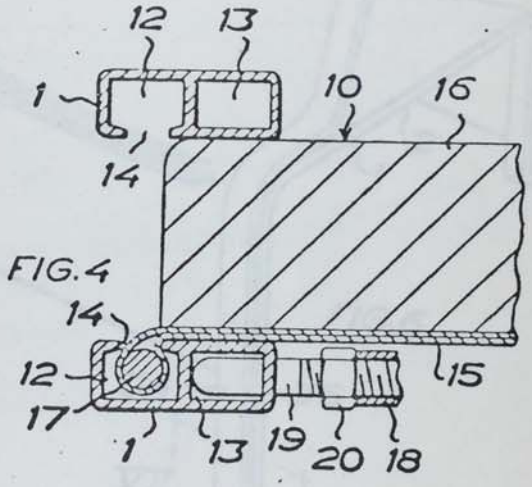

FIG.4

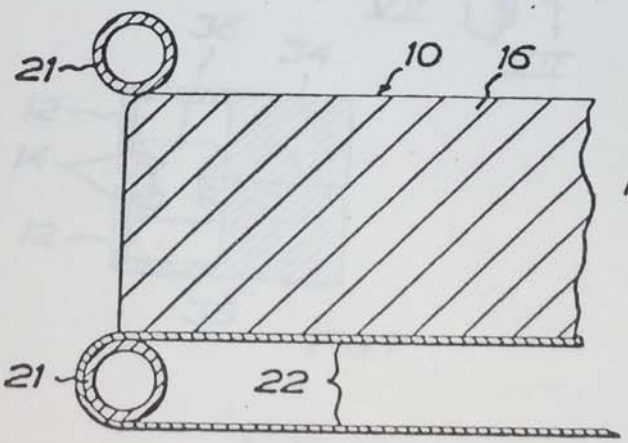

FIG.5

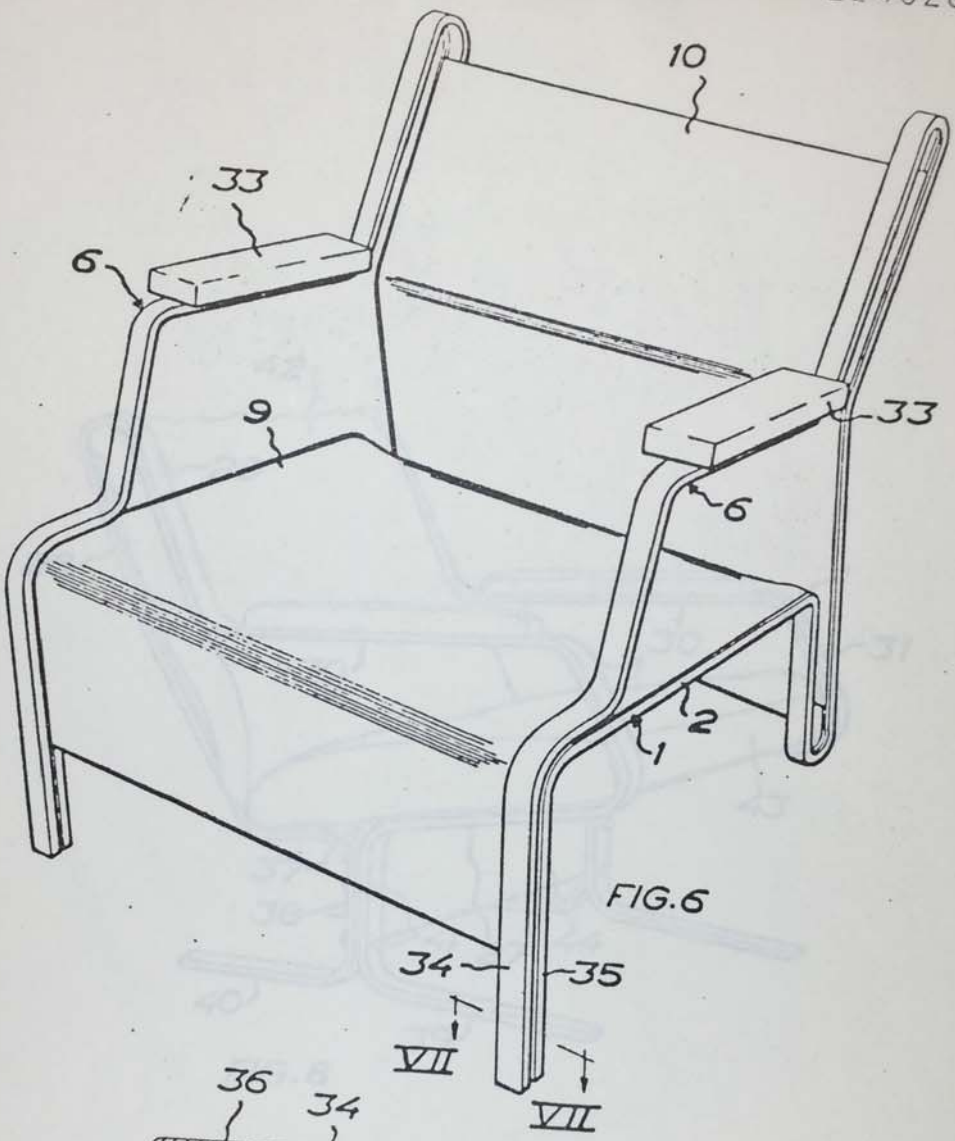

FIG.6

