

(No Model.)

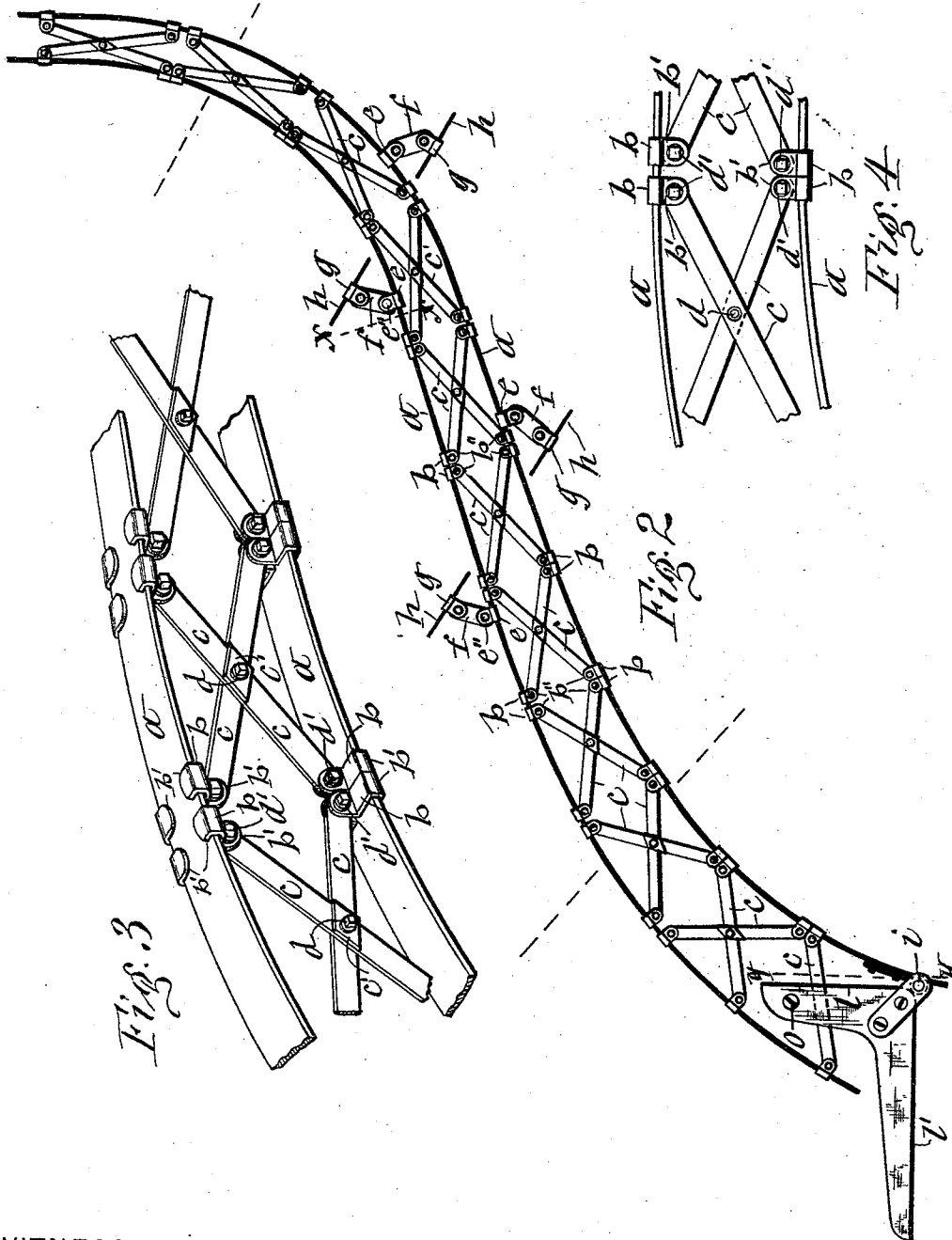
2 Sheets—Sheet 1.

W. J. HENLEY.

ADJUSTABLE PATTERN FOR CURVILINEAR DESIGNS.

