

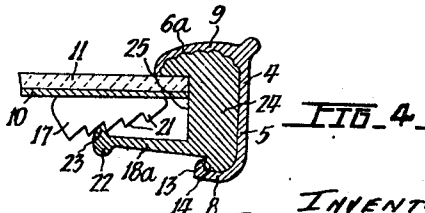
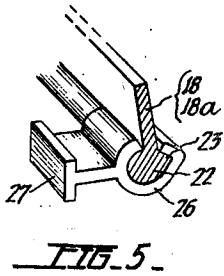
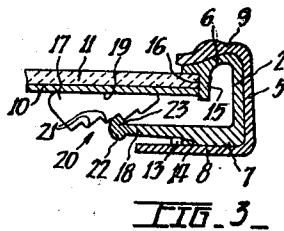
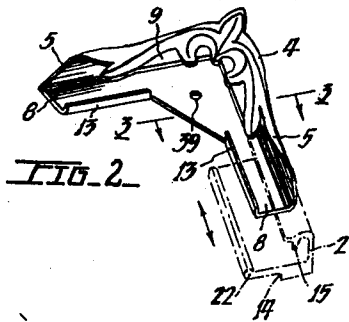
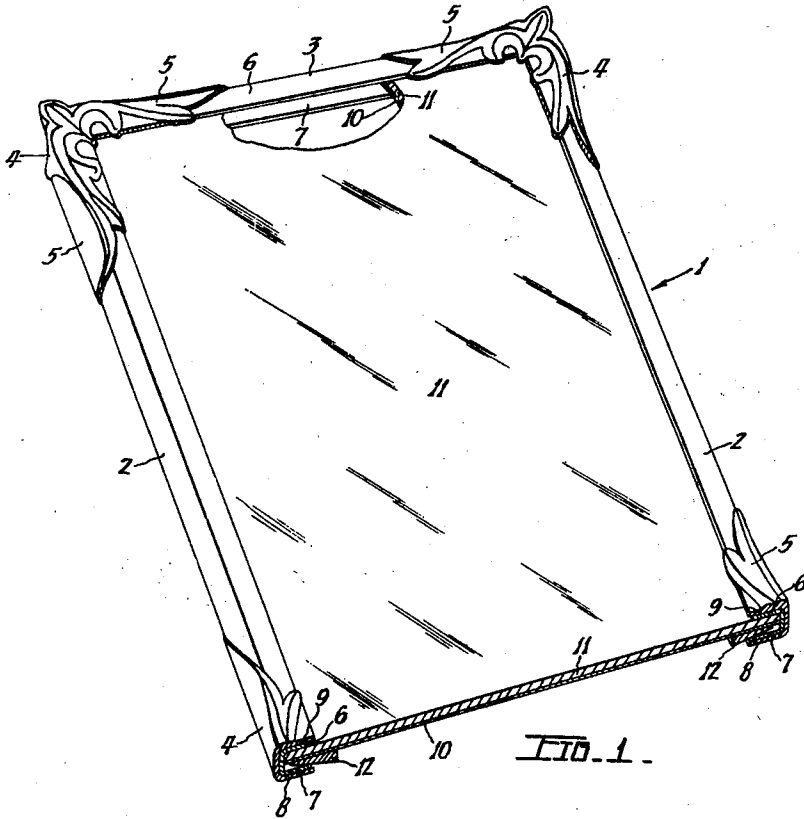
April 7, 1953