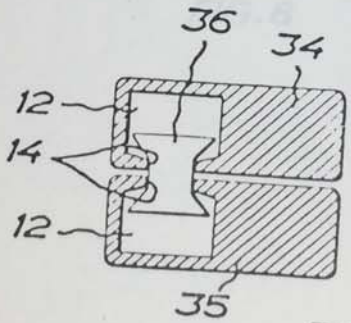

FIG.7

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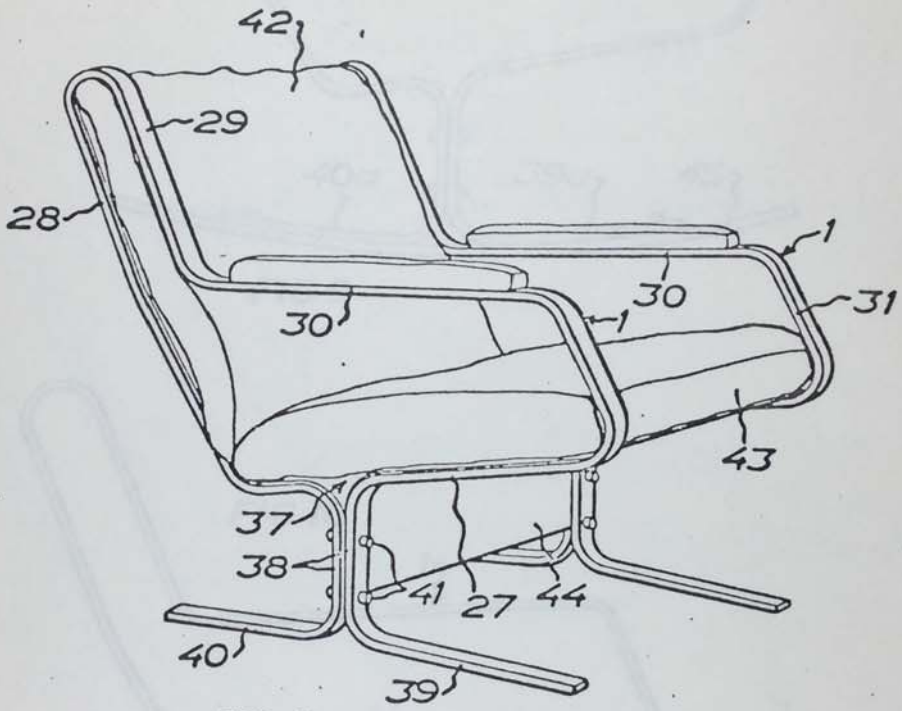


