

Demonstratives of Patent Owner EP Family Corporation

United States Patent and Trademark Office
Patent Trial and Appeal Board
Oral Hearing – May 16, 2024

Proposed Amended Claim — *Proposed Fig. 1 Amendments*

Original Figure

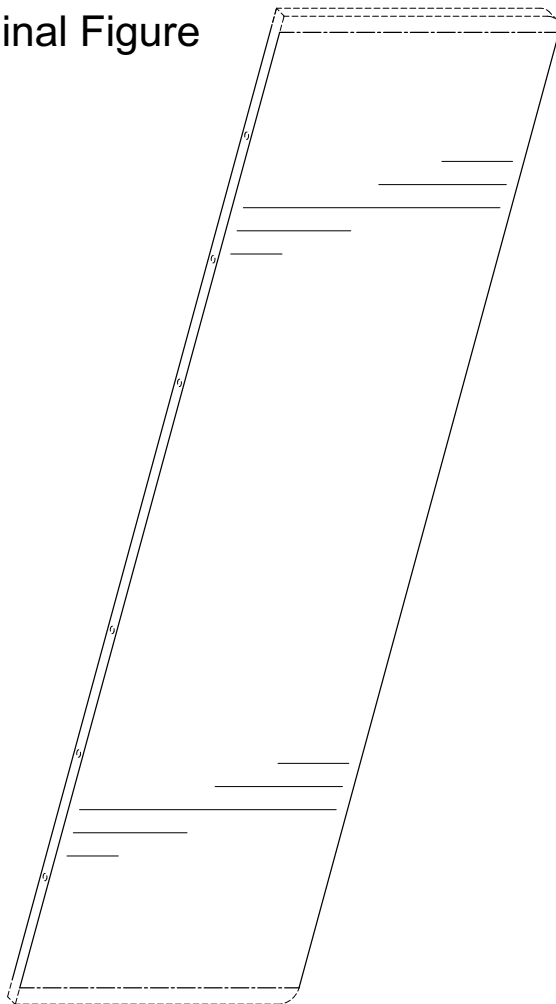


FIG. 1

Amended Figure

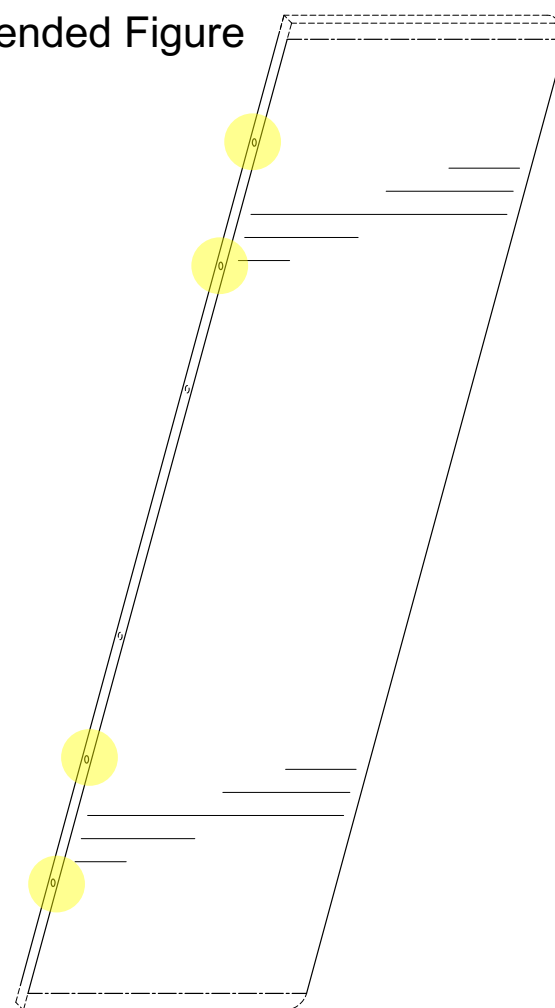


FIG. 1

*Highlight Added For Emphasis

Proposed Amended Claim — *Proposed Fig. 1 Amendments*

- Removal of disclaimer of a total of four holes by amending the outline of the four holes from broken lines to solid lines.
- Two of the holes are located closest to the right side edge of the table top and two of the holes are located closest to the left side outer edge of the table top.

MTA at 6

Proposed Amended Claim — *Proposed Fig. 6 Amendments*

Original Figure

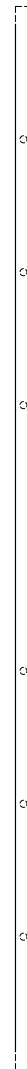


FIG. 6

Amended Figure

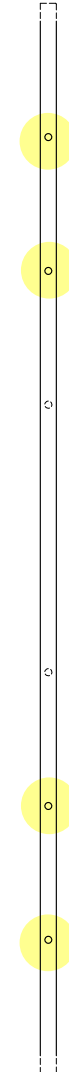


FIG. 6

*Highlight Added For Emphasis

MTA at 9

Proposed Amended Claim — *Proposed Fig. 6 Amendments*

- Removal of disclaimer of a total of four holes by amending the outline of the four holes from broken lines to solid lines.
- Two of the holes are located closest to the right side edge of the table top and two of the holes are located closest to the left side outer edge of the tabletop.