M. R. ANGUS ET AL
ADJUSTABLE FRAME FOR SUPPORTING OR
MOUNTING FLAT PIECES OR OBJECTS

2,633,653

Filed June 6, 1951

2 SHEETS—SHEET 1



INVENTOR
MAX RUPERT ANGUS
ALAN ERNEST BRINKMAN
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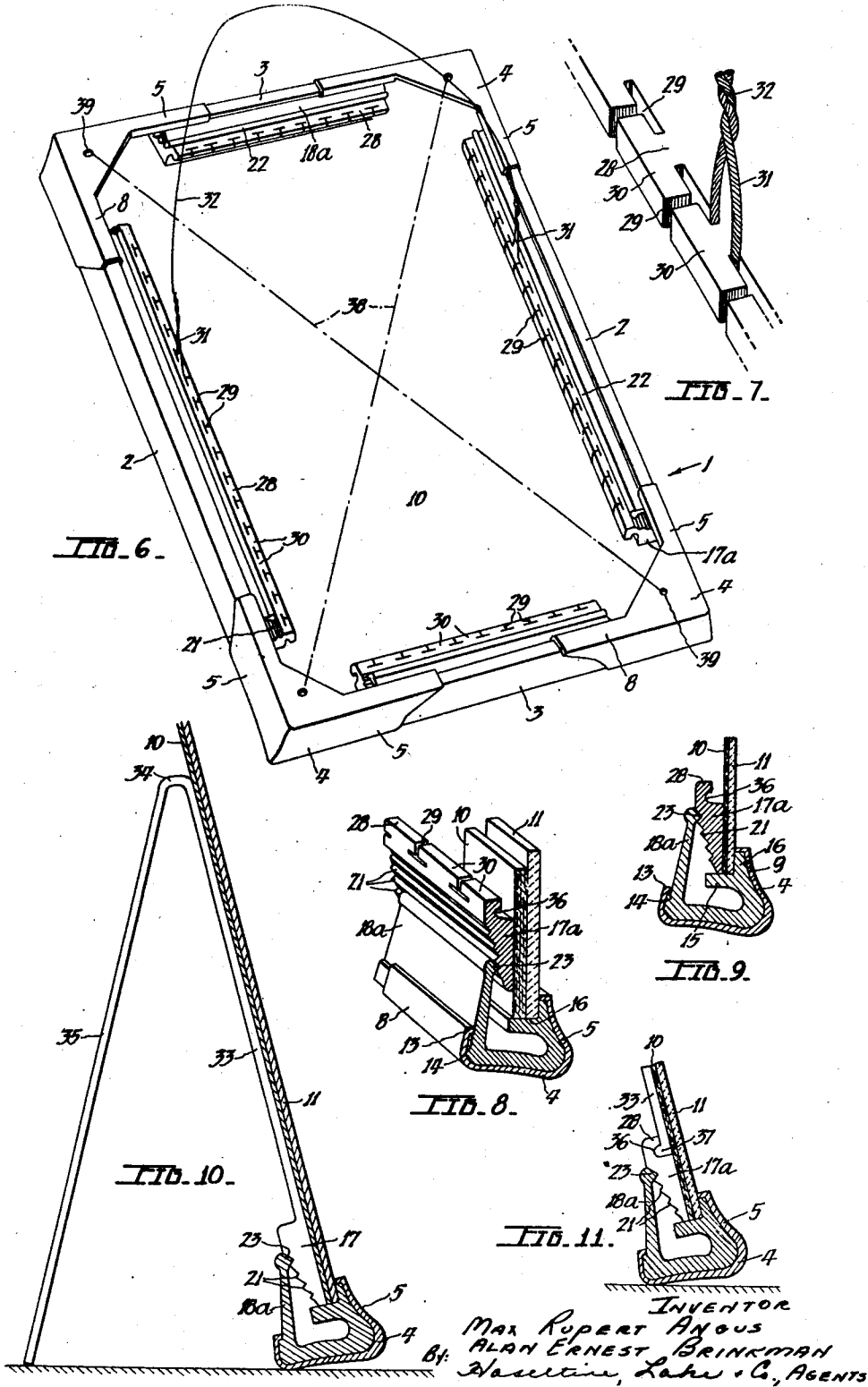
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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE

2,633,653

ADJUSTABLE FRAME FOR SUPPORTING OR MOUNTING FLAT PIECES OR OBJECTS

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13 Claims. (Cl. 40—156)

1

This invention relates to an adjustable frame for supporting or mounting flat pieces or objects, which has been devised more particularly though not exclusively to hold or contain pictures, photographs, paintings, or the like.