FIG. 8

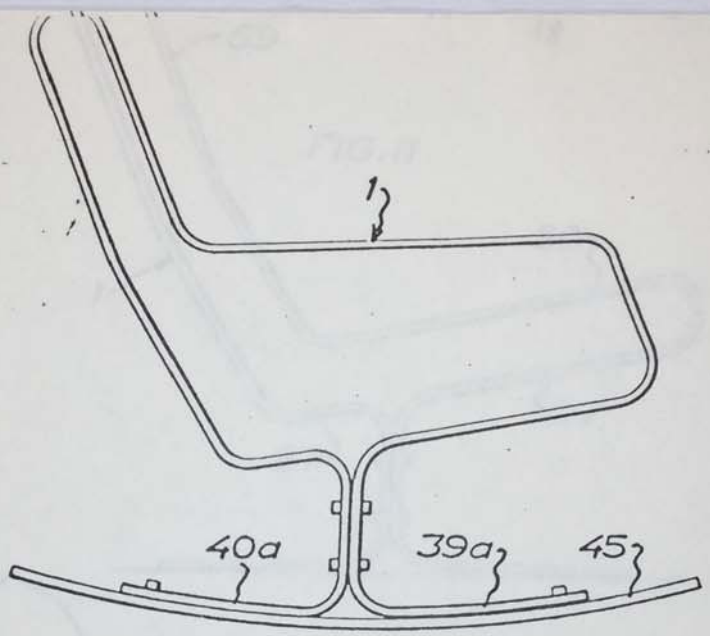
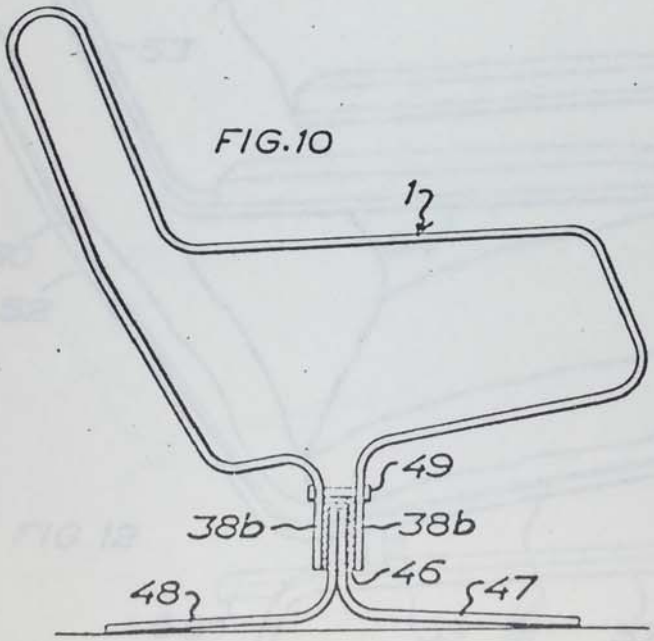