No. 526,900.

Patented Oct. 2, 1894.



WITNESSES:

C. L. Burdison
C. E. Tomlinson

INVENTOR:

INVENTOR:
William J. Henley
By *E. Laess*
his ATTORNEYS.

(No Model.)

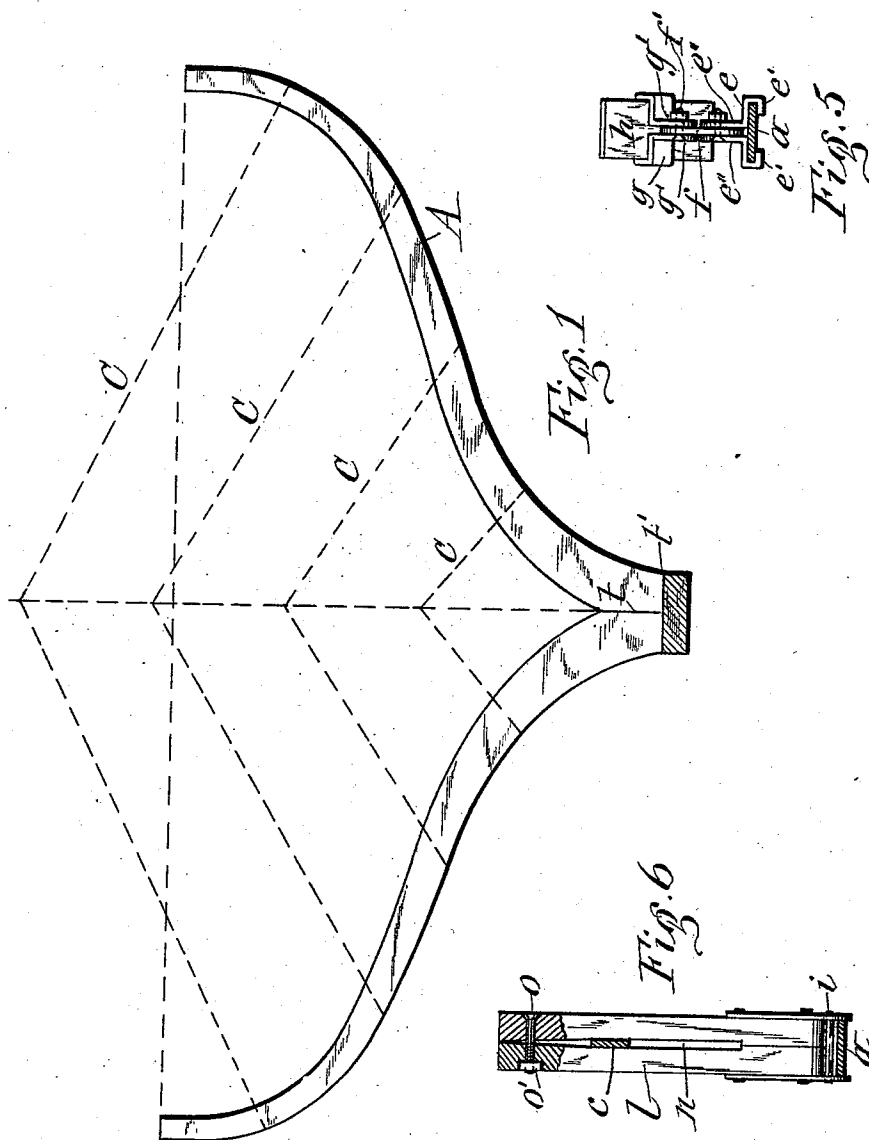
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INVENTOR:

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By *C. Laass*
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UNITED STATES PATENT OFFICE.

WILLIAM J. HENLEY, OF SYRACUSE, NEW YORK.

ADJUSTABLE PATTERN FOR CURVILINEAR DESIGNS.

SPECIFICATION forming part of Letters Patent No. 526,900, dated October 2, 1894.