MTA at 6

Proposed Amended Claim — *Proposed Fig. 8 Amendments*

Original Figure

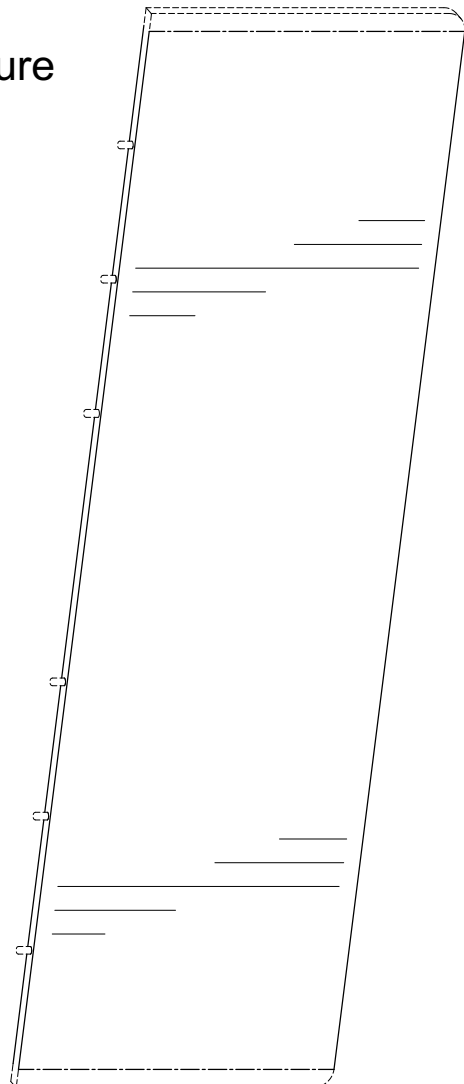


FIG. 8

Amended Figure

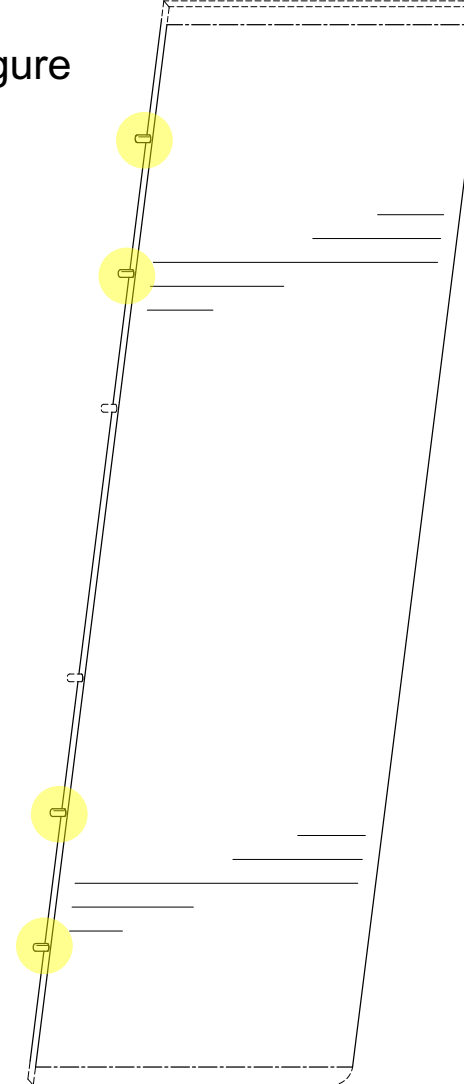


FIG. 8

*Highlight Added For Emphasis

MTA at 10

Proposed Amended Claim — *Proposed Fig. 8 Amendments*

- Removal of disclaimer of a total of four tenons by amending the outline of the four tenons from broken lines to solid lines.
- Two of the tenons are located closest to the right side outer edge of the table top and two of the tenons are located closest to the left side outer edge of the table top.