FIG.9

FIG.10



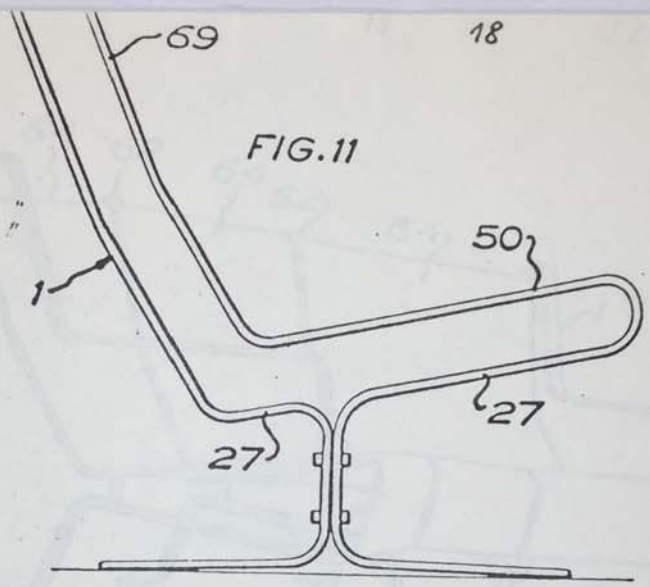


FIG. 11

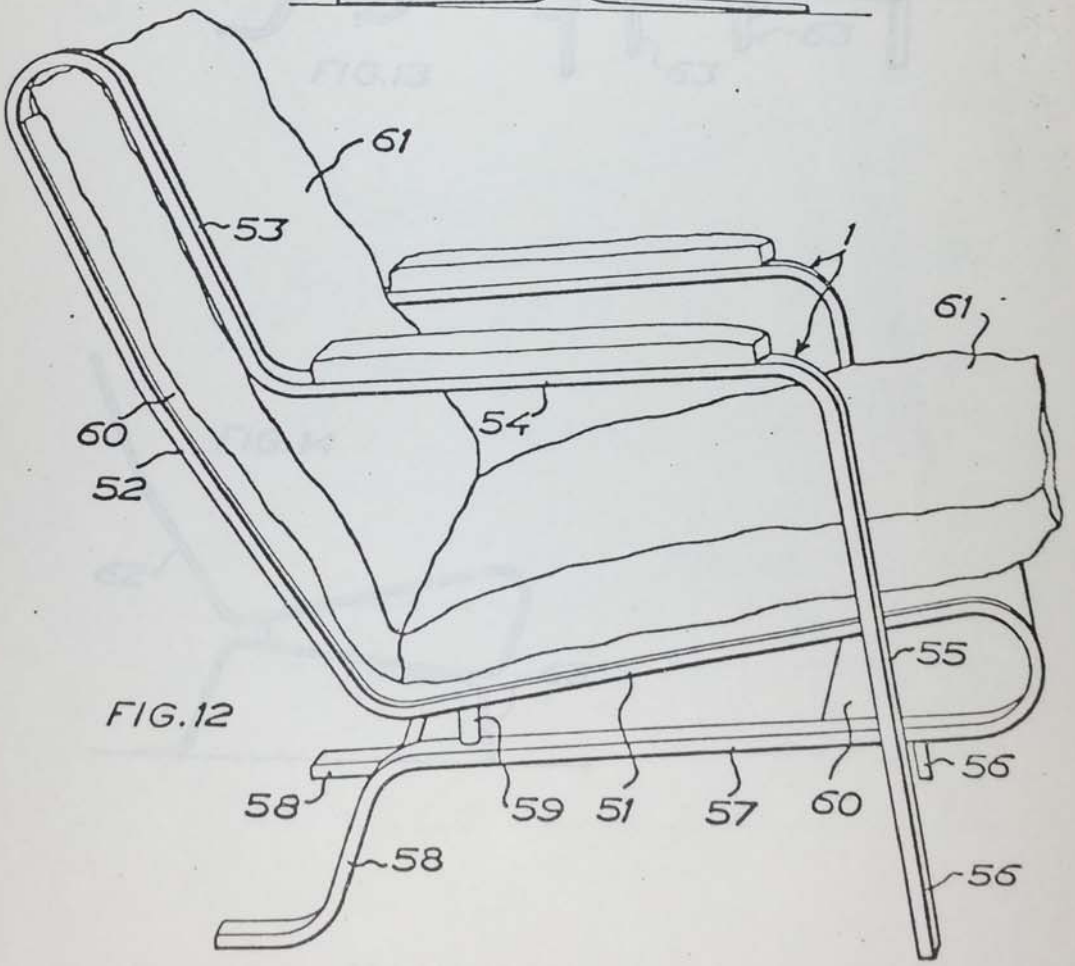


FIG. 12

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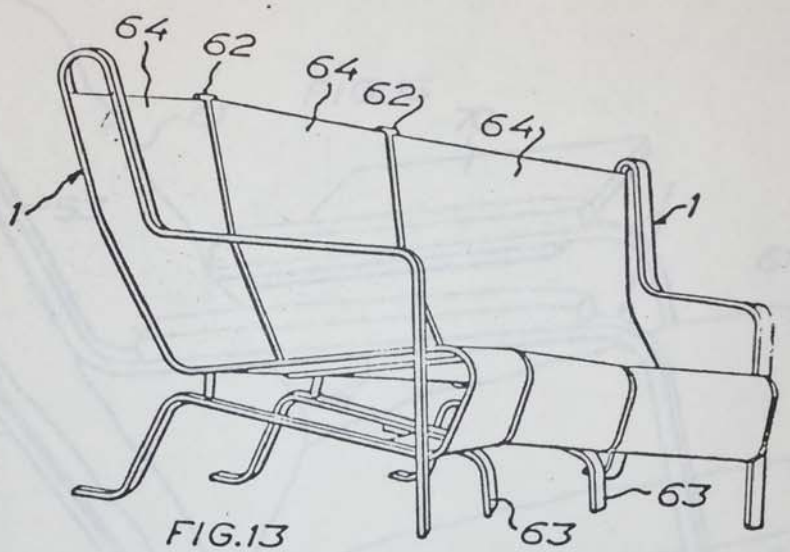