Application filed March 5, 1894. Serial No. 502,341. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. HENLEY, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Adjustable Patterns for Curvilinear Designs, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The object of this invention is to provide a pattern for marking out the frames of boats, yachts, ships and analogous vessels or other curved structures; and the invention consists essentially of a prolonged skeleton frame which is flexible within its plane so as to permit said frame to be bent into various curves and tapered from end to end and is provided with adjustable bracing members crossing each other in pairs by which to retain said frame in its desired curved shape.

The invention also consists in the combination with the aforesaid frame, of diagonal line-guides adjustably connected thereto to allow them to be set into different angles as may be required; and the invention furthermore consists in certain novel features of the details of its construction all as hereinafter described and specifically set forth in the claims.

In the annexed drawings Figure 1 is a diagrammatic view of a sample of a yacht frame, the same being merely an exemplification of one of the numerous forms to which my adjustable pattern is applicable. Fig. 2 is an enlarged face view of the said pattern adjusted for delineating the outline of one of the aforesaid frames. Fig. 3 is an enlarged perspective view of a section of said frame. Fig. 4 is a face view of the connection of the adjustable braces of the pattern, the central nut and washer of the bolt which ties said braces at their crossing being omitted to show the enlarged eye which allows sufficient play of the bolt for setting the braces so as to taper the pattern. Figs. 5 and 6 are transverse sections respectively on lines —X—X— and —Y—Y— in Fig. 2.

Similar letters of reference indicate corresponding parts.

I construct the aforesaid flexible and adjustable frame and its appurtenances in the following manner, to wit:

—a—a— represent two flexible metal bands, preferably of spring steel which are sustained the desired distance apart and in the desired bent shape by means of a series of diagonal braces —c—c— interposed between said bands and arranged in sets distributed throughout the lengths of the bands. The braces of each set cross each other and are connected at their ends to the bands longitudinally adjustable, preferably by means of clamps —b—b— each of which is composed of two parts formed with jaws —b'—b'— by which they grip the opposite edges of the band, and with perforated ears —b''—b''— between which the end of the brace is inserted and adjustably clamped therein by means of a bolt —d'— passing through the ears and intervening portions of the brace. Another bolt —d— passes through the braces at their crossing to clamp them together. The eye through which said bolt passes is enlarged to permit the bolt to shift laterally in the operation of adjusting the pattern as hereinafter described.

—c'—c'— denote washers placed over the aforesaid enlarged eyes.

The adjustment of said pattern is effected in the following manner: Assuming it to be used for delineating the frame —A— shown in Fig. 1 of the drawings, the bolts —d— and —d'— are loosened to allow the clamps —b—b— to slide longitudinally on the bands —a—a— and the braces —c—c— to turn into different angles. The outline of the frame —A— having been marked on a floor, the adjustable pattern is placed upon said floor and bent to conform to the aforesaid outline, and then by tightening the bolts —d— and —d'—, the braces —c—c— are firmly clamped at their crossings, and the clamps —b—b— are caused to effectually grip the bands and thus retain the pattern in its adjusted curved and tapered condition. To each band —a— are adjustably connected the clamps —e—e— each of which is composed of two parts like the clamps —b—b— and formed with similar jaws —e'—e'— by which they grip the edges of the band as more clearly shown in Fig. 5 of the drawings. The two parts of the clamp are formed with outwardly projecting perforated ears —e''—e''— between which is inserted a metal strap —f— and adjustably

clamped therein by a bolt $-f'$ — passing through the ears and strap, said ears being parallel with the plane of the pattern. The free end of the strap is also perforated and inserted between correspondingly perforated ears $-g'$ formed on the two parts of a shoe $-g$ — which is similar to the clamps $-b$ — and $-e$ — and formed with jaws which grip the guide-plate $-h$ —. These guide-plates are employed for establishing on the aforesaid pattern the location and directions of the diagonal lines $-C-C-C$ — which are usually marked on the floor in outlining the frame $-A$ — as indicated by dotted lines in Fig. 2 of the drawings which lines are drawn for the purpose of ascertaining the bevels of the exterior of the frame and edges of the planking.