MTA at 6

Proposed Amended Claim — *Proposed Fig. 9 Amendments*

Original Figure

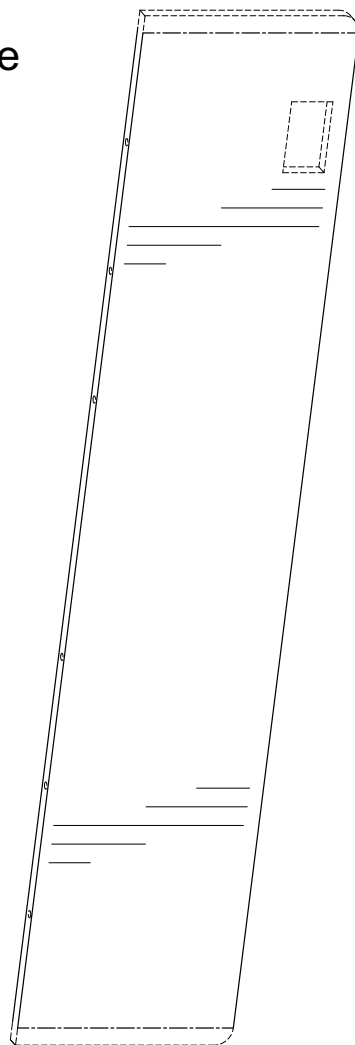


FIG. 9

Amended Figure

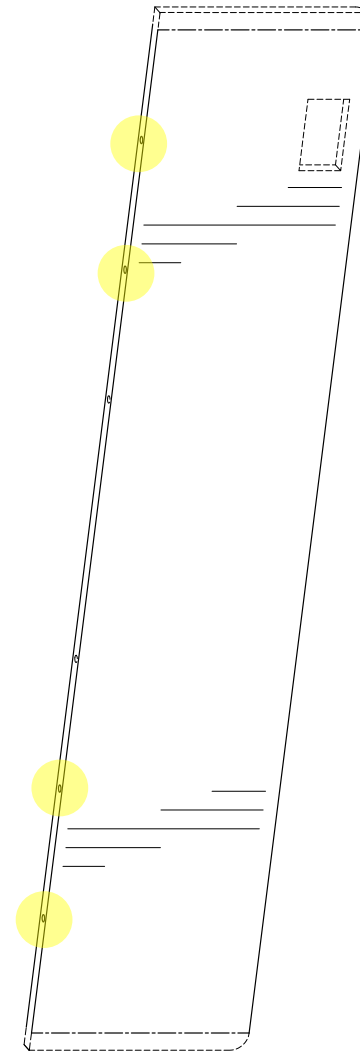


FIG. 9

*Highlight Added For Emphasis

Proposed Amended Claim — *Proposed Fig. 9 Amendments*

- Removal of disclaimer of a total of four holes by amending the outline of the four holes from broken lines to solid lines.
- Two of the holes are located closest to the right side outer edge of the table top and two of the holes are located closest to the left side outer edge of the table top.

MTA at 7

Proposed Amended Claim — *Proposed Fig. 14 Amendments*

Original Figure



FIG. 14

Amended Figure



FIG. 14

*Highlight Added For Emphasis

MTA at 12

Proposed Amended Claim — *Proposed Fig. 14 Amendments*

- Removal of disclaimer of a total of four holes by amending the outline of the four holes from broken lines to solid lines.
- Two of the holes are located closest to the right side outer edge of the tabletop and two of the holes are located closest to the left side outer edge of the table top.

MTA at 7

Proposed Amended Claim — *Unchanged Figures*

- No changes are proposed to:
 - Figs. 2 – 5;
 - Fig. 7;
 - Figs. 10 – 13; and
 - Figs. 15 – 23.

MTA at 7

Disputed Issues

- Petitioners Grounds of Unpatentability
- Ornamentality of the amended claim
- Indefiniteness of the amended claim
- Claim compliance with 37 C.F.R. §42.121

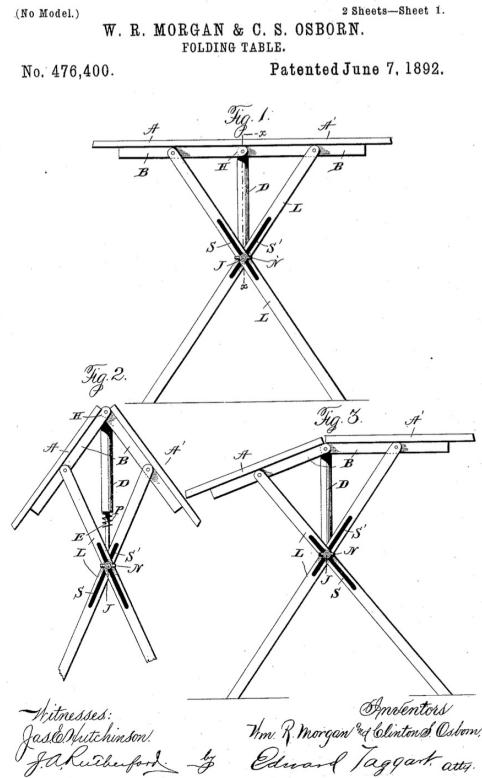
MTA at 7

Grounds of Unpatentability – *Amended Claim*

Ground	Type	Primary Reference	Secondary Reference(s)
1	§103	<i>Morgan</i>	<i>Carter</i>
2	§103	<i>Morgan</i>	<i>Carter and Galant</i>
3	§103	<i>Bordonabe Furniture</i>	<i>Carter</i>
4	§103	<i>Bordonabe Furniture</i>	<i>Carter and Galant</i>
5	§103	<i>Iannaccone</i>	<i>Carter</i>
6	§103	<i>Iannaccone</i>	<i>Carter and Galant</i>