FIG.13

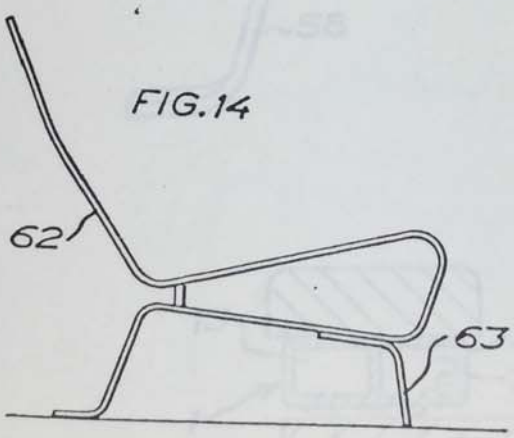

FIG.14

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FIG. 15

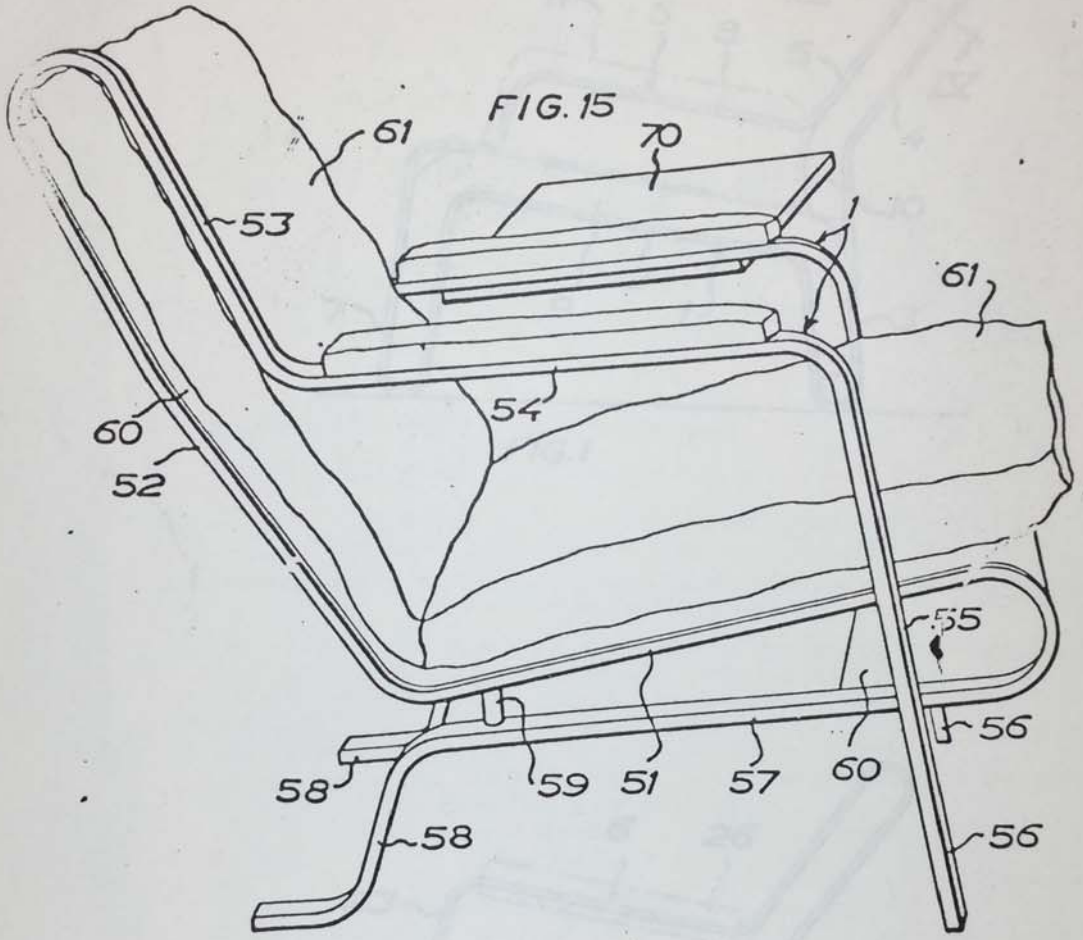
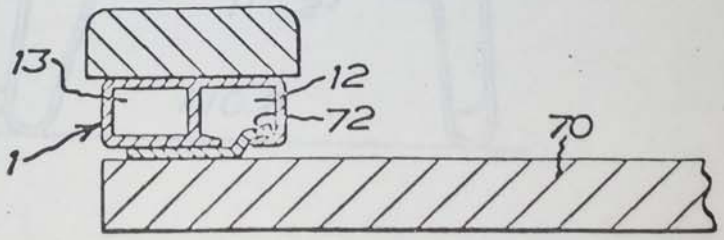