The clamps $-e-e$ — can be set on the bands $-a-a$ — at the required locations, and the straps $-f-f$ — and shoes $-g-g$ — turned and clamped in the proper angles to set the guide-plates $-h-h$ — in range with the guide-line $-C$ —.

To the foot of the described adjustable pattern, is adjustably connected the right angled guide-piece $-l-l'$ — which I preferably hinge at its angle to the outer band $-a$ — as shown at $-i$ — in Figs. 2 and 6 of the drawings. This guide-piece is employed for establishing on the adjustable pattern, the so-called side-line $-t$ — and the base-line $-t'$ — shown in Fig. 1 of the drawings, to which lines the two arms $-l$ — and $-l'$ — are set and clamped on the pattern. For clamping said guide-piece, I preferably slit the side-line arm $-l$ — longitudinally as shown at $-n$ — to receive through it the adjacent brace $-c$ — to which it is clamped by a bolt $-o$ — which passes through said arm and is provided with a nut $-o'$ — as more clearly shown in Fig. 6 of the drawings.

It will be observed that the described adjustable pattern can be employed for delineating various curvilinear structures and is adapted to be adjusted to the different contours of the exterior of a vessel at different sections thereof and is also very useful for delineating either Gothic or elliptic arches and other curvilinear designs.

What I claim as my invention is—

1. An adjustable pattern for boat and ship-frames and analogous curved frames tapered in width from end to end, which pattern is composed of flexible bands conformable to the contours of the two opposite edges of the aforesaid frame, diagonal braces crossing each other and connected together at their crossing adjustably lengthwise of said braces and connected at their ends to the bands adjustably longitudinally in relation to the latter as set forth.

2. An adjustable pattern for boat and ship-frames consisting of prolonged skeleton frame

flexible within its plane and sustained in its adjusted curved condition by adjustable bracing members of the pattern, and diagonal line-guides adjustably connected to the edges of the skeleton frame as set forth.

3. An adjustable pattern for boat and ship-frames consisting of prolonged flexible delineating bands, braces between said bands and adjustably connected thereto to allow the bands to be bent and to retain the same in the form imparted to them, and diagonal line-guides clamped on the bands adjustably lengthwise thereof as set forth.

4. An adjustable pattern for boat and ship-frames consisting of prolonged flexible delineating bands, braces between said bands and connected thereto longitudinally adjustable to sustain the bands in their adjusted curved condition, clamps connected to the bands longitudinally adjustable, and diagonal line-guides connected to said clamps adjustably to different angles as set forth.

5. An adjustable pattern for boat and ship-frames consisting of prolonged flexible delineating bands, internally projecting clamps secured to said bands longitudinally adjustable, diagonal braces crossing each other and connected together at their crossing adjustably lengthwise of the braces and adjustably fastened at their ends to the aforesaid clamps, outwardly projecting clamps likewise adjustably connected to the bands, and diagonal line-guides adjustably connected to the latter clamps as set forth.

6. The combination of the two flexible steel bands $-a-a$ —, the clamps $-b-b$ — each composed of two members having jaws $-b'$ — $-b''$ — gripping opposite edges of the band and formed with perforated ears $-b''-b''$ —, the braces $-c-c$ — crossing each other and perforated at their crossings and at their ends, clamping-screws $-d$ — clamping the braces together at their crossings, and clamping-screws $-d'$ — clamping the ends of the braces between the aforesaid perforated ears substantially as described and shown.

7. The combination with the flexible steel bands $-a-a$ — and braces $-c-c$ — sustaining said bands in their curved condition, the clamp $-e$ — composed of two members formed with jaws $-e'-e'$ — gripping opposite edges of the band and with perforated ears $-e''-e''$ —, the strap $-f$ — clamped adjustably between said ears, the shoe $-g$ — formed of two parts clamped adjustably on said strap and the guide-plate $-h$ — secured to said shoe as set forth.

In testimony whereof I have hereunto signed my name this 3d day of March, 1894.

WILLIAM J. HENLEY. [L. S.]

Witnesses:

J. J. LAASS,

C. L. BENDIXON.