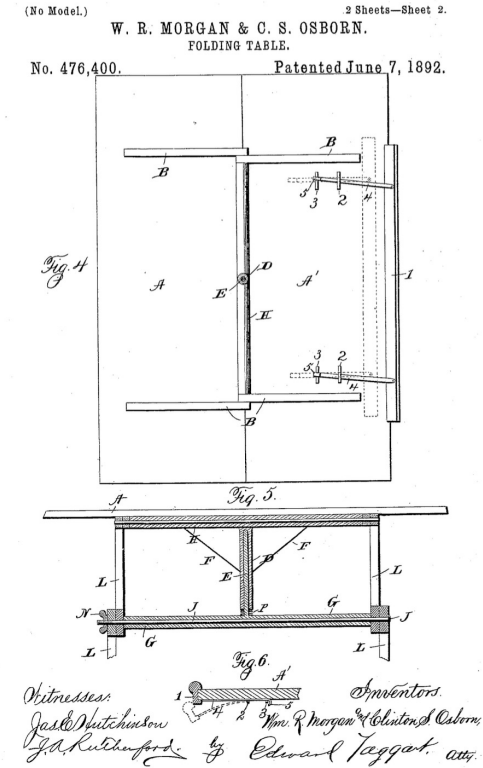
Petitioner's Opposition to MTA at 7
Reply to Petitioner's Opposition to MTA at 8

US476,400 - Morgan



Page 1 of 4

Hangzhou Taihe & Ningbo Likeju Exhibit 1004



Page 2 of 4

Hangzhou Taihe & Ningbo Likeju Exhibit 1004

Morgan, Ex. 1004, pg. 1 – 2.

Morgan is deficient as a Primary Reference

- Visual differences between *Morgan* and the amended claim of the '012 Patent:
 - *Morgan* discloses a folding table with two leaves, the leaves having a variety of potential positions;
 - *Morgan* discloses two crossed legs which pivot about a rod attached between the two legs at their crossing point;
 - *Morgan* discloses legs and other mechanical features that differ from those shown in the '012 Patent.
 - The '012 Patent discloses a separable table top for a standing desk, not a folding table.
 - The '012 Patent does not show any suggested mechanization of the two portions of the table top disclosed in *Morgan*.

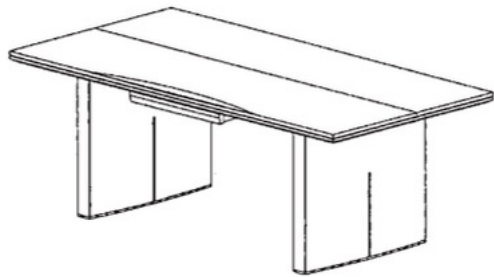
Reply at 9, *Williams Declaration*, Ex. 2006, ¶¶61 - 63.

Folding Tables Provide a Different Visual Impression from the '012 Patent

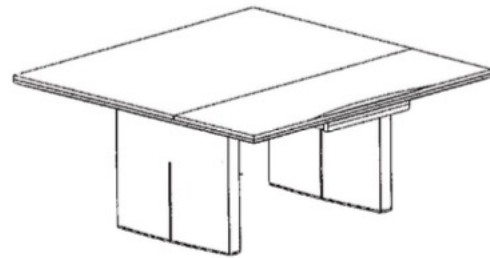
- The table top of the '012 Patent includes two distinct states:
 - 1) Before assembly: two separate table top portions, including the now claimed tenons and holes; and
 - 2) After assembly: comprising a complete table top.
- A folding table, as shown in *Morgan* and *Iannaccone*, have at least two states impacting the visual impression:
 - 1) folded: comprising two table top portions are still attached to each other, by hinges, three in *Iannaccone* and two in *Morgan*; and
 - 2) unfolded.
- The two distinct states, before and after assembly, of the '012 Patent provide a very different visual impression from the folded and unfolded states of *Morgan* and *Iannaccone*.

Reply at 9 10, Williams Declaration, Ex. 2006, ¶80 - 84.

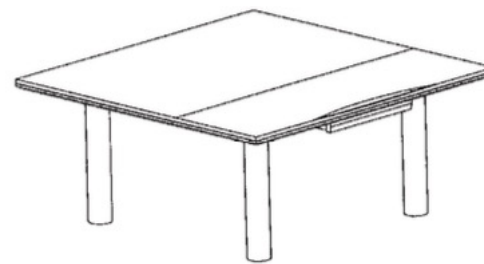
Bordonabe Furniture



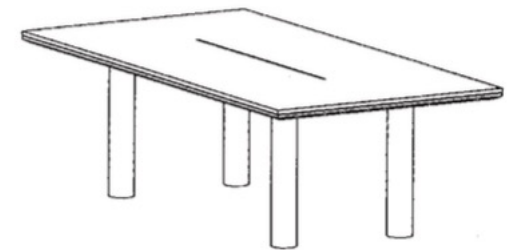
A



B



C



E

Bordonabe Furniture, Ex. 1005, pg. 20 - 21.