FIG. 16



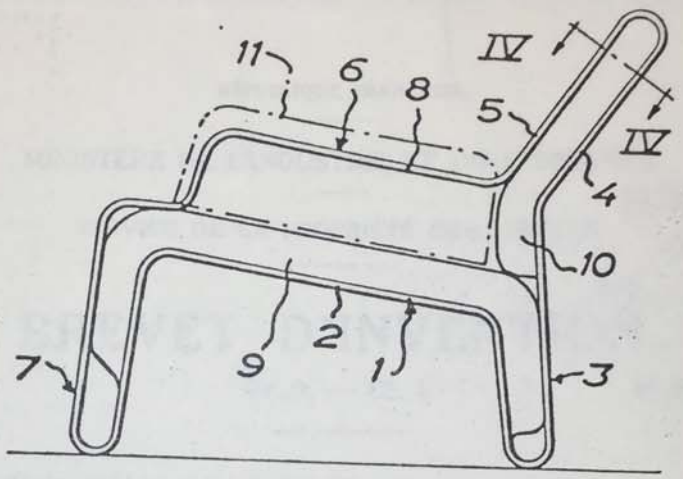


FIG.1

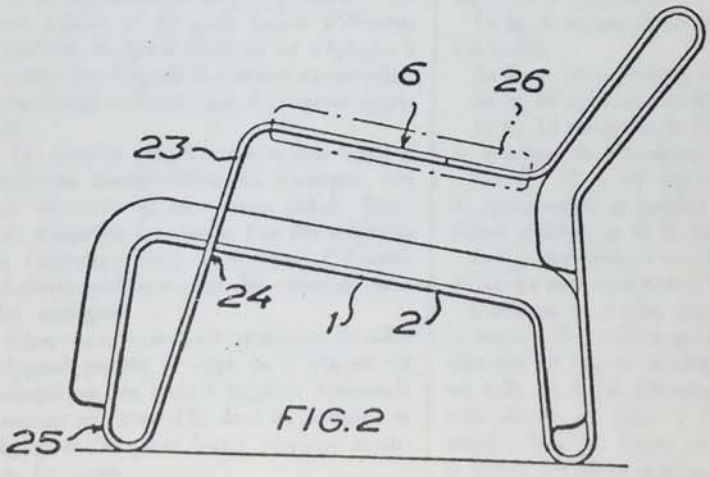


FIG.2

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BREVET D'INVENTION.

Gr. 9. — Cl. 4. N° 929.238

Meubles démontables en tubes métalliques.

