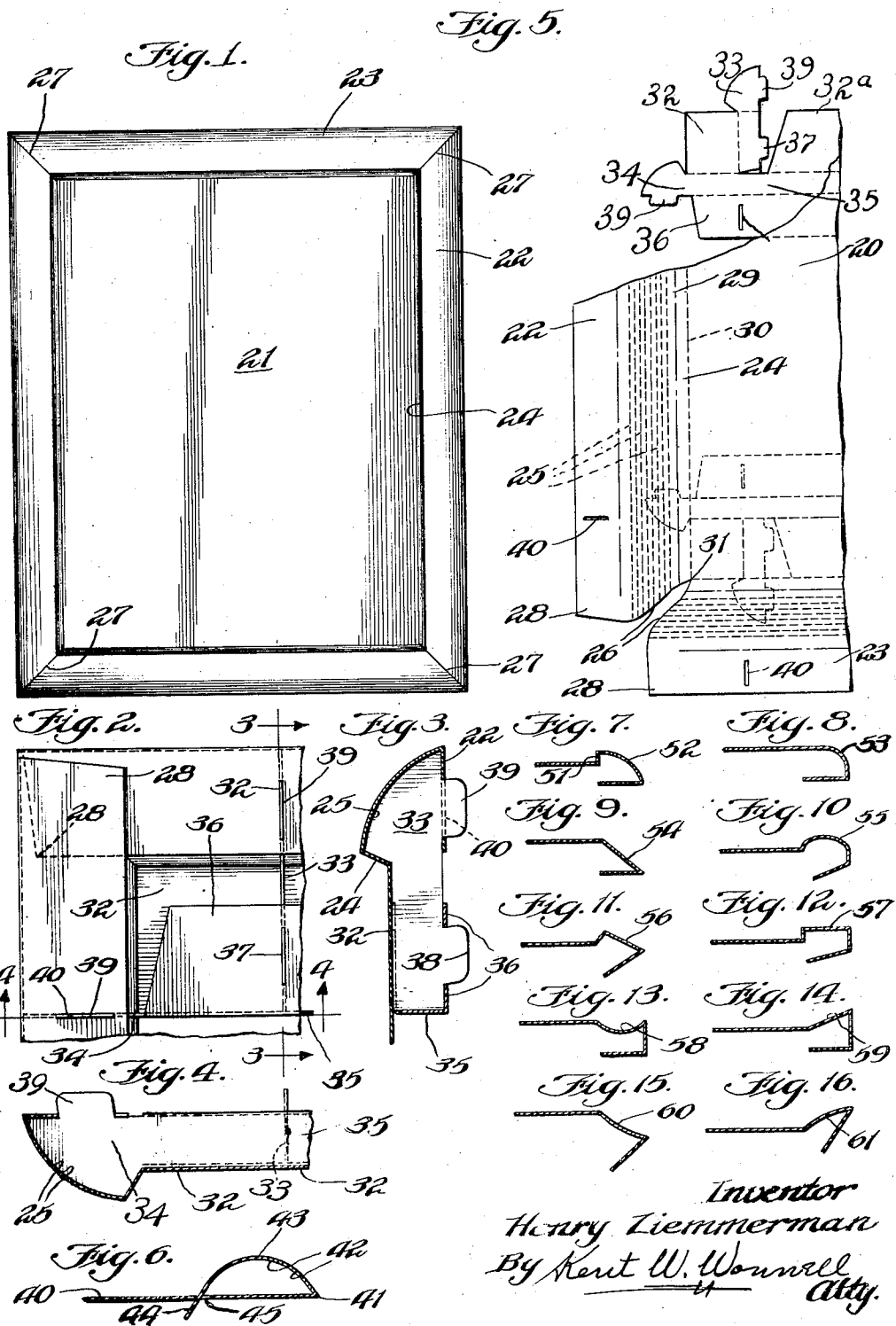


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H. ZIEMMERMAN
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FOLDING DISPLAY FRAME

Henry Ziemmerman, Chicago, Ill., assignor to
Chicago Cardboard Company, Chicago, Ill., a
corporation of Illinois

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This invention relates in general to a display frame in which the picture plane and the frame are made of one sheet of material such as cardboard, and has more particular reference to the scoring, cutting and shaping of a piece of sheet material to resemble a framed picture in which the frame is distinctively offset and preferably curved with respect to the picture plane.

An important object of the invention is in the provision of a picture display frame in which the frame, although made of cardboard or the like, may be rounded and held in a curved or rounded distended position.

A further object of the invention is in the provision of improved means for holding the frame parts together at the corners and in rounded or curved distended position.