Bordonabe Furniture is deficient as a Primary Reference

- Visual differences between *Bordonabe Furniture* and the amended claim of the '012 Patent:
 - 1) a beveled front edge;
 - 2) a recessed and beveled cut line between the lower and upper pieces;
 - 3) an arched edge around the front;
 - 4) drawer under the workspace with an angled drawer;
 - 5) various different leg designs; and
 - 6) the top piece having a cut line that does not reach the edge (*Bordonabe Furniture* Design E).

Reply at 12, *Williams Declaration*, Ex. 2006, ¶¶64 - 73.

D424,325 - *lannaccone*

U.S. Patent May 9, 2000 Sheet 1 of 9 Des. 424,325

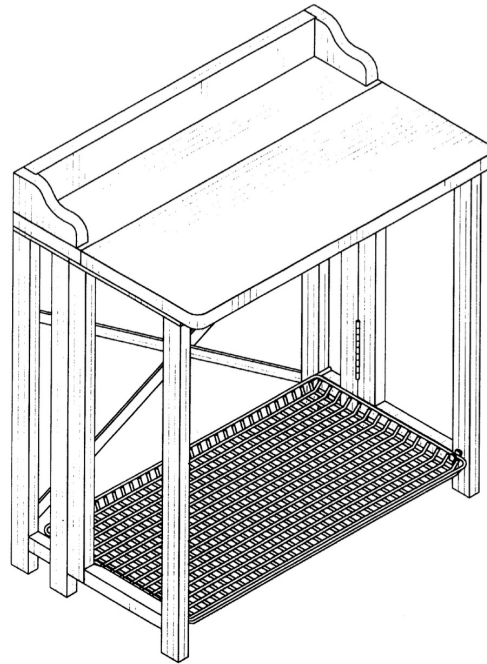


FIG. 1

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Hangzhou Taihe & Ningbo Likeju Exhibit 1006

U.S. Patent May 9, 2000 Sheet 5 of 9 Des. 424,325

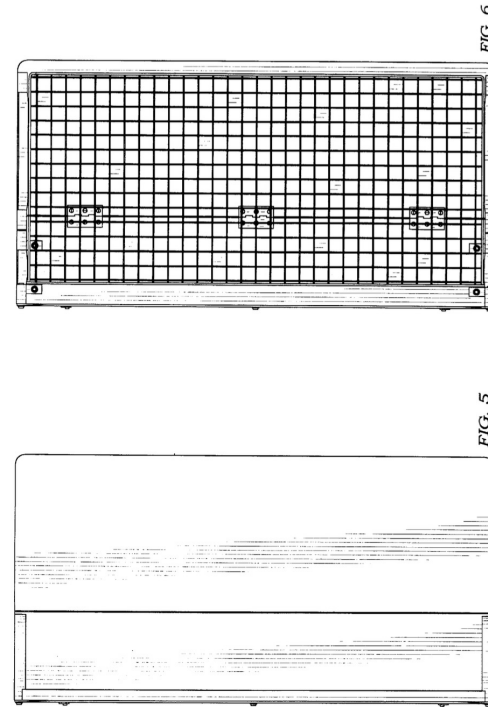


FIG. 5

FIG. 6

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Hangzhou Taihe & Ningbo Likeju Exhibit 1006

U.S. Patent May 9, 2000 Sheet 6 of 9 Des. 424,325

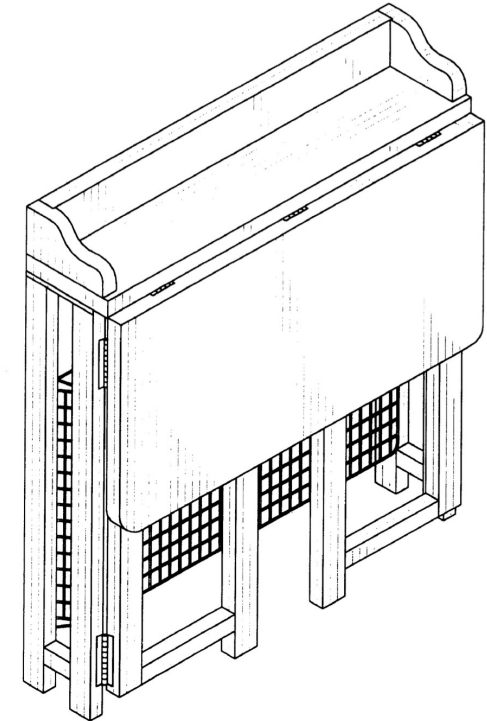


FIG. 7

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Hangzhou Taihe & Ningbo Likeju Exhibit 1006