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[Brevet d'invention dont la délivrance a été ajournée en exécution de l'art. 11, § 7, de la loi du 5 juillet 1844 modifiée par la loi du 7 avril 1902.]

La présente invention concerne des sièges, tables, lits et autres meubles démontables pouvant être constitués par la combinaison de tubes métalliques en forme d'étriers à branches courtes supportant les sangles, plateaux ou autres organes et de pieds formés d'éléments tubulaires en forme d'arceaux ou d'épingles à cheveux dans lesquels ils viennent s'emmancher, l'assemblage se faisant par des organes appropriés.

Les meubles selon l'invention sont légers et facilement transportables. Ils n'occupent une fois démontés qu'un volume réduit. Enfin, leur fabrication est simple, l'un des caractères de l'invention étant l'utilisation d'éléments tubulaires similaires pour des séries de meubles analogues.

Selon une autre forme de réalisation, un cadre polygonal portant le siège ou le plateau est assemblé par ses côtés à la partie horizontale d'arceaux en forme d'U, dont les branches se joignent et s'adaptent deux à deux pour constituer les pieds.

La description qui va suivre, en regard des dessins annexés donnés à titre d'exemples non limitatifs, fera bien comprendre comment l'invention peut être mise en pratique.

La fig. 1 est une vue en perspective d'une ossature de tabouret dont un détail de fixation est donné par la fig. 2.

La fig. 3 montre un autre tabouret selon l'une des formes de l'invention.

La fig. 4 est un pied de ce tabouret.

Les fig. 5, 6 et 7 sont les pièces détachées servant à la construction.

La fig. 8 est une chaise selon le principe de l'invention.

La fig. 9 est un fauteuil en élévation.

La fig. 10 représente un lit ou divan.

La fig. 11 montre un lit d'enfant réalisé selon le principe de l'invention.

Les fig. 12 et 13 représentent une frette de renforcement et jonction s'adaptant à une légère modification de la construction.

La fig. 14 représente un divan dont un détail de construction est montré à la fig. 15.

L'ossature du meuble représentée à la fig. 1 se compose d'un cadre supérieur 1 et de quatre éléments de support 2 constitués chacun par un tube en forme d'arceau. Les éléments 2 sont retenus au cadre 1 par des bagues 3 mobiles dans des gorges prévues à cet effet à la surface des tubes, et telles qu'elles maintiennent tangents le cadre 1 et la partie horizontale des éléments 2 en assurant, lorsque l'on exerce une pression sur le cadre 1, la position de tous les tubes dans un même plan horizontal.

Les parties extrêmes des éléments de soutien 2 sont unies à la partie inférieure du siège comme il l'est montré à la fig. 2, un petit te-

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non 4 d'un élément pénétrant dans une mortaise correspondante de l'élément contigu. Le siège peut être recouvert de sangles par exemple. On utilise ainsi la souplesse obtenue dans les supports par la combinaison de deux tubes 2 ne se touchant pas sur leur hauteur.

On replie le tabouret en repliant les éléments 2 vers le haut et en les amenant contre le cadre 1.

Le tabouret représenté à la fig. 3 se compose de deux groupes de quatre éléments semblables et de sangles. Les tubes 5 supportant les sangles ont la forme générale d'étriers à branches courtes, comme il l'est montré à la fig. 5. Les pieds 6 ont au contraire la forme d'une épingle à cheveu, dont les deux branches allongées sont presque accolées l'une à l'autre (fig. 4), et jointes en un certain point de leur hauteur par une cale de consolidation 7. Ladite cale 7 porte un orifice permettant la fixation de tringles entretoises qui pourront être prévues pour consolider l'ensemble.

Le raccord des pieds avec les tubulures supérieures se fait par l'intermédiaire de goujons 8 allongés pénétrant avec frottement dans les étriers en formant un raccord solide.

L'emploi de sangles souples permet, après avoir démonté le tabouret, de le réduire à un très petit volume.

Une autre forme de pied est représentée à la fig. 6. Etablie selon le même principe, mais plus courte et présentant la forme d'un V allongé, elle sera utilisée pour des fauteuils assez bas ou des lits.