Generally, such flat objects or artistic productions are of rectangular form or shape and are mounted in open or marginal frames which border or extend around the edges or perimeters and may or may not be provided with glazing sheets or panels.

Such marginal or bordering frames are relatively expensive and difficult to produce, and in accordance with customary practice each frame is constructed to conform with the dimensions of the particular picture to be fitted therein. Moreover, each frame is constructed as a rigid non-extensible or non-contractible structure, which besides fitting the particular picture may accommodate pictures of somewhat less dimensions but only to a limited extent, and cannot be extended to fit pictures of greater size.

An object of the present invention is to provide an open marginal frame for the purpose above specified, which will be simple in construction, strong and durable in use, attractive in appearance, adapted to be readily adjusted to accommodate a range of variously sized pictures or the like, and which may be manufactured at low cost.

Another object of the invention is to provide an adjustable marginal frame for pictures and the like having separate corner pieces and separate side and end members engageable with and movable relatively to the corner pieces to assemble and vary the size of the frame, and having wedging means for retaining the frame assembled and the corner pieces and members in adjusted positions.

A further object is to provide an adjustable frame having each corner piece comprised of two integral sections or limbs disposed at right angles and shaped internally so as to be complementary to the external surface or surface portions of the side and end members which slidably engage and fit within the integral limbs or sections.

Another object is to provide an adjustable frame in which the integral sections or limbs of the corner pieces and the side and end members are all of channel section, the members being sufficiently reduced in sectional size so as to fit neatly within the integral sections or limbs of the corner pieces, and the width of the members being sufficient to accommodate the marginal edges of a picture, a backing sheet and/or a glass panel if required.

2

A further object is to provide means for retaining a picture within the frame and the latter assembled after adjustment, such means comprising a multiple number of wedges insertible between the picture and the flanges of the channel members and having locking means complementary to and engageable with locking elements on the flanges.

Other aims and objects and additional features of the invention will appear in the course of the description of the illustrative embodiments thereof depicted in the accompanying drawings.

In these drawings:

Fig. 1 is a perspective view partly in section of an adjustable picture frame assembled of detachable rails and corner pieces.

Fig. 2 is a perspective view on a larger scale of a corner piece and portion of a rail (shown by broken lines) of a somewhat modified adjustable picture frame.

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

Fig. 4 is a section similar to Fig. 3 of an adjustable picture frame somewhat modified in detail.

Fig. 5 is a perspective detail partly in section, showing a suspension clip attached to a frame rail for connection of a supporting cord or wire.

Fig. 6 is a perspective view showing the rear face of a modified adjustable picture frame.

Fig. 7 is an enlarged fragmentary detail in perspective of the suspension means for a supporting cord or wire shown in Fig. 6.

Fig. 8 is an enlarged perspective fragmentary sectional detail of Fig. 6 illustrating the locking wedge in the clamping position when relatively thick glass and backing sheets are used in the adjustable frame.

Fig. 9 is an end elevation of Fig. 8, showing the locking wedge in the clamping position when relatively thin sheets are inserted in the frame.

Fig. 10 is an elevation partly in section showing portion of an adjustable picture frame supported in inclined position by an angularly formed mounting stand integral with a locking wedge.

Fig. 11 is a fragmentary sectional elevation showing portion of a picture frame supported in inclined position by a separate mounting and locking wedge.

Referring to these drawings in more detail and in the first instance more particularly to Figs. 1 and 2, the numeral 1 designates generally a rectangular picture frame, having side rails 2, end rails 3, and corner pieces 4, each of which comprises a separate member or unit.

3

Each corner piece 4 comprises two integral sections or limbs 5 which as shown are similar but may be of different length or design if required or preferred.