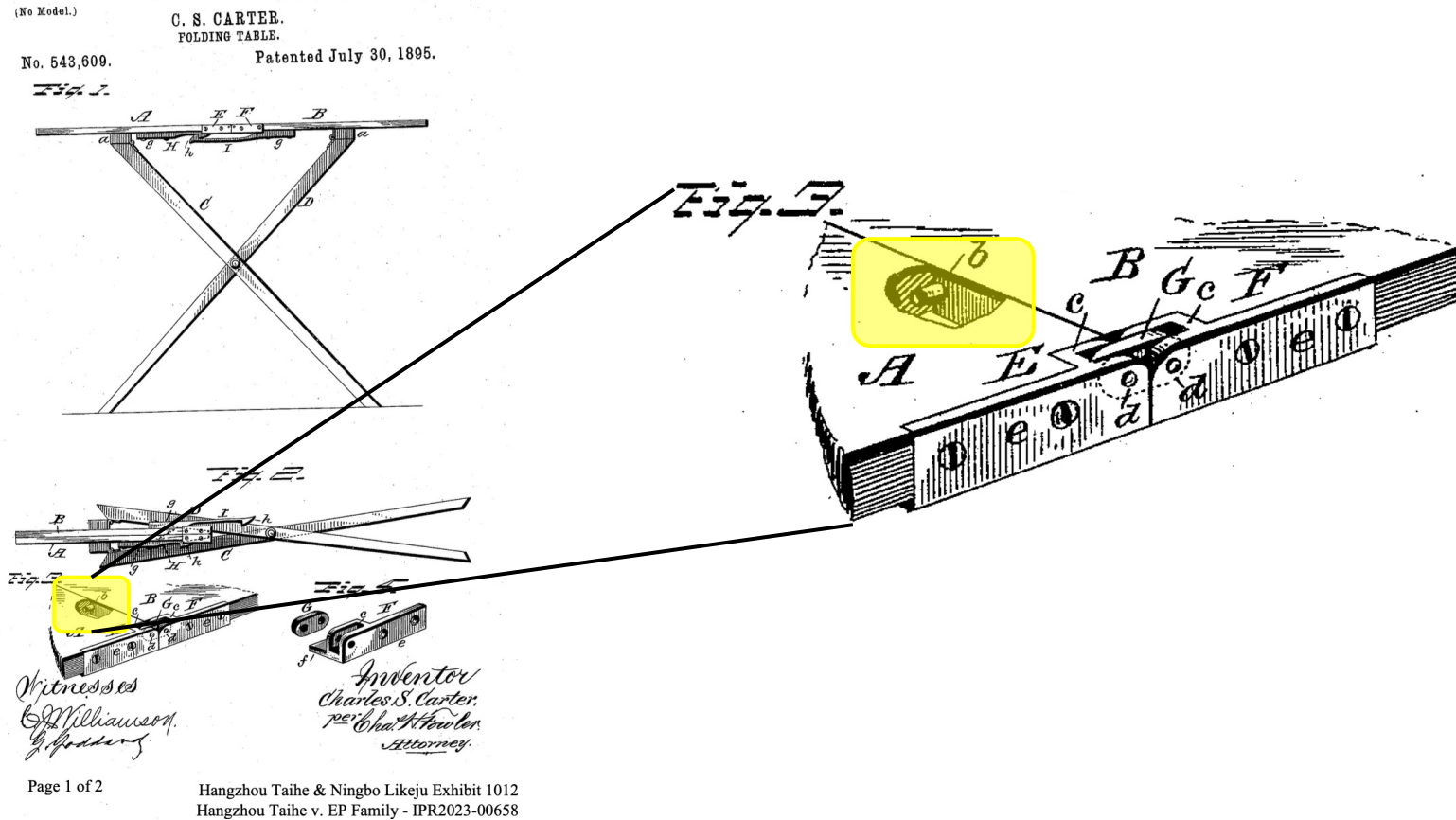
lannaccone, Ex. 1006, pgs. 2, 6, 7.

Iannaccone is deficient as a Primary Reference

- Visual differences between *Iannaccone* and the amended claim of the '012 Patent:
 - 1) three short raised sections at the rear of the non-folding panel;
 - 2) two of the raised sections having a curved design along the top;
 - 3) a folding section of the table top that folds parallel with the legs;
 - 4) three legs on each side, for a total of six legs;
 - 5) two cross members along the rear side of the table;
 - 6) a grid material that is shown at the bottom of the table when unfolded and displayed vertically when folded.
- The folding table of *Iannaccone* provides a different visual impression than the standing desk of the '012 Patent as outlined prior.

Reply at 13 - 14, *Williams Declaration*, Ex. 2006, ¶¶74 – 84.

US543,609 - Carter



Carter, Ex. 1012, pg. 1, Fig 3.