A still further object of the invention is in the provision of a frame structure of this kind which is capable of great variation in curved, angular or rounded simulation of various actual picture frames.

A still further object of the invention is in the provision of a folding display of this kind which may be easily set up and supported in vertical position, either upon any suitable plane or by hanging it as a picture, and also collapsible when not in use to fold compactly for shipping purposes and for storing them in quantities.

Other objects of the invention will appear hereinafter, the preferred structure and modifications thereof being more particularly illustrated in the accompanying drawing, in which

Fig. 1 is a face view or elevation of a frame in accordance with this invention;

Fig. 2 is an enlarged detail of the rear of one corner of the frame showing the frame holding and distending means;

Fig. 3 is a section taken on the line 3—3 of Fig. 2;

Fig. 4 is a section taken on the line 4—4 of Fig. 2;

Fig. 5 is a detail view of one end of a blank from which the frame is made, showing the cut and score lines to form a tight fitting corner and a curved frame;

Fig. 6 illustrates a modification of the curved frame in which no additional supporting structure is used; and

Fig. 7 to 16 inclusive are fragmentary sectional views illustrative of a number of different frame structures capable of use and contemplated in connection with a display frame of this kind.

In simulating a picture frame for display purpose made of cardboard, one difficulty is to hold the frame tightly at the corners and another difficulty is to produce a rounded or curved frame which will not crack or break. In producing a curved display frame of cardboard or similar material having substantial thickness so

that it will have the necessary rigidity, the material may be scored or creased to produce an angle or bend but must have an entirely different treatment to produce a curved or rounded portion without breaking or cracking. In the present invention the rounded feature of the frame is produced by providing a number of parallel scores or cuts extending partially but not entirely through the material so that the surface opposite the scores may be bent without breaking. This is particularly advantageous for display frames for advertising material where a printed sheet of paper is applied to one surface of a cardboard sheet, the printed sheet bearing a picture as well as a frame representation, all of which is printed so that upon being properly cut and scored the desired frame and picture will be incorporated as a complete display when the frame structure is distended.

Referring now more particularly to the drawing, a display frame is made of a single sheet of cardboard 20 or the like, cut, scored, distended and held to form a central picture plane 21 and a simulation of side and end curved frame sections 22 and 23 with an inner beveled edge 24 connecting them to the picture plane.

In order to bend, curve or bow the portions forming the frame for the display without breaking the cardboard on the face thereof, the under or opposite side of the sheet is provided with a plurality of parallel closely spaced scores 25 extending partially but not entirely through the cardboard and forming parallel fold lines therein which permit the portion thus scored or cut to be bowed or bent transversely to the scoring thereof and providing a relatively smooth curved surface convex or concave on the side opposite such scoring. At the corners dividing the sides and ends are curved cuts 26 depending upon the contour or shape of the frame desired, these cuts providing an angular beveled juncture 27 at each corner and one extremity 28 overlapping the other at the rear side of the corner as clearly shown in Fig. 2.

In the form shown by Figs. 1 to 5 a beveled connecting portion 24 is produced by score lines 29 and 30 in opposite faces thereof and at the extremities of the sides or ends this necessitates a V-shaped notch 31 in order to make a tight connection.

To hold the sides of the frame distended in the desired position, a locking device, also preferably formed of cardboard, has a corner portion 32 at each end and flat portions 32a between the ends adhesively secured to the back of the picture plane 21 and preferably adjacent each corner it has locking wings 33 and 34 bendable upwardly therefrom at right angles to each other and one or more wings 33 between the ends. The locking wings are held in perpendicular locking position

by an extension 35 hinged to the portions 32 and 32a adhesively secured to the back plate, forming a continuation of the end locking wings 34 and the extension having a hinged and overlapping locking tongue 36 extending all along one side of the frame with perforated slots 37 therein at intervals to receive locking tongues 38 which project therethrough from the locking tongues 33 all along the corresponding side of the display. Thus the two end locking tongues 33 and 34 are held rigidly in position at the back of the picture plate and the outer end of each locking tongue 33 or 34 which projects beyond the picture plane and at the back of the frame is provided with another locking tongue 39 which engages in a locking slot 40 in the outer edge of the frame side or end beyond the parallel score lines 25.

Thus the shape of the locking tongue is dependent upon the shape of frame desired, the shape of the outer head or projection of the locking tongue forming a backing for distending and supporting the frame section of the desired shape produced by the frame scoring. For some frames only the end locking tongues are necessary but if the frames are long, additional locking tongues may be provided along the sides or ends, depending upon the direction of extent of the locking device on the back of the frame. The locking device also produces a box-like supporting structure because of the overlapping engagement of the hinged portions 35 and 36 which produces a very strong and well braced frame structure.