The integral sections or limbs 5 of the corner pieces 4 are disposed at right angles and shaped internally so as to be complementary to the external surface or surface portions of the side and end rails 2 and 3, which slidably engage and fit within the integral sections or limbs, see Fig. 2.

As shown in Fig. 1, the side and end rails 2 and 3 are of plain channel section and the corner sections 5 are also of channel section and appropriate dimensions to neatly accommodate the ends of the side and end rails, the opposite flanges 6 and 7 which neatly fit between the inner and outer flanges 8 and 9 of the channel corner sections 5. The bases or webs of the channel corner sections and the channel rails comprise the external edge or perimeter of the frame from which the flanges 6, 7, 8 and 9 extend inwardly.

In the space between the flanges 6 and 7 of the end and side rails, the marginal edges of a backing sheet 10, a glass sheet 11 and of a picture (not shown) between said sheets are accommodated, and wedges 12 inserted between the flanges 7 and the backing sheet 10 secure the sheets and retain the side and end rails and the corner pieces 4 in assembled relation to comprise the picture frame, the flanges 6 and 7 being expanded into tight engagement with the flanges 8 and 9 as the wedges are forcibly inserted.

The outer side of the flanges 9 of the corner pieces 4 may be ornamented as shown or in any other suitable or preferred manner, and the outer flanges 6 of the side and end rails may also be suitably ornamented or decorated if desired.

Referring now to Figs. 2 and 3, the flanges 8 of the corner sections 5 are substantially flat, and extending along the inner edges of the former for required distances are outstanding lips or lugs 13. The ornamented flanges 9 of the corner sections are of somewhat curved shape or formation as shown.

The side and end rails 2 and 3 are shaped to fit within the modified corner section 5, and the inner flanges 7 of the rails are provided with longitudinally extending shoulders 14 which engage the outstanding lips 13.

It will be evident that the rails when fitted within the complementarily formed sections 5 will be firmly and rigidly secured to the corner pieces to retain the frame assembled upon forcible insertion of the wedges as above described.

Formed along the inner sides of the flanges 6 of the rails are longitudinal ribs 15 which comprise seatings against which the edges of the sheets 10 and 11 and of a picture therebetween contact or abut to position said sheets and picture properly within the frame.

The flanges 6 and ribs 15 together form recesses or rabbets 16 along the rails in which the edges of the sheets 10 and 11 and the picture are accommodated, and in order to clamp the sheets and picture firmly in position and retain the frame assembled there are provided locking wedges 17 which are inserted between the backing sheets 10 and the ends of inward extensions 18 of the rail flanges 7.

Each locking wedge 17 is formed with a flat face 19 which seats upon the backing sheet 10, and with a side 20 inclined relatively to the face 18 and formed with a series of teeth 21.

The inner edge of each flange extension 18 is formed with a longitudinal enlargement or bead

4

22, which is shaped to comprise a tooth or detent 23 adapted to engage the teeth 21 of the locking wedge 17.

It will be understood that upon application of pressure the locking wedge may be thrust between the backing sheet 10 and the detent 23, and that the extension 18 will resiliently yield to permit the detent to pass over the teeth 21 until a required clamping grip of the backing and glass sheets is attained, whereupon engagement of the detent with the appropriate tooth will retain the wedge in the locking position.

Referring now to Fig. 4, it will be observed that in the section 5 of the corner piece 4, both flanges 8 and 9 are of curved formation and that the rail is shaped to conform with the inner surface of the corner section 5.

The rail, however, has a solid body portion 24 which is formed with a recess 25 to accommodate the edges of the backing and glass sheets 10 and 11 and with an inward extension 18a and a flange 6a, the former having a detent 23 and the latter an abutment or seating against which the sheets 10 and 11 are pressed by a stepped wedge 17 as above described.