US543,609 - Carter

UNITED STATES PATENT OFFICE.

CHARLES S. CARTER, OF MANSFIELD, OHIO.

FOLDING TABLE.

SPECIFICATION forming part of Letters Patent No. 543,609, dated July 30, 1895.

Application filed February 18, 1895. Serial No. 538,760. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. CARTER, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Folding Tables; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to that class of folding tables in which the top is formed in two hinged sections and the legs or supports pivoted together and hinged to said top, whereby the several parts may be folded together in a compact form to economize space in packing and transportation or for other purposes.

Figure 1 of the drawings represents a side elevation of a table with the hinged sections of the top extended and my improved device in position for locking said hinged sections extended. Fig. 2 is a side view showing the parts folded together. Fig. 3 is a perspective view, in detail, of a portion of each hinged section, showing them on an enlarged scale and more clearly illustrating the construction of the hinge. Fig. 4, a detail view in perspective of one of the brackets which forms the hinge and the link which forms the connection between the two brackets.

In the accompanying drawings, A B represent the two sections or leaves which constitute the table-top, which top may be round, square, octagonal, or any other shape found most preferable. Upon the underside of the hinged sections are suitably fastened transverse cleats *a*, and to these cleats are hinged in any suitable manner the upper ends of the legs or supports C D. These legs or supports are pivoted together, as shown in Figs. 1 and 2 of the drawings, and may be of any suitable construction and design, either ornamental or plain. A peculiarly-constructed hinge is employed, which admits of dowel-pins *b* being used to form a close joint when the contacting edges of the sections A B come together, and also supporting the inner edges of the sections when in an extended position. This hinge consists of the two brackets E F, each being cast with a socket *c* to receive the ends of a flat-metal link G, said ends being held within the sockets by pivots *d*, which

Page 2 of 2

enter holes in the walls of the sockets and 55 through corresponding holes in the ends of the link. The brackets consist, substantially, of the sockets above described, the side leaves *e*, which have screw-holes for attaching them to the edge of the table-sections, and the laterally-extending plates *f*, which come against the under side of the sections. The construction of the brackets provides a very strong and durable hinge when the link is attached thereto, and allows the inner edges of the sections A B to swing out a sufficient distance 65 to release the dowel-pins, so that the two hinged sections may be folded together.

The essential feature of my invention resides in the means employed for holding the hinged sections in an extended position, as shown in Fig. 1 of the drawings.

The device consists in the two spring-catches H I, which terminate in shanks *g* for attaching them to the under side of the table 75 sections A B by screws or other suitable fastenings. The spring-catches have rounded or curved shoulders *h*, so as to admit of each catch riding over the other until they automatically engage, which will securely and firmly 80 hold the two table-sections in an extended position. The spring-catches may be constructed of wood or metal or of both materials, as found desirable, and any number of these catches may be used.

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

In a folding table, the two sections connected at their inner edges, and provided with 90 dowel pins *b*, the cleats *a*, and the legs C, D, hinged to the cleats; combined with the two automatically engaging catches H, I, and hinges E, F, and connecting links G, pivoted to each half of the hinge, each part of the 95 hinge consisting of the side leaf *e*, which is recessed in one end of the section, the pocket *c* to receive one end of the link, and the horizontal flange *f*, which projects beyond the pocket and braces the under side of the corner of the section, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES S. CARTER.

Witnesses:

W. M. E. WELDON,
JOHN E. DE CAMP.Hangzhou Taihe & Ningbo Likeju Exhibit 1012
Hangzhou Taihe v. EP Family - IPR2023-00658

“allows the inner edges of the sections A B to swing out a sufficient distance to release the dowel pins.”

“dowel-pins *b* being used to form a close joint when contacting edges of the sections A B come together”

Carter, Ex. 1012, pg. 2, Col 1: 46 – 49, Col 2: 65 – 67, Reply at 11

Carter is deficient as a Secondary Reference

- *Carter* discloses only a single dowel pin.
- *Carter* does not discuss, suggest or disclose a complementary hole with which a dowel pin may couple.
- *Carter* does not discuss, suggest or disclose the possibility of adding more than one dowel pin.
- It would not be obvious to one of ordinary skill in the art to extend *Carter* to include the four holes and tenons in the configuration of the amended claim.

Reply at 11, Williams Declaration, Ex. 2006, ¶89.

Relevant Federal Circuit Precedent Regarding Functionality



“[W]hen there are several ways to achieve the function of an article of manufacture, the design of the article is more likely to serve a primarily ornamental purpose.” See *Avia Group International, Inc. v. L.A. Gear California, Inc.*, 853 F.2d 1557, 1563, 7 USPQ2d 1548, 1553 (Fed.Cir.1988).”