In extending a frame of this kind the locking wing structure is first set up from its flat or collapsed condition at the back of the picture frame and then the two opposite sides or ends separately are connected to their corresponding locking wings, after which the other two ends or sides are separately folded over, engaging their corresponding locking wings and overlapping the adjacent sides or ends at the corners. By properly designing the corner cuts 26 conforming to the shape of the frame desired, the corners will fit tightly and are held tightly in place by engagement of the tongues 39.

The curved portion of a frame may be formed at the edge of a picture plane 40 made of cardboard and the like as shown in Fig. 6, by bending over each of the edges inwardly upon a score line 41, by providing the face opposite the picture plane with parallel scores 42 so that the reverse face 43 of this edge is bent or curved as desired, the outer margin of this bent edge being formed with tongues 44 which are inserted through engaging slots 45 to receive them so that the outwardly bent frame portions will thereby be held about the edges of the picture plane 40 to form the resemblance of a picture or display. One objection to this form is that the exposed surface 43 of the frame is from the side reverse to that of the picture plane 40 necessitating a printed sheet on both sides of the cardboard in order to provide the desired display. This makes it necessary to register the illustrations on opposite sides of the cardboard sheet whereas in the other forms shown the printed sheet including the frame and the picture display in the frame are printed on one sheet. This frame however shows a simple form of the parallel scoring as applied to simulate a curved or rounded surface, and eliminates the rear distending and supporting structure.

Instead of applying the back supporting structure simply to the extension of a curved frame

structure it will be readily understood that it may also be applied to a straight, angular box-like frame either separately or in conjunction with curved sections, either bent convexly or concavely. A few representative frame sections are illustrated in Figs. 7 to 16, inclusive, Fig. 7 showing a straight riser 51 from the picture plane and a curved outer edge 52; Fig. 8 shows a rolled edge or a rounded continuation 53 of the picture plane; Fig. 9 shows an angular straight edge 54 rearwardly from the picture plane; Fig. 10 shows a raised round convex edge 55; Fig. 11 shows a raised angular beveled edge 56; Fig. 12 shows a raised rectangular edge 57; Fig. 13 shows a concave frame edge 58; Fig. 14 shows a forward angular projection 59; Fig. 15 shows a concave edge 60 back of the picture plane edge; and Fig. 16 shows a concave forwardly extending curve 61 at the margin of the picture plane.

Picture or display frames of the kinds illustrated and other variations of straight and curved portions are all intended to be distended and held in frame position by the frame holding structure as shown more clearly in Figs. 2, 3 and 4, with the locking wings thereof shaped or modified to fit into and distend the frame structure shown and to hold it in the distended position by engagement of the tongues as 37 and 39, the angular locking engagement at the corners holding the adjacent side and end frame structures firmly but disengageably in place.

In order to collapse any of the frame structures thus produced it is necessary only to disengage the locking tongues 38 and 39 from their engagement with the frame and locking flange parts, whereupon the frame sections may be extended flatly or folded over inwardly upon the picture plane. Likewise the locking wings 33 being disengaged may be folded flatly with the extension 35 and locking flange 36 at the back of the picture plane.

I claim:

1. A folding display of sheet material including a picture plane and a frame therefor, comprising a sheet with edges cut and scored to form a hollow frame, a folding and extensible support attached at the back of the sheet having locking wings movable at right angles to the back of the sheet and extending transversely in the portion forming the hollow frame therefor for extending and holding the frame in distended position.

2. In a folding display of sheet material to represent a picture plane and a surrounding frame therefor, a sheet with rectangular edges cut and scored to form a hollow frame, a flat folding and extensible support attached at the back of the sheet having locking wings at the corners turned upwardly at right angles to the back of the sheet and at right angles to each other for engaging the frame forming portions at the under sides thereof and holding them in distended position, the locking wings holding the adjacent side and end frame portions in overlapping position at the corners to provide a tight juncture of the frames at their front side at the corners thereof.

3. In a folding display having a picture plane and a frame therefor, a foldable sheet with edges cut and scored to form a hollow frame bendable to a predetermined cross sectional shape, and a collapsible distending means for the frame attached at the back of the sheet having foldable locking wings comprising a strip at opposite sides of the sheet, the ends of each strip having locking wings extending at right angles to each other at the corners of the display to engage adjacent

frame sections at that corner thereof for distending and holding the frame sections in their predetermined position for holding them tightly together at the corners of the sheet.