Referring to Figs. 6 to 9, the adjustable frame is substantially similar to the frame previously described herein with reference to Figs. 1, 2, 3 and 4, but the locking wedges 17a are of sufficient length to extend along the side and end rails 2 and 3 as well as to extend into the sections 5 of the corner pieces 4.

In this frame the outer flanges of the rails may be of curved shape and the sections 5 of complementary shape to receive the ends of the former, but otherwise the rails and corner section are constructed and the sheets 10 and 11 are clamped therein by the locking wedges 17a as above described.

In Figs. 8 and 9 the locking wedge 17a is shown in the positions occupied when relatively thick and thin sheets are respectively mounted in the frame.

In order to provide means for suspending the frame when elongated locking wedges 17a are used, each of the latter is formed with an extension 28 having therein at spaced intervals T slots 29 separating headed lugs 30 any one of which may be selected for attachment of a bight or loop 31 of a cord or wire 32, see particularly Fig. 7.

It will be appreciated that the T slots 29 permit the bight 31 to be readily released from one headed lug 30 and engaged with another to adjust the height of the frame when suspended on a wall or the inclination of the frame to the latter without the necessity of untying or releasing the bight in the cord or wire.

In order that a frame constructed as above described may be mounted upon a flat surface such as a shelf or table top, at least one, but preferably two of the locking wedges at opposite corners of the frame, may be formed with an extension 33 which extends upwardly in contact with the backing sheet 10 and at a required height is bent as at 34 to provide a downward extension or leg 35 appropriately inclined to the upward extension 33 to provide an effective support for the frame, see Fig. 10.

If a locking wedge 17a is constructed with an extension 28 as shown in Figs. 6-8 and 9 a recess 36 formed therein may be used for engagement of a bead 37 extending transversely on the leg member 33, thereby permitting the locking wedge and the leg member to be constructed as separate units or elements as shown by Fig. 11.

5

An adjustable picture frame construction as described may be assembled about the backing and glass sheets and a picture in several ways, and conveniently a side rail may be slidably engaged at the ends with a pair of corner pieces, and the assembled rail and corner pieces applied to the edges of one of the sides of the sheets and picture.

Thereupon a pair of end rails are engaged with the ends of the sheets and picture and slidably inserted into the assembled corner pieces.

At this stage it will be understood that the sheets and picture are partly mounted within the frame, the side edges being engaged by the side rail, the corners at the ends of the side rail enclosed within the corner pieces and the end of the sheets and picture engaged by the end rail.

The remaining side rail is now slidably inserted at the end into the other pair of corner pieces and the latter are engaged with the free ends of the end rails, whereupon the side rail is thrust into engagement with the other side edges of the sheets and picture, the corner pieces meanwhile sliding upon the end rails thus completing the assembly of the frame.

Upon the frame being thus assembled about the sheets and picture, the locking wedges are inserted as described to secure the assembly and prevent displacement of the sheets and picture which is retained closely in contact with glass sheet.

It will be understood that a locking wedge is inserted within each section or limb of the corner pieces when separate locking wedges are used, and the opposite ends of the wedges are inserted within the corner pieces when elongated locking wedges as shown in Fig. 6 are employed.

It will be further understood that by relative sliding movements of the rails and corner pieces, the adjustable frame may be readily enlarged or diminished in size to accommodate a range of pictures or photographs of different dimensions.

By the use of a range of rails of different lengths, it will be apparent that while using the same corner pieces a range of frames of different standard sizes may be provided, each size accommodating a series of pictures increasing in size between specified or selected dimension limits, and each size of frame in increasing order being adapted to accommodate a picture a size larger than the maximum size accommodated within the preceding or next smaller frame.

The wedges previously described herein retain the frame assembled about a picture in addition to clamping the latter in position, but if required, as for instance in frames of large size, diagonally disposed retaining members may be positioned between and secured to oppositely disposed corner pieces. Such diagonal members may comprise crossed wires engaged at the opposite ends with apertures formed in the corner pieces 4, see Fig. 6.