“We have often emphasized the presence or absence of alternative designs, noting that the existence of ‘several ways to achieve the function of an article of manufacture,’ though not dispositive, increases the likelihood that a design serves a primarily ornamental purpose. [I]f other designs could produce the same or similar functional capabilities, the design of the article in question is likely ornamental, not functional.” *Automotive Body Parts Assn. v. Ford Global Technologies LLC*, 930 F.3d 1314, 1319 (Fed.Cir. 2019).

Reply at 4 – 5.

Choice of Four Tenons and Holes is Ornamental

- Patent Owner, through Expert Witness Williams, identifies at least seven other possible methods to join or connect two table top portions:
 - 1) the blind mortise and tenon joint;
 - 2) the biscuit joint;
 - 3) the pocket hole joint;
 - 4) the tongue and groove joint;
 - 5) the beadlock joint;
 - 6) a Clamex P-14 Detachable Furniture Connector;
 - 7) the Tenso P-14 Detachable Furniture Connector.

Reply at 5, Williams Decl., Ex. 2006, ¶¶25 - 44.

Choice of Four Tenons and Holes is Ornamental

- Given the many potential construction methods, the choice of method is ornamental, not functional.
- A furniture designer of ordinary skill in the art may choose tenons and holes for ornamental or aesthetic reasons including:
 - historical or traditional design,
 - visual balance and harmony,
 - material construction considerations,
 - brand identity or design language, and
 - customer preferences/market trends.
- A furniture designer of ordinary skill in the art states that the choice of four tenons and holes is made for ornamental reasons such as to establish a visual effect of repetition, for design symmetry, or for visual balance.

Reply at 5, Williams Decl., Ex. 2006, ¶¶47 – 48.

Legal Standard for Indefiniteness



A design patent claim may be considered “indefinite under § 112 if one skilled in the art, viewing the design as would an ordinary observer, would not understand the scope of the design with reasonable certainty based on the claim and visual disclosure.” *In re Maatita*, 900 F.3d 1369, 1377 (Fed. Cir. 2018).

The Figures of the '012 Patent

Table Top Portion	Figures
Top Portion	Figures 1 - 8
Bottom Portion	Figures 9 - 15
Complete Table Top	Figures 16 - 23

Reply at 6

The Amended Claim is Clear to One of Ordinary Skill

- The now claimed tenons are shown in Fig. 8.
- Fig. 8 clearly relates to the top table top portion.
- The lack of tenons shown in Figs. 1, 2, and 3 does not impact the understanding that the tenons are related to the top table top portion.
- The now claimed holes are shown in Figs. 9 and 14.
- Figs. 9 and 14 relate to the bottom table top portion.
- No tenons are shown in relation to the bottom table top portion.
- It is clear that the tenons are related only to the top table top portion and the holes are related only to the bottom table top portion.
- The amended claim is clear to one of ordinary skill in the art.

Reply at 7, Williams Decl., Ex. 2006, ¶¶50 – 56.

The Amended Claim Complies with 37 C.F.R. §42.121

The Amended Claim responds to each of the grounds of unpatentability in the Institution:

Instituted Grounds	Type	Reference(s)	Amended Claim	Citation
1	§102	<i>Morgan</i>	Adds claimed features not present in <i>Morgan</i>	MTA at 13 - 16
2	§103	<i>Morgan</i>	Adds claimed features not present in <i>Morgan</i>	MTA at 13 - 16
3	§103	<i>Morgan, Galant</i>	Adds claimed features not present in <i>Morgan</i> or <i>Galant</i>	MTA at 13 - 16
4	§102	<i>Bordonabe Furniture</i>	Adds claimed features not present in <i>Bordonabe Furniture</i>	MTA at 16 - 19
5	§103	<i>Bordonabe Furniture</i>	Adds claimed features not present in <i>Bordonabe Furniture</i>	MTA at 16 - 19
6	§103	<i>Bordonabe Furniture, Galant</i>	Adds claimed features not present in <i>Bordonabe Furniture</i> and <i>Galant</i>	MTA at 16 - 19
7	§102	<i>Iannaccone</i>	Adds claimed features not present in <i>Iannaccone</i>	MTA at 19 - 23
8	§103	<i>Iannaccone</i>	Adds claimed features not present in <i>Iannaccone</i>	MTA at 19 - 23
9	§103	<i>Iannaccone, Galant</i>	Adds claimed features not present in <i>Iannaccone</i> and <i>Galant</i>	MTA at 19 - 23

The Amended Claim Complies with 37 C.F.R. §42.121

- The Amended Claim does not:
 - enlarge the scope of the claim of the patent; or
 - introduce new subject matter.
- Petitioner does not dispute:
 - that the amended claim responds to the instituted grounds;
 - does not enlarge the scope of the claim; or
 - introduce new subject matter.
- Patent Owner has met their burden of persuasion under 37 C.F.R. §42.121(d)(1) by showing:
 - that the amended claim responds to the instituted grounds;
 - does not enlarge the scope of the claim; and
 - introduce new subject matter.

MTA at 3, 13 - 23.