5 4. A folding display providing a picture plane and a frame therefor, comprising a sheet with edges cut and scored to form a hollow frame of predetermined cross section, a folding and extensible support attached along one edge of the
10 back of the sheet and comprising locking wings foldable upwardly at right angles to the back of the sheet extending transversely of the adjacent frame sections, means for holding the locking
15 wing in its extended position, and engaging means for attaching the frame section to the end of the locking wing for holding the frame in predetermined distended position.

5. In a folding display providing a picture plane and a surrounding frame therefor, a sheet with
20 edges cut and scored to form a hollow frame of predetermined cross section, a folding and extensible support attached at the back of the sheet having locking wings hinged thereto and raisable at right angles to the back of the sheet with free
25 extremities to engage within and distend the frame portions to a predetermined cross section, means for holding the wings in distended position with respect to the back of the sheet, and a tongue and slot connection between the ends of the lock-
30 ing wings and the outer portions of the frame for engaging and holding the frame sections in their distended position.

6. A folding display of sheet material having a picture plane and a frame therefor, comprising a
35 sheet with edges cut and scored to form a hollow frame of predetermined contour, a folding and extensible support attached to the back of the sheet having locking wings, the extremities of which extend within the hollow frame, means for
40 attaching the frame sections to the extended portion of the wings, and locking means for holding the wings in their extended position at right angles to the rear of the sheet, said means comprising a flange foldable over the ends of the
45 wings at the back of the sheet, and a tongue and slot connection between the wings and the flange for holding them upright.

7. In a folding display of sheet material to resemble a picture plane and a frame therefor, a
50 sheet with edges cut and scored to form a hollow frame of predetermined cross section and contour, a folding and extensible support attached to the back of the sheet having locking wings raisable at right angles to the sheet, the
55 wings extending at the ends and laterally from the support to engage under and distend the frame sections at three sides of the sheet and for interlocking the frame sections at the corners.

8. A structure in accordance with claim 7 in
60 which the lateral locking wings are held in position by a hinged extension and a flange therefor overlapping the ends of the locking wings at the back of the sheet and having a tongue and slot connection between the flange and the said
65 ends of the locking wings for holding them in distended position.

9. In a folding display to provide a picture plane and a frame therefor, a sheet with edges cut and scored to form a frame of predetermined
70 contour and cross section, a folding and extensible support attached along one of the edges of the back of the sheet and comprising locking wings foldable upwardly from the support at

right angles to the back of the sheet and extending into the back of the frame section for distending and holding it in position, a retaining device for the locking wings having a hinged
5 extension from the support, the ends of the extension providing locking wings at right angles to the said lateral locking wings and located at the ends of the said edge into which the said lateral locking wings extend for engaging the
10 frame edges adjacent thereto, the outer edge of said extension forming a locking flange having slots therein for engaging the lateral locking wings and holding them at right angles to the back of the sheet in frame distending position, the said locking engagement of the flange also
15 holding the end locking wings in frame distending position.

10. A folding display of sheet material representing a picture plane and a frame therefor, comprising a sheet with edges cut and scored
20 to form a hollow frame of predetermined cross section and contour, and a foldable support for adjacent frame sections attached at the back of the sheet and extending along one edge thereof, the support having locking wings hinged at the
25 ends and laterally to project into and to distend three adjacent frame sections and to hold the sections together in overlapping relation at the corners, and the support including a flanged locking strip for engaging the laterally extending locking wings which also holds the end lock-
30 ing wings in upright distending position at right angles to the back of the sheet.

11. In a folding display of sheet material to provide a picture plane and a frame therefor, a
35 sheet with edges cut and scored to form a hollow frame and with score lines in the frame parallel and close together so that the opposite surface of the material may be bent and curved transversely of the scores to provide a smooth
40 curved surface without breaking the material and distending means for the scored portion of the sheet comprising a foldable support attached to the sheet and having extensible wings with a shape conforming to the predetermined shape
45 of the frame and movable to engage and hold the scored portion in the predetermined shape.

12. A folding display of sheet material to provide a plane surface and a curved surface extending therefrom, the sheet material on the side
50 opposite the curved surface having a plurality of parallel cuts extending partially into but not through the material so that the opposite surface may be bent and curved transversely of the scores without breaking, and means inserted
55 within and secured to the portion forming the curved surface at the under side thereof for holding the curved portion in its predetermined distended position.

13. A folding display of sheet material such as cardboard, which normally tends to break or
60 crack when folded or bent, comprising a portion forming a plane surface and an extension thereof to provide a curved surface, the under side of the extension having parallel cuts into but not
65 through the material so that the opposite side may be bent transversely of the cuts to form a curved surface without break or rupture therein, and means at the back of the extension to engage and distend the cut side of the sheet material
70 and for holding it in a predetermined hollow contour.

HENRY ZIEMMERMAN.