The corner pieces, the end rails and side rails and the wedge pieces may be constructed of a suitable plastic by moulding. Alternatively, the corner pieces, rails and wedges may be constructed of sheet metal by press operations, or of other suitable material by other means or methods.

The adjustable picture frames above described are of rectangular construction but it will be evident that adjustable frames of circular, elliptical or oval shape may be assembled of mul-

6

multiple numbers of appropriate perimetrical members movable relatively to and connectible by junction pieces and provided with means for retaining the perimetrical members and junction pieces in adjusted positions and the frame assembled.

We claim:

1. An adjustable picture frame comprising side and end members longitudinally recessed at the inner sides, corner pieces open at the inner sides having interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the marginal edges of a pictorial article to be displayed in the frame, a backing sheet behind the pictorial article, a seating for the article extending around one side of the recess, and wedges forcibly inserted between the backing sheet and the opposite side of the recess to clamp the article upon the seating and retain the frame assembled.

2. An adjustable picture frame comprising side and end members longitudinally recessed at the inner sides, right angular corner pieces open at the inner sides and having interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the marginal edges of a pictorial article to be displayed in the frame, a backing sheet behind the pictorial article, a seating for the article extending around one side of the recess, a multiple number of wedges forcibly inserted between the backing sheet and the opposite side of the recess to clamp the article upon the seating and retain the frame assembled, and means for locking the wedges against displacement.

3. An adjustable picture frame comprising side and end members having continuous longitudinal channels at the inner sides, right angular corner pieces open at the inner sides and having interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the marginal edges of a pictorial article to be displayed in the frame, a backing sheet behind the pictorial article, a seating for the article extending around one side of the recess, a multiple number of wedges forcibly inserted between the backing sheet and the opposite side of the recess to clamp the article upon the seating and retain the frame assembly, locking elements on the side and end members, and complementary locking elements on the wedges engageable by the locking elements on the side and end members to secure the wedges against displacement.

4. An adjustable picture frame comprising corner pieces having limbs of channel section disposed at right angles, side and end members of channel section fitting within and slidably adjustable in the channel section limbs to vary the size of the frame, webs of the channel section limbs and members disposed outwardly and comprising the outer perimeter of the frame, flanges of the channel section limbs and members directed inwardly and comprising together with the webs a recess around the inner perimeter of the frame to receive the marginal edges of a pictorial article to be displayed in the frame, a back-

ing sheet behind the pictorial article, a seating for the article comprised of the flanges at one side of the recess, and a multiple number of wedges forcibly inserted between the backing sheet and the flanges at the opposite side of the recess to clamp the article upon the seating and retain the frame assembled.

5 5. An adjustable picture frame comprising side and end members of channel section having webs forming edge portions of the frame and outer and inner flanges at the front and rear of the frame, right angled corner pieces of channel section having interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the edges of a pictorial article to be displayed in the frame, a backing sheet behind the pictorial article, a seating for the pictorial article on the outer flanges of the channel section members, a multiple number of wedges forcibly inserted between the backing sheet and the inner flanges of the channel section members to clamp the article upon the seating and retain the frame assembled, and means on the inner flanges securing the wedges against displacement.

6. An adjustable picture frame comprising side and end members of channel section having webs forming edge portions of the frame and outer and inner flanges at the front and rear of the frame, right angled corner pieces of channel section having interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the edges of a pictorial article to be displayed in the frame, a backing sheet behind the pictorial article, a seating for the pictorial article on the outer flanges of the channel section members, a multiple number of wedges forcibly inserted between the backing sheet and the inner flanges of the channel section members to clamp the article upon the seating, detent elements on the inner flanges, and complementary elements on the wedges engageable by the detent elements to secure the wedges against displacement.