La réalisation de la chaise représentée à la fig. 8 ou du fauteuil de la fig. 9 nécessite des éléments tubulaires intermédiaires comme celui montré à la fig. 7 pour le rehaussement de dossier.

Les éléments intermédjaires portent, à une extrémité, un goujon de fixation, et à l'autre extrémité un orifice en permettant la pénétration. Les deux joints supérieurs 9 (fig. 8) sont cachés par la sangle et indiqués en pointillé.

Des sangles tendues ou lâches permettent d'obtenir, avec les mêmes éléments de construction, de dimensions convenables, un divan comme à la fig. 10, ou un lit d'enfant comme à la fig. 11.

La position de ces sangles superposées non entrecroisées permet de séparer les éléments ntaposés lorsqu'on démonte le meuble et réduit encore son volume à l'état plié.

Une autre forme de réalisation, applicable en particulier à l'exemple de la fig. 1, permet d'utiliser un aplatissement de la partie inférieure des pieds qui prennent ainsi une forme demi-cylindrique comme il l'est représenté à la fig. 12. Chaque demi-pied porte alors un palier 10 de diamètre inférieur au diamètre des pieds, et sur lequel vient s'adapter une bague de frettage 11 (fig. 13). Ladite bague est ouverte sur un quart de sa circonférence afin de permettre la pénétration des pieds. On tourne alors légèrement la bague (1/8 de tour) pour assurer la fixation.

Une forme particulièrement simple d'exécution est représentée à la fig. 14. Deux éléments horizontaux 12 supportent les sangles 13 d'un divan, tandis que deux autres éléments tubulaires 14 servent de support. Des goujons 15 (fig. 15) portés par les éléments supérieurs pénètrent dans les tubes inférieurs. Lesdits goujons portent latéralement des excroissances correspondant à une forme non cylindrique de la mortaise 16 et venant s'encastrer dans ladite mortaise en évitant toute rotation.

Il va de soi que, sans sortir du cadre de l'invention, on pourra apporter des modifications aux formes d'exécution qui viennent d'être décrites, par exemple un plateau permettant la réalisation d'une table à thé, bridge, etc., tous genres de sièges ou de meubles non étudiés dans les exemples ci-dessus et faciles à concevoir par l'assemblage des éléments tubulaires donnés et de sangles, plateaux ou tous autres éléments souples ou rigides, fixes ou amovibles, la forme des supports pouvant affecter la forme désirée, etc.

RÉSUMÉ.

La présente invention comprend notamment :

1° Des meubles démontables en tubes métalliques, selon lesquels des éléments tubulaires en forme d'étriers à branches courtes supportant les organes d'appui reposent par leurs branches sur des pieds en forme d'épingle à cheveux dans lesquels ils s'emmanchent, deux étriers contigus s'emmanchant sur le même support et l'assemblage se faisant par des organes appropriés;

2° Des modes de réalisation des meubles spécifiés sous 1°, présentant les particularités suivantes prises isolément ou en combinaisons :

a. Les parties horizontales des étriers portent des organes d'appui dont la tension varie selon le meuble;

b. Les parties horizontales des étriers portent des organes de fixation d'un plateau;

c. Les branches verticales des pieds portent une cale de renforcement;

d. Des tringles entretoises augmentent la stabilité du meuble;

e. Des éléments tubulaires en I permettent de rehausser les étriers pour constituer une chaise ou un fauteuil;

f. Des goujons assurent l'assemblage des éléments tubulaires;

3° Une variante selon laquelle un cadre polygonal formant appui est assemblé par ses côtés à la partie horizontale d'arceaux en forme d'U dont les branches s'adaptent deux à deux pour constituer les pieds, l'assemblage des arceaux sur le cadre étant réalisé par des bagues appropriées.

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Pour la vente des fascicules, s'adresser à l'IMPRIMERIE NATIONALE, 27, rue de la Convention, Paris (15e).

FRANCE

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FIG.1.

FIG.2.

FIG.4.

FIG.12.

FIG.6.

FIG.13.

FIG.9.

FIG.8.

FIG.10.

FIG.11.

FIG.15.

FIG.14.

M. Bascoulche