7. An adjustable picture frame comprising side and end members of channel section having webs forming edge portions of the frame and outer and inner flanges at the front and rear of the frame, right-angled corner pieces of channel section having flanges at the inner and outer sides of the frame and interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner perimeter of the frame to receive the edges of a pictorial article to be displayed in the frame, lips on the inner flanges of the corner pieces, shoulders on the inner flanges of the side and end members engageable with the lips, a backing sheet behind the pictorial article, a seating for the pictorial article formed on the outer flanges of the side and end members, a multiple number of wedges forcibly inserted between the backing sheet and the inner flanges of the side and end members to clamp the article upon the seating and retain the frame assembled, flat sides on the wedges engaging the backing sheet, inclined sides on the wedges engaging the inner flanges of the side and end members, ratchet teeth on the inclined sides of the wedges, and detents on said inner flanges en-

gaging the ratchet teeth and thereby securing the wedges against displacement.

8. An adjustable picture frame according to claim 7, wherein at least one of the wedges is provided with an extension to support the frame in an inclined position and having a pair of angularly related sections, one section disposed in contact with the backing sheet and the other section angularly inclined to the backing sheet to comprise a support.

9. An adjustable picture frame comprising side and end members of channel section having webs forming external edge portions of the frame and outer and inner flanges at the front and rear of the frame, right angled corner pieces of channel section having outer and inner flanges at the front and rear of the frame and interiors of complementary size and shape to slidably accommodate the ends of the side and end members to vary the size of the frame and forming together with said members a recess around the inner periphery of the frame to receive the marginal edges of a pictorial article to be displayed in the frame, lips on the inner flanges of the corner pieces, shoulders on the inner flanges of the side and end members engageable with the lips, a backing sheet behind the pictorial article, right angled ledges formed longitudinally in the outer flanges of the side and end members, one of the sides of the right angled ledges comprising together a seating for the pictorial article and the other sides of said ledges locating said article symmetrically within the frame, an elongated wedge forcibly inserted between the backing sheet and the rear flanges of each side and end member and of each corner piece to clamp the pictorial article upon the seating and retain the frame assembled, flat faces on the wedges engaging the backing sheet, inclined faces on the wedges engaging the inner flanges of the side and end members, beads of detent form extending along and from end to end of the edges of the inner flanges of the side and end members, and spaced ratchet teeth extending from end to end of the inclined faces of the elongated wedges engageable by the detent beads to lock said wedges against displacement.

10. An adjustable picture frame according to claim 9, having lateral extensions extending between the ends of the elongated wedges, slots at spaced intervals apart in the extensions, and lugs between the slots for attachment of a suspension cord.

11. An adjustable picture frame according to claim 9, having lateral extensions extending longitudinally between the ends of the elongated wedges, a series of T-shaped slots at spaced intervals along the extensions, and a series of T-shaped lugs between said slots for adjustable connection of the ends of a suspension cord.

12. An adjustable picture frame according to claim 9, having diagonally disposed reinforcing wires extending between and attached to diagonally opposite upper and lower corner pieces of the frame.

13. An adjustable picture frame according to claim 9, having longitudinal grooves extending from end to end of the elongated wedges, and means for supporting the frame in an inclined position comprising at least one support having a pair of angularly related limbs, one of the limbs disposed in contact with the backing sheet and having an outstanding bead fitting the longitudinal groove in the elongated wedge at the lower edge of the frame, and the other limb being

9

angularly disposed to the backing sheet at the vertex of the angle between the limbs to comprise a supporting strut.

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REFERENCES CITED

The following references are of record in the 10 Number
file of this patent: 748,387

10**UNITED STATES PATENTS**

Number	Name	Date
579,243	Schulze -----	Mar. 23, 1897
1,253,847	Lynch -----	Jan. 15, 1918
2,078,744	Tursky -----	Apr. 27, 1937
2,523,816	Roehrl -----	Sept. 26, 1950
2,601,734	Couzinet -----	July 1, 1952

FOREIGN PATENTS

Country	Date
France -----	Apr. 18, 1933